

Connection of detectors System Sensor

User Manual

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Contents

1	INTRODUCTION.....	19
1.1	General.....	19
1.2	Types of symbols.....	19
1.3	Important tips.....	19
2	CONVENTIONAL TECHNOLOGY.....	20
2.1	General.....	20
2.1.1	Installation of detectors.....	20
2.1.2	Schematic circuit diagram of a detector zone.....	20
2.1.3	Conditions of zones.....	20
2.1.4	Cable requirements.....	21
2.2	Connection of manual call points.....	22
2.2.1	Connection of HFM/HM.....	22
2.2.1.1	Connection of HFM/HM with individual Address Module NG58-1.....	23
2.2.1.2	Connection of HFM/HM with Address Module NG58-1 – sum indication.....	24
2.2.2	Connection of Manual Call Points Series HME.....	25
2.2.3	Connection of a C31.....	26
2.3	Connection of the spring-button call point.....	27
2.3.1	SM/5/52/02/0x.....	27
2.4	Connection of automatic detectors.....	28
2.4.1	Automatic detectors Series 100.....	28
2.4.1.1	Arrangement of wires in Detector Base B401RM.....	28
2.4.1.2	Connection.....	28
2.4.1.3	Connection with Address Module NG58-1.....	29
2.4.1.4	Connection with Remote Indicator PA58-1 or PA58-3.....	29
2.4.1.5	Connection with Remote Indicator PA58-3 and Address Module NG58-1.....	30
2.4.2	Automatic detectors Series 300.....	31
2.4.2.1	Arrangement of wires in Detector Base B401RM.....	31
2.4.2.2	Connection.....	31
2.4.2.3	Connection with Address Module NG58-1.....	32
2.4.2.4	Connection with Remote Indicator PA58-3.....	32
2.4.2.5	Connection with Remote Indicator PA58-3 and Address Module NG58-1.....	33
2.4.2.6	Connection of Zone Display Unit S300ZDU.....	33
2.4.2.7	Arrangement of wires in Detector Base B324RL.....	34
2.4.2.8	Programming and Test Unit S300RPTU.....	34
2.4.3	Automatic detectors Series ECO1000.....	38
2.4.3.1	Arrangement of wires in Detector Base ECO1000BR1000.....	38
2.4.3.2	Connection.....	38
2.4.3.3	Connection with Address Module NG58-1.....	39
2.4.3.4	Connection with Remote Indicator PA58-3.....	39
2.4.3.5	Connection with Remote Indicator PA58-3 and Address Module NG58-1.....	40
2.4.3.6	Connection with Detector Base ECO1000BREL24L.....	40
2.4.4	Connection of Duct Detectors DH400P.....	41
2.4.5	Connection of Duct Detectors D2E.....	42
2.5	Intrinsically safe detection circuits.....	43
2.5.1	Ionisation Smoke Detector 1151EIS with ES58-2.....	44
2.5.2	Thermal Detector 5451EIS with ES58-2.....	44
2.5.3	Optical Smoke Detector SLR-E-IS.....	45
2.5.4	Optical Smoke Detector SOC-E-IS.....	46
2.5.5	Automatic detectors Series ORBIS I.S.....	47
2.5.5.1	Conditions of the Orbis detector LED.....	48
2.5.6	Thermal Detectors 6295 and 6296 with Safety Barrier ES58-2.....	49
2.5.7	Detectors without energy storage – contact detectors.....	50
2.5.7.1	Manual call point with Zener Barrier Z978.....	51
2.5.7.2	Manual call point with Safety Barrier ES58-2.....	52

2.5.7.3	Thermal max detector with Zener Barrier Z978.....	53
2.5.7.4	Thermal max detector with Safety Barrier ES58-2.....	54
2.6	Manual call points for hazardous areas.....	55
2.6.1	Manual Call Point Ex dC31.....	55
2.7	Flame detectors for hazardous areas.....	56
2.7.1	Flame Detectors Series 16000.....	56
2.7.1.1	Connection with MQZ1000-1.....	57
2.7.1.1	Connection - resetting by means of relay contact.....	58
2.7.2	Flame Detector 40/40-I-111AC.....	59
2.7.2.1	Connection with MQZ1000-1.....	59
2.7.2.2	Connection - resetting by means of relay contact.....	60
2.7.3	Flame Detector Series X2200.....	61
2.7.3.1	Connection with MQZ1000-1.....	61
2.7.3.2	Connection - resetting by means of relay contact.....	62
2.7.4	Flame Detector Series X5200.....	63
2.7.4.1	Connection with MQZ1000-1.....	63
2.7.4.2	Connection - resetting by means of relay contact.....	64
2.7.5	Flame Detector Series YMX5000.....	65
2.7.5.1	Notes.....	65
2.7.5.2	Connection.....	65
2.8	Heat detectors for hazardous areas.....	66
2.8.1	WMX5000 FS.....	66
2.9	Fire gas detector for hazardous areas.....	67
2.9.1	GMX1001CO Ex Dust.....	67
2.10	Connection of wireless detectors.....	68
2.10.1	RF Interface M400RFE-AS / FUIF511-27D.....	68
2.10.1.1	Notes.....	68
2.10.1.2	Connection with MQZ1000-1.....	68
2.10.1.3	Connection - resetting by means of relay contact.....	69
2.10.2	Connection of Series FI7x0/RF wireless detectors.....	70
2.10.2.1	Notes.....	70
2.10.2.2	RF Interface FI700/RF/CWE - FI720/RF/CWE.....	70
2.10.2.3	RF Expander FI700/RF/WE – old version.....	71
2.10.2.4	RF Expander FI700/RF/WE – new version – and RF Expander FI720/RF/WE.....	72
2.10.2.5	RF Interface FI750/RF.....	73
2.10.2.6	RF Expander FI750/RF/WE.....	74
2.11	Connection of special detectors.....	75
2.11.1	Flame Detectors Series 16000.....	75
2.11.1.1	Settings.....	75
2.11.1.2	Connection with MQZ1000-1.....	75
2.11.1.3	Connection - resetting by means of relay contact.....	76
2.11.2	Flame Detector 800/24-VST-K-N.....	77
2.11.2.1	Connection with MQZ1000-1.....	77
2.11.2.2	Connection - resetting by means of relay contact.....	78
2.11.3	Flame Detector FL 80 /-A1 – version AM.....	79
2.11.4	Flame Detector 20/20-MPI-R.....	80
2.11.4.1	Connection with MQZ1000-1.....	80
2.11.4.2	Connection - resetting by means of relay contact.....	81
2.11.5	Flame Detector 20/20-MI-11SF.....	82
2.11.5.1	Connection with MQZ1000-1.....	82
2.11.5.2	Connection - resetting by means of relay contact.....	83
2.11.6	Flame Detector FMX5000 IR.....	84
2.11.6.1	Notes.....	84
2.11.6.2	Connection 1.....	84
2.11.6.3	Connection 2.....	84
2.11.7	Flame Detector FMX5000 UV.....	85

2.11.7.1	Notes.....	85
2.11.7.2	Connection 1.....	85
2.11.7.3	Connection 2.....	85
2.11.8	Flame Detector YMX5000.....	86
2.11.8.1	Notes.....	86
2.11.8.2	Connection.....	86
2.11.9	Flame detector with colour video monitoring Flame 5000.....	87
2.11.9.1	Connection with MQZ1000-1.....	87
2.11.9.2	Connection – resetting via relay output.....	88
2.11.10	Thermal Detectors 6295, 6296, 6297 and 6298.....	89
2.11.10.1	Notes.....	89
2.11.10.2	Connection.....	89
2.11.11	Thermal Max Detector SWM-1KL.....	90
2.11.11.1	Notes.....	90
2.11.11.2	Connection.....	90
2.11.12	Thermal Max Detector SWM-1KL-140.....	91
2.11.12.1	Notes.....	91
2.11.12.2	Connection.....	91
2.11.13	Thermal detector HT-27121-275.....	92
2.11.13.1	Notes.....	92
2.11.13.2	Connection.....	92
2.11.14	Heat detector WMX5000 FS.....	93
2.11.14.1	Notes.....	93
2.11.14.2	Connection.....	93
2.11.15	Fire gas detector GMX1001CO I.....	94
2.11.15.1	Note.....	94
2.11.15.2	Connection.....	94
2.12	Linear detectors.....	95
2.12.1	Linear Heat Detector Unit LWM-1.....	95
2.12.1.1	Connection with MQZ1000-1.....	95
2.12.1.2	Connection - resetting by means of relay contact.....	96
2.12.2	Linear Heat Detector Unit SCU800.....	97
2.12.2.1	Connection with MQZ1000-1.....	97
2.12.2.2	Connection - resetting by means of relay contact.....	98
2.12.3	Linear Heat Detector Unit SCU835-1.....	99
2.12.3.1	Connection with MQZ1000-1.....	99
2.12.3.2	Connection - resetting by means of relay contact.....	100
2.12.4	Linear Heat Detector Unit SCU835-2.....	101
2.12.4.1	Connection - resetting by means of relay contact.....	101
2.12.5	Linear Heat Detector Unit SKM-03.....	102
2.12.5.1	Connection with MQZ1000-1.....	102
2.12.5.2	Connection - resetting by means of relay contact.....	103
2.12.6	Linear Heat Detector Unit SKM-03.2.....	104
2.12.6.1	Connection with MQZ1000-1.....	104
2.12.6.2	Connection - resetting by means of relay contact.....	105
2.12.7	Linear Heat Detector Unit ADW511A.....	106
2.12.7.1	Connection with MQZ1000-1.....	106
2.12.7.2	Connection - resetting by means of relay contact.....	107
2.12.8	Linear Heat Detector Unit ADW535-1.....	108
2.12.8.1	Connection with MQZ1000-1.....	108
2.12.8.2	Connection - resetting by means of relay contact.....	109
2.12.9	Linear Heat Detector Unit A1388.....	110
2.12.9.1	Connection with MQZ1000-1.....	110
2.12.9.2	Connection - resetting by means of relay contact.....	111
2.12.10	Beam Smoke Detector OSID.....	112
2.12.11	Beam Smoke Detector 6500R/RS.....	113

2.12.11.1	Connection with MQZ1000-1.....	113
2.12.11.2	Connection - resetting by means of relay contact.....	114
2.12.12	Beam Smoke Detector – OSI-RE-SS.....	115
2.12.12.1	Connection with MQZ1000-1.....	115
2.12.12.2	Connection - resetting by means of relay contact.....	116
2.12.13	Beam Smoke Detector – Fireray ONE.....	117
2.12.13.1	Connection with MQZ1000-1.....	117
2.12.13.2	Connection - resetting by means of relay contact.....	118
2.12.14	Beam Smoke Detector FR50/FR100.....	119
2.12.14.1	Connection with MQZ1000-1.....	119
2.12.14.2	Connection - resetting by means of relay contact.....	120
2.12.15	Beam Smoke Detector FR2000.....	121
2.12.15.1	Connection with MQZ1000-1.....	121
2.12.15.2	Connection - resetting by means of relay contact.....	122
2.12.16	Beam Smoke Detector FR3000.....	123
2.12.17	Beam Smoke Detector FR5000.....	124
2.12.17.1	Old version.....	124
2.12.17.2	New version.....	125
2.12.18	Beam Smoke Detector FireRay-Hub.....	126
2.12.19	Beam Smoke Detector thefirebeam plus.....	127
2.12.19.1	Connection with MQZ1000-1.....	127
2.12.19.2	Connection - resetting by means of relay contact.....	128
2.12.20	Beam Smoke Detector Thefirebeam Xtra.....	129
2.12.20.1	Connection with MQZ1000-1.....	129
2.12.20.2	Connection - resetting by means of relay contact.....	130
2.12.21	Beam Smoke Detector Thefirebeam BLUE.....	131
2.12.21.1	Connection with MQZ1000-1.....	131
2.12.21.2	Connection - resetting by means of relay contact.....	132
2.12.22	Beam Smoke Detector ILIA ERHSO712.....	133
2.12.22.1	Connection – resetting by means of MQZ1000-1.....	133
2.12.22.2	Connection – resetting via relay output.....	134
2.12.23	Beam Smoke Detector ILIA ERRHSO712.....	135
2.12.23.1	Connection – resetting by means of MQZ1000-1.....	135
2.12.23.2	Connection – resetting via relay output.....	136
2.12.24	Beam Smoke Detector ECO ES 25-I.....	137
2.12.24.1	Connection – resetting by means of MQZ1000-1.....	137
2.12.24.2	Connection – resetting via relay output.....	138
2.12.25	Beam Smoke Detector ECO ES 50.....	139
2.12.25.1	Connection – resetting by means of MQZ1000-1.....	139
2.12.25.2	Connection – resetting via relay output.....	140
2.12.26	Beam Smoke Detector ECO ES 80.....	141
2.12.26.1	Connection – resetting by means of MQZ1000-1.....	141
2.12.26.2	Connection – resetting via relay output.....	142
2.13	Aspirating smoke detectors.....	143
2.13.1	Aspirating smoke detectors A211E-LSR and A222E-LSR.....	143
2.13.1.1	Connection with MQZ1000-1.....	143
2.13.1.2	Connection – resetting via relay output.....	144
2.13.2	Aspirating smoke detectors A310E and A320E.....	145
2.13.3	Aspirating smoke detector Titanus PRO·SENS – TP1/A.....	146
2.13.3.1	Connection of an aspirating smoke detector with MQZ1000-1.....	146
2.13.3.2	Connection of an aspirating smoke detector – resetting by means of relay contact.....	147
2.13.4	Aspirating smoke detector Titanus PRO·SENS – TP1/A with two channels.....	148
2.13.5	Aspirating smoke detector Titanus PRO·SENS – TP-4.....	149
2.13.6	Aspirating smoke detector Titanus TOP·SENS – TT-1.....	150
2.13.7	Aspirating smoke detector Titanus Super Sens – T-SS.....	151
2.13.8	Aspirating smoke detector Titanus MICRO SENSE.....	152

2.13.9	Aspirating smoke detector Titanus RACK SENSE.....	153
2.13.10	Aspirating smoke detector Vesda VLF-250 / VLF-500.....	154
2.13.10.1	Connection with MQZ1000-1.....	154
2.13.10.2	Connection – resetting by means of relay contact.....	155
2.13.11	Aspirating smoke detector ASD532.....	156
2.13.11.1	Connection with MQZ1000-1.....	156
2.13.11.2	Connection – resetting by means of relay contact.....	157
2.13.12	Aspirating smoke detector ASD535 – 1 channel.....	158
2.13.12.1	Connection with MQZ1000-1.....	158
2.13.12.2	Connection – resetting by means of relay contact.....	159
2.13.13	Aspirating smoke detector ASD535 – 2 channels.....	160
2.13.14	Aspirating smoke detector ASD533.....	161
2.13.15	Aspirating smoke detector FAAST 8100E.....	162
2.13.16	Aspirating smoke detector FAAST LT – model FL01xx – with 2 channels.....	163
2.13.17	Aspirating smoke detector FAAST FLEX – model FLX-010 – with 1 channel.....	164
2.13.18	Aspirating smoke detector FAAST FLEX – model FLX-020 – with 2 channels.....	165
2.14	Connection of door magnets.....	166
2.15	Connection of sirens.....	167
2.15.1	Sounder EMA1224B4x.....	167
2.15.1.1	Sounder EMA1224B4R D / EMA1224B4W D (old version).....	167
2.15.1.2	Sounder EMA1224B4R-D / EMA1224B4W-D (new version).....	167
2.15.2	Sounder DBS1224B4x.....	168
2.15.2.1	Sounder DBS1224B4W D (old version).....	168
2.15.2.2	Sounder DBS1224B4W-D (new version).....	168
2.15.3	Sounder MS1R.....	169
2.15.4	Sounder ROLP.....	170
2.15.5	Sounder ROLP/SV.....	171
2.15.6	Sounder SQUASHNI.....	172
2.15.7	Sounder SQUASHNI/SV.....	173
2.15.8	Sounder SYMPHONI HO.....	174
2.15.9	Sounder ASKARI – Compact/AC/SV/R/S – Compact/AC/SV/W1/S.....	175
2.15.10	Sounder-Strobe ROLP-SOLISTA.....	176
2.15.11	Sounder CWSO-xx-xx.....	177
2.15.12	Sounder-Strobe CWS/SOUx.....	178
2.15.13	Sounder-Strobe FLASHNI-SV.....	179
2.15.14	Sounder-Strobe FLASHNI-SV with separate actuation.....	180
2.15.15	Sounder-Strobe CWSS-xx-xx.....	181
2.15.16	Sounder-Strobe CWS/SOUx/STRC.....	182
2.15.17	Strobe SOLEX.....	183
2.15.18	Strobe SOLISTA LX.....	184
2.15.19	Strobe EMA24RS5x.....	185
2.15.20	Strobe CWST-xx-xx.....	186
2.16	Connecting signalling devices in hazardous areas.....	187
2.16.1	IS-A105N – sounder.....	187
2.16.1.1	Connection of the Sounder IS-A105N for use of 1 tone.....	187
2.16.1.2	Connection of the Sounder IS-A105N for use of 2 tones.....	188
2.16.2	IS-mA1 – sounder.....	189
2.16.2.1	Connection of the Sounder IS-mA1 for use of 1 tone.....	189
2.16.2.2	Connection of the Sounder IS-mA1 for use of 2 tones.....	190
2.16.3	IS-mB1 – blinking light.....	191
2.16.4	IS-mC1 – sounder and blinking light.....	192
2.16.4.1	Connection of the Sounder IS-mC1 for use of 1 tone.....	192
2.16.4.2	Connection of the Sounder IS-mC1 for use of 2 tones.....	193
2.16.5	DS5-3G/3D-24VDC.....	194
2.16.6	DS10-3G/3D-24VDC.....	194
2.16.7	F12-3G/3D-24VDC-W – F12-3G/3D-24VDC-R.....	195

2.16.8	Coding of Address Module NG58-1.....	196
3	ADM TECHNOLOGY.....	197
3.1	General.....	197
3.2	Series 200 / 200 Advanced Protocol.....	197
3.2.1	How to identify an Advanced Protocol product.....	197
3.3	Hints for project planning.....	198
3.4	Use of isolators.....	199
3.4.1	General.....	199
3.4.2	Number of isolators.....	199
3.4.3	Bypassing of isolators.....	199
3.4.4	Notes for ISM1-2, manual call points, modules Series 200 / 200AP (M2xxE) and B524IEFT-1.....	200
3.4.5	Series 200AP isolator.....	203
3.5	Cable requirements.....	204
3.5.1	Unshielded cable.....	204
3.5.2	Shielded cable.....	205
3.6	Address programming.....	206
3.6.1	Manual call points.....	206
3.6.1.1	Manual Call Points Series HFM/HM – HxM/x/22/xx/xx.....	206
3.6.1.2	Manual Call Points Series HFM/HM – HxM/x/25/xx/xx.....	207
3.6.1.3	Manual Call Points Series HME – HME/FFFF/25/TT/LL.....	208
3.6.1.4	Manual Call Points Series MCP5A/WCP5A.....	209
3.6.2	Detectors and modules.....	210
3.6.2.1	Overview of automatic detectors.....	211
3.6.3	Loop Sounders.....	212
3.6.3.1	Sounders Series WMSxx and IBSxx (200).....	212
3.6.3.2	Sounders Series WSx, BRH, BRS, BGL, BSx, and strobes VAD (200AP).....	213
3.7	Connection of manual call points.....	214
3.7.1	Connection of Manual Call Points Series HFM/HM.....	214
3.7.1.1	LED conditions of the HxM/x/22/xx/xx.....	214
3.7.1.2	LED conditions of the HxM/x/25/xx/xx.....	215
3.7.2	Connection of Manual Call Points Series HME.....	215
3.7.2.1	LED conditions of the HME/FFFF/25/TT/LL.....	215
3.7.3	Manual Call Points Series MCP.....	216
3.7.3.1	LED conditions of the MCP.....	216
3.8	Connection of intelligent automatic detectors.....	217
3.8.1	Compatibility.....	217
3.8.2	Detector Base B501.....	218
3.8.2.1	Connection of B501.....	218
3.8.2.2	Connection with Remote Indicator PA58-1 or PA58-3.....	218
3.8.2.3	Connection with Isolator Module ISM1-2.....	219
3.8.3	Detector Base B501AP.....	220
3.8.3.1	Connection with Remote Indicator PA58-1 or PA58-3.....	220
3.8.4	Detector Base B524HTR with integrated heating.....	221
3.8.4.1	Connection.....	221
3.8.5	Detector Base B524RTE with integrated relay.....	222
3.8.5.1	Connection.....	222
3.8.6	Detector base B524IEFT/B524IEFT-1 with integrated isolator.....	223
3.8.6.1	Connection.....	223
3.8.6.2	Connection with Remote Indicator PA58-1 or PA58-3.....	224
3.8.7	Detector Base B524FTXE.....	225
3.8.8	Duct detectors.....	226
3.8.8.1	DNRE.....	226
3.8.8.2	DH500.....	226
3.8.8.3	DH500AC/DC.....	226
3.8.9	Beam Smoke Detector 6500.....	227
3.8.10	Beam Smoke Detector OSI-RIE-00.....	228

3.8.11	Aspirating smoke detectors A211E-LSR and A222E-LSR.....	229
3.8.12	Aspirating smoke detectors A310E and A320E.....	230
3.8.12.1	Connection of A310E.....	230
3.8.12.2	Connection of A320E.....	230
3.8.13	Aspirating smoke detector FFAST LT – Model FL20xx.....	231
3.8.13.1	General.....	231
3.8.13.2	Connection.....	231
3.8.13.3	Parameterisation of the BC600.....	231
3.8.13.4	Parameterisation of the FL20xx.....	232
3.9	Intrinsically safe detection circuits for hazardous areas.....	233
3.9.1	Automatic detectors.....	233
3.9.1.1	General.....	233
3.9.1.2	Isolator.....	233
3.9.1.3	Connection.....	233
3.9.2	Automatic detectors and manual call points with the Conventional Zone Module M210E-CZR.....	234
3.9.2.1	Optical Smoke Detector SLR-E-IS.....	234
3.9.2.2	Optical Smoke Detector SOC-E-IS.....	235
3.9.2.3	Thermal detector 5451EIS.....	236
3.9.2.4	Automatic detectors Series Orbis I.S.....	237
3.9.2.5	Thermal Detectors 6295 and 6296.....	238
3.9.3	Automatic detectors and manual call points with the Conventional Zone Module M210EA-CZR.....	239
3.9.3.1	Optical Smoke Detector SLR-E-IS.....	239
3.9.3.2	Optical Smoke Detector SOC-E-IS.....	240
3.9.3.3	Thermal detector 5451EIS.....	241
3.9.3.4	Automatic detectors Series Orbis I.S.....	242
3.9.3.5	Thermal Detectors 6295 and 6296.....	243
3.9.4	Intrinsically safe detectors for hazardous areas.....	244
3.9.4.1	Manual call point Ex dC31.....	244
3.9.4.2	Flame Detectors – Series 16000.....	248
3.9.4.3	Flame Detector 40/40-I-111AC.....	250
3.9.4.4	Flame Detector – X2200.....	252
3.9.4.5	Flame Detector – X5200.....	254
3.9.5	Detectors without energy storage – contact detectors.....	256
3.9.5.1	Contact detectors with Monitor Module M210E and Zener Barrier Z978.....	256
3.9.5.2	Contact detectors with monitor module M210EA and Zener Barrier Z978.....	257
3.9.5.3	Contact detectors with MEA244-1 and Zener Barrier Z978.....	258
3.10	Connection of wireless detectors.....	259
3.10.1	RF Interface M500RFE-AS.....	259
3.10.1.1	Notes.....	259
3.10.1.2	Connection.....	259
3.10.2	RF Interface M200G-RF.....	260
3.10.2.1	Notes.....	260
3.10.2.2	Address setting.....	260
3.10.2.3	Connection.....	260
3.11	Connection of conventional detectors by means of conventional zone module.....	261
3.11.1	Address setting.....	261
3.11.2	Power supply.....	261
3.11.2.1	External power supply.....	261
3.11.2.2	Power supplied by the fire detection control panel.....	262
3.11.2.3	Power supplied by the loop.....	263
3.11.2.4	Resetting contact detectors by means of a conventional zone module and an MQZ1000-1.....	264
3.11.2.5	Resetting contact detectors by means of the module M221E / M221EA – without MQZ1000-1.....	264
3.11.3	Manual Call Points Series C31 – M210E-CZR.....	265
3.11.4	Manual Call Points Series C31 – M210EA-CZR.....	266
3.11.5	Detectors Series 100/400/300/ECO1000.....	267
3.11.5.1	Connection Series 100/400 with power supply from the fire detection control panel - M210E-CZ	

3.11.5.2	Connection Series 300 with power supply from the control panel – M210E-CZ.....	267
3.11.5.3	Connection Series ECO1000 with power supply from the control panel – M210E-CZ.....	268
3.11.5.4	Connection Series 100/400 with power supply from the control panel – M210EA-CZ.....	269
3.11.5.5	Connection Series 300 with power supply from the control panel – M210EA-CZ.....	269
3.11.5.6	Connection Series ECO1000 with power supply from the control panel – M210EA-CZ.....	270
3.11.6	RF Interface M400RFE-AS / FUIF511-27D – M210E-CZ.....	271
3.11.6.1	Notes.....	271
3.11.6.2	Connection of the RF interface with AC supply.....	271
3.11.7	RF Interface – M400RFE-AS / FUIF511-27D – M210EA-CZ.....	272
3.11.7.1	Notes.....	272
3.11.7.2	Connection of the RF interface with AC supply.....	272
3.11.8	RF Interfaces FI700/RF/CWE + FI720/RF/CWE – M210E-CZ and M210E.....	273
3.11.8.1	Notes.....	273
3.11.8.2	Connection.....	273
3.11.9	RF Interfaces FI700/RF/CWE + FI720/RF/CWE – M210EA-CZ and M210EA.....	274
3.11.9.1	Notes.....	274
3.11.9.2	Connection.....	274
3.11.10	RF Interface FI750/RF/CWE – M210EA-CZ and M210EA.....	275
3.11.10.1	Notes.....	275
3.11.10.2	Connection.....	275
3.11.11	Flame Detectors Series 16000 – M210E-CZ.....	276
3.11.11.1	Note.....	276
3.11.11.2	Connection.....	276
3.11.12	Flame Detectors Series 16000 – M210EA-CZ.....	277
3.11.12.1	Note.....	277
3.11.12.2	Connection.....	277
3.11.13	Flame Detector 800/24-VST-K-N – M210E-CZ.....	278
3.11.14	Flame Detector 800/24-VST-K-N – M210EA-CZ.....	279
3.11.15	Flame Detector FL80 / 1A Version AM – M221EA.....	280
3.11.16	Flame Detector 20/20-MPI-R – M210E-CZ.....	281
3.11.17	Flame Detector 20/20-MPI-R – M210EA-CZ.....	282
3.11.18	Flame Detector 20/20-MI-11SF – M210E-CZ.....	283
3.11.19	Flame Detector 20/20-MI-11SF – M210EA-CZ.....	284
3.11.20	Flame Detector FMX5000 IR – M210E-CZ.....	285
3.11.21	Flame Detector FMX5000 IR – M210EA-CZ.....	286
3.11.22	Flame Detector FMX5000 UV – M210E-CZ.....	287
3.11.23	Flame Detector FMX5000 UV – M210EA-CZ.....	288
3.11.24	Flame detector with colour video monitoring Flame 5000 – M210EA-CZR.....	289
3.11.25	Flame detector with colour video monitoring Flame 5000 – M221EA.....	290
3.11.26	Linear Heat Detector Unit LWM-1 – M210E-CZ.....	291
3.11.27	Linear Heat Detector Unit LWM-1 – M210EA-CZ.....	292
3.11.28	Linear Heat Detector Unit SKM-03 – M210E-CZ.....	293
3.11.29	Linear Heat Detector Unit SKM-03 – M210EA-CZ.....	294
3.11.30	Linear Heat Detector Unit SKM-03.2 - M210E-CZ.....	295
3.11.31	Linear Heat Detector Unit SKM-03.2 – M210EA-CZ.....	296
3.11.32	Linear Heat Detector Unit SKM-03.2 – M221E.....	297
3.11.33	Linear Heat Detector Unit SKM-03.2 – M221EA.....	298
3.11.34	Linear Heat Detector Unit SCU800 – M210E-CZ.....	299
3.11.35	Linear Heat Detector Unit SCU800 – M210EA-CZ.....	300
3.11.36	Linear Heat Detector Unit SCU835 – M210E-CZ.....	301
3.11.37	Linear Heat Detector Unit SCU835 – M210EA-CZ.....	302
3.11.38	Linear Heat Detector Unit SCU835 with two channels – M210E-CZ.....	303
3.11.39	Linear Heat Detector Unit SCU835 with two channels – M210EA-CZ.....	304
3.11.40	Linear Heat Detector Unit SCU835 – M221EA.....	305
3.11.41	Linear Heat Detector Unit ADW511A – M210E-CZ.....	306

3.11.42	Linear Heat Detector Unit ADW511A – M210EA-CZ.....	307
3.11.43	Linear Heat Detector Unit ADW535 – M210E-CZ.....	308
3.11.44	Linear Heat Detector Unit ADW535 – M210EA-CZ.....	309
3.11.45	Linear Heat Detector Unit A1388 – M210E-CZR.....	310
3.11.46	Linear Heat Detector Unit A1388 – M210EA-CZR.....	311
3.11.47	Linear Heat Detector Unit A1388 – M221E.....	312
3.11.48	Linear Heat Detector Unit A1388 – M221EA.....	313
3.11.49	Beam Smoke Detector OSI-RE-SS – M210EA-CZ.....	314
3.11.50	Beam Smoke Detector OSI-RE-SS – M221EA.....	315
3.11.51	Beam Smoke Detector OSID – M210E-CZ.....	316
3.11.52	Beam Smoke Detector OSID – M210EA-CZ.....	317
3.11.53	Beam Smoke Detector OSID – M221EA.....	318
3.11.54	Beam Smoke Detector Fireray ONE – M210E-CZ.....	319
3.11.55	Beam Smoke Detector Fireray ONE – M210EA-CZ.....	320
3.11.56	Beam Smoke Detector FR50/100 – M210E-CZ.....	321
3.11.57	Beam Smoke Detector FR50/100 – M210EA-CZ.....	322
3.11.58	Beam Smoke Detector FR2000 – M210E-CZ.....	323
3.11.59	Beam Smoke Detector FR2000 – M210EA-CZ.....	324
3.11.60	Beam Smoke Detector FR3000 – M210E-CZ.....	325
3.11.61	Beam Smoke Detector FR3000 – M210EA-CZ.....	326
3.11.62	Beam Smoke Detector FR5000.....	327
3.11.62.1	Old version – with M210E-CZ.....	327
3.11.62.2	Old version – with M210EA-CZ.....	328
3.11.62.3	New version – with M210E-CZ.....	329
3.11.62.4	New version – with M210EA-CZ.....	330
3.11.63	Beam Smoke Detector FireRay-Hub - M210E-CZ.....	331
3.11.64	Beam Smoke Detector FireRay-Hub – M210EA-CZ.....	332
3.11.65	Beam Smoke Detector FireRay-Hub – M221E.....	333
3.11.66	Beam Smoke Detector FireRay-Hub – M221EA.....	334
3.11.67	Beam Smoke Detector thefirebeam plus – M210E-CZ.....	335
3.11.68	Beam Smoke Detector thefirebeam plus – M210EA-CZ.....	336
3.11.69	Beam Smoke Detector thefirebeam Xtra – M210E-CZ.....	337
3.11.70	Beam Smoke Detector thefirebeam Xtra – M210EA-CZ.....	338
3.11.71	Beam Smoke Detector thefirebeam Xtra – M221EA.....	339
3.11.72	Beam Smoke Detector thefirebeam BLUE – M210E-CZ.....	340
3.11.73	Beam Smoke Detector thefirebeam BLUE – M210EA-CZ.....	341
3.11.74	Beam Smoke Detector thefirebeam BLUE – M221EA.....	342
3.11.75	Beam Smoke Detector ERHSO712 – M210E-CZ.....	343
3.11.76	Beam Smoke Detector ERHSO712 – M210EA-CZ.....	344
3.11.77	Beam Smoke Detector ERHSO712 – M221EA.....	345
3.11.78	Beam Smoke Detector ERRHSO712 – M210E-CZ.....	346
3.11.79	Beam Smoke Detector ERRHSO712 – M210EA-CZ.....	347
3.11.80	Beam Smoke Detector ERRHSO712 – M221EA.....	348
3.11.81	Beam Smoke Detector ECO ES 25-I – M210E-CZ.....	349
3.11.82	Beam Smoke Detector ECO ES 25-I – M210EA-CZ.....	350
3.11.83	Beam Smoke Detector ECO ES 25-I – M221EA.....	351
3.11.84	Beam Smoke Detector ECO ES 50 – M210E-CZ.....	352
3.11.85	Beam Smoke Detector ECO ES 50 – M210EA-CZ.....	353
3.11.86	Beam Smoke Detector ECO ES 50 – M221EA.....	354
3.11.87	Beam Smoke Detector ECO ES 80 – M210E-CZ.....	355
3.11.88	Beam Smoke Detector ECO ES 80 – M210EA-CZ.....	356
3.11.89	Beam Smoke Detector ECO ES 80 – M221EA.....	357
3.11.90	Aspirating smoke detector Titanus PRO·SENS – TP1/A with one detector module – M210E-CZ.....	358
3.11.91	Aspirating smoke detector Titanus PRO SENS – TP1/A with one detector module – M210EA-CZ.....	359
3.11.92	Aspirating smoke detector Titanus PRO·SENS – TP1/A with 2 detector modules – M210E-CZ.....	360

3.11.93	Aspirating smoke detector Titanus PRO·SENS – TP-1/A with two detector modules – M210EA-CZ	361
3.11.94	Aspirating smoke detector Titanus Pro Sens – TP-1/A with two detector modules – M210EA	362
3.11.95	Aspirating smoke detector Titanus Pro Sens – TP-1/A with two detector modules – M220EA	363
3.11.96	Aspirating smoke detector Titanus PRO·SENS – TP-4 with 2 detector modules – M210E-CZ	364
3.11.97	Aspirating smoke detector Titanus PRO·SENS – TP-4 with two detector modules – M210EA-CZ	365
3.11.98	Aspirating smoke detector Titanus TOP·SENS – TT-1 with 2 detector modules – M210E-CZ	366
3.11.99	Aspirating smoke detector Titanus TOP·SENS – TT-1 with two detector modules – M210EA-CZ	367
3.11.100	Aspirating smoke detector Titanus Super Sens – T-SS – M210E-CZ	368
3.11.101	Aspirating smoke detector Titanus Super Sens – T-SS – M210EA-CZ	369
3.11.102	Aspirating smoke detector Titanus MICRO SENSE – M210E-CZ	370
3.11.103	Aspirating smoke detector Titanus MICRO SENSE – M210EA-CZ	371
3.11.104	Aspirating smoke detector Titanus MICRO SENSE – M221EA	372
3.11.105	Aspirating smoke detector Titanus RACK SENSE – M221EA	373
3.11.106	Aspirating smoke detector Vesda VLF-250 / VLF-500 – M210E-CZ	374
3.11.107	Aspirating smoke detector Vesda VLF-250 / VLF-500 – M210EA-CZ	375
3.11.108	Aspirating smoke detector ASD532 – M210E-CZ	376
3.11.109	Aspirating smoke detector ASD532 – M210EA-CZ	377
3.11.110	Aspirating smoke detector ASD535 with one channel – M210E-CZ	378
3.11.111	Aspirating smoke detector ASD535 with one channel – M210EA-CZ	379
3.11.112	Aspirating smoke detector ASD535 with two channels – M210E-CZ	380
3.11.113	Aspirating smoke detector ASD535 with two channels – M210EA-CZ	381
3.11.114	Aspirating smoke detector ASD533 – M210E-CZ	382
3.11.115	Aspirating smoke detector ASD533 – M210EA-CZ	383
3.11.116	Aspirating smoke detector FFAST 8100E – M210E-CZ	384
3.11.117	Aspirating smoke detector FFAST 8100E – M210EA-CZ	385
3.11.118	Aspirating smoke detector FLX-010 – M210E-CZ	386
3.11.119	Aspirating smoke detector FLX-010 – M210EA-CZ	387
3.11.120	Aspirating smoke detector FLX-010 – M221EA	388
3.11.121	Aspirating smoke detector FLX-020 – M221EA	389
3.11.122	Aspirating smoke detector Stratos-ModuLaser – M210E-CZ	390
3.11.123	Aspirating smoke detector Stratos-ModuLaser – M210EA-CZ	391
3.11.124	Thermal Max Detectors 6295, 6296, 6297 and 6298 – M210E-CZ	392
3.11.124.1	Notes	392
3.11.124.2	Connection	392
3.11.125	Thermal Detectors 6295, 6296, 6297 and 6298 – M210EA-CZ	393
3.11.125.1	Notes	393
3.11.125.2	Connection	393
3.11.126	Thermal Max Detector SWM-1KL – M210E-CZ	394
3.11.127	Thermal Max Detector SWM-1KL – M210EA-CZ	395
3.11.128	Thermal Max Detector SWM-1KL-140 – M210E-CZ	396
3.11.129	Thermal Max Detector SWM-1KL-140 – M210EA-CZ	397
3.11.130	Thermal Max Detector HT-27121-275 – M210E-CZ	398
3.11.131	Thermal Max Detector HT-27121-275 – M210EA-CZ	399
3.11.132	Thermal Max Detector WMX5000 FS – M210E-CZ	400
3.11.133	Thermal Max Detector WMX5000 FS – M210EA-CZ	401
3.12	Connection of contact detectors with a monitor module	402
3.12.1	Address setting	402
3.12.2	Monitor Module M503ME	402
3.12.3	Monitor Module M501MEA	403
3.12.4	Monitor Modules M210E / M220E	404
3.12.4.1	Address setting	404
3.12.4.2	Connection of Monitor Modules M210E / M220E	404
3.12.5	Monitor Modules M210EA / M220EA	405
3.12.5.1	Address setting	405
3.12.5.2	Connection of Monitor Modules M210EA / M220EA	405

3.12.6	Monitor Module IM-10 (Series 200).....	406
3.12.7	Monitor Module IM-10EA (Series 200AP).....	407
3.12.8	Monitor Module ÜMB500-1.....	408
3.12.8.1	Notes.....	408
3.12.8.2	Connection.....	408
3.12.9	Monitor Module ÜMB200AP-1.....	409
3.12.9.1	Notes.....	409
3.12.9.2	Connection.....	409
3.12.10	Position Switch EDS500-1.....	410
3.12.10.1	Connection.....	410
3.12.11	Position Switch EDS200AP.....	411
3.12.11.1	Connection.....	411
3.13	Monitor Module M510E-4-20 / M500M-4-20.....	412
3.13.1	Examples.....	412
3.13.1.1	Alarm evaluation with increasing current values.....	412
3.13.1.2	Alarm evaluation with decreasing current values – inverted alarm evaluation.....	412
3.13.2	Address setting.....	413
3.13.3	Connection of a 2-wire sensor.....	413
3.13.4	Connection of a 3-wire sensor.....	413
3.14	Connection of control modules with monitoring.....	414
3.14.1	Address setting.....	414
3.14.2	Connection of sirens – M201E.....	415
3.14.3	Connection of sirens – M201EA.....	416
3.14.4	Connection of sirens – M201EA-HC.....	417
3.14.5	Connection of sirens and solenoid valves according to VdS guidelines – M201E.....	418
3.14.6	Connection of sirens and solenoid valves according to VdS guidelines – M201EA-HC.....	419
3.15	Connection of control modules with relay output.....	420
3.15.1	Address setting.....	420
3.15.2	Control Modules M201E, M201E-240, M201E-240-DIN.....	420
3.15.3	Control Module M201EA.....	420
3.15.4	Control Module M201EA-HC.....	421
3.15.5	Control Module M201EA-240.....	421
3.15.6	Control Module CR-6 (Series 200).....	422
3.15.7	Control Module CR-6EA (Series 200AP).....	423
3.16	Connection of combi modules.....	424
3.16.1.1	Address setting.....	424
3.16.2	Connection of combi module M221E.....	424
3.16.3	Connection of combi module M221EA.....	424
3.16.4	Connection of Module MEA244-1.....	426
3.16.4.1	Entry of the base address.....	426
3.16.5	Connection of Module MEA244-1/FS.....	427
3.16.5.1	Entry of the base address.....	427
3.17	Loop alarming devices.....	428
3.17.1	Notes.....	428
3.17.2	Sounder WMSOU-xx-P01 – WMSOU-xx-P02.....	429
3.17.2.1	Connection.....	429
3.17.2.2	Tone setting.....	429
3.17.3	Sounder WMSOU-xx-P33 – WMSOU-xx-P34.....	430
3.17.3.1	Connection.....	430
3.17.3.2	Tone setting.....	430
3.17.4	Sounder WSO-xx-N – WSO-xx-L.....	431
3.17.4.1	Connection.....	431
3.17.4.2	Tone setting.....	431
3.17.5	Sounder-Strobe WMSST-xx-P01 – WMSST-xx-P02.....	432
3.17.5.1	Connection.....	432
3.17.5.2	Tone setting.....	432

3.17.6	Sounder-Strobe WMSST-xx-P33 – WMSST-xx-P34.....	433
3.17.6.1	Connection.....	433
3.17.6.2	Tone setting.....	433
3.17.7	Sounder-Strobe WMSST-xx-P38.....	434
3.17.7.1	Connection.....	434
3.17.7.2	Tone setting.....	434
3.17.8	Sounder-Strobe WSS-xx-N – WSS-xx-I.....	435
3.17.8.1	Connection.....	435
3.17.8.2	Tone setting.....	435
3.17.9	Sounder IBSOU-xx-P01 – IBSOU-xx-P02.....	436
3.17.9.1	Connection.....	436
3.17.9.2	Tone setting.....	436
3.17.10	Sounder IBSOU-xx-P33 – IBSOU-xx-P34.....	437
3.17.10.1	Connection.....	437
3.17.10.2	Tone setting.....	437
3.17.11	Sounder BSO-xx-N – BSO-xx-I.....	438
3.17.11.1	Connection.....	438
3.17.11.2	Tone setting.....	438
3.17.12	Sounder-Strobe IBSST-xx-P01 – IBSST-xx-P02.....	439
3.17.12.1	Connection.....	439
3.17.12.2	Tone setting.....	439
3.17.13	Sounder-Strobe IBSST-xx-P33 – IBSST-xx-P34.....	440
3.17.13.1	Connection.....	440
3.17.13.2	Tone setting.....	440
3.17.14	Sounder-Strobe IBSST-xx-P38.....	441
3.17.14.1	Connection.....	441
3.17.14.2	Tone setting.....	441
3.17.15	Sounder-Strobe BSS-xx-N – BSS-xx-I.....	442
3.17.15.1	Connection.....	442
3.17.15.2	Tone setting.....	442
3.17.16	Sounder-Strobe DSS-xx-N – DSS-xx-I.....	443
3.17.16.1	Connection.....	443
3.17.16.2	Tone setting.....	443
3.17.17	Sounder-Strobe BRH-xx-I.....	445
3.17.17.1	Connection.....	445
3.17.17.2	Tone setting.....	445
3.17.18	Sounder-Strobe BRS-xx-I.....	447
3.17.18.1	Connection.....	447
3.17.18.2	Tone setting.....	447
3.17.19	Sounder-Strobe WRA-RC-I.....	449
3.17.19.1	Connection.....	449
3.17.19.2	Tone setting.....	449
3.17.20	Sounder-Strobe WRA-PC-I.....	451
3.17.20.1	Connection.....	451
3.17.20.2	Tone setting.....	451
3.17.21	Sounder-Strobe WWA-RC-I.....	453
3.17.21.1	Connection.....	453
3.17.21.2	Tone setting.....	453
3.17.22	Sounder-Strobe WWA-PC-I.....	455
3.17.22.1	Connection.....	455
3.17.22.2	Tone setting.....	455
3.17.23	Strobe WMSTR-xx-P01 – WMSTR-xx-P02.....	457
3.17.23.1	Connection.....	457
3.17.24	Strobe WMSTR-xx-P33 – WMSTR-xx-P34.....	458
3.17.24.1	Connection.....	458
3.17.25	Strobe WST-xx-N – WST-xx-I.....	459

3.17.25.1	Connection.....	459
3.17.26	Strobe VAD-PC-I06 – VAD-PC-N06.....	460
3.17.26.1	Connection.....	460
3.17.27	Strobe BGL-PC-I (C-3-8.5).....	461
3.17.27.1	Connection.....	461
3.17.28	Strobe WRL-RC-I (W-3.6-10.5 / W-2.4-10.5).....	462
3.17.28.1	Connection.....	462
3.17.29	Strobe WRL-PC-I (W-3.6-10.5 / W-2.4-10.5).....	463
3.17.29.1	Connection.....	463
3.17.30	Strobe WWL-RC-I (W-3.8-9 / W-2.4-9).....	464
3.17.30.1	Connection.....	464
3.17.31	Strobe WWL-PC-I (W-3.8-9 / W-2.4-9).....	465
3.17.31.1	Connection.....	465
3.17.32	Sounder 200/FBRI/SOUW.....	466
3.17.32.1	Connection.....	466
3.17.32.2	Tone setting.....	466
3.18	Examples for the wiring of detector circuits.....	467
3.18.1	Loop.....	467
3.18.2	Combination of branch lines and loops.....	467
3.18.3	Branch lines.....	468
3.18.4	System cabling ADM loop with isolator bases or isolators in the detectors.....	469
3.18.5	System cabling ADM loop with isolator modules.....	470
3.19	Tips for programming.....	471
3.19.1	Parameterising Series 200/200AP/500 detectors on the BC216.....	471
3.19.2	Parameterising Series 200/500 modules on the BC216.....	474
3.19.3	Parameterising Series 200AP modules on the BC216.....	475
3.19.4	Parameterising signalling devices Series 200/200AP on the BC216.....	475
3.19.4.1	Signalling devices Series WMSxx and IBSxx (Series 200).....	475
3.19.4.2	Signalling devices Series WMSxx and IBSxx (Series 200AP).....	476
3.19.4.3	Signalling devices Series VAD (Series 200AP).....	477
3.19.4.4	Other signalling devices – Series 200AP.....	477
3.19.5	Parameterising wireless elements Series 200AP-RF on the BC216.....	478
3.19.6	Parameterising wireless elements Series 500 on the BC216.....	479
3.19.7	Parameterising various elements on the BC216.....	479
3.20	Glossary.....	480
3.20.1	Definition of the inputs.....	480
3.20.1.1	Monitor module.....	480
3.20.1.2	Monitor module/latching.....	480
3.20.1.3	Monitor module / M2xx / VdS.....	480
3.20.1.4	Conventional module.....	480
3.20.1.5	Monitor mod./MEA2xx.....	480
3.20.1.6	Mon.mod/MEA2xx/latch.....	480
3.20.1.7	Analog module.....	480
3.20.2	Definition of the outputs.....	481
3.20.2.1	Ctrl.module without supervis.....	481
3.20.2.2	Ctrl.module with supervis.....	481
3.20.2.3	Ctrl.module / M201 / VdS.....	481
3.20.2.4	Ctrl.module/MEA2xx.....	481
3.20.2.5	Ctrl.module/aspirating system.....	481
4	ANALOGUE VALUES - CONDIT. OF DETECTORS/MODULES.....	482
4.1	Standard detectors on the Series BC216.....	482
4.1.1	Ionisation smoke detector.....	482
4.1.2	Optical smoke detectors.....	482
4.1.3	Optical laser smoke detector.....	482
4.1.4	Multisensors.....	483
4.1.4.1	Optical-thermal detectors.....	483

4.1.4.2	3 criteria multisensors.....	483
4.1.4.3	4 criteria multisensor.....	483
4.1.5	Thermal detectors.....	484
4.2	Special detectors on the Series BC216.....	484
4.2.1	Beam smoke detectors Series 6500 / Series 6500AP.....	484
4.2.2	Beam Smoke Detector OSI-RIE-00.....	485
4.2.3	Aspirating smoke detectors A211E-LSR and A222E-LSR.....	485
4.2.3.1	Detector.....	485
4.2.3.2	Module.....	485
4.2.4	RF Interface M500RFE-AS.....	485
4.2.4.1	Optical-Thermal Detector 2100RFT-AS.....	485
4.2.4.2	Manual Call Points M400DKMR-AS and M400DKMB-AS.....	486
4.2.5	RF Gateway M200G-RF.....	486
4.2.5.1	RF Repeater M200F-RF.....	486
4.2.5.2	Optical Detector – 22051E-RF.....	486
4.2.5.3	Multicriteria Detector – 22051TLE-RF.....	487
4.2.5.4	Heat Detector - 52051E-RF.....	487
4.2.5.5	Heat Detector – 52051RE-RF.....	487
4.2.5.6	Manual Call Points DKMCPx-RF and R5A-RF.....	488
4.2.5.7	M211-E-RF (input).....	488
4.2.5.8	M211-E-RF (output).....	488
4.2.5.9	WSO-xx-RF (Sounder).....	489
4.2.5.10	WSF-xx-RF (Sounder-Strobe).....	489
4.3	Modules on the Series BC216.....	490
4.3.1	Manual call points HxM/x/22/xx/xx, HxM/x/25/xx/xx, HME/FFFF/25/TT/LL.....	490
4.3.2	Monitor module M503ME, M501MEA, M210E, M220E, M221E (input), IM-10, IM-10EA, EDS500-1, EDS200AP-1, ÜMB500-1, ÜMB200AP-1, MEA244-1 (input), MEA244-1/FS (input)	490
4.3.3	Monitor module/M2xx/VdS (M210E, M220E, M221E (input)).....	490
4.3.4	Monitor module – M210EA, M220EA.....	490
4.3.5	Monitor module M2xx/VdS – M210EA, M220EA.....	490
4.3.6	Control module without supervision M221E (output), M201E, M201E-240, CR-6, CR-6EA.....	490
4.3.7	Monitor module – M221EA (input).....	490
4.3.8	Control module without supervision M221EA (output).....	491
4.3.9	Control module with supervision M201E.....	491
4.3.10	Control module/M201/VdS M201E.....	491
4.3.11	Control module with supervision M201EA.....	491
4.3.12	Control module without supervision M201EA.....	491
4.3.13	Control module without supervision M201EA-HC.....	491
4.3.14	Control module with supervision M201EA-HC – supervision 47kOhm.....	491
4.3.15	Control module M201/VdS M201EA – HC – supervision 47Ohm.....	492
4.3.16	Control module M201EA240.....	492
4.3.17	Conventional module M210E-CZR, M210E-CZ.....	492
4.3.18	Conventional module M210EA-CZR, M210EA-CZ.....	492
4.3.19	MEA244-1 (output).....	492
4.3.20	MEA244-1/FS (output).....	492
4.3.21	M510E-4-20.....	492
4.4	Standard detectors on the Series BC600.....	494
4.4.1	Ionisation smoke detector.....	494
4.4.2	Optical smoke detectors AP.....	494
4.4.3	Optical laser smoke detector.....	494
4.4.4	Multisensors.....	496
4.4.4.1	Optical-thermal detectors.....	496
4.4.4.2	3 criteria multisensors.....	496
4.4.4.3	4 criteria multisensor.....	497
4.4.5	Thermal detectors.....	497

4.5	Special detectors on the Series BC600.....	498
4.5.1	Beam smoke detectors 6500AP.....	498
4.5.2	Beam smoke detectors 6500.....	499
4.5.3	Beam smoke detector OSI-RIE-00.....	499
4.5.4	Aspirating smoke detectors A211E-LSR and A222E-LSR.....	500
4.5.4.1	Detector.....	500
4.5.4.2	Module.....	500
4.5.5	Aspirating smoke detector FL20xx AP.....	500
4.5.5.1	Detector.....	500
4.5.5.2	Module.....	500
4.5.6	RF Interface M500RFE-AS.....	500
4.5.6.1	Optical-Thermal Detector 2100RFT-AS.....	500
4.5.6.2	Manual Call Points M400DKMR-AS and M400DKMB-AS.....	501
4.5.7	RF Gateway M200G-RF.....	501
4.5.7.1	RF Repeater M200F-RF.....	501
4.5.7.2	Optical Detector – 22051E-RF.....	501
4.5.7.3	Multicriteria Detector – 22051TLE-RF.....	502
4.5.7.4	Heat Detector – 52051E-RF.....	502
4.5.7.5	Heat Detector – 52051RE-RF.....	503
4.5.7.6	Manual Call Points DKMCPx-RF and R5A-RF.....	503
4.5.7.7	M211-E-RF (Input).....	503
4.5.7.8	M211-E-RF (Output).....	504
4.5.7.9	WSO-xx-RF (Sounder).....	504
4.5.7.10	WSF-xx-RF (Sounder-strobe).....	504
4.6	Modules on the Series BC600.....	505
4.6.1	Manual call points HxM/x/22/xx/xx.....	505
4.6.2	Manual call point HxM/x/25/xx/xx, monitor module ÜMB200AP-1.....	505
4.6.3	Manual call point HME/FFFF/25/TT/LL.....	505
4.6.4	Monitor module EDS200AP-1.....	505
4.6.5	Monitor module AP (M210E, M220E, M221E (input), IM-10EA).....	505
4.6.6	Monitor module M210EA, M220EA.....	505
4.6.7	Monitor module M501MEA.....	505
4.6.8	Monitor module MEA244-1 (input), MEA244-1/FS (input).....	505
4.6.9	MEA244-1 (output).....	506
4.6.10	MEA244-1/FS (output).....	506
4.6.11	M221EA (input).....	506
4.6.12	M221EA (output).....	506
4.6.13	M201E AP, supervision 47Ohm.....	506
4.6.14	M201E AP, supervision 47kOhm.....	506
4.6.15	M201E AP, without supervision, CR-6EA.....	506
4.6.16	M201EA, without supervision.....	507
4.6.17	M201EA, with supervision 47 kOhm.....	507
4.6.18	M201EA-HC, without supervision.....	507
4.6.19	M201EA-HC, supervision 47 kOhm.....	507
4.6.20	M201EA-HC, supervision 47Ohm (VdS).....	507
4.6.21	M201EA-240.....	507
4.6.22	Conventional module AP M210E-CZR, M210E-CZ.....	507
4.6.23	Conventional module AP M210EA-CZR, M210EA-CZ.....	508
4.6.24	M510E-4-20.....	508
4.7	Signalling devices AP.....	508
4.8	Behaviour of loop elements Series 200AP on the Series BC600.....	509
5	Checking the loop lines.....	510
6	Contamination detection and maintenance prognosis.....	511
6.1	Series 200/200AP elements on the BC216.....	511
6.1.1	2551E, 2251EIS, FTX-P1, 2251E, ND2251EM, 1551E, 1251E, ND22051E, 22051EISE 6500,	

	6500AP.....	511
6.1.2	7251, 72051EI, F-SEN-SSE.....	511
6.1.3	2251TEM, DV22051TE, 2251TLE, 2251CTLE.....	511
6.1.4	22051TLE.....	511
6.1.5	2100RFT-AS.....	511
6.2	Series 200/200AP elements on the BC600.....	511
6.3	Maintenance prognosis.....	512
6.4	Detection of detector replacement.....	512
6.4.1	Series 200 elements on the BC216 / BC600.....	512
6.4.2	Series 200 elements on the BC600.....	512
6.4.3	Series 200AP elements on the BC600.....	512

1 INTRODUCTION

1.1 General

This User Manual provides the authorized installer with the information necessary for installation, connection and commissioning of fire detectors of make System Sensor, on the Fire Detection Control Panels Series BC06, BC08, BC016, BC216 and BC600.

1.2 Types of symbols

Especially important sections of text in this User Manual are indicated with symbols. The following symbols are used:



Means **DANGER!** Ignoring these directions can result in danger to life and health.



Means **ATTENTION!** Ignoring these tips can result in system malfunctions or damage to property.



Means **TIP!** Here the text contains explanatory notes which can make the installation, connection and commissioning easier for you and/or which are supposed to enhance your understanding of how things are connected.



Means that the country-specific and/or the site-specific requirements of the **DEVICE** and/or **SYSTEM APPROVALS** of the fire detection system must be observed.



Means that in case of ignoring this text, binding **European Standards** can be violated and therefore perhaps the device must not be used within the EU.

1.3 Important tips

Fire detection systems and devices, respectively, must always be planned, installed and put into operation by specialists who are trained on a continuous basis. The specific specialist training on the functions of the fire detection control panel and the fire detectors that are connected to it must be provided by Labor Strauss Sicherungsanlagenbau GmbH Wien (LST) or by persons expressly authorized by LST for this purpose.

The present manual does not provide any information concerning the expert planning or design of a fire detection system. It replaces neither the installer's required technical qualification nor his or her specific training.



Prior to opening the housing of the fire detection control panel or of a BCnet sectional control panel, switch off the mains power and ensure that it is not switched back on! When the housing is open and mains power is connected, certain components carrying voltage at levels that are life threatening are exposed! The protective covering for these components should never be removed.



When working on the fire detection control panel and when handling components, observe the usual protective measures for discharging static electricity charges: Before and during the work being performed on the printed circuit boards, static charges from your body must be reliably discharged by touching an earthed piece of metal. Mains-operated tools (e.g., soldering irons) must absolutely be equipped with protective earthing or be expressly approved for use on installations that are static-sensitive. The usual **protective insulation is not sufficient.**

During installation, maintenance and servicing, observe the applicable laws, standards and guidelines on the installation and maintenance of fire detection systems!



If a conventional zone gets disabled, all detectors that are connected to it are put out of action. In this case, alarms cannot be detected.

2 CONVENTIONAL TECHNOLOGY

2.1 General

The present section specifies the connection of conventional detectors to the conventional detector interfaces. All detectors of a zone are connected in parallel, in the last detector a line terminating element must be installed. Each detector has a normally open contact. In case of activation, the resistor R is connected to the line and the quiescent current is increased.

The following drawings can, under consideration of some points, also apply to the following control panels:

- ◆ Series BC600 - The 5.6kOhm end-of-line resistor / 1kOhm alarm resistor must be parameterised.
- ◆ Series BC216 - A 5.6kOhm end-of-line resistor has to be used.
- ◆ Series BC016 - The 5.6kOhm end-of-line resistor must be parameterised.
- ◆ Series BC08 - The end-of-line element must be parameterised. Address modules cannot be used with the BC08. For the connection that conforms to VdS, a capacitor is to be used as end-of-line element.
- ◆ Series BC06 - The 5.6kOhm end-of-line resistor must be parameterised. In the case of the BC06 it is not possible to use address modules.



If a different end-of-line element than the one mentioned above is used, the connection has to be adapted. The explanations and drawings refer to an end-of-line element of 5.6kOhm.

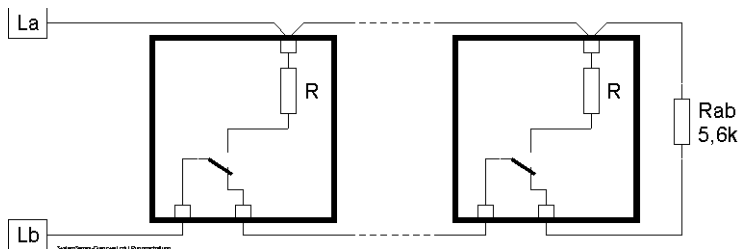


If a conventional zone gets disabled, all detectors that are connected to it are put out of action. In this case, alarms cannot be detected.

2.1.1 Installation of detectors

See installation instructions for your country.

2.1.2 Schematic circuit diagram of a detector zone



R_{ab} end-of-line resistor in the last detector

R alarm resistor

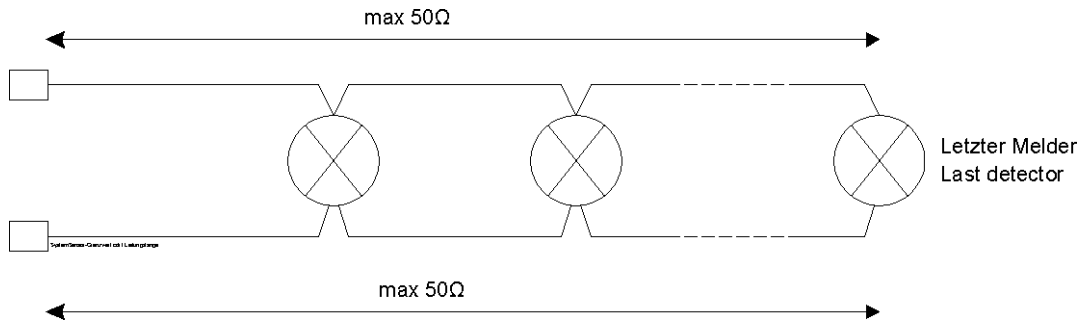
2.1.3 Conditions of zones

To evaluate the condition of a zone, the line current is sensed. The measured value is processed by the microcontroller and the corresponding condition of the zone is determined. For the threshold values for alarm, wire breakage and short circuit, please refer to the documentation of the fire detection control panels.

To perform a reset of a conventional detector, the corresponding zone has to be disabled for at least 8 seconds.

2.1.4 Cable requirements

The line resistance of the conventional detection line must not exceed 50 Ohm per wire.
This corresponds, when using a 0.5mm² wire (AWG20), to a distance of approx. 1400m.



2.2 Connection of manual call points

The following manual call points can be connected to a conventional detector interface of the fire detection control panel:

Description	Type
Manual Call Point Series HFM/HM	HxM/x/11/xx
Manual Call Point Series HFM/HM – 1 auxiliary contact	HxM/x/12/xx
Manual Call Point Series HME	HME/FFFF/11/TT/LL/x
Manual Call Point Series HME – 1 auxiliary contact	HME/FFFF/12/TT/LL/x
Manual Call Point/Red/Standard	UNI3021C
Manual Call Point Series C31	51.12_0z

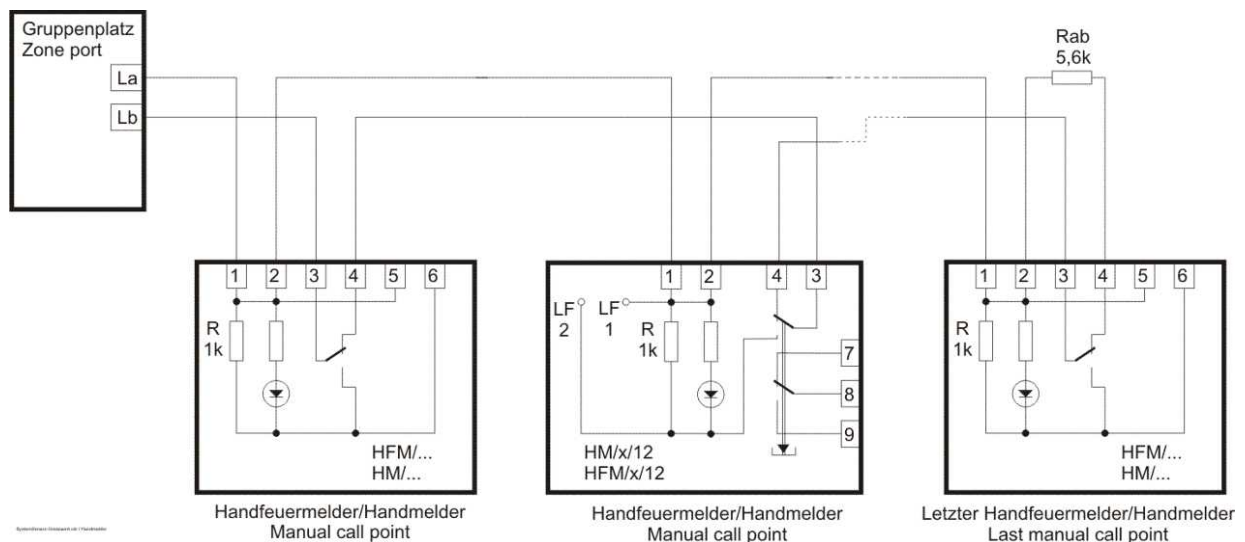
Each manual call point has a built-in alarm resistor ($R = 1\text{k}\Omega/0.35\text{W}$). In the last manual call point, an end-of-line resistor ($R_{ab} = 5.6\text{k}\Omega$) has to be installed.

The end-of-line element can be changed in the parameter setup of the Fire Detection Control Panel (BC06/BC016/BC600). The factory setting is $R_{ab} = 5.6\text{k}\Omega$.

All diodes that are not denoted are of type 1N4004.

2.2.1 Connection of HFM/HM

Old version of the manual call points

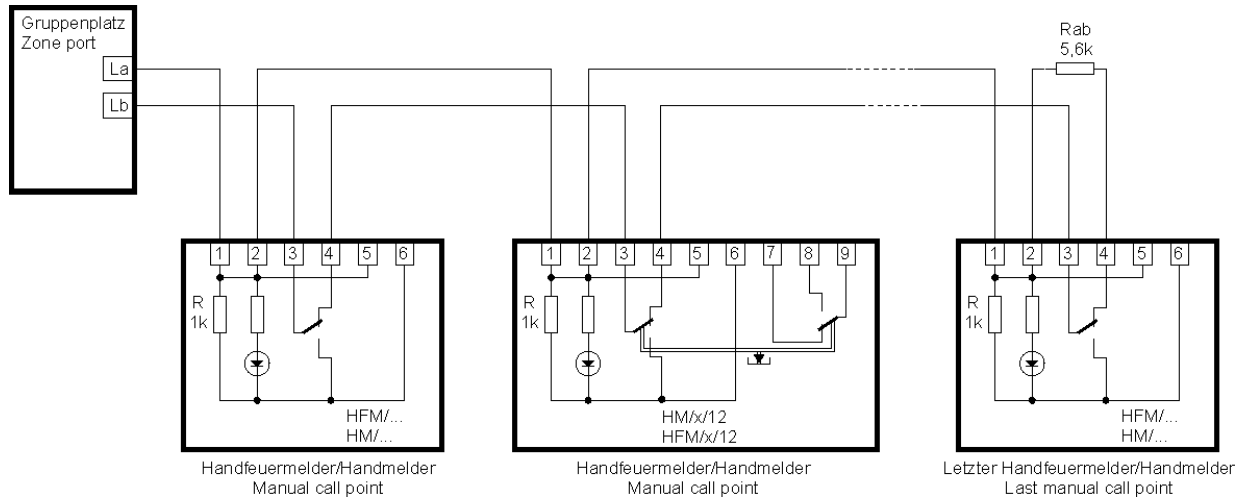


Old manual call points HM/HFM/x/12 can be distinguished from new ones by means of the following characteristics: at the top left of the componentry, old manual call points HM/HFM/x/12 have a terminal strip with 4 terminals (1 through 4), new ones have a terminal strip with 6 terminals (1 through 6).



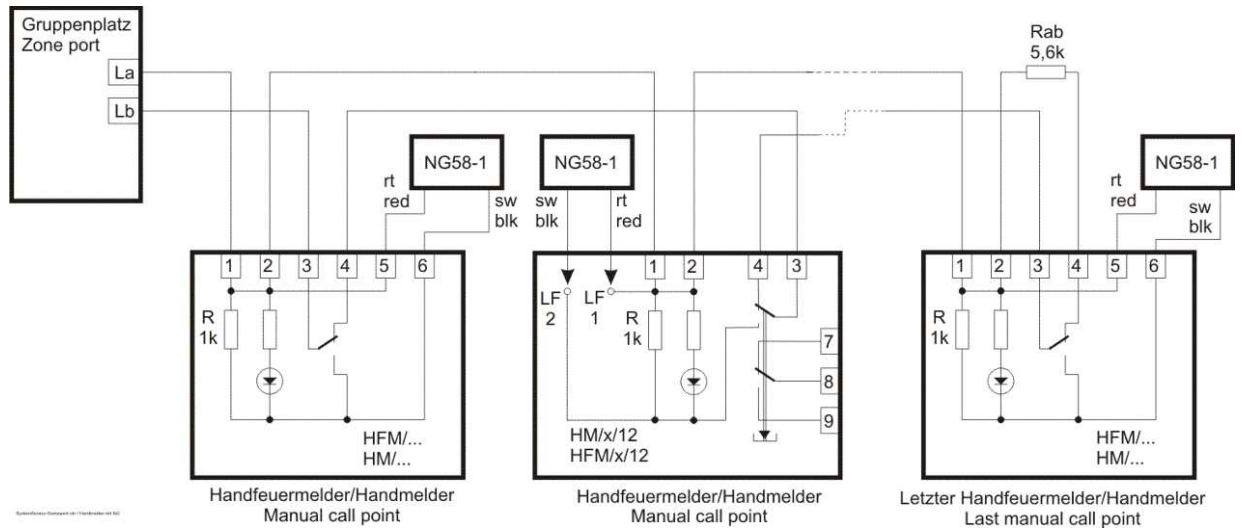
Connecting the mains voltage 230VAC to the change-over contacts 7, 8 and 9 is only permissible for the type HM/HFM/x/12/xx/N (with N standing for mains voltage)! It differs from the type HM/HFM/x/12/xx in that it has additional covers for the insulation of the mains voltage. The instructions on the safe use, which can be found in the enclosed packet, must be strictly observed!

New version of the manual call points

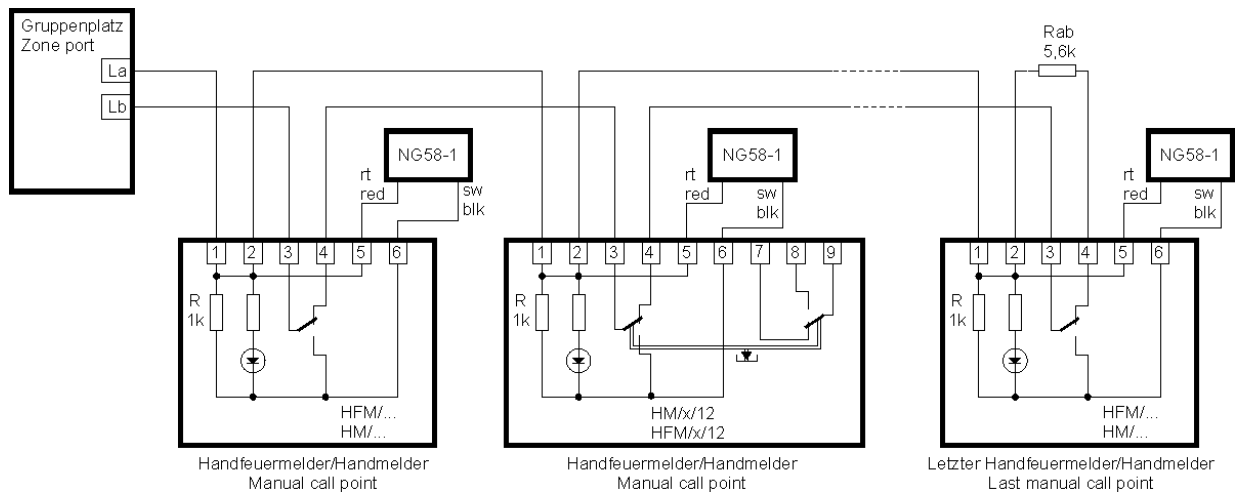


2.2.1.1 Connection of HFM/HM with individual Address Module NG58-1

Old version of the manual call points

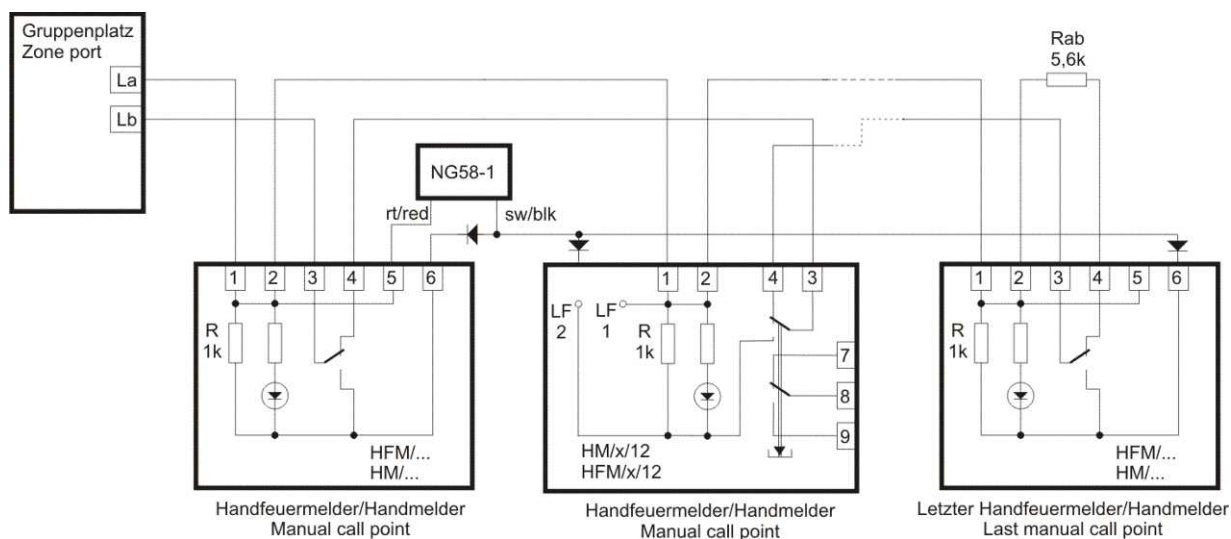


New version of the manual call points

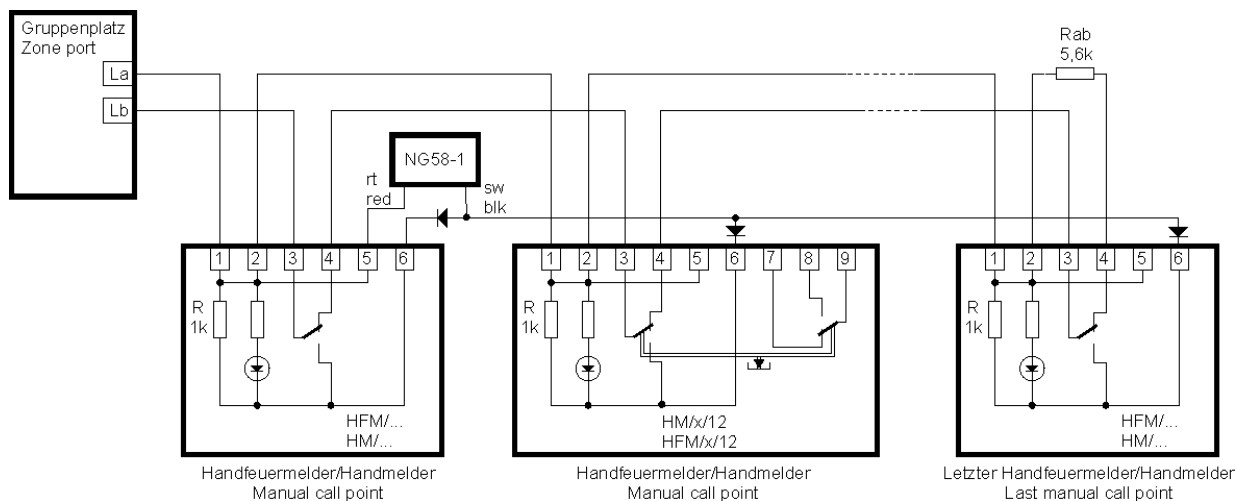


2.2.1.2 Connection of HFM/HM with Address Module NG58-1 – sum indication

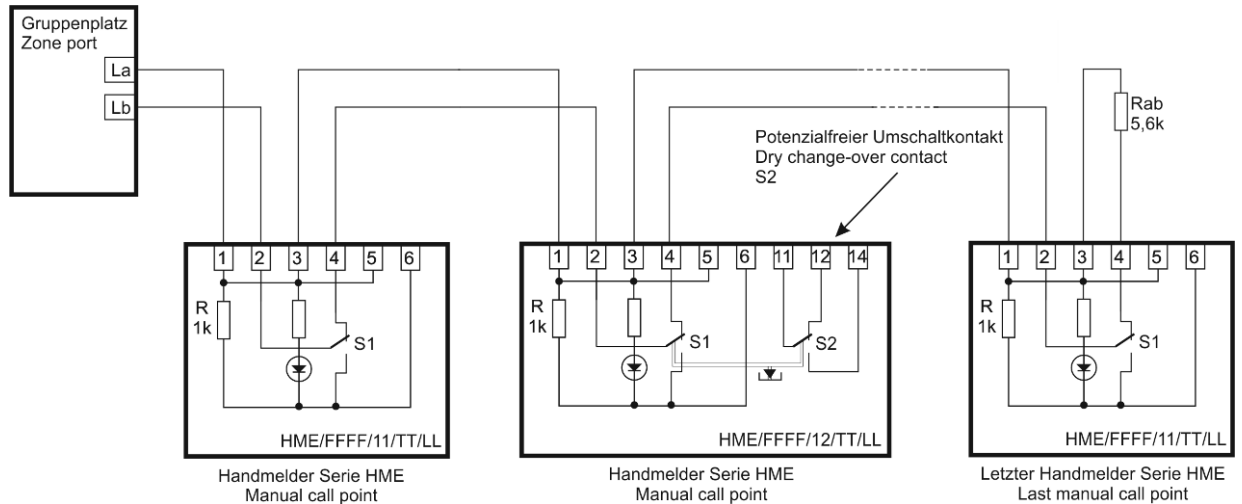
Old version of the manual call points



New version of the manual call points



2.2.2 Connection of Manual Call Points Series HME

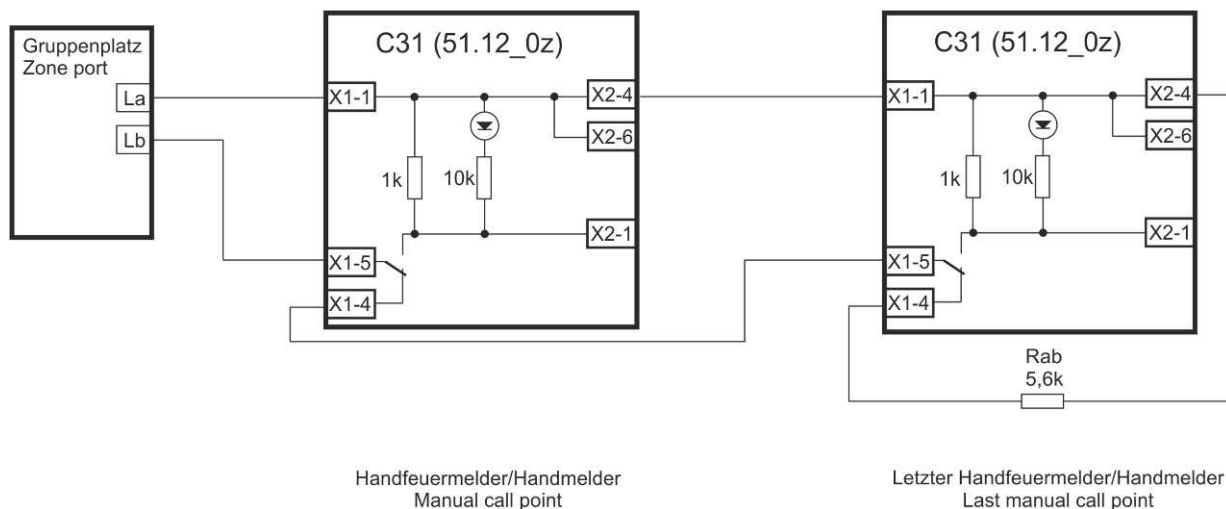


Connecting the mains voltage 230VAC to the change-over contacts 11, 12 and 14 is only permissible for the type HME/FFFF/12/TT/LL/N (with N standing for mains voltage)! It differs from the type HME/FFFF/12/TT/LL in that it has additional covers for the insulation of the mains voltage. The instructions on the safe use, which can be found in the enclosed packet, must be strictly observed!

Address modules are connected to the Manual Call Points Series HME in the same way as to the Manual Call Points Series HFM/HM. The connection of these manual call points is shown in Chapters 2.2.1.1 and 2.2.1.2.

2.2.3 Connection of a C31

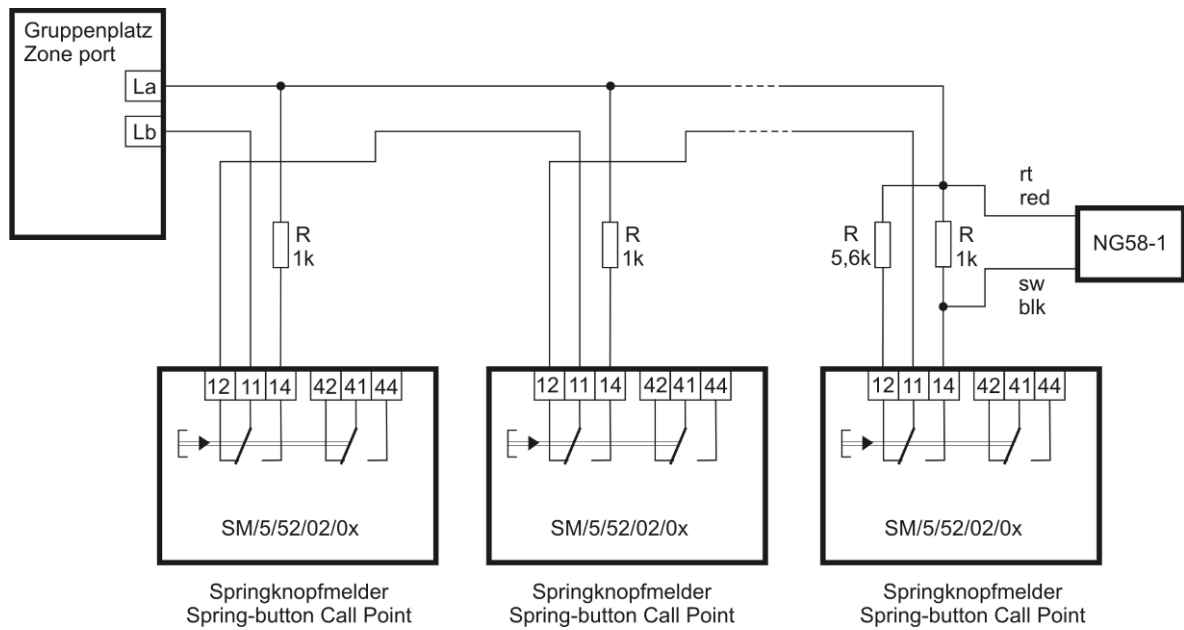
The alarm resistor has already been installed. The end-of-line resistor has to be connected to the terminals of the C31.



Colour	Article number	Name
Red	245881	51.1250z
Yellow	245882	51.1260z
Blue		51.1270z
Green		51.1280z

2.3 Connection of the spring-button call point

2.3.1 SM/5/52/02/0x



2.4 Connection of automatic detectors

2.4.1 Automatic detectors Series 100

The following fire detectors can be connected to a conventional detector interface of the fire detection control panel:

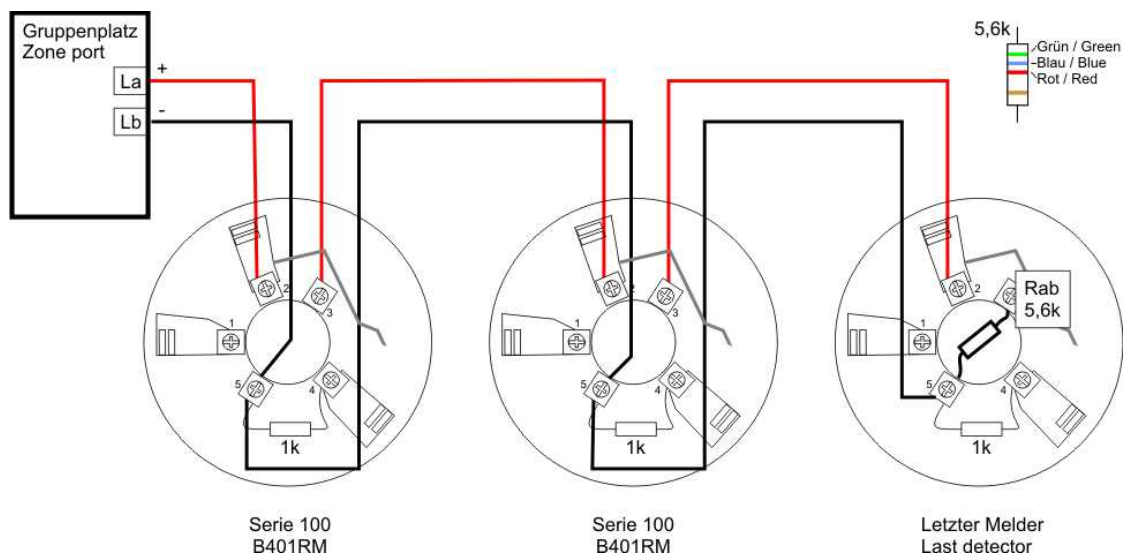
Description	Type	max. number per detector zone	EN 54-5 class
Ionisation Smoke Detector	1151E	32	A1R – 58°C
Optical Smoke Detector	2151E	32	
Thermal Rate-of-rise Detector	5451E	32	

The Series 100 detectors can be used with the detector bases of type B401RM.

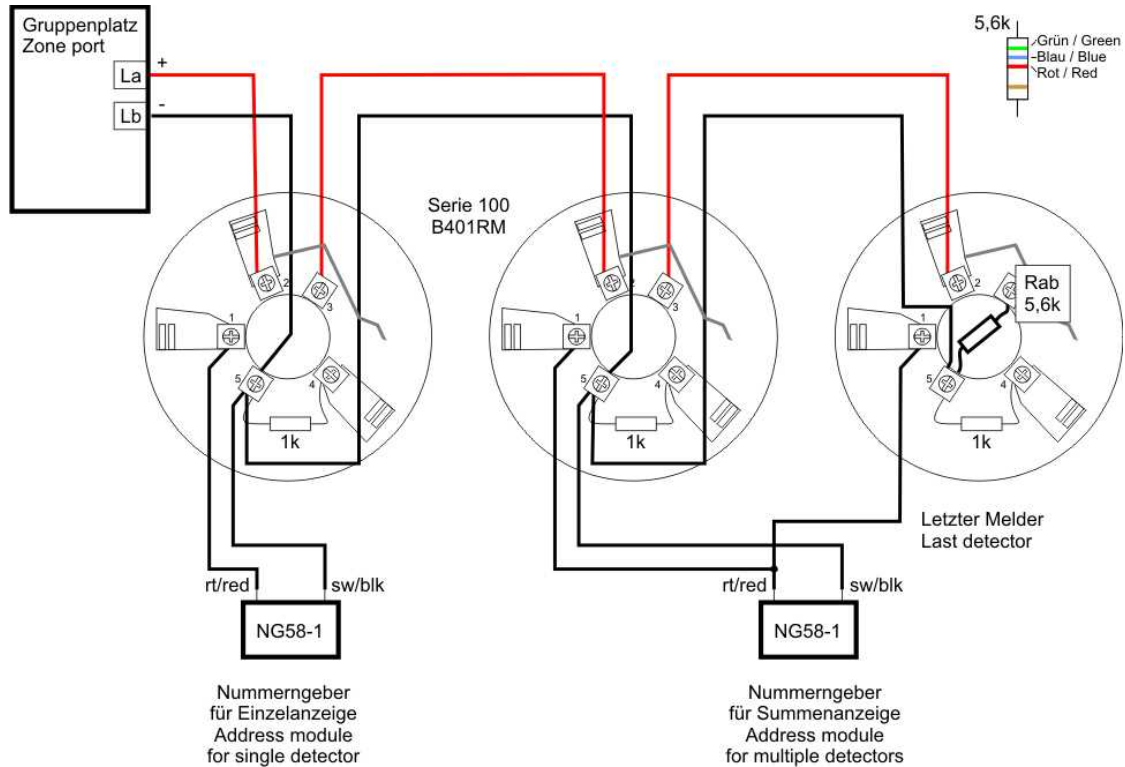
2.4.1.1 Arrangement of wires in Detector Base B401RM

Strip the insulation just as short as the terminal requires for connection. The resistor $R = 1k\Omega$ must be connected between terminals 4 and 5. In the last detector an end-of-line element (resistor or capacitor) has to be connected between "3" and "5".

2.4.1.2 Connection

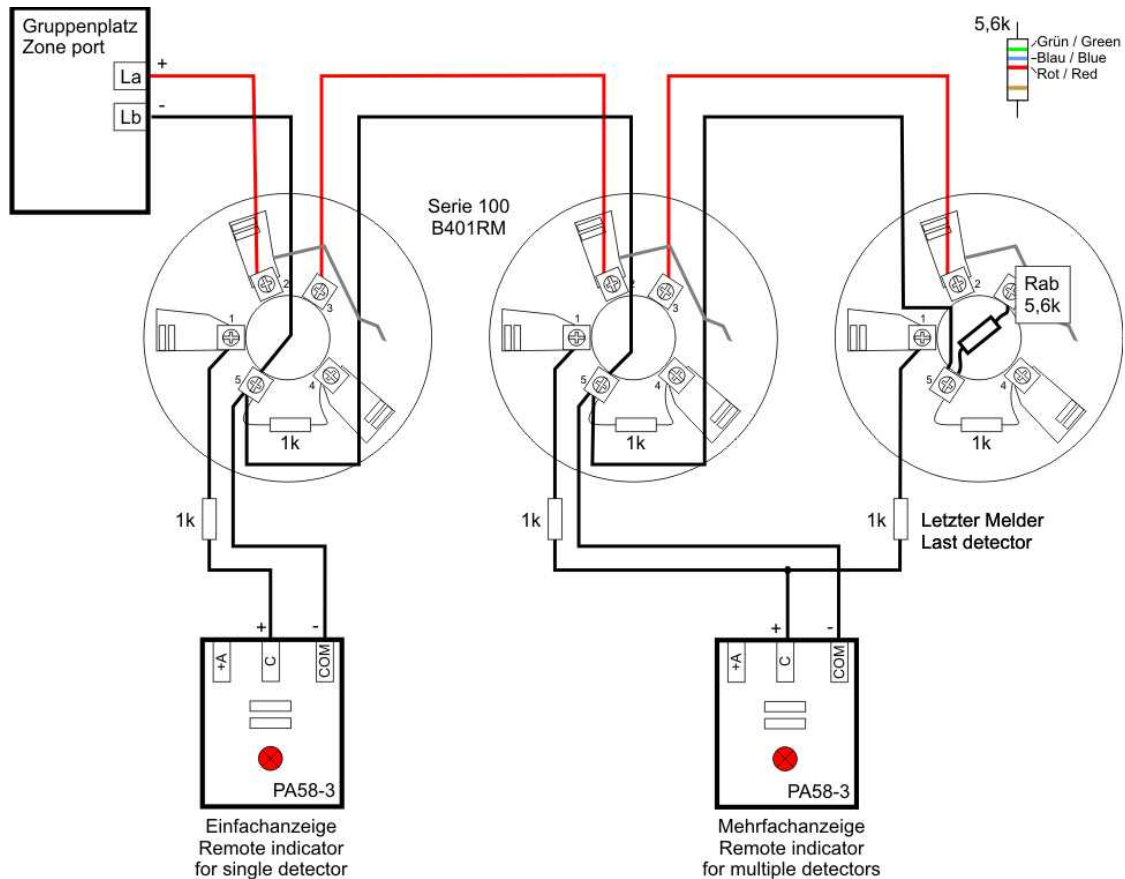


2.4.1.3 Connection with Address Module NG58-1



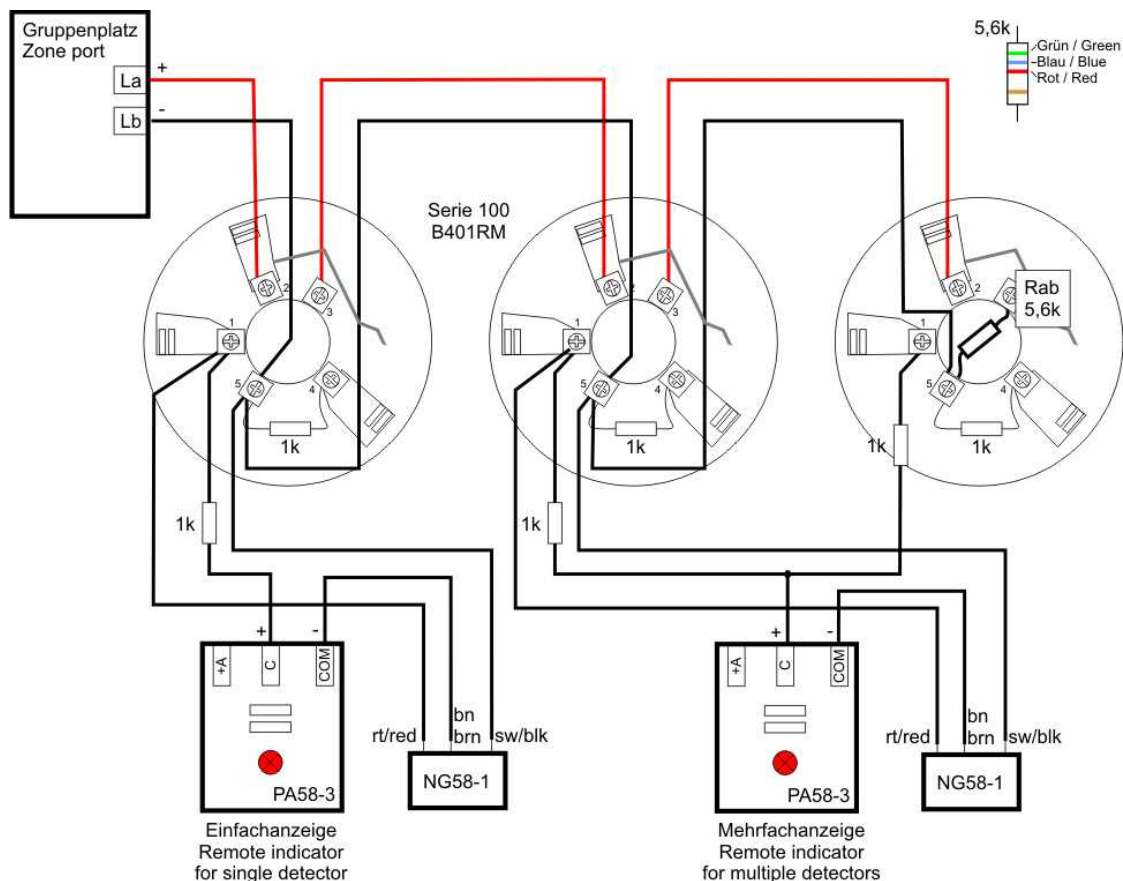
If an address module is connected to more than one detector, the address module is activated in the alarm condition of **one** of these detectors and indicates the preset number.

2.4.1.4 Connection with Remote Indicator PA58-1 or PA58-3



The remote indicator is **not** supported by the Optical Smoke Detector **2151E**.

2.4.1.5 Connection with Remote Indicator PA58-3 and Address Module NG58-1



If an address module is connected to more than one detector, the address module is activated in the alarm condition of **one** of these detectors and indicates the number of the detector.

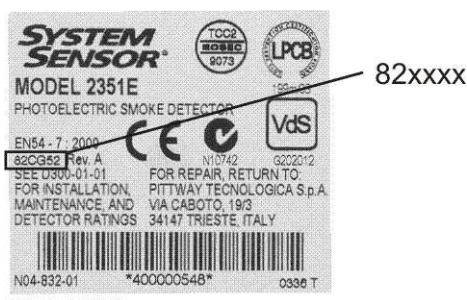
The remote indicator is not supported by the Optical Smoke Detector 2151E.

2.4.2 Automatic detectors Series 300

The following fire detectors can be connected to a conventional detector interface of the fire detection control panel:

Description	Type	max. number per detector zone	EN 54-5 class
Optical Smoke Detector	2351E	32	
Optical-Thermal Detector	2351TEM	32	A1R – 58°C
Thermal Max Detector	4351E	32	BS – 78°C
Thermal Max Detector	5351TE	32	A2S – 58°C
Thermal Rate-of-rise Detector	5351E	32	A1R – 58°C

This documentation is only valid for detectors which have a version number 82xxxx or higher (see sticker on the backside).

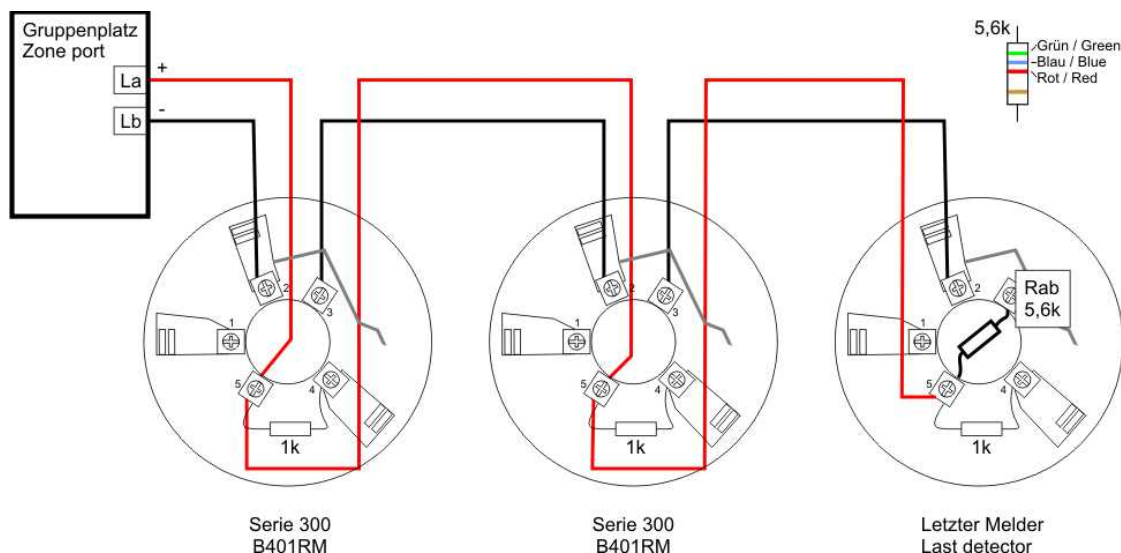


The Series 300 detectors can be used with the detector bases of types B401RM and B324RL.

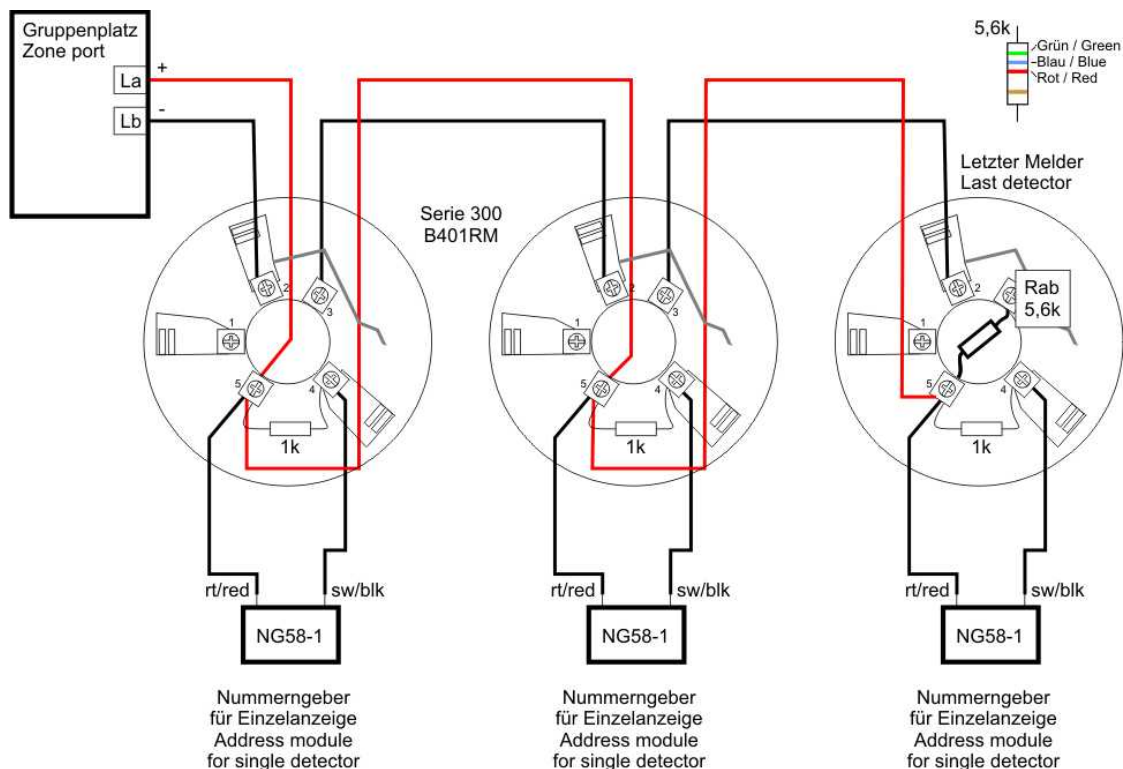
2.4.2.1 Arrangement of wires in Detector Base B401RM

Strip the insulation just as short as the terminal requires for connection. The resistor $R = 1k\Omega$ must be connected between terminals 4 and 5. In the last detector an end-of-line element (resistor or capacitor) has to be connected between "3" and "5".

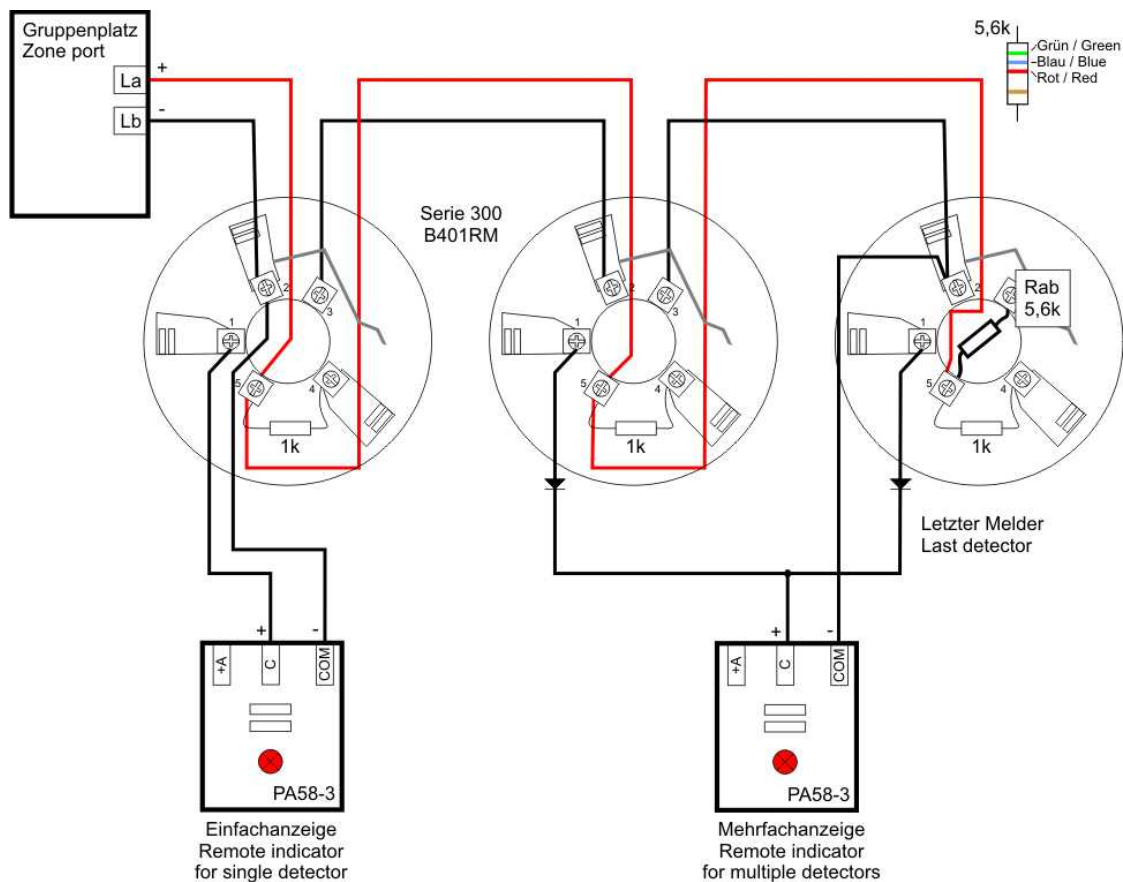
2.4.2.2 Connection



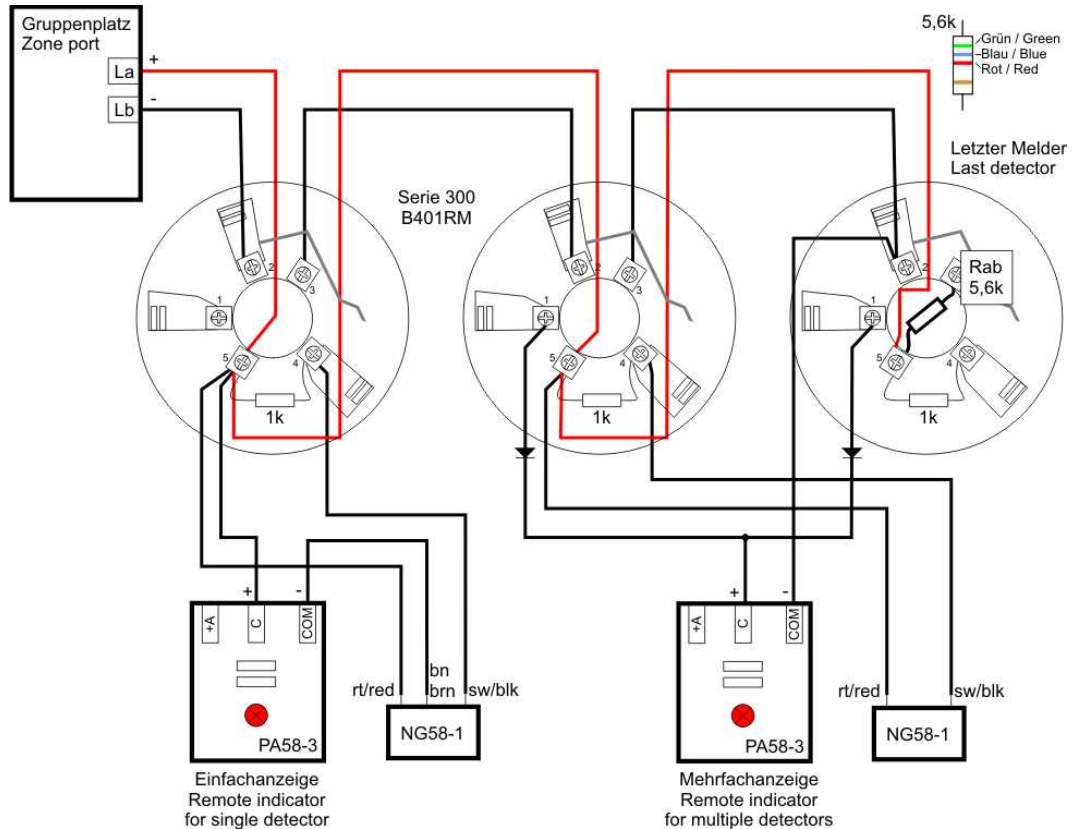
2.4.2.3 Connection with Address Module NG58-1



2.4.2.4 Connection with Remote Indicator PA58-3

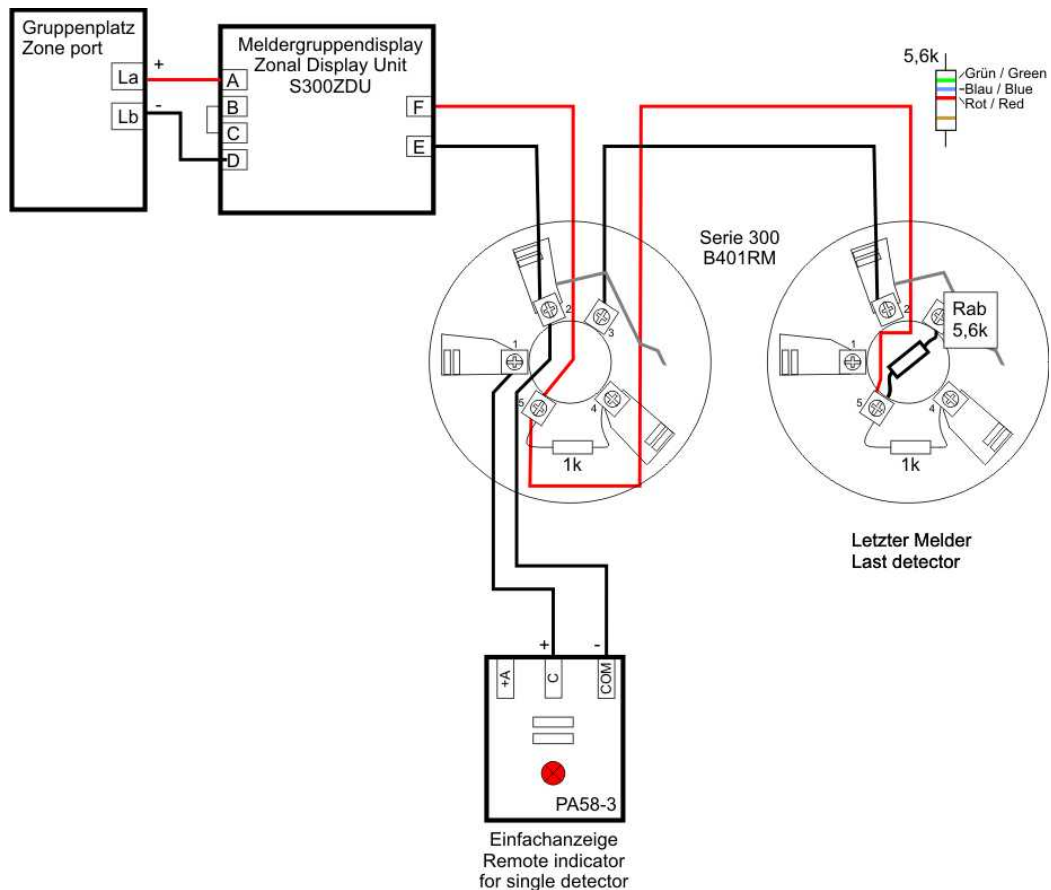


2.4.2.5 Connection with Remote Indicator PA58-3 and Address Module NG58-1

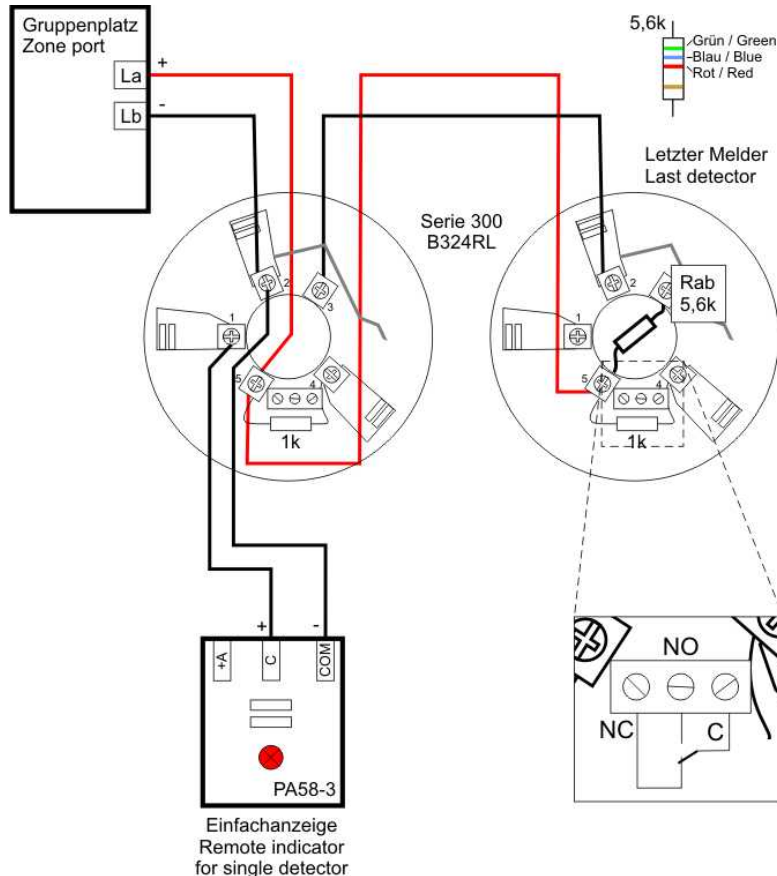


2.4.2.6 Connection of Zone Display Unit S300ZDU

An S300ZDU is required on each conventional line to display the detector number. The S300ZDU must be connected between the fire detection control panel and the first detector.



2.4.2.7 Arrangement of wires in Detector Base B324RL



The contact rating of the relay output is 1A at 30VDC.

Due to component tolerance of the components in the Detector Base B324RL, the function of the change-over contact in the detector base is not guaranteed at a supply voltage of the fire detection control panel below 24VDC.

The break-off tab in the detector base must not be broken at connection to a fire detection control panel in two-wire technology.

2.4.2.8 Programming and Test Unit S300RPTU

The infrared Programming and Test Unit S300RPTU has been developed for exchanging data with the Series 300 detectors and allows you to access certain detector functions and to display the internal data of the detector.

Communication is achieved through the detector's indicator LED, and uses one of two methods:

- ◆ Via the LED and the photodiode of the S300RPTU, for close range (approximately 30mm) communication. This allows direct communication via the detector LED.
- ◆ Using radio communication via an S300SAT which can be clipped to the detector using proprietary access poles, allowing a range up to 4.5m.

The operation of the Programming and Test Unit S300RPTU is menu-driven. The picture below shows the function keys that are needed for the operation:

- 1 On/Off key
- 2 Up/Down arrow keys for the navigation in the display menu
- 3 OK key for confirming the desired function
- 4 ESC key changes to the previous menu



After turning on the device, the display image shown (see page 34) will appear for approx. 5s, then the first item of the main menu will be indicated.

Menu items

- 1 ACQUIRE - Detector Settings
- 2 Last Detector Read
- 3 Write Detector Settings
- 4 Write NEW Service Date
- 5 Alarm Test Press OK x 2
- 6 RPTU Settings



The device is shipped with the default menu language English. In order to change the language, select menu 6.

Setting the S300RPTU and the S300SAT

Before the connection to the detector is established, the S300RPTU AND the S300SAT must be configured. The configuration only needs to be set during initial commissioning. The setting will be stored until it is changed in this menu.



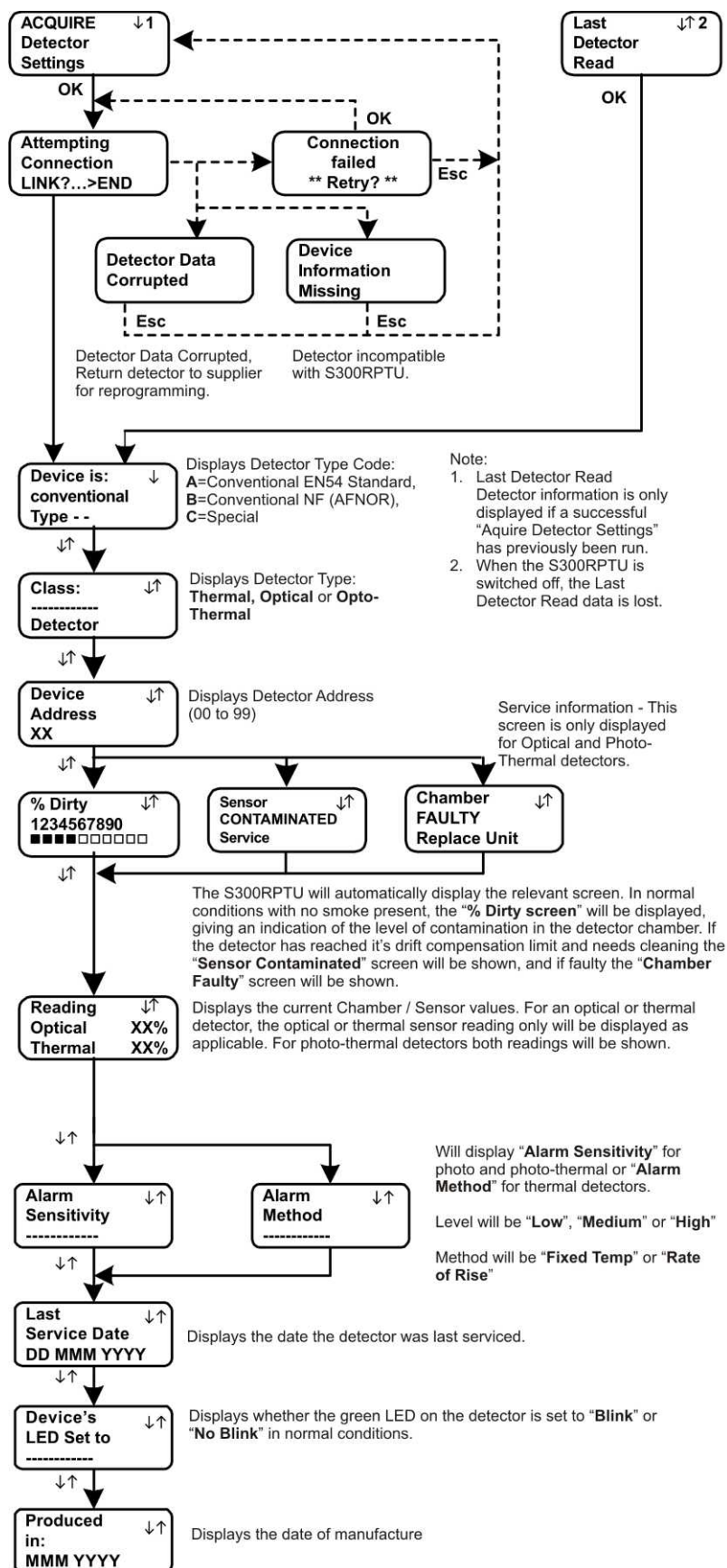
Make sure that only one pair of the S300RPTU AND S300SAT is active within a range of effectiveness of 10m while making adjustments to the setting.

Turn on both devices, i.e., the S300RPTU AND the S300SAT. In the main menu, select the command "RPTU Settings".

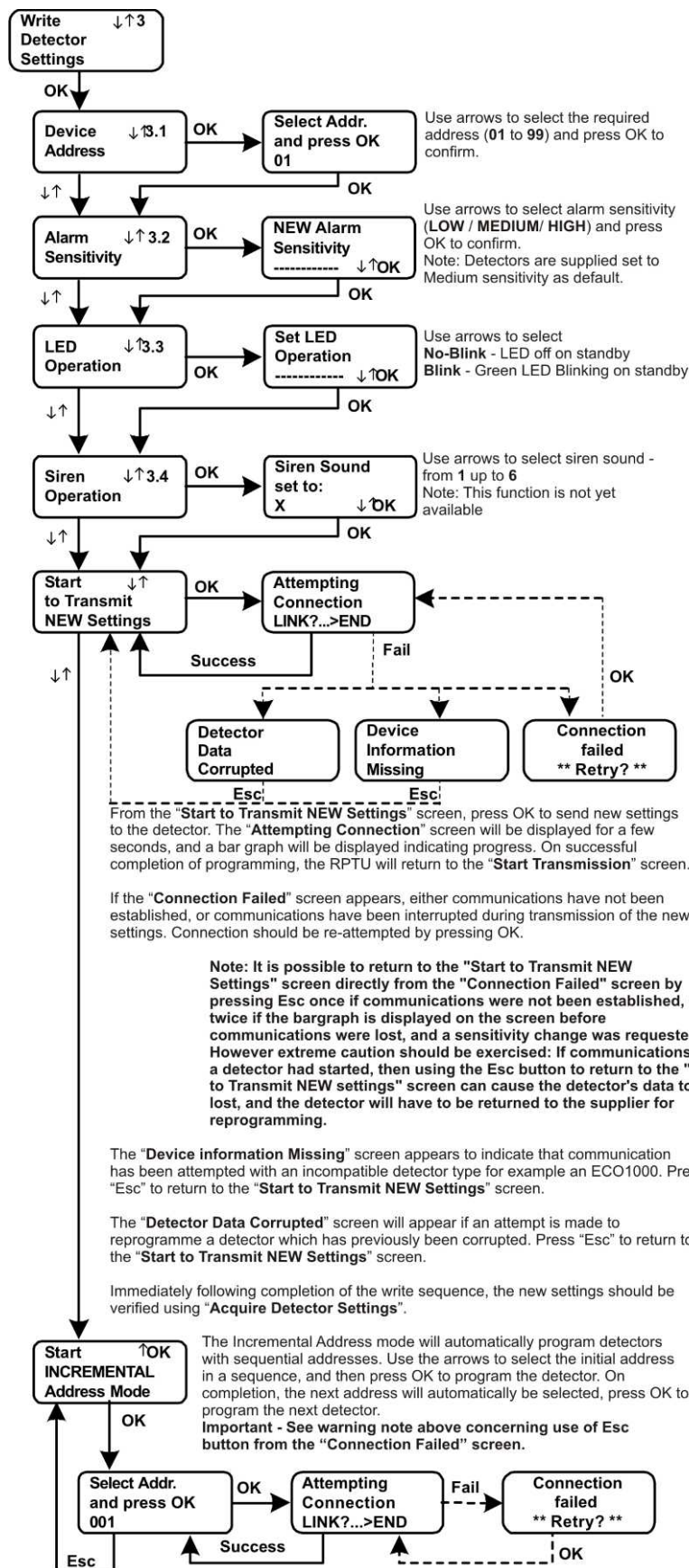
The following submenus can be operated:

6	RPTU Settings	
6.1	LCD intensity	By means of the arrow keys, the display contrast can be adjusted. Confirm the entry with OK.
6.2	RPTU Set LINK mode	Use the arrow keys to select the desired connection via the RPTU LED or the S300SAT and confirm your selection with the OK key.
6.3	Read Current Date	The date is indicated as: Day/month/year. Confirm your selection with the OK key.
6.4	Set RPTU Language	Use the arrow keys to select the desired language that is to be displayed by the S300RPTU and confirm your selection with the OK key.
6.5	Set S300SAT Address	One of 16 possible addresses can be set for the S300SAT in order to avoid mutual influence if two or more adjacent devices are used. Use the arrow keys to set the desired address (00-15) and confirm your selection with the OK key.

Reading out the detector setting and displaying the last settings



Saving the detector setting

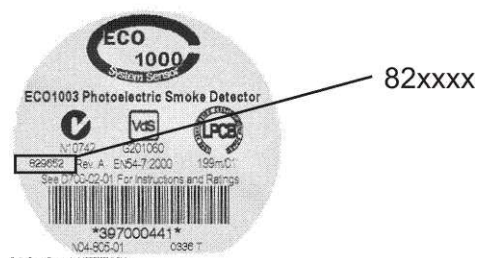


2.4.3 Automatic detectors Series ECO1000

The following fire detectors can be connected to a conventional detector interface of the fire detection control panel:

Description	Type	max. number per detector zone	EN 54-5 class
Optical Smoke Detector	ECO1003	32	
Optical-Thermal Detector	ECO1002	32	A1R – 58°C
Thermal Max Detector	ECO1004T	32	BS – 78°C
Thermal Max Detector	ECO1005T	32	A2S – 58°C
Thermal Rate-of-rise Detector	ECO1005	32	A1R – 58°C

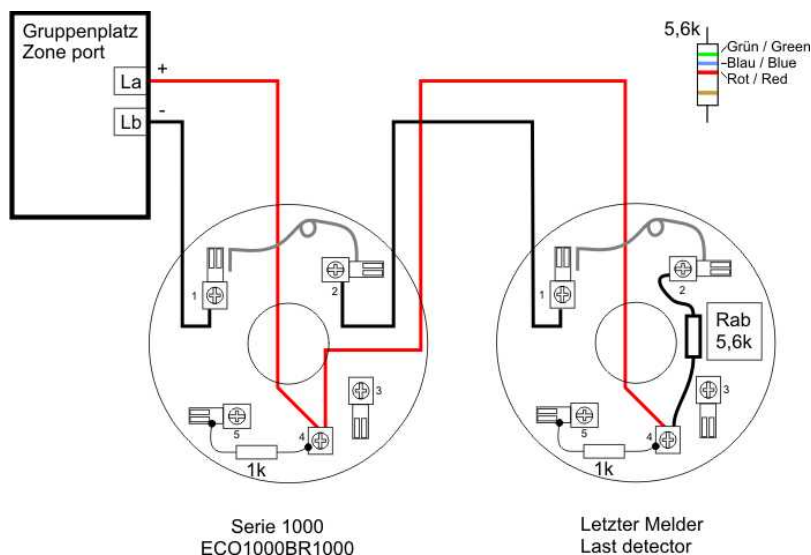
This documentation is only valid for detectors which have a version number 82xxxx or higher (see sticker on the backside).



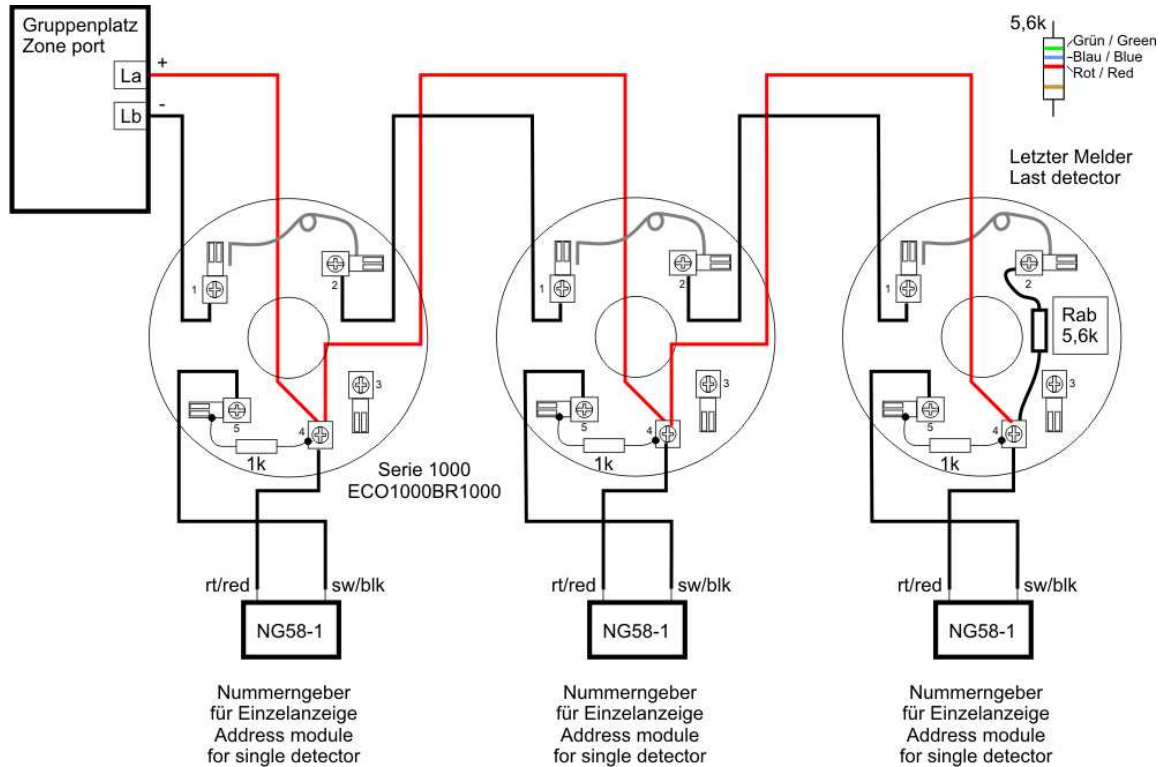
2.4.3.1 Arrangement of wires in Detector Base ECO1000BR1000

Strip the insulation just as short as the terminal requires for connection. The resistor $R = 1k\Omega$ must be connected between terminals 4 and 5. In the last detector an end-of-line element (resistor or capacitor) has to be connected between "2" and "4".

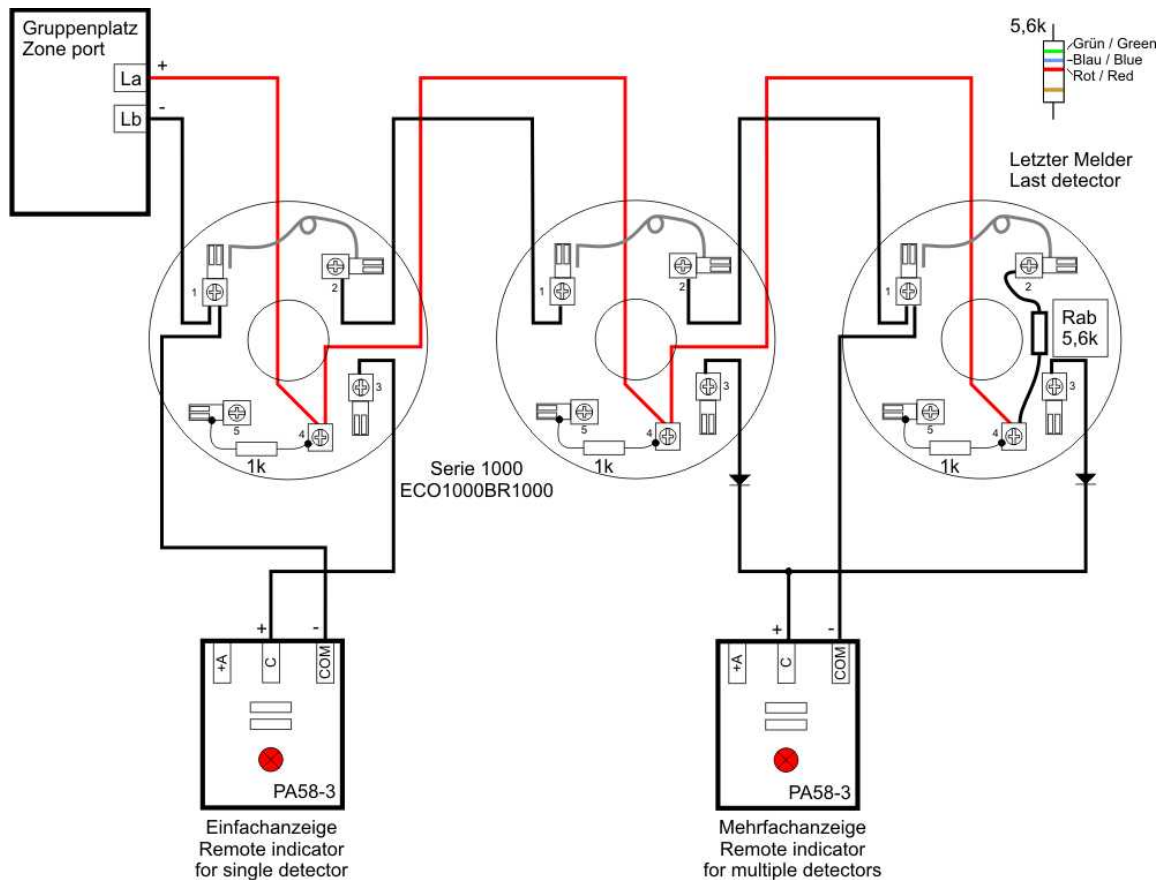
2.4.3.2 Connection



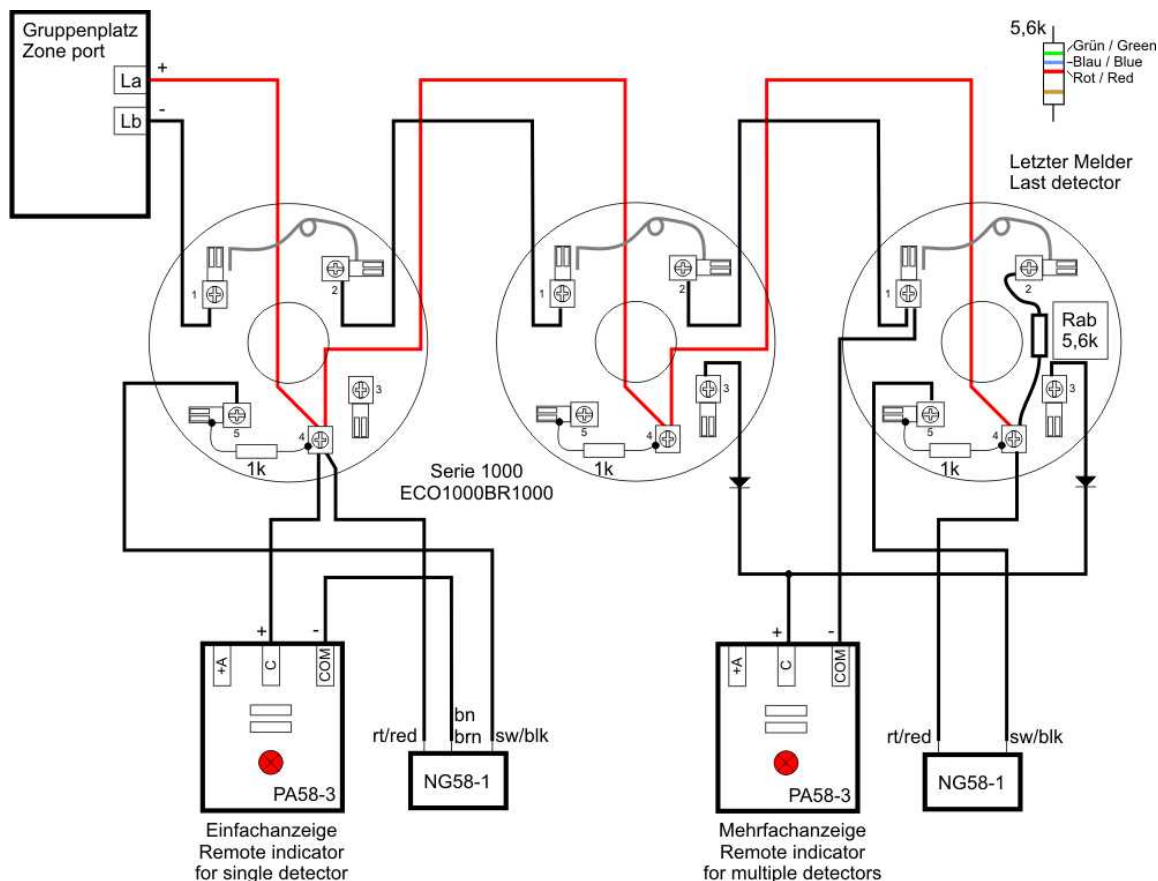
2.4.3.3 Connection with Address Module NG58-1



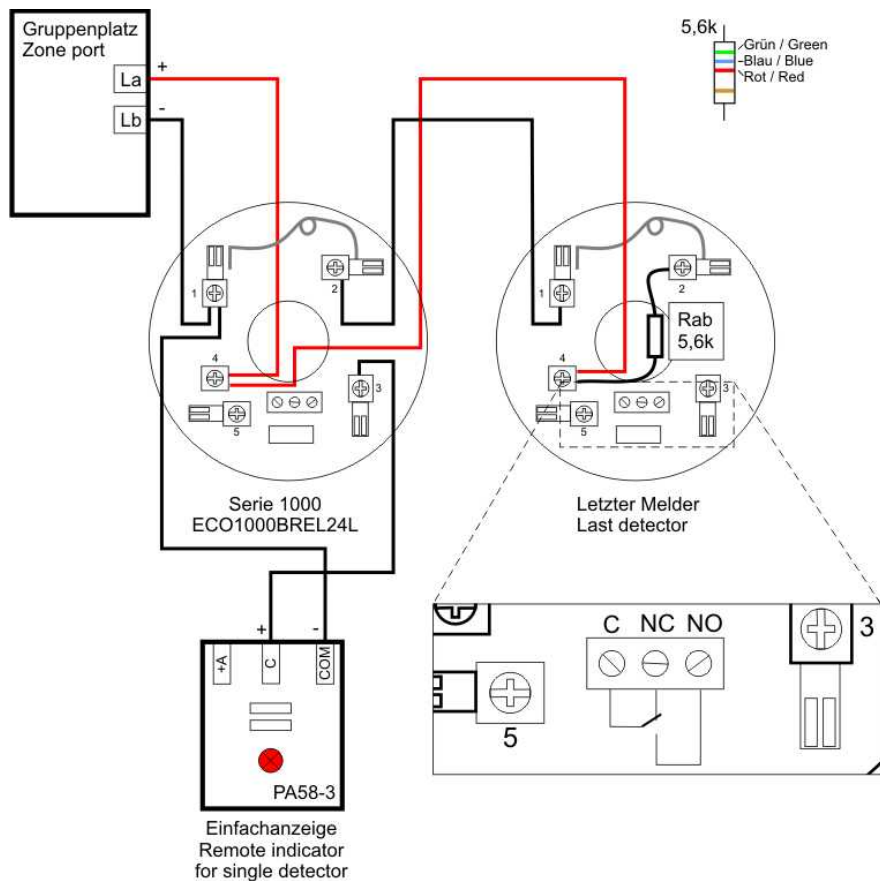
2.4.3.4 Connection with Remote Indicator PA58-3



2.4.3.5 Connection with Remote Indicator PA58-3 and Address Module NG58-1



2.4.3.6 Connection with Detector Base ECO1000BREL24L

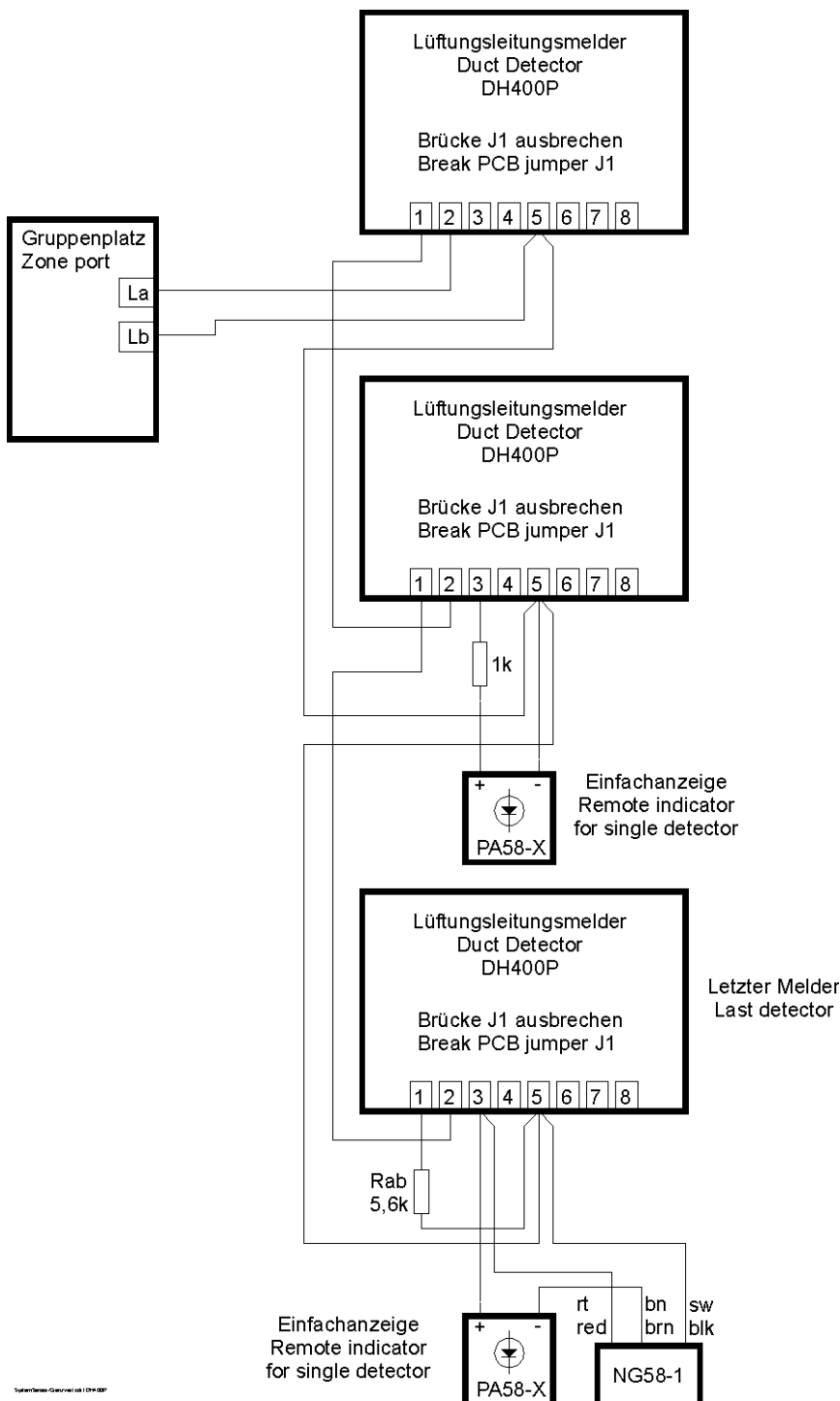


The contact rating of the relay output is 1A at 30VDC.

Due to component tolerance of the components in the Detector Base ECO1000BREL24L the function of the change-over contact in the detector base is not guaranteed at a supply voltage of the fire detection control panel below 24VDC.

The break-off tab in the relay base must not be broken at connection to a fire detection control panel in two-wire technology.

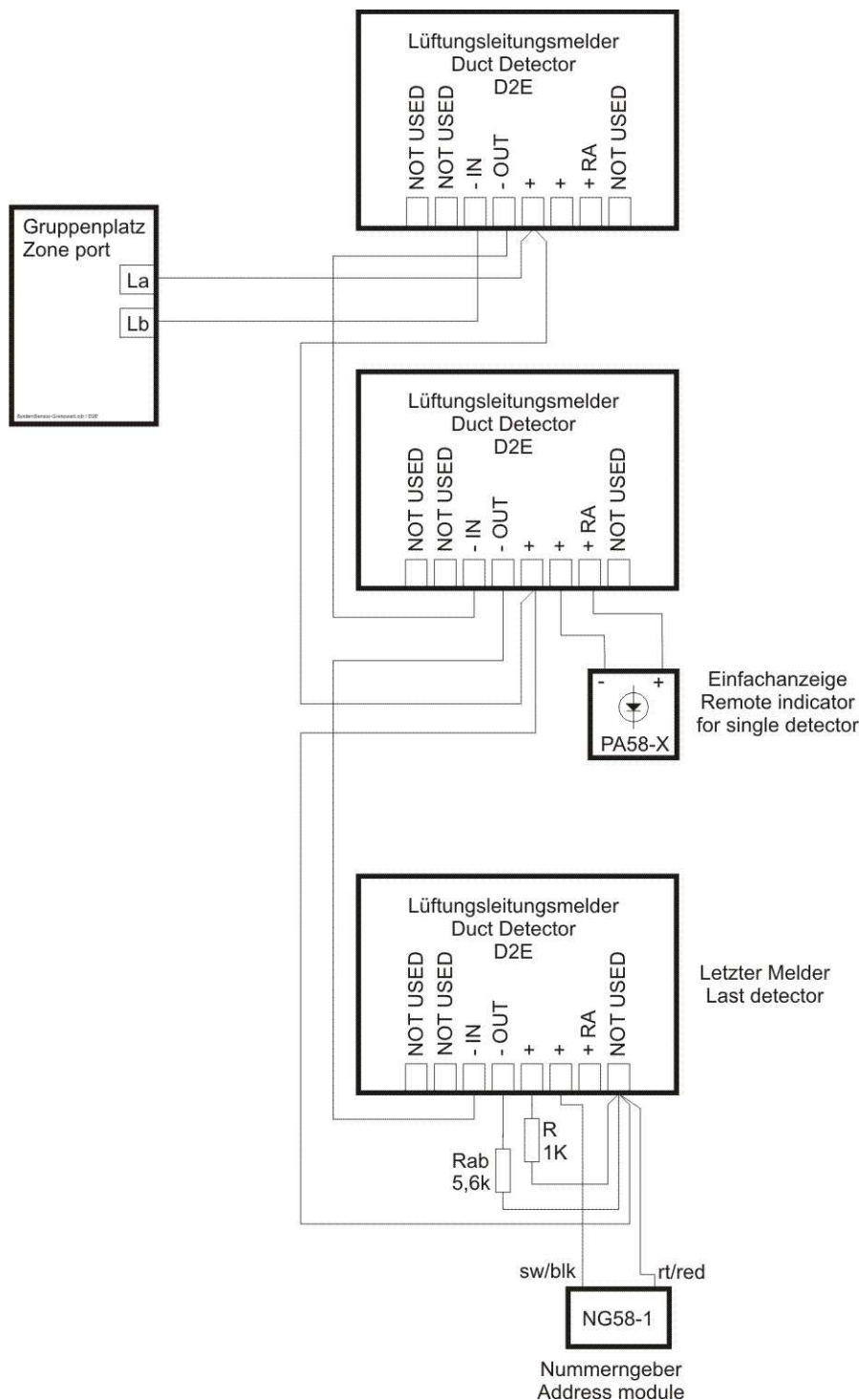
2.4.4 Connection of Duct Detectors DH400P



Only the detectors 2151E or 2151E-LC may be used for installation in the duct detector housing.

When using the 2151E-LC, **neither** the address module **nor** the remote indicator can be used.

2.4.5 Connection of Duct Detectors D2E



In the Duct Detector Housing D2E, a standard detector base B401 (without alarm resistor) is installed, therefore only the Optical Smoke Detector 2351E may be used.

With the standard detector base B401 (without alarm resistor), direct connection of an address module is not possible. The address module (including the 1k resistor) must be connected according to the diagram (last detector in the diagram), or the detector base must be replaced by the type B401RM. If the detector base is replaced by the type B401RM, the address module can be installed directly in the detector base. The connection for that is analogous to the Series 300 connection.

The Optical Smoke Detector 2351E is delivered with the sensitivity level "medium". Depending on the requirements, the levels "high", "medium" and "low" can be used.

2.5 Intrinsically safe detection circuits

The

- ◆ Safety Barrier ES58-2 (galvanically isolated) and the
- ◆ Zener Barrier Z978

can be used to create intrinsically safe detection circuits. The following fire detectors have been especially designed for use in the hazardous area:

- ◆ Ionisation Smoke Detector 1151EIS
- ◆ Thermal RoR Detector 5451EIS
- ◆ Series ORBIS I.S.
- ◆ Optical Smoke Detector OP-52027
- ◆ Optical-Thermal Detector OH-53027
- ◆ Thermal Detector HT-51145 (A1R)
- ◆ Thermal Detector HT-51157 (A1S)
- ◆ Thermal Detector HT-51147 (A2S)
- ◆ Thermal Detector HT-51149 (BR)
- ◆ Thermal Detector HT-51151 (BS)
- ◆ Thermal Detector HT-51153 (CR)
- ◆ Thermal Detector HT-51155 (CS)
- ◆ Optical Smoke Detector SLR-E-IS
- ◆ Optical Smoke Detector SOC-E-IS
- ◆ Thermal Detectors 6295 and 6296

Due to the galvanic isolation between the hazardous area and the safe area, an earth fault detection in the hazardous area is not possible when the Safety Barrier ES58-2 is used.



The connection of the Address Modules NG58-1 (detector identification) in intrinsically safe detection circuits is not possible!

Allowed number of Optical Smoke Detectors SLR-E-IS	20
Allowed number of Optical Smoke Detectors SOC-E-IS	20
Allowed number of Thermal Max Detectors 6295 / 6296	32
Allowed number of detectors Series ORBIS I.S.	28
max. capacitance IIA (IIB)	880nF (330nF)
max. inductance IIA (IIB)	33.6mH (12.6mH)
max. ratio inductance/resistance IIA (IIB)	440μH/Ohm (165)
Connection of Remote Indicators PA58-1	possible
Element detection (address module)	not possible
Earth fault detection at the fire detection control panel ¹⁾	possible
Dimensions ES58-2 (W x H x D)	120 × 160 × 90 mm
Enclosure for Safety Barrier 29600-239 (W x H x D)	125 × 180 × 130 mm

¹⁾ However, if the Safety Barrier ES58-2 is used, it is not possible to detect earth faults in the hazardous area.



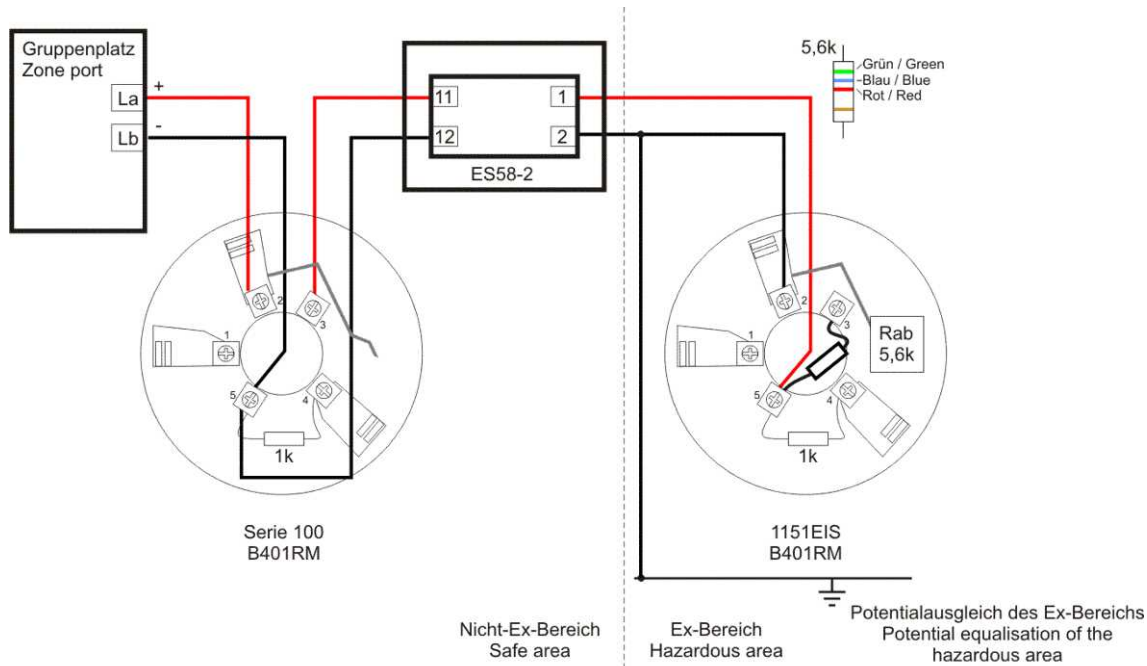
Detectors in the hazardous area and detectors in safe areas can be combined in one detector zone.



Detectors in the hazardous area must always be connected at the end of a detector line. After such areas you must not connect detectors designed for safe areas.

The safety barrier must be installed outside the hazardous area.

2.5.1 Ionisation Smoke Detector 1151EIS with ES58-2

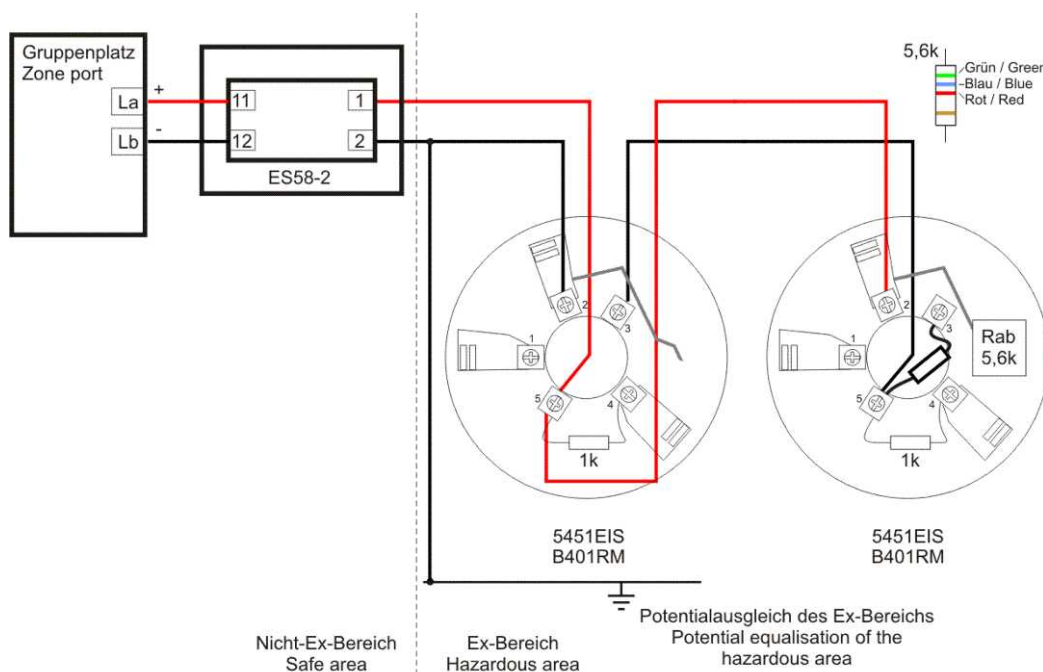


The connection of detectors in hazardous areas and those in safe areas is different! It is not possible to use a remote indicator with this detector.



The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.

2.5.2 Thermal Detector 5451EIS with ES58-2

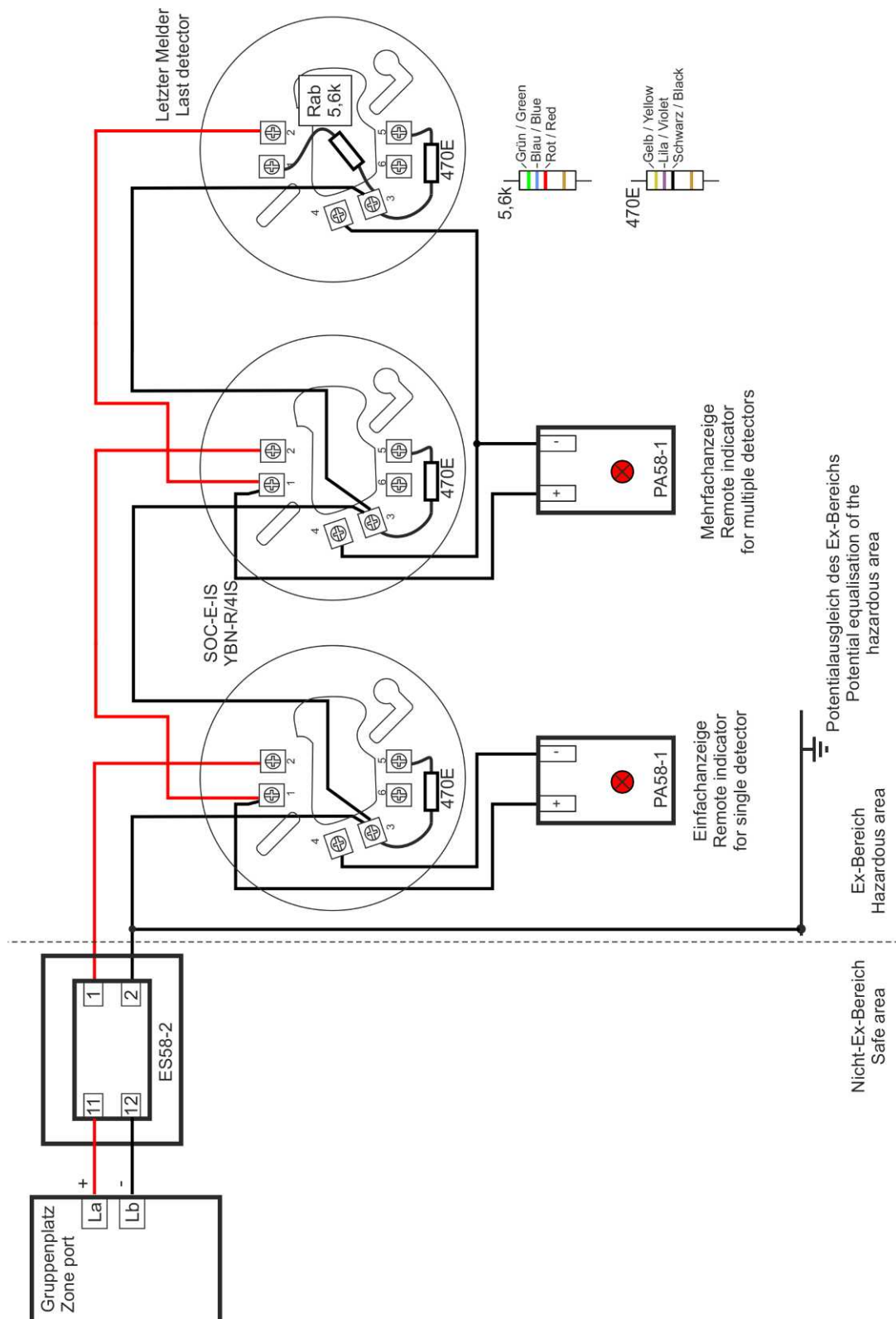


The connection of detectors in hazardous areas and those in safe areas is different! It is not possible to use a remote indicator with this detector.



The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.

2.5.4 Optical Smoke Detector SOC-E-IS



A short circuit at the output of the ES58-2 (terminals 1 / 2) will be evaluated as alarm.



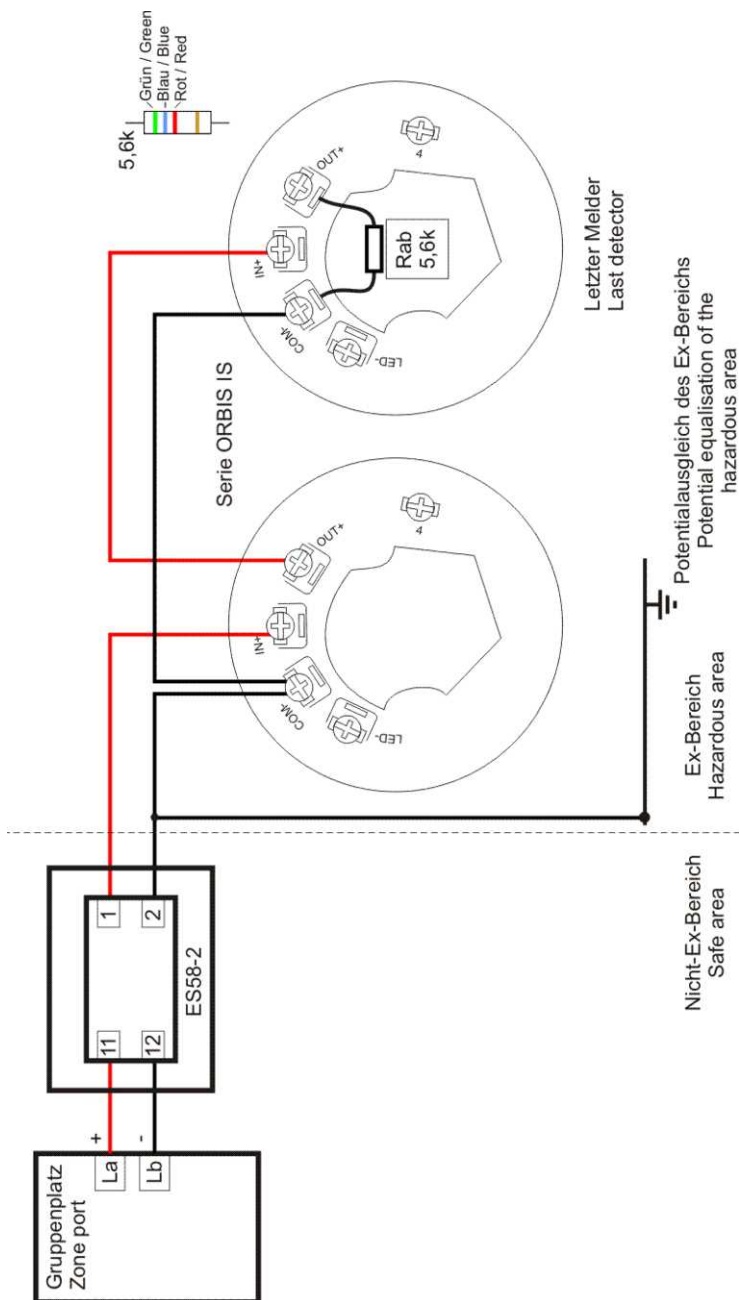
The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.

2.5.5 Automatic detectors Series ORBIS I.S.

The connection shown below applies to the following detectors:

- ◆ Optical Smoke Detector OP-52027
- ◆ Optical-Thermal Detector OH-53027
- ◆ Thermal Detector HT-51145 (A1R)
- ◆ Thermal Detector HT-51157 (A1S)
- ◆ Thermal Detector HT-51147 (A2S)
- ◆ Thermal Detector HT-51149 (BR)
- ◆ Thermal Detector HT-51151 (BS)
- ◆ Thermal Detector HT-51153 (CR)
- ◆ Thermal Detector HT-51155 (CS)

In the hazardous area, up to 28 detectors may be connected. For the connection of the ORBIS I.S. detectors, the Detector Base MB-50018 is needed.

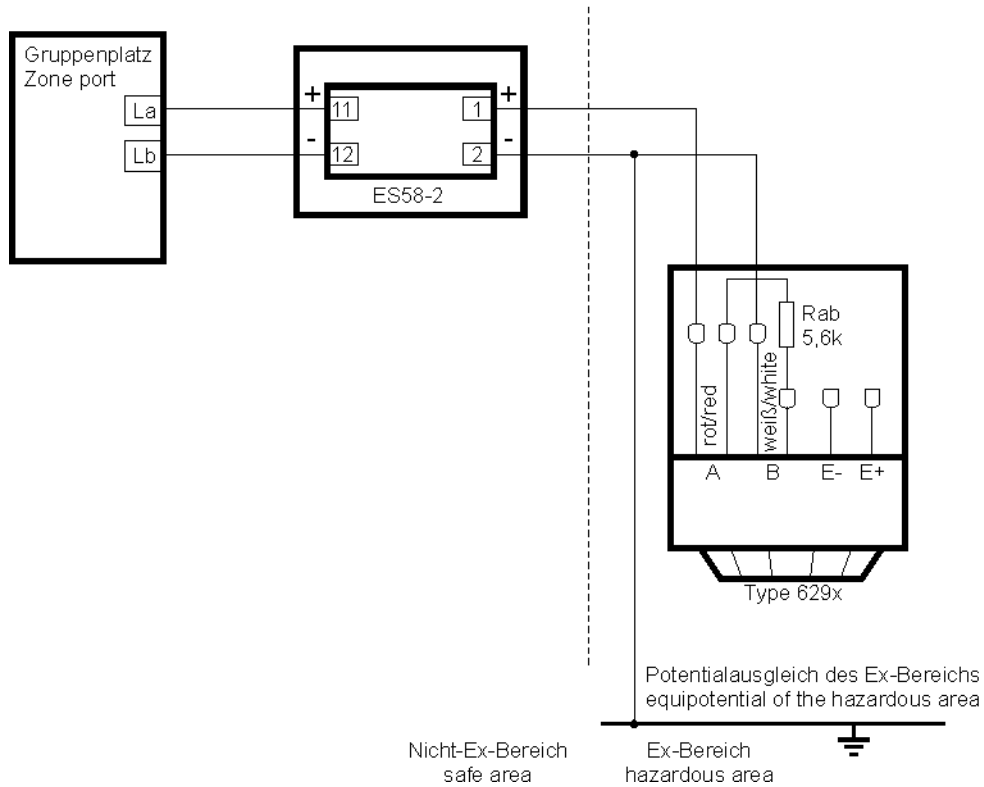


The cabling in the hazardous area has to comply with the local regulations, guidelines and requirements.

2.5.5.1 Conditions of the Orbis detector LED

Function	Description	Status of red LED	Status of yellow LED
StartUP	Confirms the correct polarity of the wiring	Blinks once per second	Does not blink
FasTest	Maintenance function, allows quick function testing of the detectors within 4 seconds and confirms their proper function	Blinks once per second	Does not blink
DirtAlert	Indicates that the limit value for the drift compensation for the quiescent value has been reached.	Does not blink	Blinks once per second in the StartUp mode (no longer blinks if the StartUp mode has ended)
SensAlert	Indicates that the sensor does not work properly.	Does not blink	Blinks every 4 seconds (blinks once per second in the StartUp mode)
Normal operation	After StartUp and FasTest have ended (without blinking LED as standard)	Does not blink	Does not blink
Version with blinking LED	Red detector LED blinks in the normal operation (at the end of FasTest)	Blinks every 4 seconds	Does not blink

2.5.6 Thermal Detectors 6295 and 6296 with Safety Barrier ES58-2



The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.

2.5.7 Detectors without energy storage – contact detectors

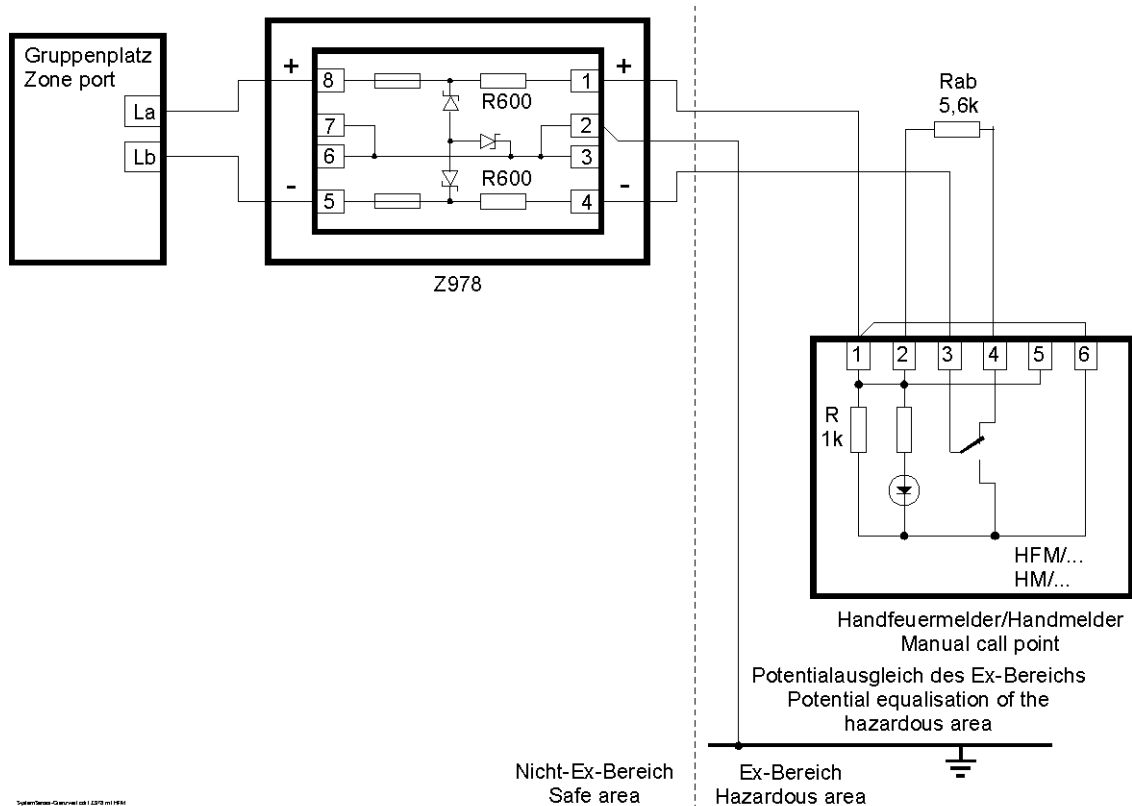
Fire detectors and display devices without energy storage (capacitors, inductors, power sources, etc.) can be used without restriction and without identification in accordance with Section 12 of DIN EN 50020 in intrinsically safe circuits. For this purpose the Zener Barrier Z978 or the Safety Barrier ES58-2 is used.

Therefore the thermal detectors and manual call points listed below can also be used in hazardous areas.

Description	Type	max. number per detector zon
Manual Call Point/Red/Conv	HFM/3/11/xx	32
Manual Call Point (others)	HFM/3/12/xx	32
Manual Call Point/Blue/Conv/Hausalarm	HM/5/11/02/xx	32
Manual Call Point/Yellow/Conv/Lösch.	HM/1/11/05/xx	32
Manual Call Point/Blue/Conv/Stop	HM/5/11/18/xx	32
Manual Call Point/Yellow/Conv/Handausl.	HM/1/11/17/xx	32
Manual Call Point (others)	HM/x/11/xx/xx	32
Manual Call Point (others)	HM/x/12/xx	32
Manual Call Point Series HME	HME/FFFF/11/TT/LL/x	32
Manual Call Point Series HME – 1 aux.con	HME/FFFF/12/TT/LL/x	32
Manual Call Point/Red/Standard	UNI3021C	32
Thermal Max Detector/IP67/Conv	SWM-1KL-57	32
Thermal Max Detector/IP67/Conv	SWM-1KL-80	32
Thermal Max Detector/IP67/Conv	SWM-1KL-100	32
Thermal Max Detector/IP67/Conv	SWM-1KL-140	32

2.5.7.1 Manual call point with Zener Barrier Z978

This drawing gives a fundamental description of the connection. Because of the two 600 Ohm resistors inside the safety barrier, the 1kOhm alarm resistor of the call point has to be bypassed by connecting terminal 1 to terminal 6. When using a different manual call point, the connection diagram may be different.

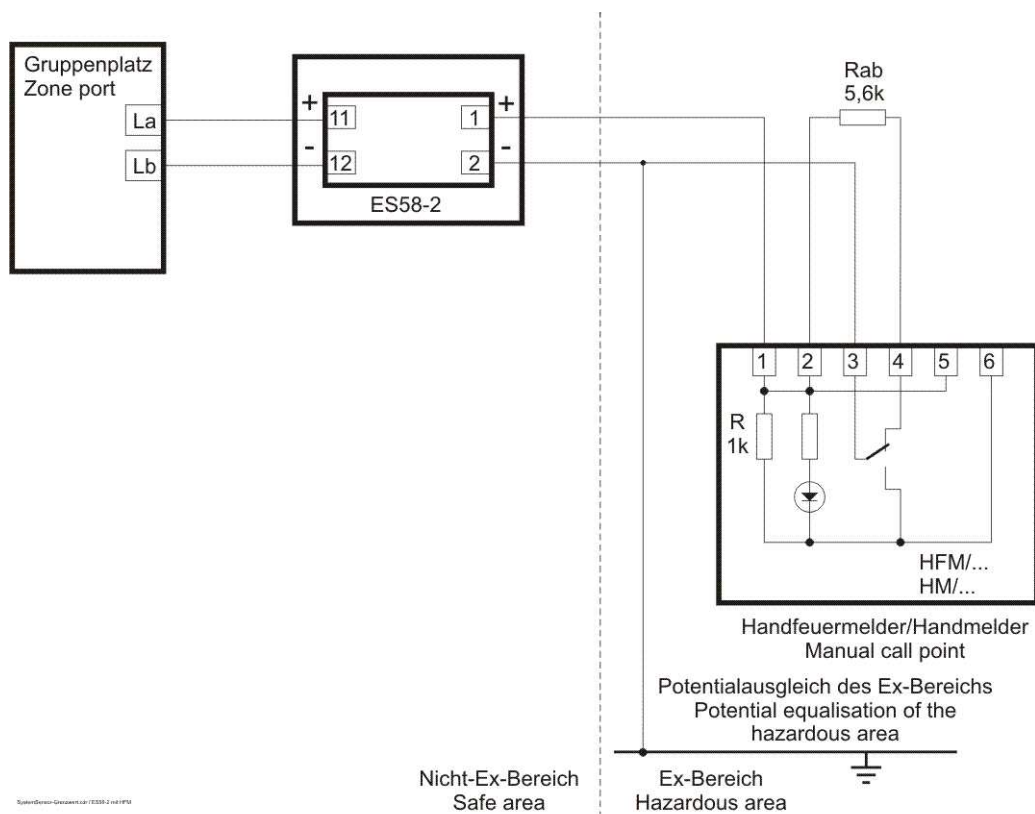


The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.



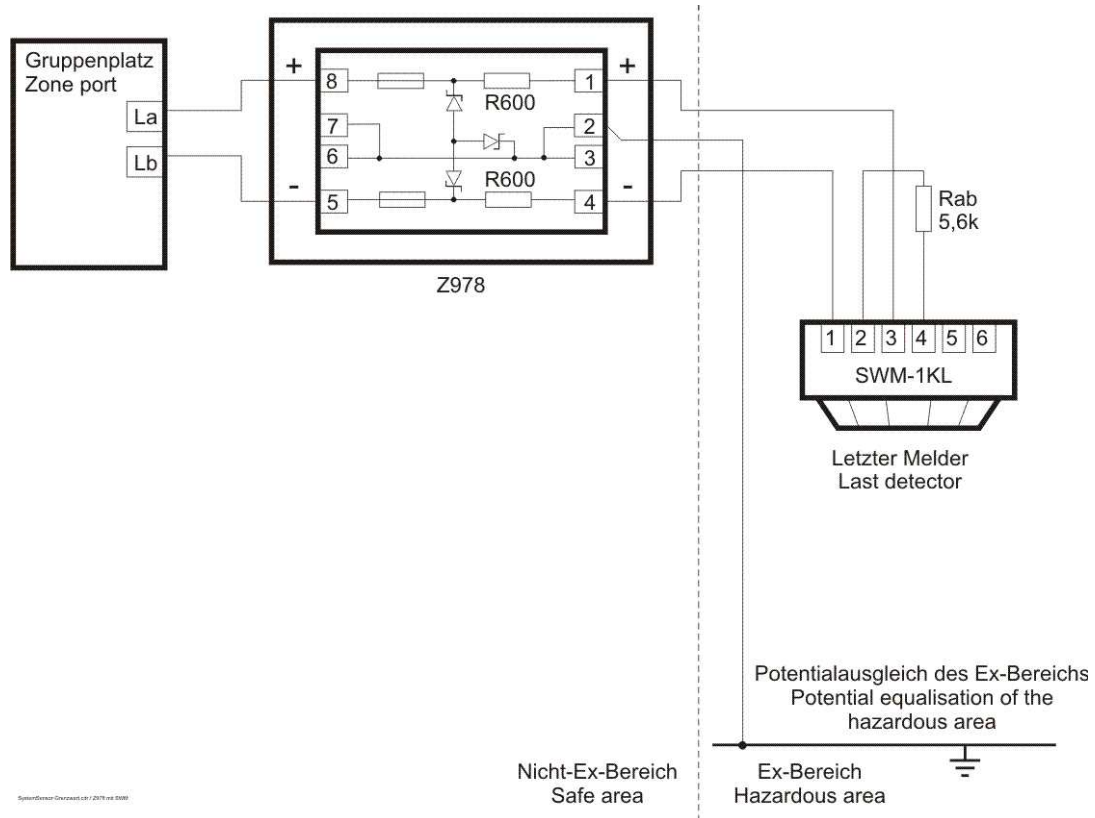
A short circuit at the output of the Z978 (terminals 1 / 4) will be evaluated as alarm.

2.5.7.2 Manual call point with Safety Barrier ES58-2



The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.

2.5.7.3 Thermal max detector with Zener Barrier Z978

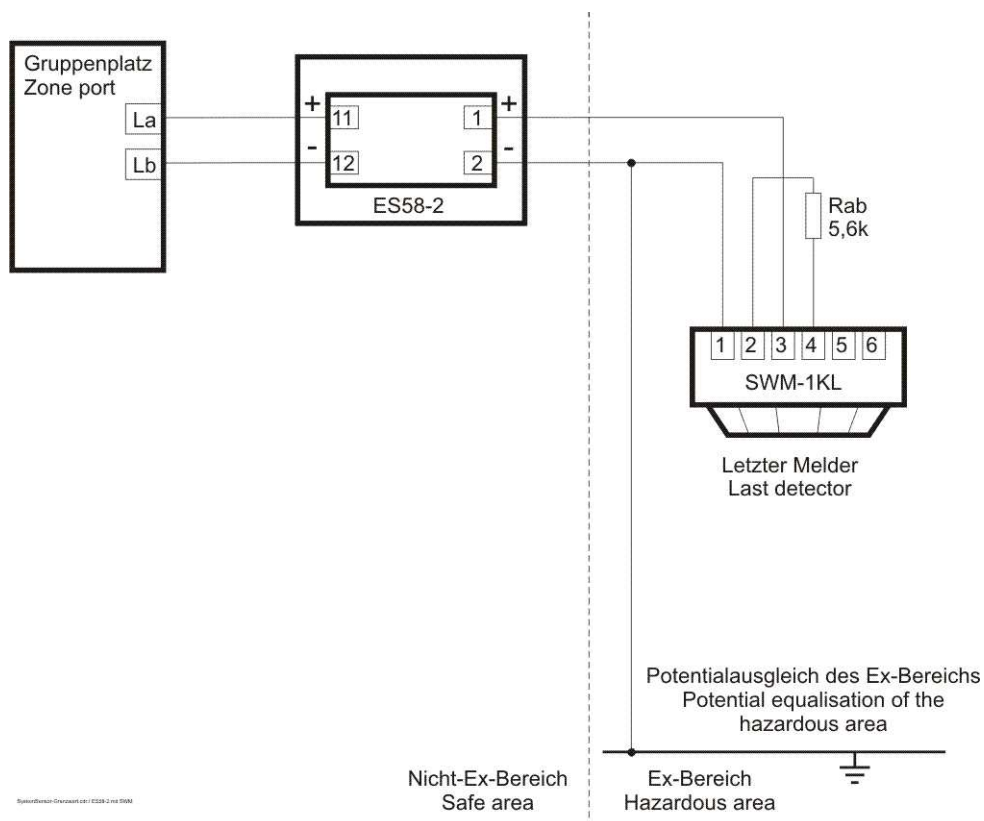


The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.



A short circuit at the output of the Z978 (terminals 1 / 4) will be evaluated as alarm.

2.5.7.4 Thermal max detector with Safety Barrier ES58-2



The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.

2.6 Manual call points for hazardous areas

Thanks to the types of protection "increased safety", "encapsulation" and "protection by enclosures", the Manual Call Point Ex dC31 can be used without a safety barrier or zener barrier.

Description	Type	max. number per detector zone
Manual Call Point	Ex dC31	20

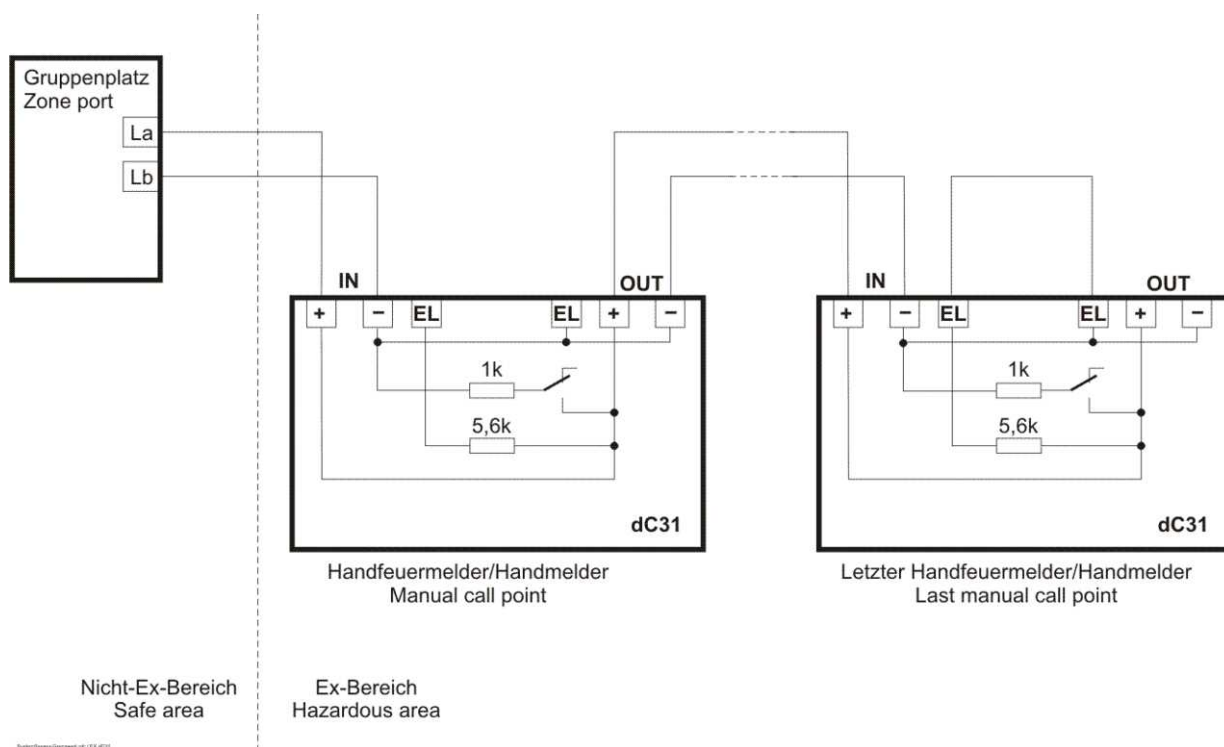
2.6.1 Manual Call Point Ex dC31



When ordering this manual call point, you have to specify the resistance values (alarm and end-of-line resistor) of the detector, because they are sealed within the detector housing and cannot be changed at a later stage.



The installation in the hazardous area has to comply with the local regulations and with EN 60079 because the energy in the line is not limited by barriers.



The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.

2.7 Flame detectors for hazardous areas

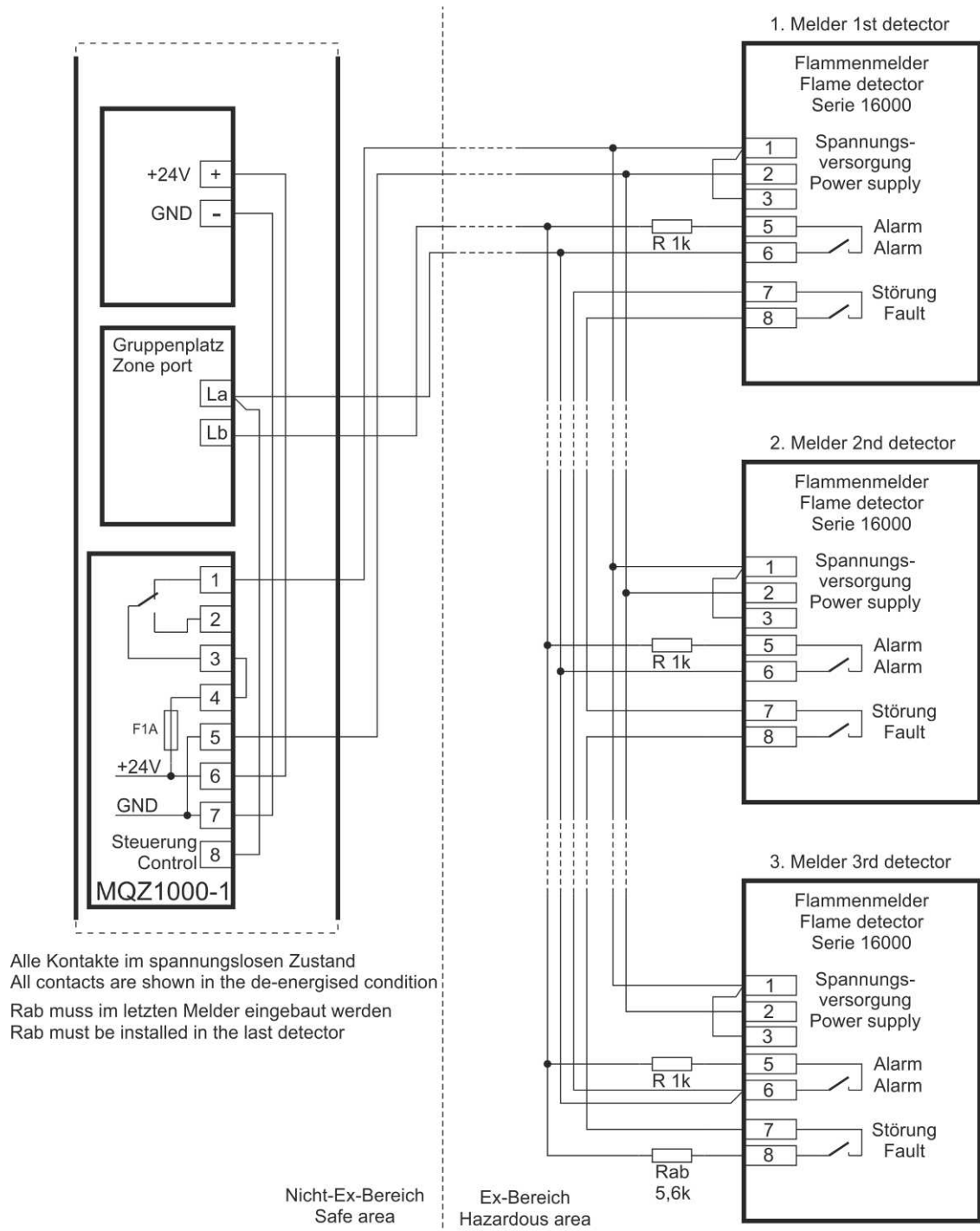
2.7.1 Flame Detectors Series 16000

Thanks to the ignition protection class "flameproof enclosure", the following flame detectors can be used without a safety barrier or zener barrier.

Type	EN 54-10 Class 1	SW6	SW7	Response time
16511	IR2	0	0	8s
16519	IR3	1	0	4s
16521	UV/IR2	0	1	2s
		1	1	1s

By means of the DIP switches, the detector can be adjusted to the various operating conditions. The switches 6 and 7 allow you to change the response time.

2.7.1.1 Connection with MQZ1000-1



Einstellung des DIP Schalters in jedem Melder
DIP switch setting in each detector

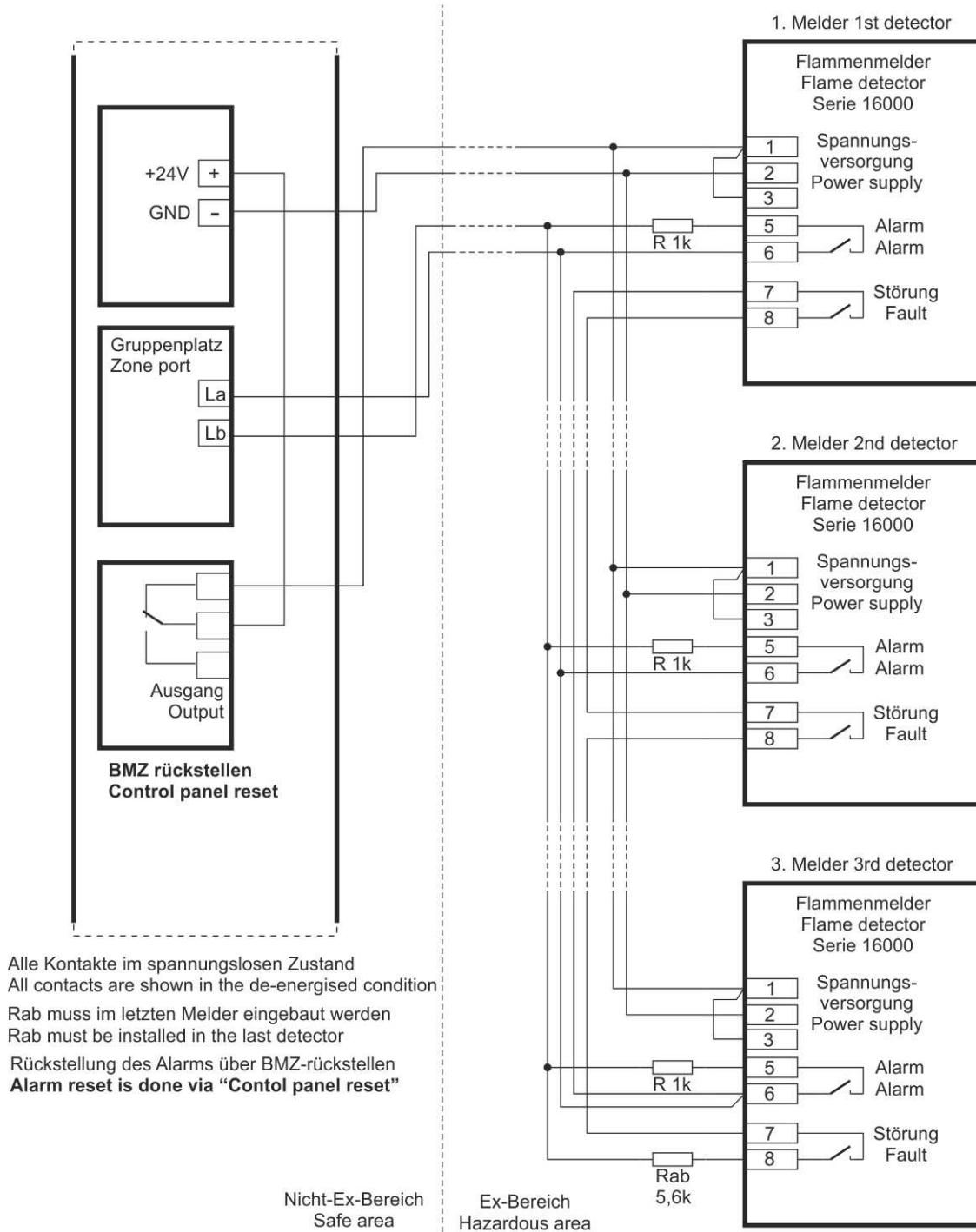
	1	2	3	4	5	6	7	8
0	□	□	□	□	□	□	□	□
1	■	■	■	■	■	■	■	■

■ = 1



The installation in the hazardous area has to comply with the local regulations and with EN 60079 because the energy in the line is not limited by barriers.

2.7.1.1 Connection - resetting by means of relay contact



Einstellung des DIP Schalters in jedem Melder
DIP switch setting in each detector

	1	2	3	4	5	6	7	8
0	■	■	■	■	■	■	■	■
1	□	□	□	□	□	□	□	□

■ = 1



The installation in the hazardous area has to comply with EN 60079 because the energy in the line is not limited by barriers.

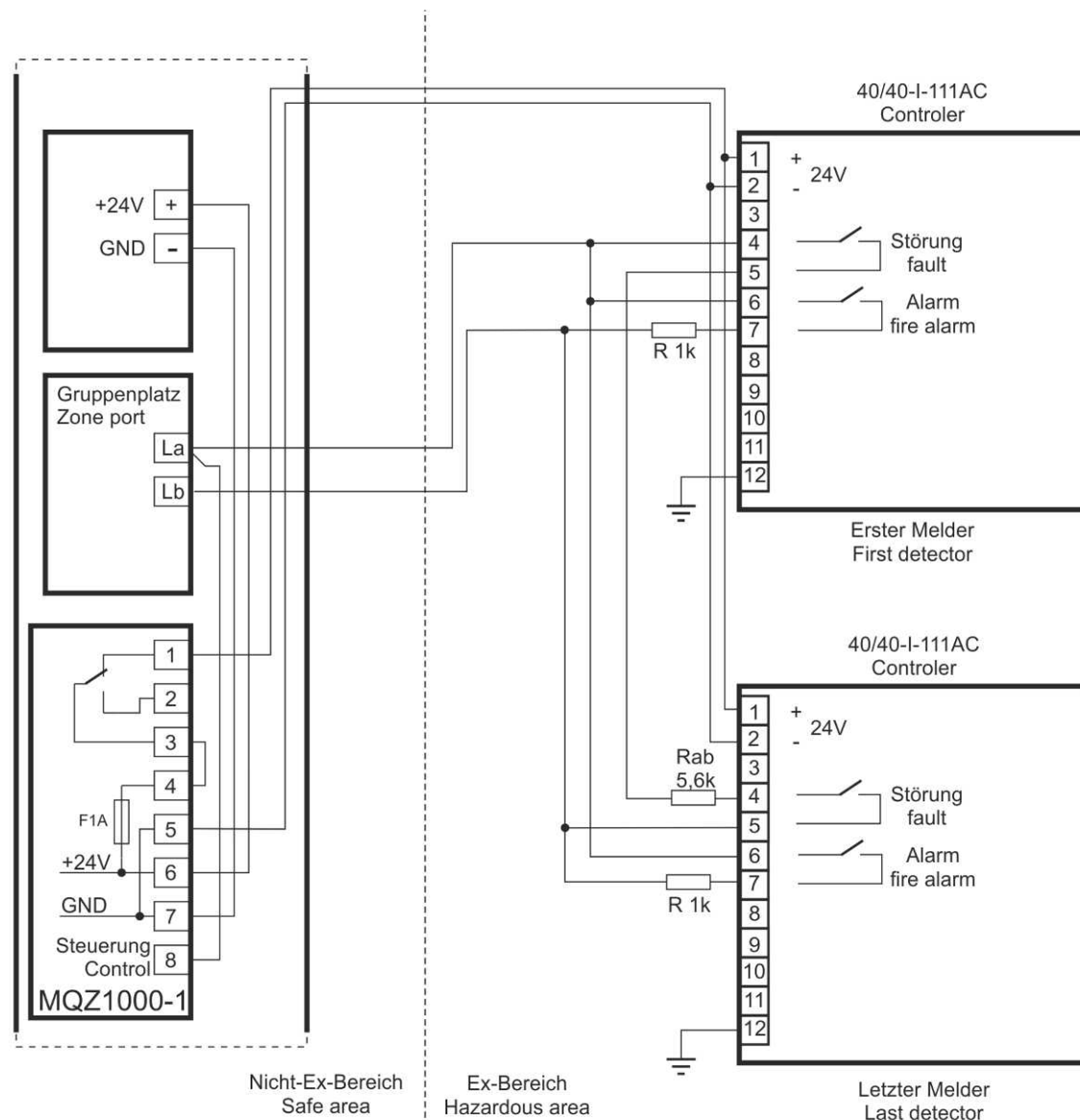
2.7.2 Flame Detector 40/40-I-111AC

Thanks to the ignition protection class "flameproof enclosure", the following flame detectors can be used without a safety barrier or zener barrier.



An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

2.7.2.1 Connection with MQZ1000-1



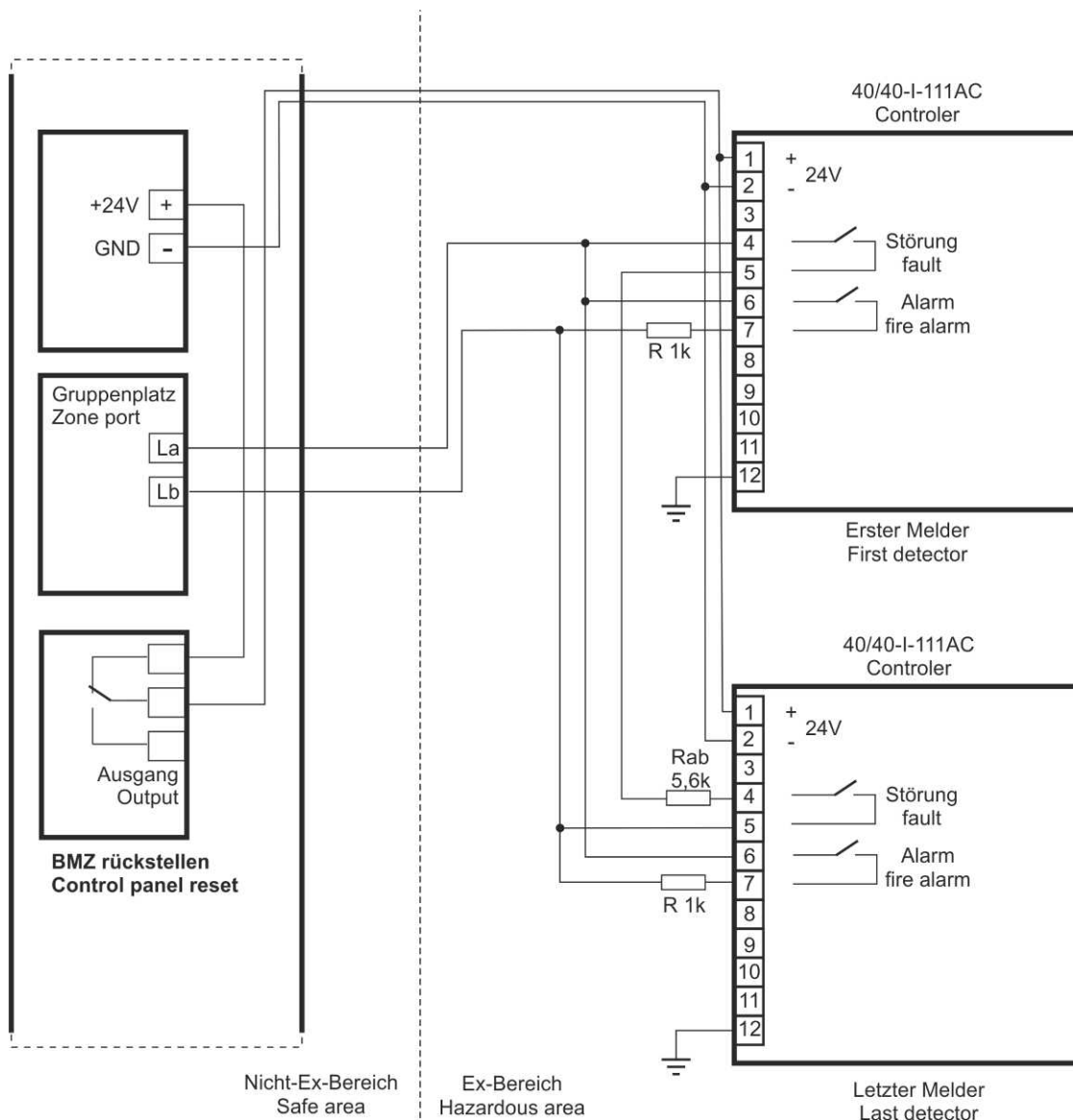
Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

Rab muss im letzten Melder eingebaut werden
Rab must be installed in the last detector



The installation in the hazardous area has to comply with EN 60079 because the energy in the line is not limited by barriers.

2.7.2.2 Connection - resetting by means of relay contact



Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

Rückstellung des Alarms über BMZ-rückstellen
Alarm reset is done via "Control panel reset"

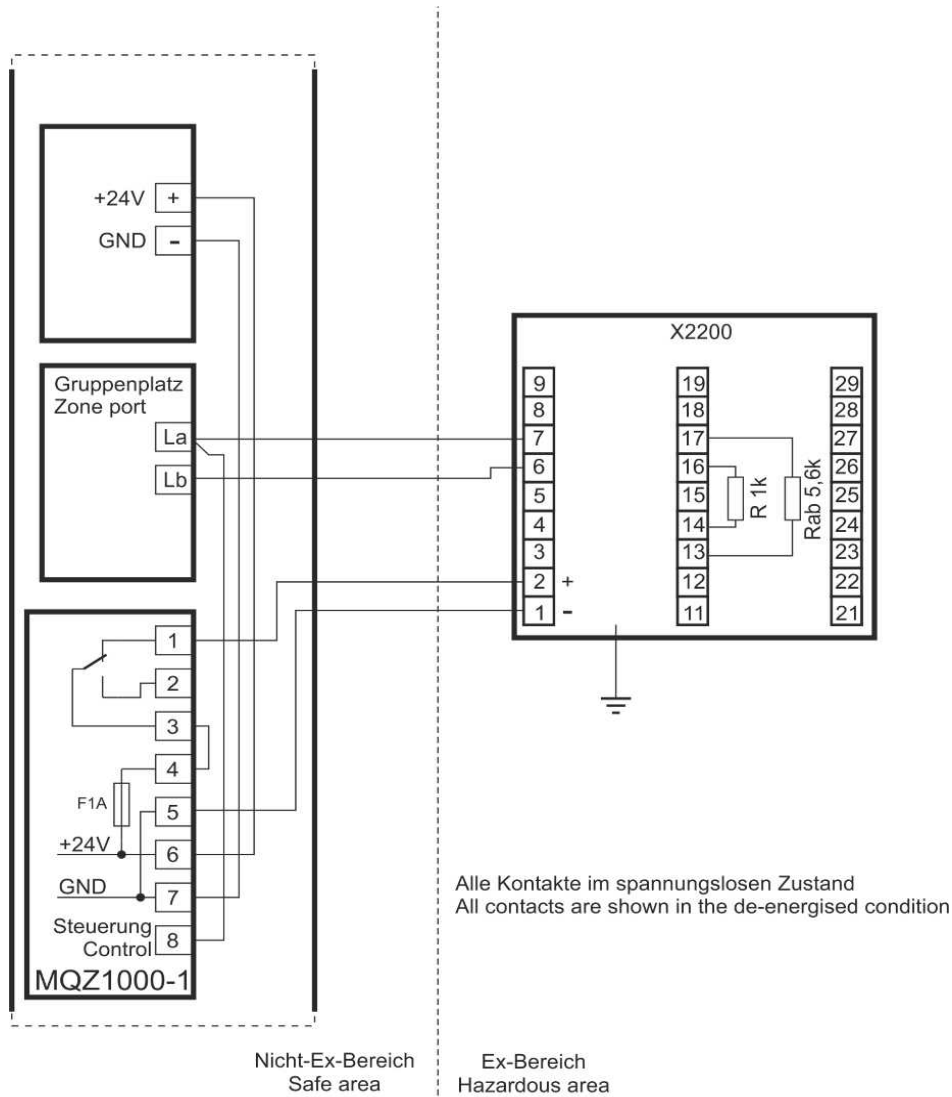
Rab muss im letzten Melder eingebaut werden
Rab must be installed in the last detector



The installation in the hazardous area has to comply with EN 60079 because the energy in the line is not limited by barriers.

2.7.3 Flame Detector Series X2200

2.7.3.1 Connection with MQZ1000-1

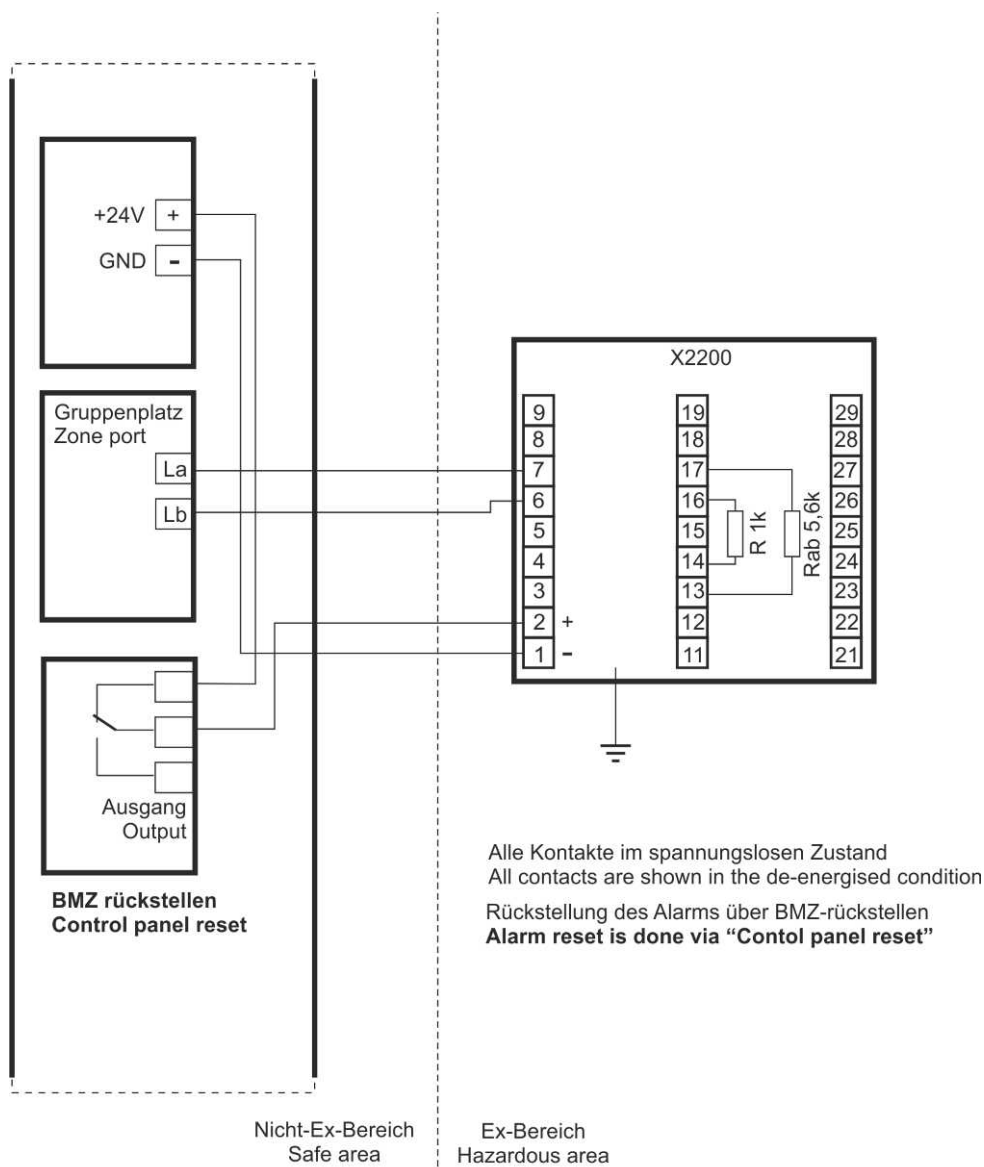


The installation in the hazardous area has to comply with EN 60079 because the energy in the line is not limited by barriers.



An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

2.7.3.2 Connection - resetting by means of relay contact



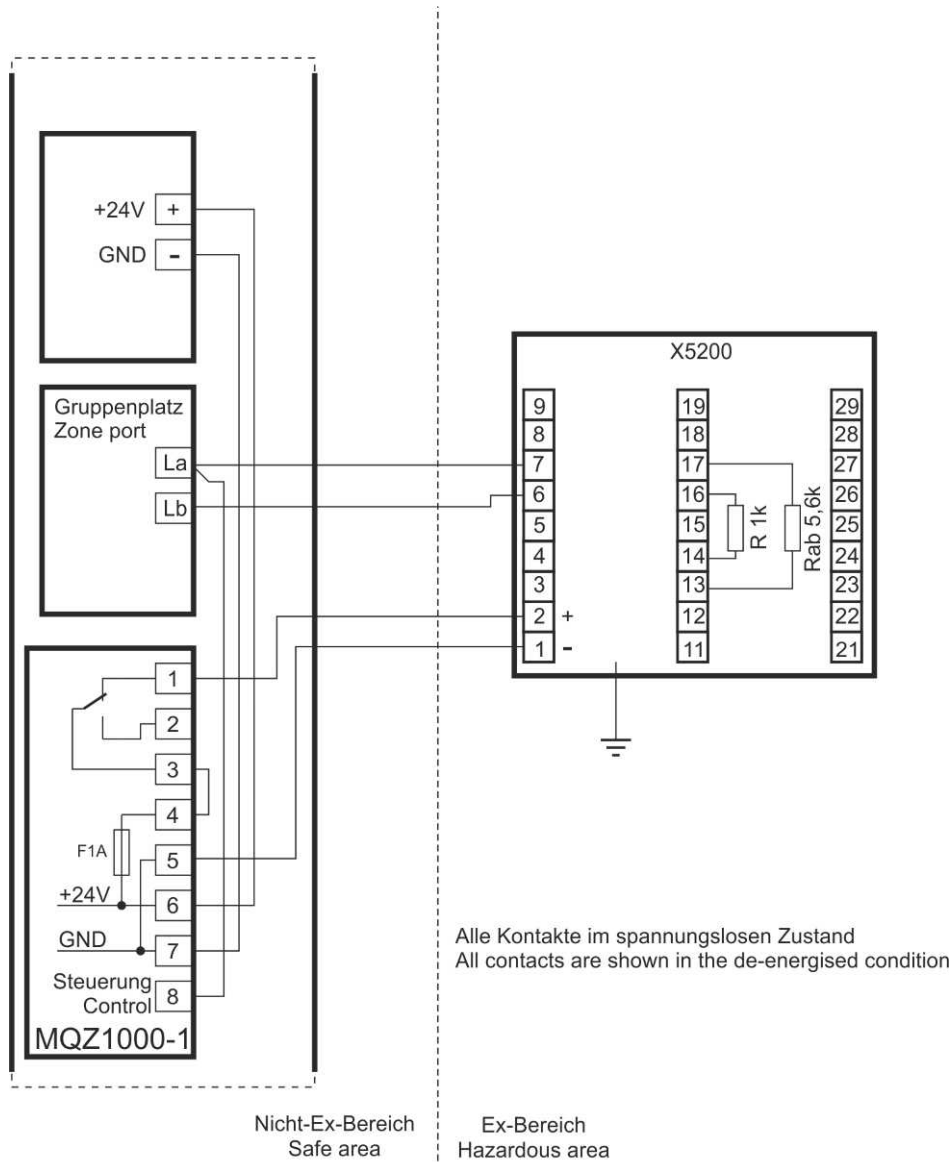
The installation in the hazardous area has to comply with EN 60079 because the energy in the line is not limited by barriers.



An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

2.7.4 Flame Detector Series X5200

2.7.4.1 Connection with MQZ1000-1

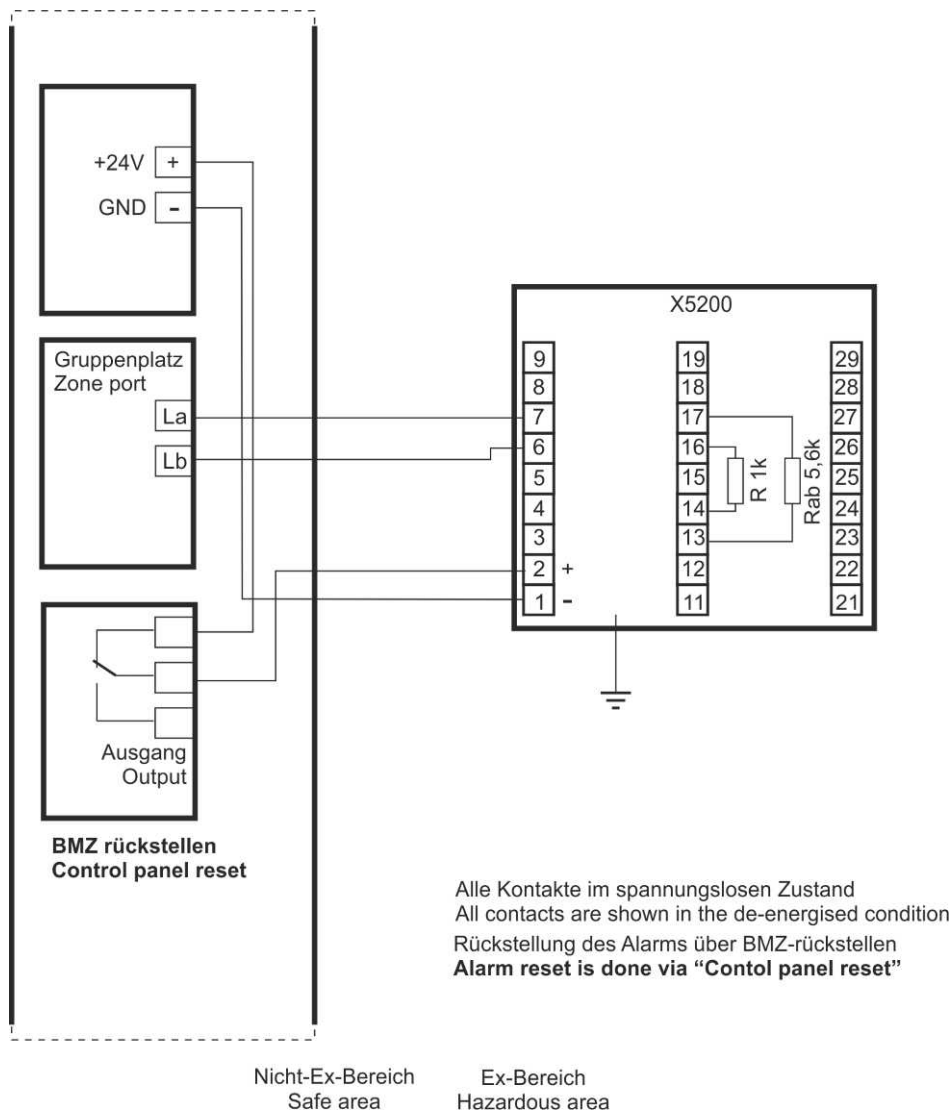


The installation in the hazardous area has to comply with EN 60079 because the energy in the line is not limited by barriers.



An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

2.7.4.2 Connection - resetting by means of relay contact



The installation in the hazardous area has to comply with EN 60079 because the energy in the line is not limited by barriers.



An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

2.7.5 Flame Detector Series YMX5000

Thanks to the ignition protection class "flameproof enclosure", the following flame detectors can be used without a safety barrier or zener barrier.

2.7.5.1 Notes

Only one detector may be connected to one detector zone. Furthermore, the end-of-line resistor of the conventional alarm line must have 3.3kOhm. For further information in this regard, please refer to the manufacturer's documentation.

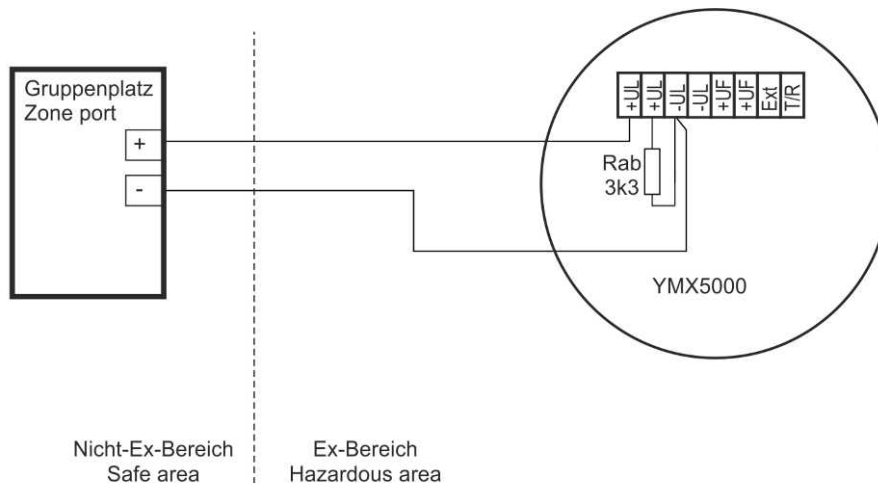
The detector is powered by the detector zone and signals its condition through the 2 lines:

- ◆ Alarm line (latching, can be reset by de-energising the detector zone)
- ◆ Fault line (optional, separate detector zone required)

If a fault line is used, the following is to be taken into account:

- ◆ Upon disablement of the alarm line, the fault line will be activated.
- ◆ In the case of alarm verification of the alarm line, the fault line will be activated while the alarm line is disabled.
- ◆ A 5.6kOhm end-of-line resistor must be used for the fault line.

2.7.5.2 Connection



Das Abschlusselement muss ein 3k3 Widerstand sein.
Die Brandmelderzentrale muss ebenfalls auf diesen Wert gestellt werden.

The end-of-line element must be a 3k3 resistor.
The fire alarm control panel must also be set to this value.

2.8 Heat detectors for hazardous areas

2.8.1 WMX5000 FS

Thanks to the ignition protection class "flameproof enclosure", this detector can be used without a safety barrier or zener barrier.

Only one detector may be connected to one detector zone. Furthermore, the end-of-line resistor of the conventional alarm line must have 3.3kOhm. The WMX5000 is a high temperature detector whose alarm threshold can be selected (with DIP switches in the base – for further information in this regard, please refer to the manufacturer's documentation).

The detector is powered by the detector zone and signals its condition through the 2 lines:

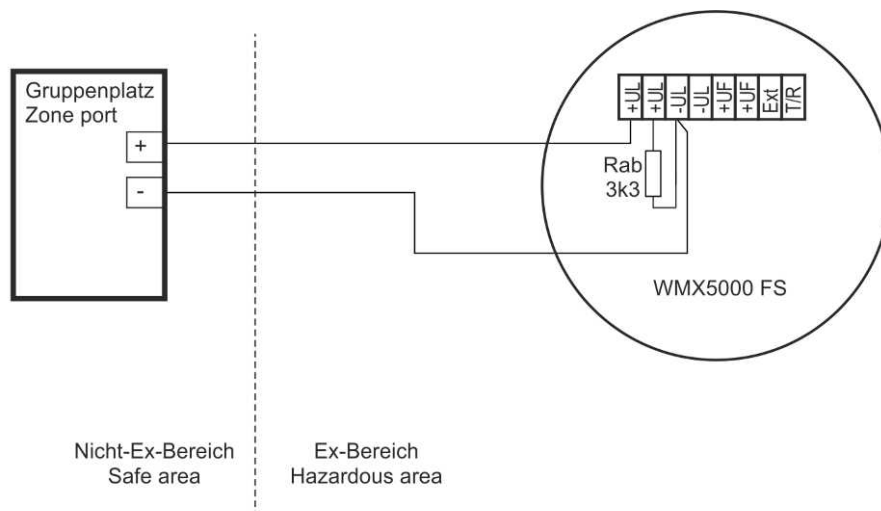
- ◆ Alarm line (latching, can be reset by de-energising the detector zone)
- ◆ Fault line (optional, separate detector zone required)

If a fault line is used, the following is to be taken into account:

- ◆ Upon disablement of the alarm line, the fault line will be activated.
- ◆ In the case of alarm verification of the alarm line, the fault line will be activated while the alarm line is disabled.
- ◆ A 5.6kOhm end-of-line resistor must be used for the fault line.

With the self-resetting property, this detector has a short alarm duration.

Therefore this connection is only permissible if the alarm of the detector is stored.



Das Abschlusselement muss ein 3k3 Widerstand sein.
Die Brandmelderzentrale muss ebenfalls auf diesen Wert gestellt werden.

The end-of-line element must be a 3k3 resistor.
The fire alarm control panel must also be set to this value.

2.9 Fire gas detector for hazardous areas

2.9.1 GMX1001CO Ex Dust

Thanks to the ignition protection class "flameproof enclosure", this detector can be used without a safety barrier or zener barrier.

Only one detector may be connected to one detector zone. Furthermore, the end-of-line resistor of the conventional alarm line must have 3.3kOhm.

The detector is powered by the detector zone and signals its condition through the 2 lines:

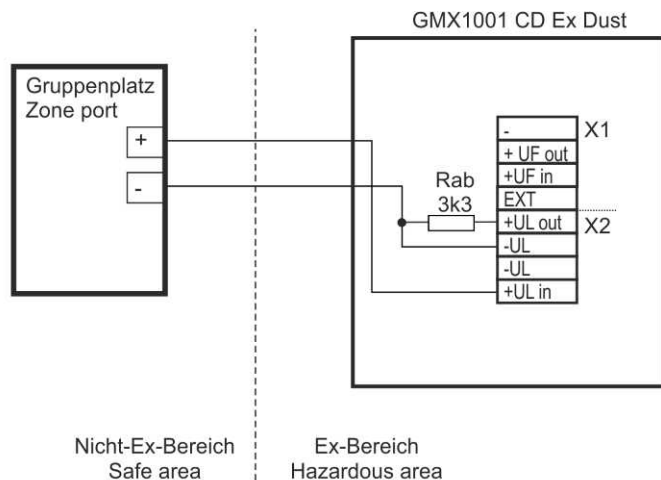
- ◆ Alarm line (latching, can be reset by de-energising the detector zone)
- ◆ Fault line (optional, separate detector zone required)

If a fault line is used, the following is to be taken into account:

- ◆ Upon disablement of the alarm line, the fault line will be activated.
- ◆ In the case of alarm verification of the alarm line, the fault line will be activated while the alarm line is disabled.
- ◆ A 5.6kOhm end-of-line resistor must be used for the fault line.

With the self-resetting property, this detector has a short alarm duration.

Therefore this connection is only permissible if the alarm of the detector is stored.



Abschlusselement muss ein 3k3 Widerstand sein.
Die Brandmelderzentrale muss ebenfalls auf diesen Wert gestellt werden.

The end-of-line element must be a 3k3 resistor.
The fire alarm control panel must also be set to this value.

2.10 Connection of wireless detectors

Before wireless detectors can be used, you have to install an RF interface.

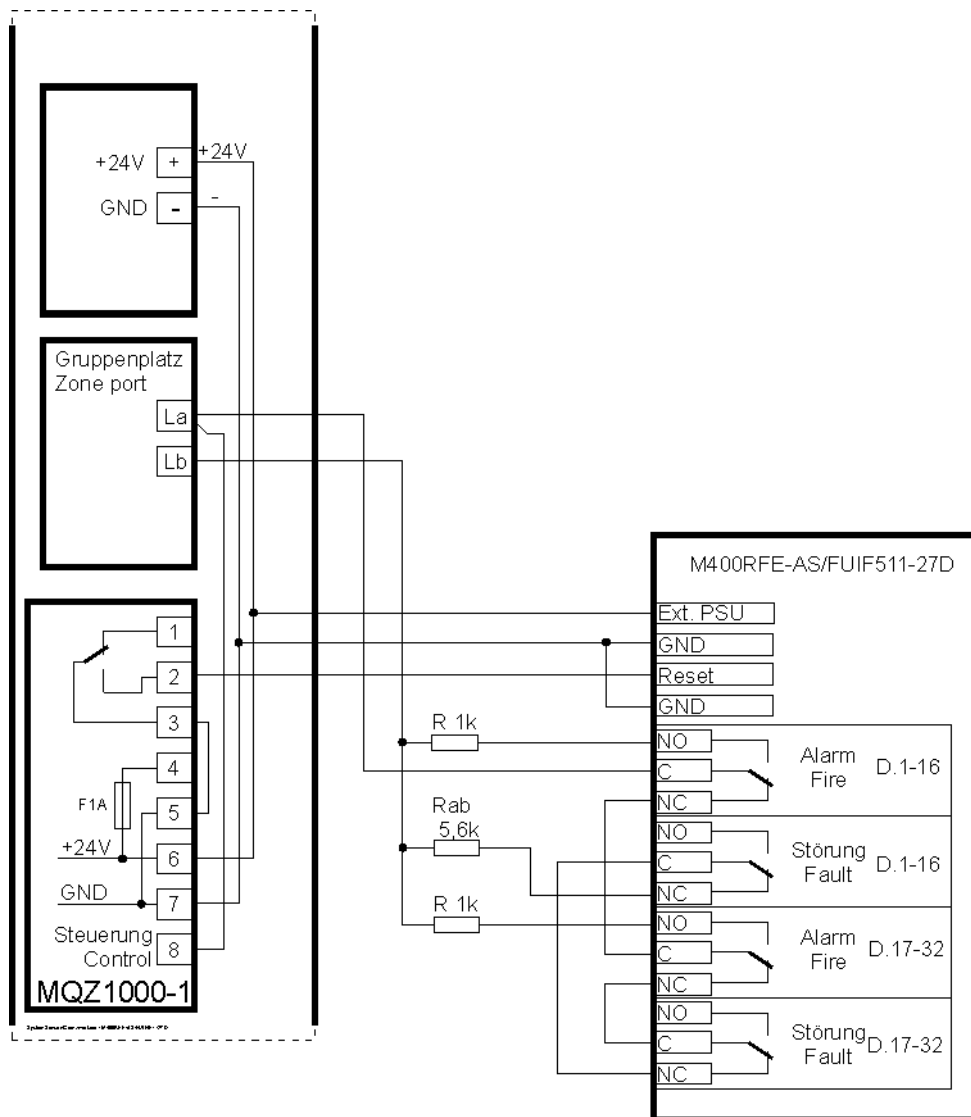
2.10.1 RF Interface M400RFE-AS / FUIF511-27D

2.10.1.1 Notes

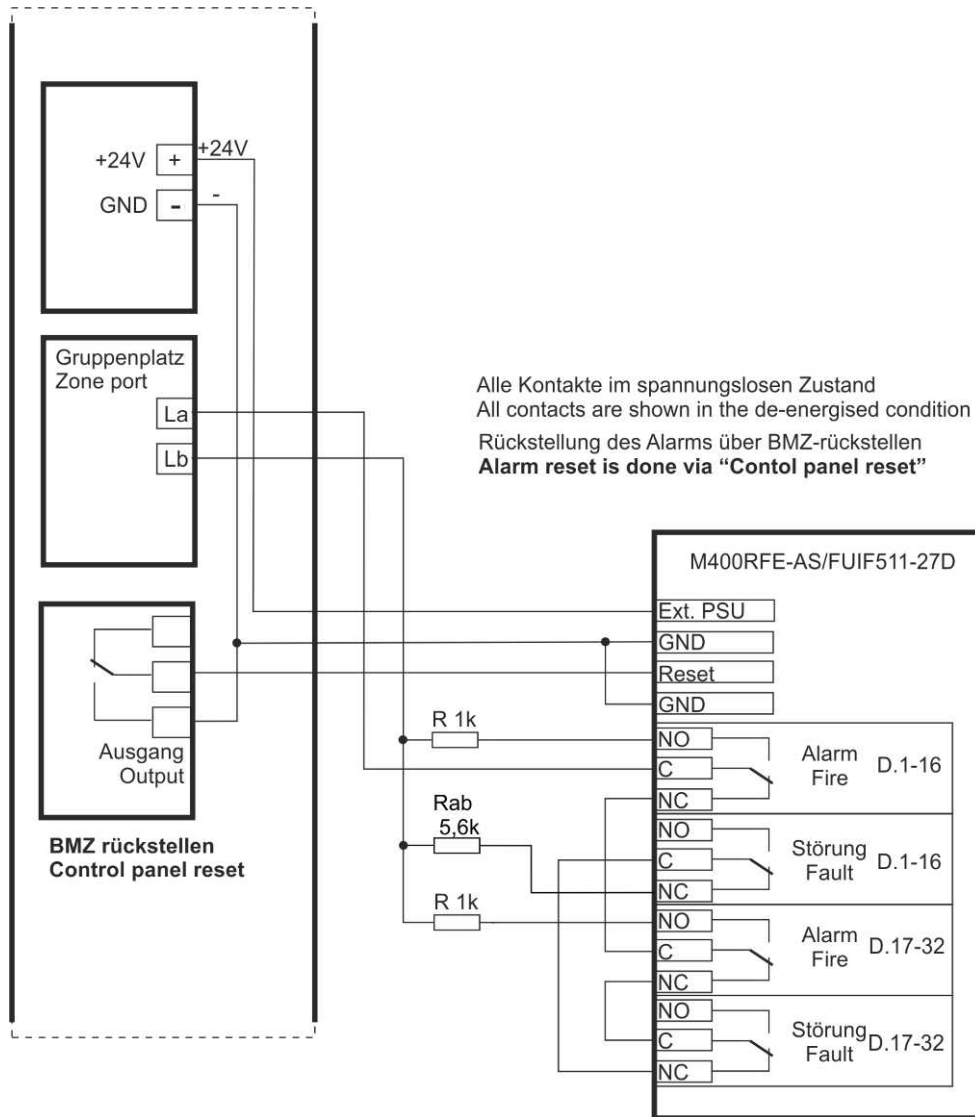
Please consult the documentation of the RF interface to receive relevant information about how to link the wireless detectors to the RF interface.

Observe the maximum number of supported detectors per RF interface.

2.10.1.2 Connection with MQZ1000-1



2.10.1.3 Connection - resetting by means of relay contact



2.10.2 Connection of Series FI7x0/RF wireless detectors

In order to be able to use wireless detectors Series FI700/RF, FI720/RF or FI750/RF, you first have to install an RF interface.

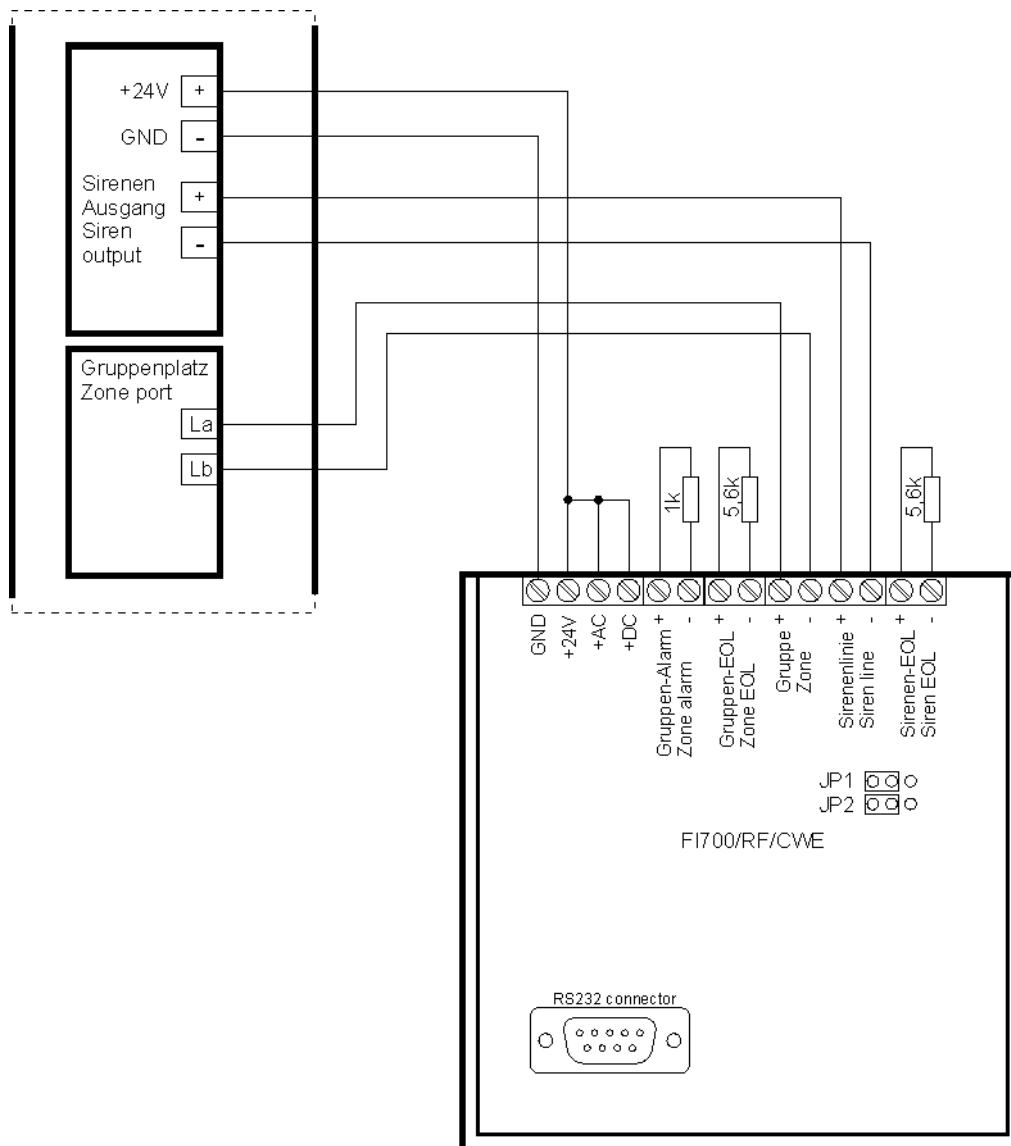
2.10.2.1 Notes

Please consult the documentation of the RF interface to obtain relevant information about how to link the wireless detectors to the RF interface.

Note the maximum supported number of 32 detectors per RF interface.

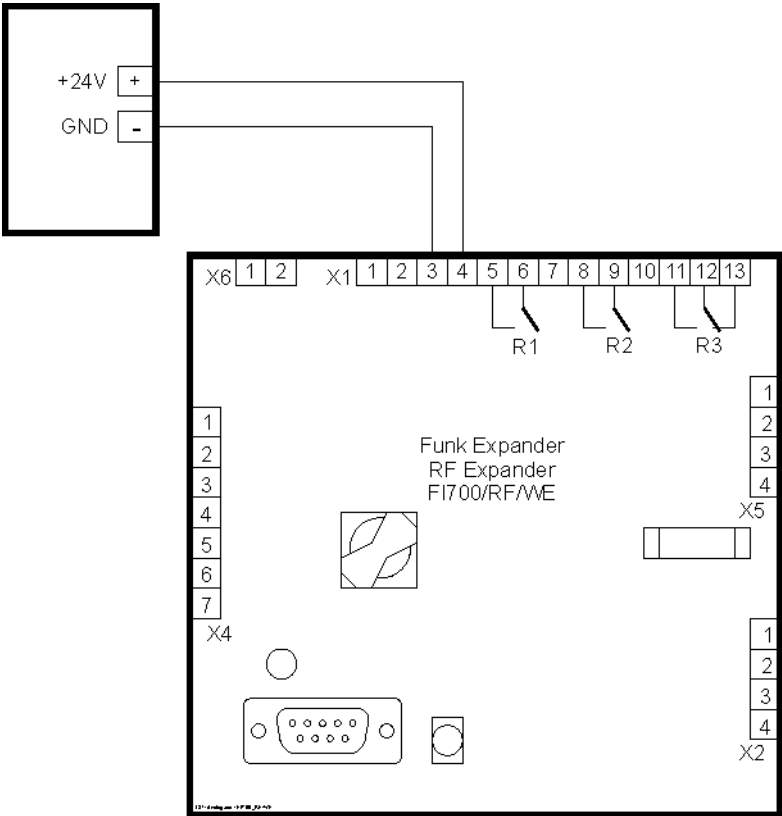
2.10.2.2 RF Interface FI700/RF/CWE - FI720/RF/CWE

The following connection applies to the RF Interfaces FI700/RF/CWE and FI720/RF/CWE.



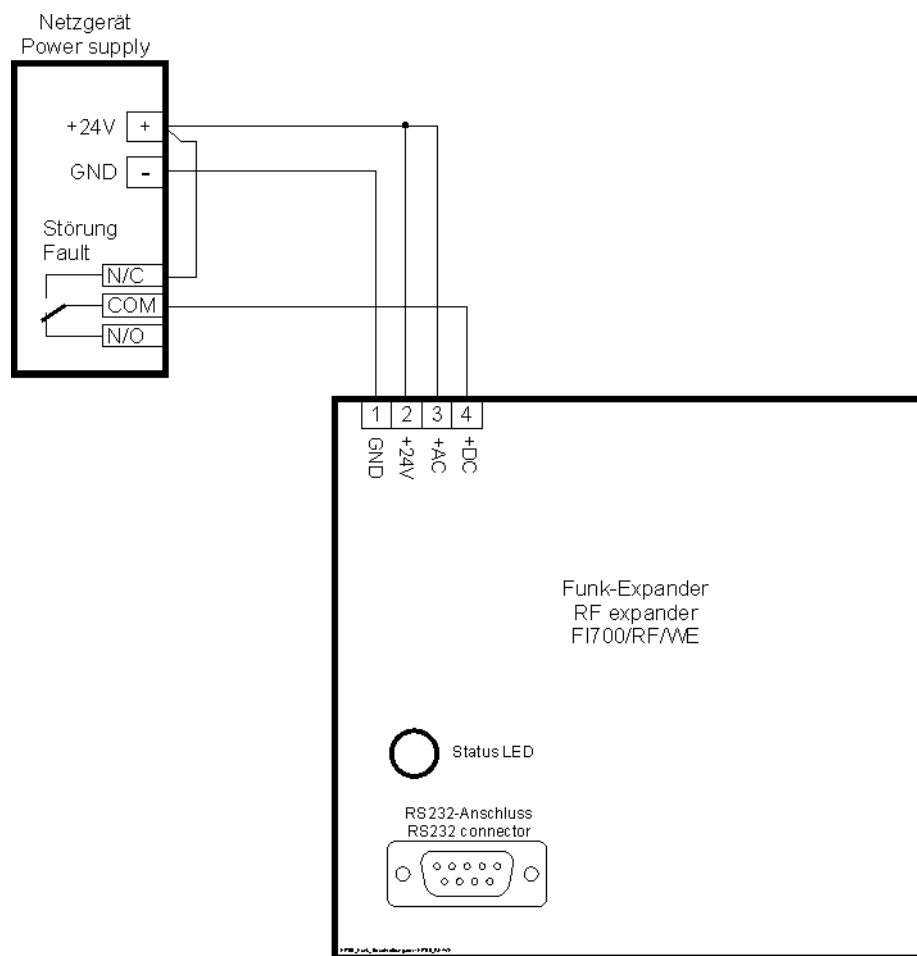
If the expander is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

2.10.2.3 RF Expander FI700/RF/WE – old version



If the expander is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

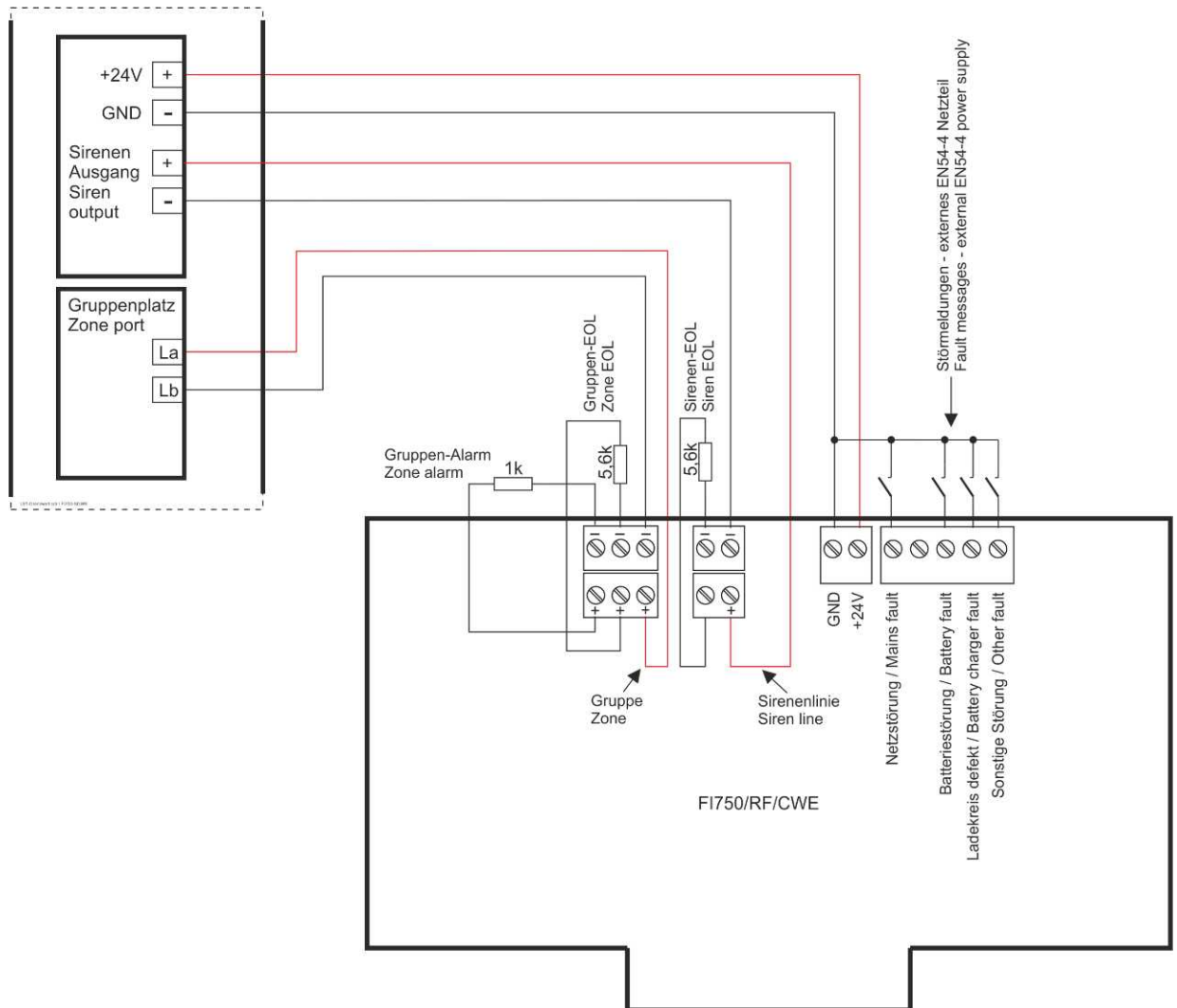
2.10.2.4 RF Expander FI700/RF/WE – new version – and RF Expander FI720/RF/WE



If the expander is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

2.10.2.5 RF Interface FI750/RF

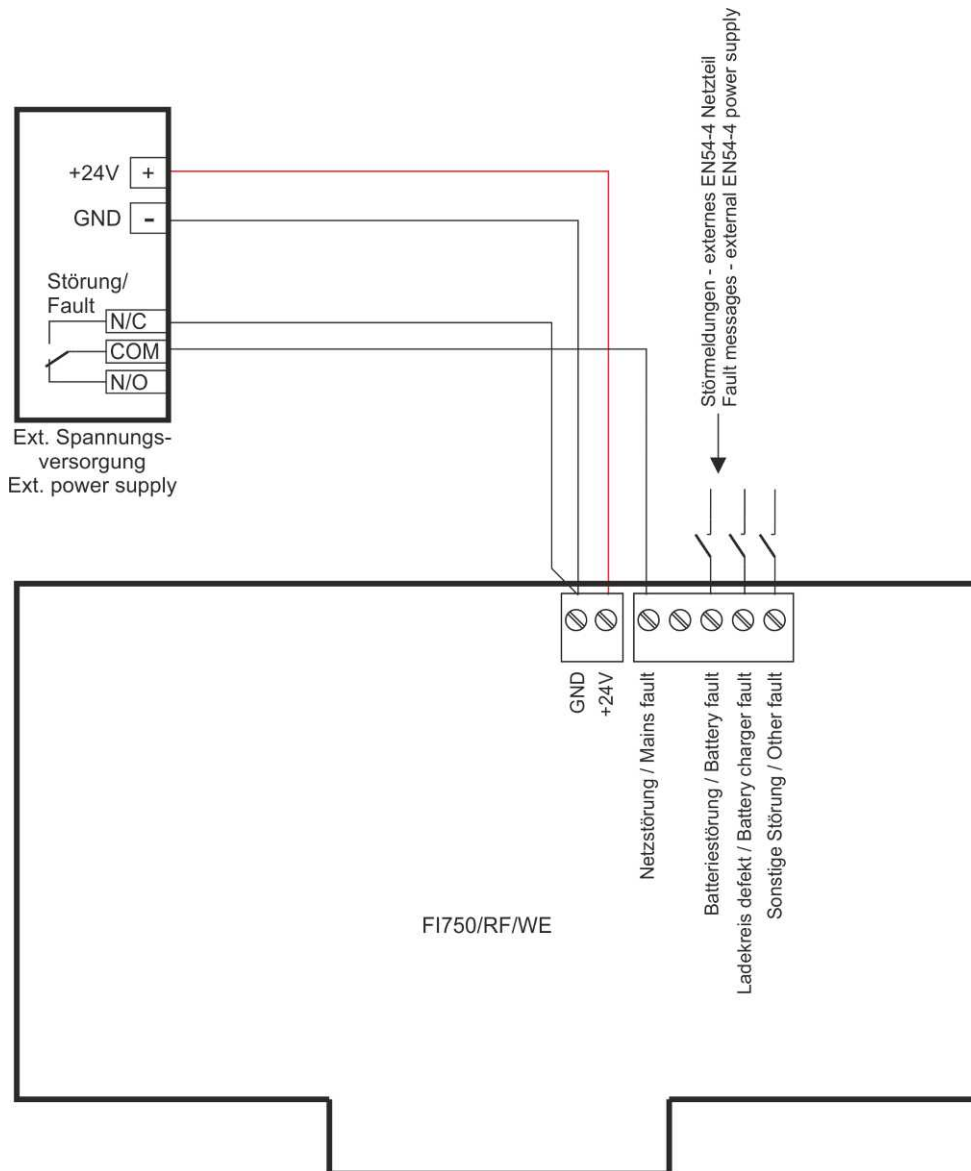
Before wireless detectors can be used, you have to install an RF interface.



The "Fault messages – external power supply" can be set to "Open," "Low" or "Disabled" by means of the RF interface configuration software. These fault messages only need to be used if an external power unit is used.

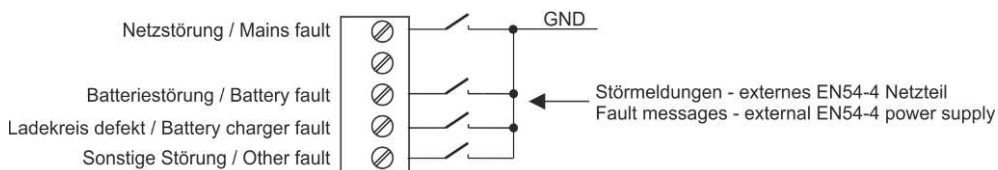
2.10.2.6 RF Expander FI750/RF/WE

If you want to extend the range of the RF system FI750/RF, you can use the RF Expander FI750/RF/WE.



In this example, the common fault contact of the power unit has been routed to the "Mains fault" input of the FI750/RF/WE. With this connection, the handling of the input for the "Mains fault" has to be set to "Open".

If the power unit fault messages are to be evaluated more finely, you can use the inputs that are available on the FI750/RF/WE.



2.11 Connection of special detectors

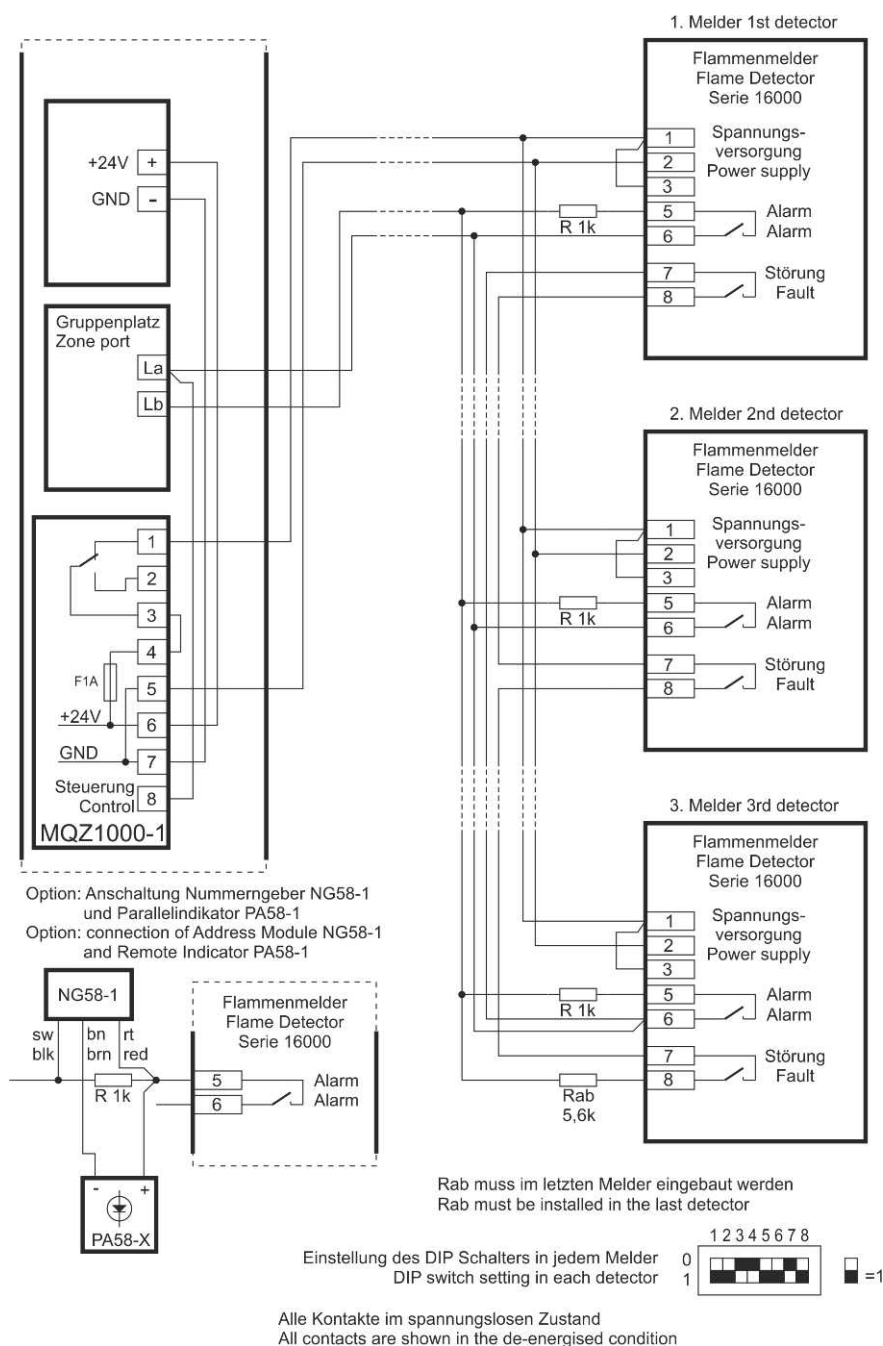
2.11.1 Flame Detectors Series 16000

2.11.1.1 Settings

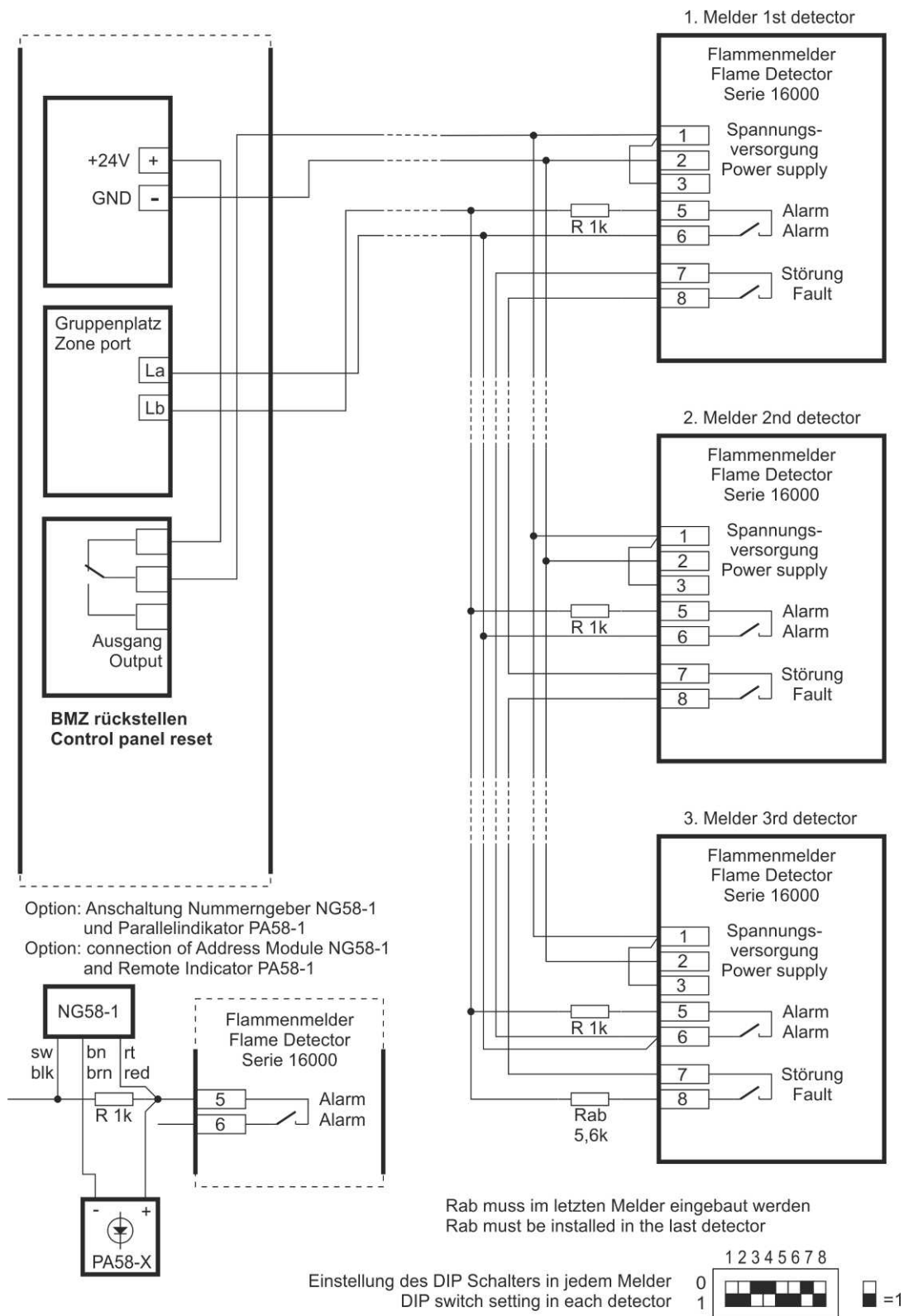
The detector can be adapted to different operating conditions by means of DIP switches. The response time can be selected with DIP switches 6 and 7:

Type	EN 54-10 Class 1	SW6	SW7	Response time
16581	IR2	0	0	8s
16589	IR3	1	0	4s
16591	UV/IR2	0	1	2s
		1	1	1s

2.11.1.2 Connection with MQZ1000-1

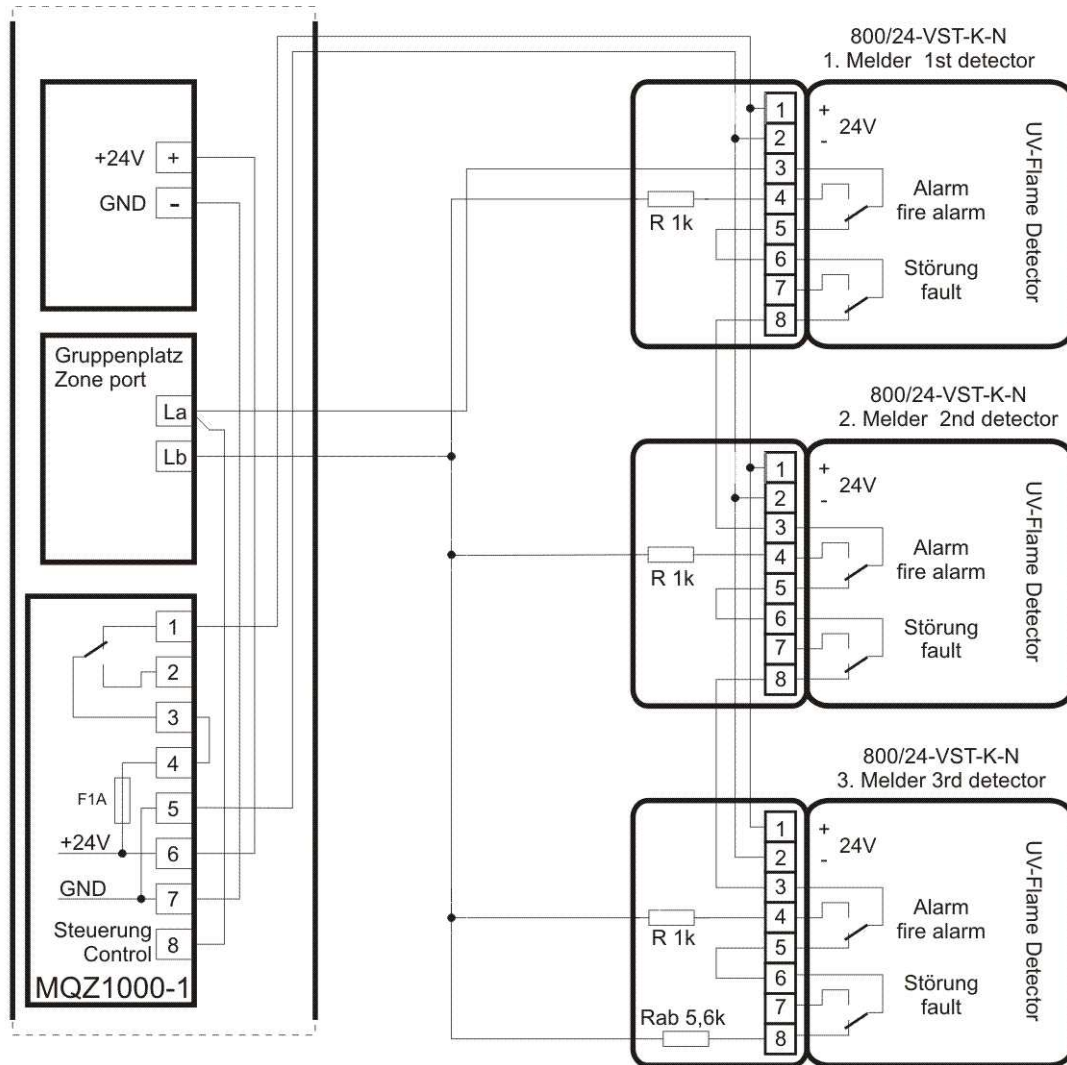


2.11.1.3 Connection - resetting by means of relay contact



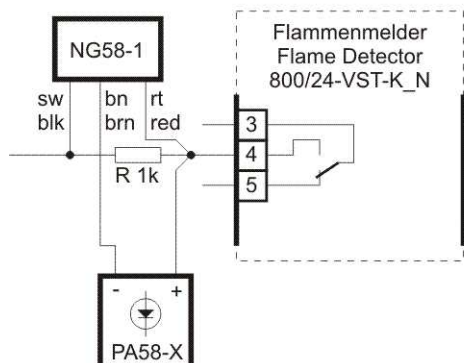
2.11.2 Flame Detector 800/24-VST-K-N

2.11.2.1 Connection with MQZ1000-1

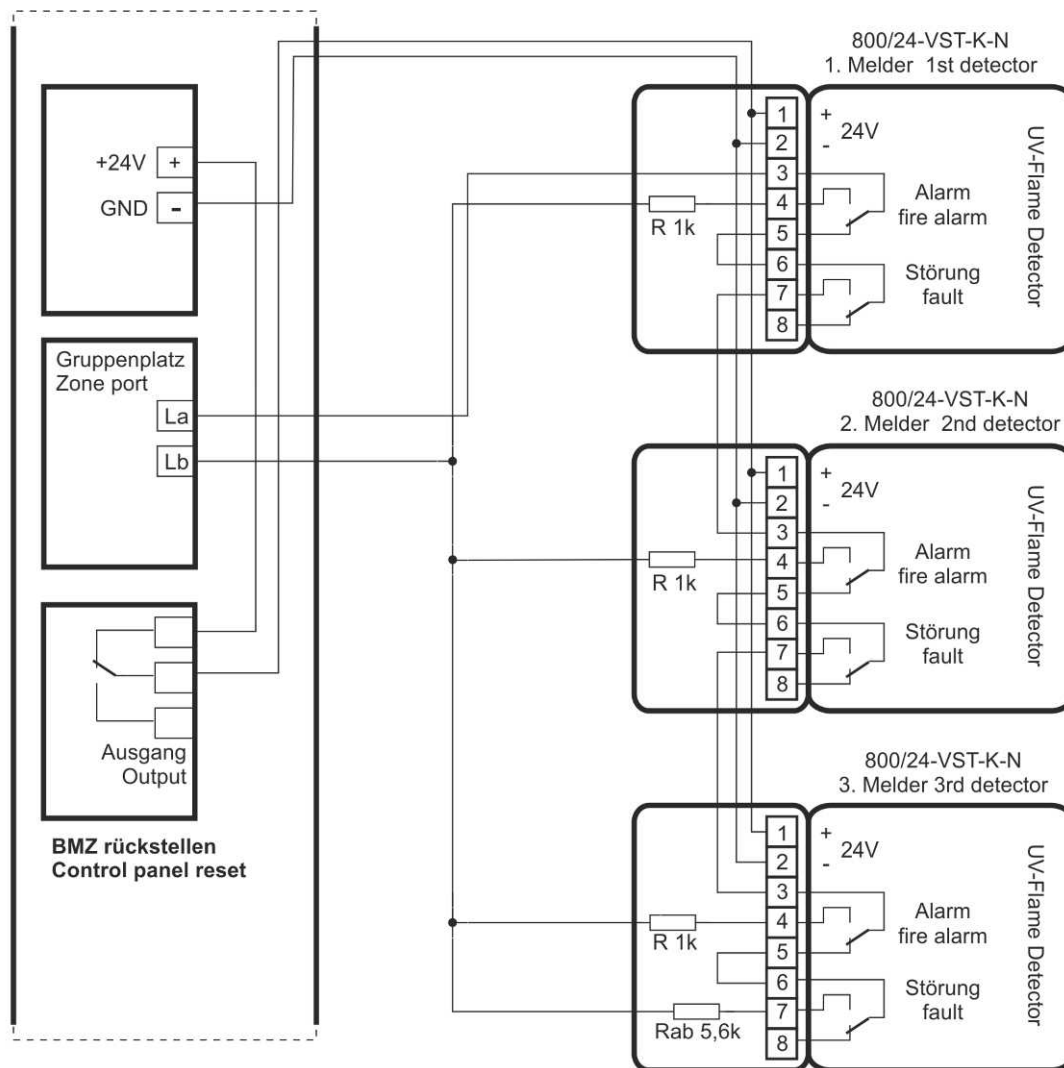


Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

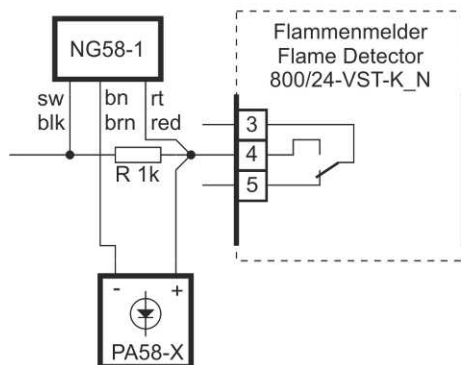
Rab muss im letzten Melder eingebaut werden
Rab must be installed in the last detector



2.11.2.2 Connection - resetting by means of relay contact



Option: Anschaltung Nummerngeber NG58-1 und Parallelindikator PA58-1
 Option: connection of Address Module NG58-1 and Remote Indicator PA58-1

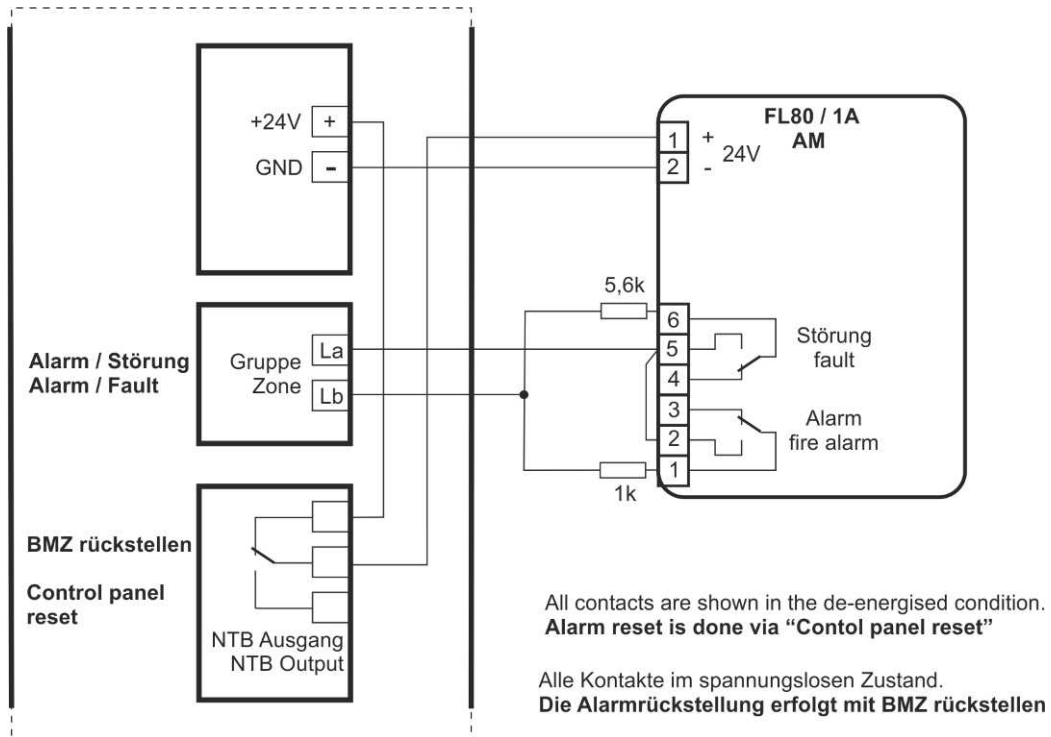


Alle Kontakte im spannungslosen Zustand
 All contacts are shown in the de-energised condition

Rab muss im letzten Melder eingebaut werden
 Rab must be installed in the last detector

Rückstellung des Alarms über BMZ-rückstellen
 Alarm reset is done via "Contol panel reset"

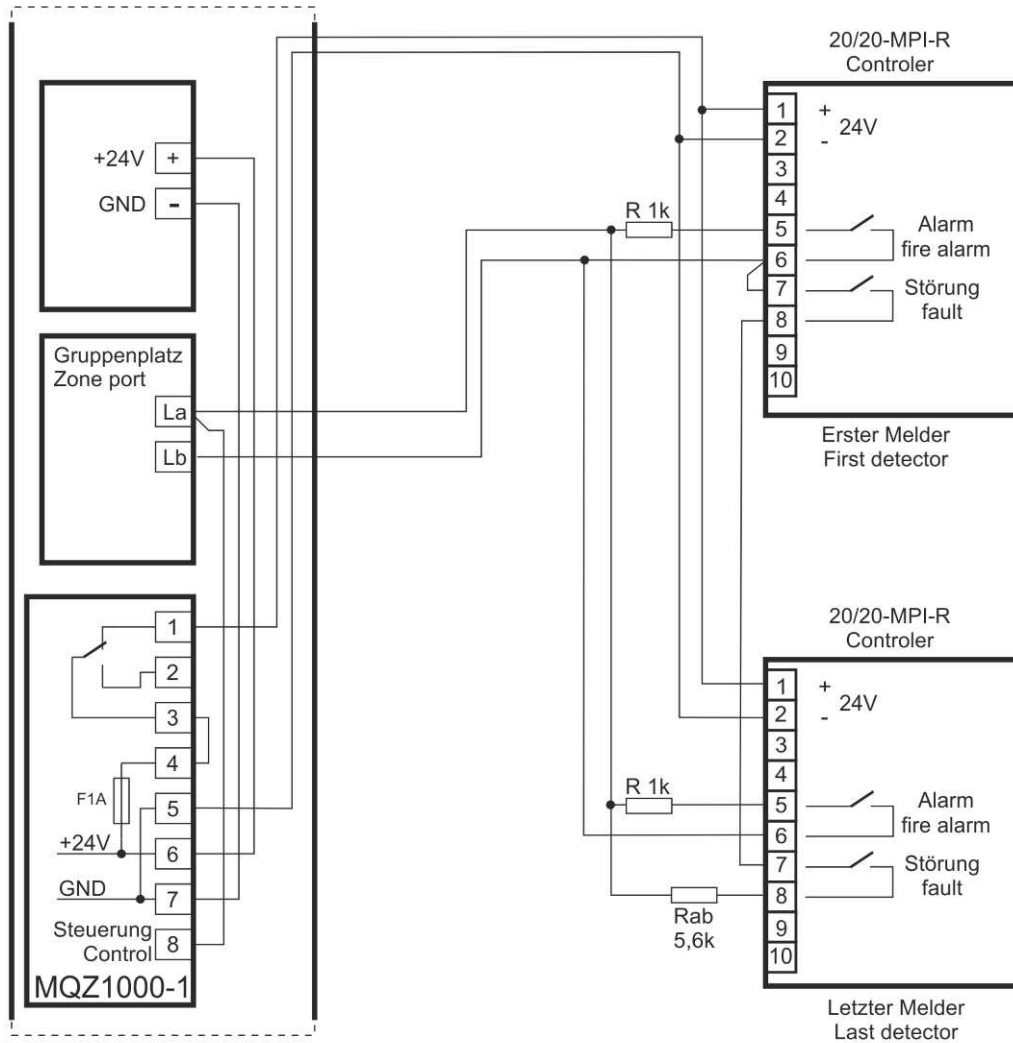
2.11.3 Flame Detector FL 80 /-A1 – version AM



An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

2.11.4 Flame Detector 20/20-MPI-R

2.11.4.1 Connection with MQZ1000-1



Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

Rab muss im letzten Melder eingebaut werden
Rab must be installed in the last detector

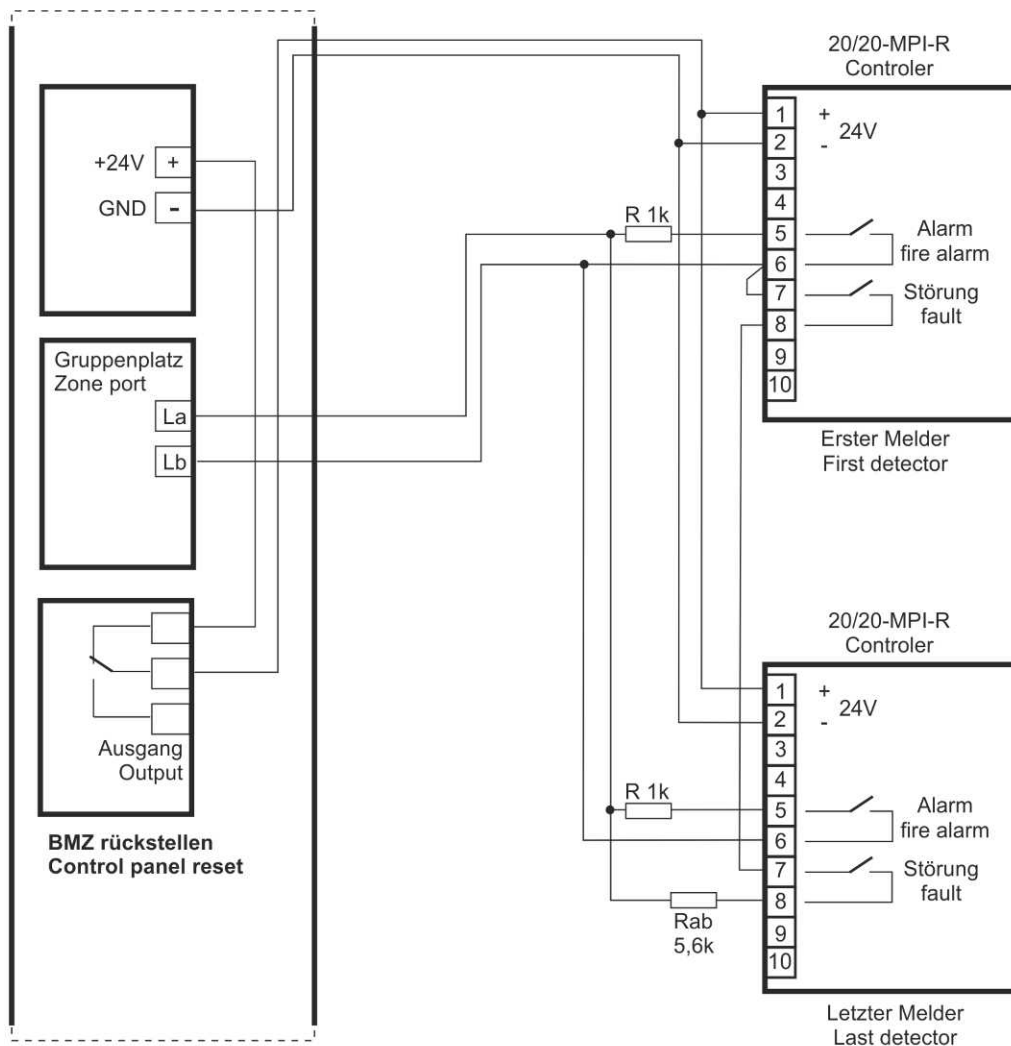


An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).



Resetting the detector after a fire alarm results in a restart of the detector. This restart results in a brief fault of the conventional input. The BC600 allows a fault to be evaluated with a delay – "delayed fault evaluation" checkbox in the Zone parameters. The BC216 does not offer this option and therefore, if this detector is used on the BC216, a brief fault will occur after a reset of the detector.

2.11.4.2 Connection - resetting by means of relay contact



Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

Rab muss im letzten Melder eingebaut werden
Rab must be installed in the last detector

Rückstellung des Alarms über BMZ-rückstellen
Alarm reset is done via "Control panel reset"



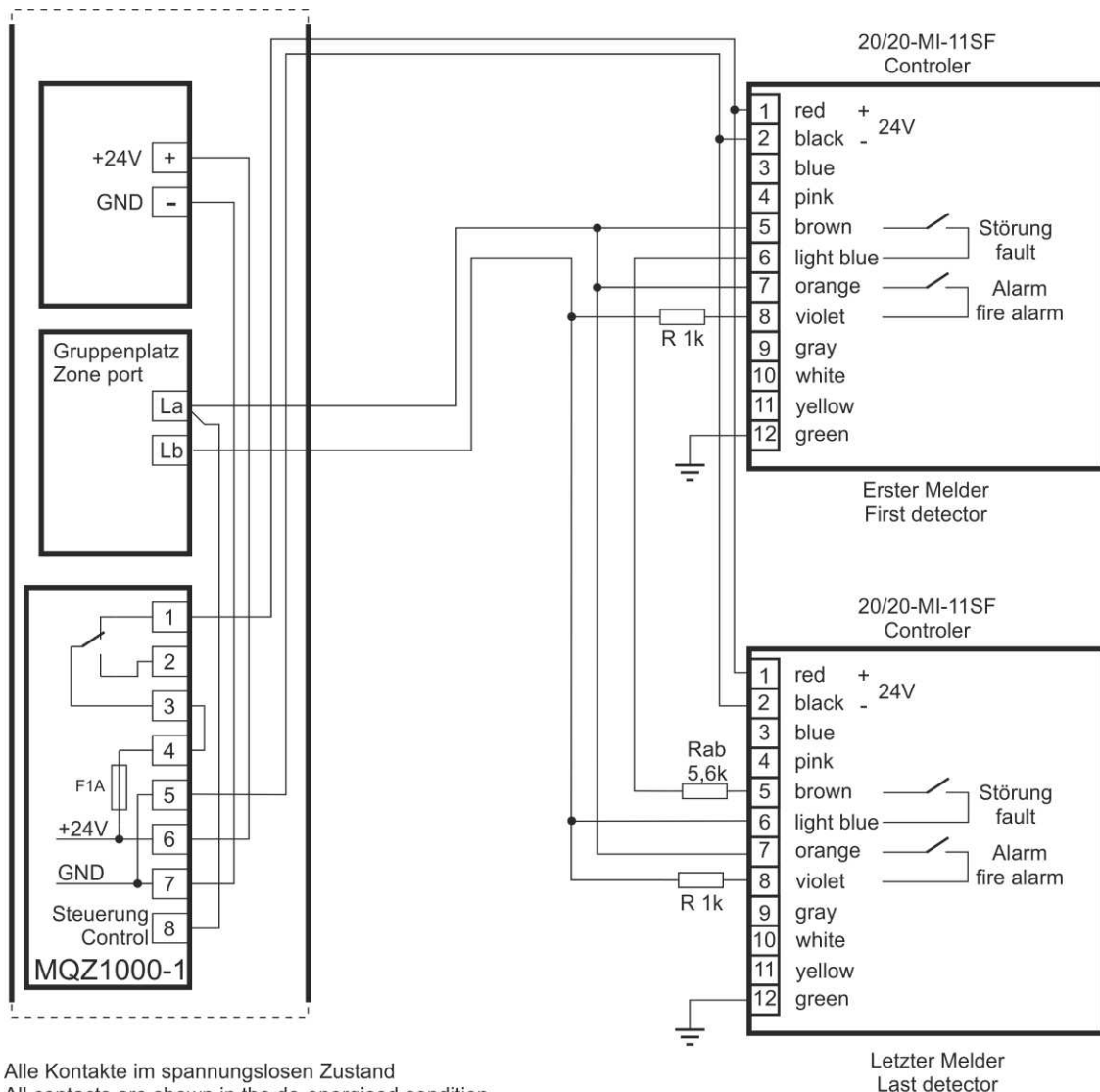
An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).



Resetting the detector after a fire alarm results in a restart of the detector. This restart results in a brief fault of the conventional input. The BC600 allows a fault to be evaluated with a delay – "delayed fault evaluation" checkbox in the Zone parameters. The BC216 does not offer this option and therefore, if this detector is used on the BC216, a brief fault will occur after a reset of the detector.

2.11.5 Flame Detector 20/20-MI-11SF

2.11.5.1 Connection with MQZ1000-1



Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

Rab muss im letzten Melder eingebaut werden
Rab must be installed in the last detector

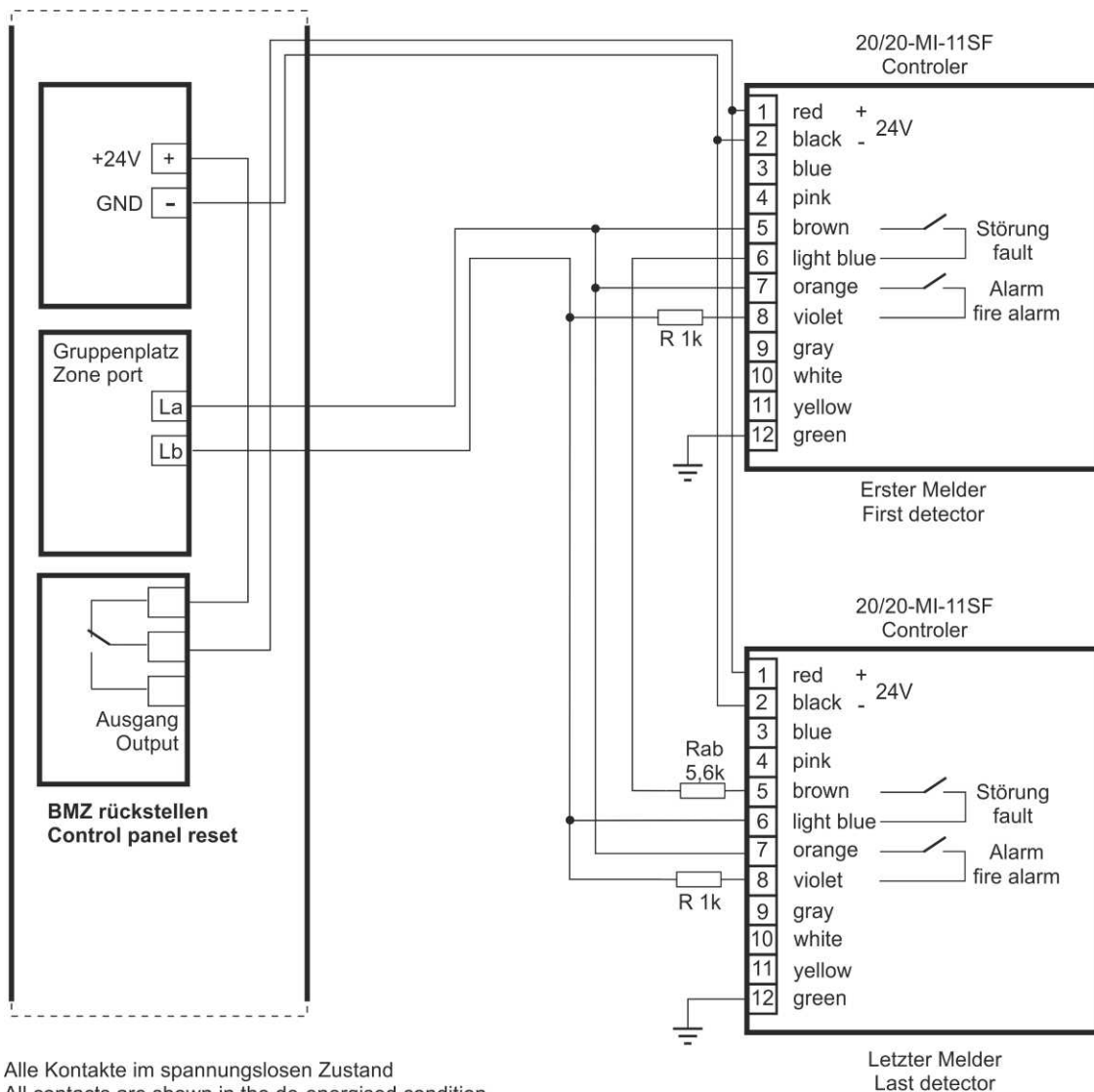


An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).



Resetting the detector after a fire alarm results in a restart of the detector. This restart results in a brief fault of the conventional input. The BC600 allows a fault to be evaluated with a delay – "delayed fault evaluation" checkbox in the Zone parameters. The BC216 does not offer this option and therefore, if this detector is used on the BC216, a brief fault will occur after a reset of the detector.

2.11.5.2 Connection - resetting by means of relay contact



An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).



Resetting the detector after a fire alarm results in a restart of the detector. This restart results in a brief fault of the conventional input. The BC600 allows a fault to be evaluated with a delay – "delayed fault evaluation" checkbox in the Zone parameters. The BC216 does not offer this option and therefore, if this detector is used on the BC216, a brief fault will occur after a reset of the detector.

2.11.6 Flame Detector FMX5000 IR

2.11.6.1 Notes

Only one detector may be connected to one detector zone. Furthermore, the end-of-line resistor of the conventional alarm line must have 3.3kOhm. For further information in this regard, please refer to the manufacturer's documentation.

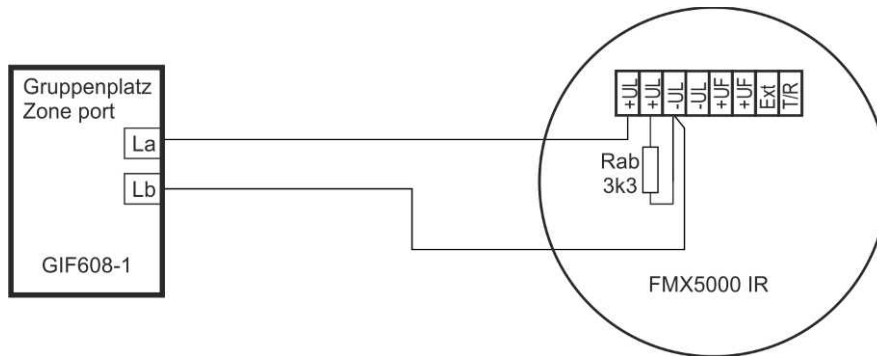
The detector is powered by the detector zone and signals its condition through the 2 lines:

- ◆ Alarm line (latching, can be reset by de-energising the detector zone)
- ◆ Fault line (optional, separate detector zone required)

If a fault line is used, the following is to be taken into account:

- ◆ Upon disablement of the alarm line, the fault line will be activated.
- ◆ In the case of alarm verification of the alarm line, the fault line will be activated while the alarm line is disabled.
- ◆ A 5.6kOhm end-of-line resistor must be used for the fault line.

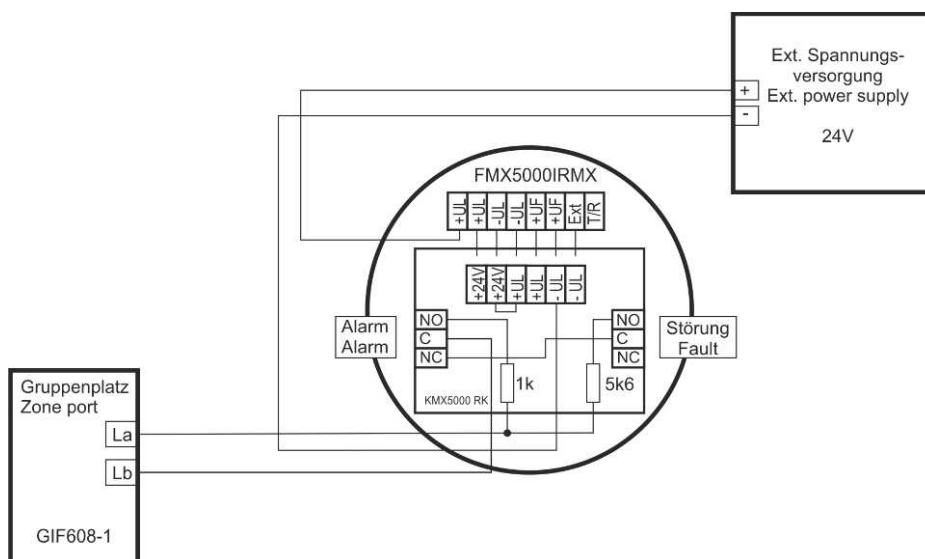
2.11.6.2 Connection 1



Make sure that the connection cable is sufficiently temperature-resistant.

You must not connect more than one detector to a detector zone with $R_{ab}=3.3k\Omega$. Detector zones with $R_{ab}=5.6k\Omega$ or $C_{ab}=47\mu F$ are not suitable. Therefore the device is only compatible with the BC016 and the BC600 (GIF608-1).

2.11.6.3 Connection 2



Make sure that the connection cable is sufficiently temperature-resistant.

2.11.7 Flame Detector FMX5000 UV

2.11.7.1 Notes

Only one detector may be connected to one detector zone. Furthermore, the end-of-line resistor of the conventional alarm line must have 3.3kOhm. For further information in this regard, please refer to the manufacturer's documentation.

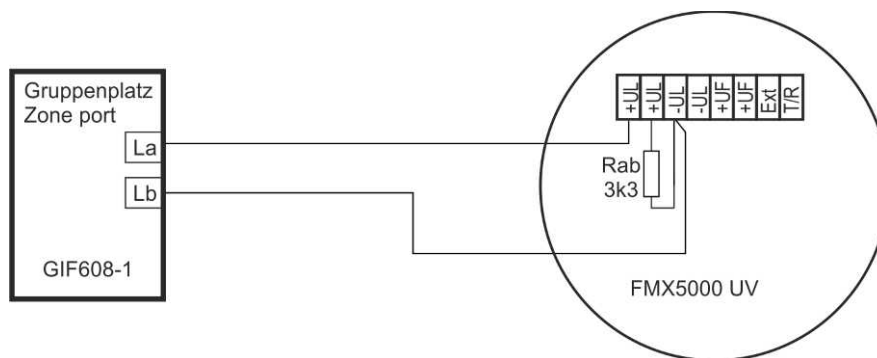
The detector is powered by the detector zone and signals its condition through the 2 lines:

- ◆ Alarm line (latching, can be reset by de-energising the detector zone)
- ◆ Fault line (optional, separate detector zone required)

If a fault line is used, the following is to be taken into account:

- ◆ Upon disablement of the alarm line, the fault line will be activated.
- ◆ In the case of alarm verification of the alarm line, the fault line will be activated while the alarm line is disabled.
- ◆ A 5.6kOhm end-of-line resistor must be used for the fault line.

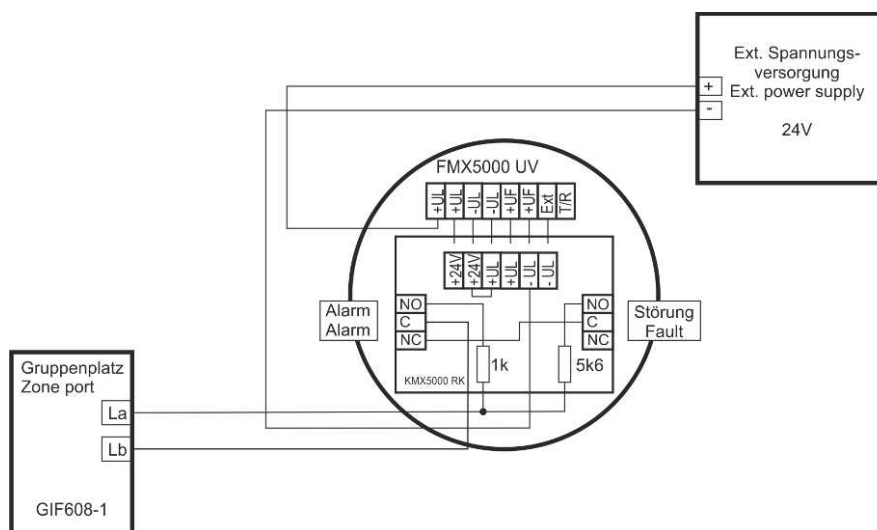
2.11.7.2 Connection 1



Make sure that the connection cable is sufficiently temperature-resistant.

You must not connect more than one detector to a detector zone with $R_{ab}=3.3k\Omega$. Detector zones with $R_{ab}=5.6k\Omega$ or $C_{ab}=47\mu F$ are not suitable. Therefore the device is only compatible with the BC016 and the BC600 (GIF608-1).

2.11.7.3 Connection 2



Make sure that the connection cable is sufficiently temperature-resistant.

2.11.8 Flame Detector YMX5000

2.11.8.1 Notes

Only one detector may be connected to one detector zone. Furthermore, the end-of-line resistor of the conventional alarm line must have 3.3kOhm. For further information in this regard, please refer to the manufacturer's documentation.

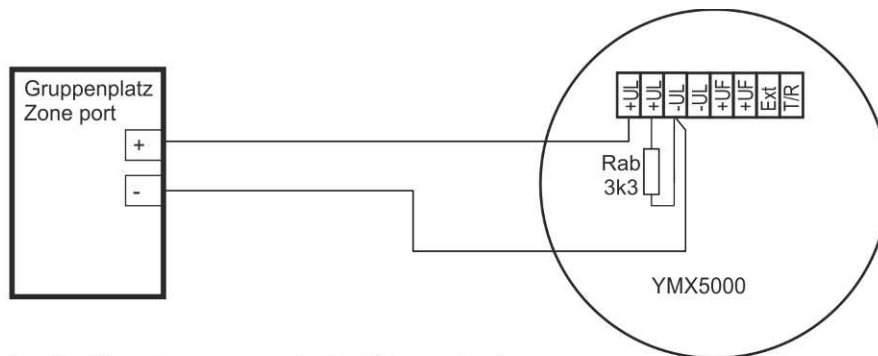
The detector is powered by the detector zone and signals its condition through the 2 lines:

- ◆ Alarm line (latching, can be reset by de-energising the detector zone)
- ◆ Fault line (optional, separate detector zone required)

If a fault line is used, the following is to be taken into account:

- ◆ Upon disablement of the alarm line, the fault line will be activated.
- ◆ In the case of alarm verification of the alarm line, the fault line will be activated while the alarm line is disabled.
- ◆ A 5.6kOhm end-of-line resistor must be used for the fault line.

2.11.8.2 Connection

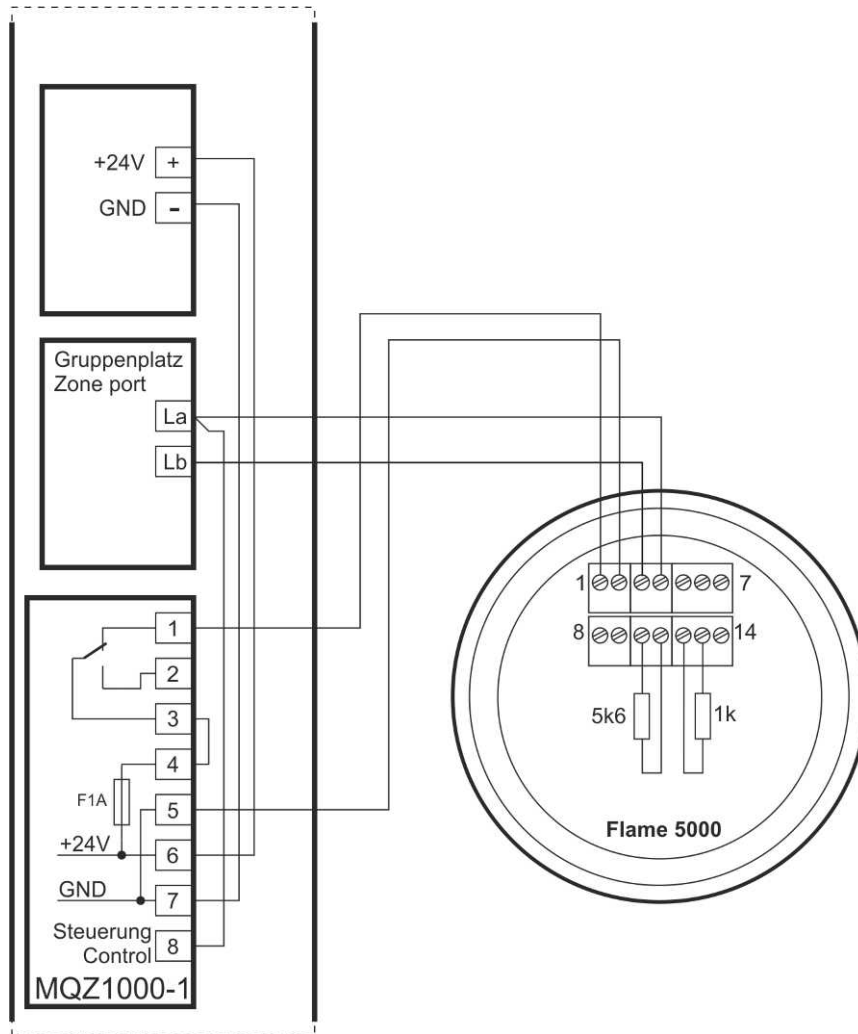


Das Abschlusselement muss ein 3k3 Widerstand sein.
Die Brandmelderzentrale muss ebenfalls auf diesen Wert gestellt werden.

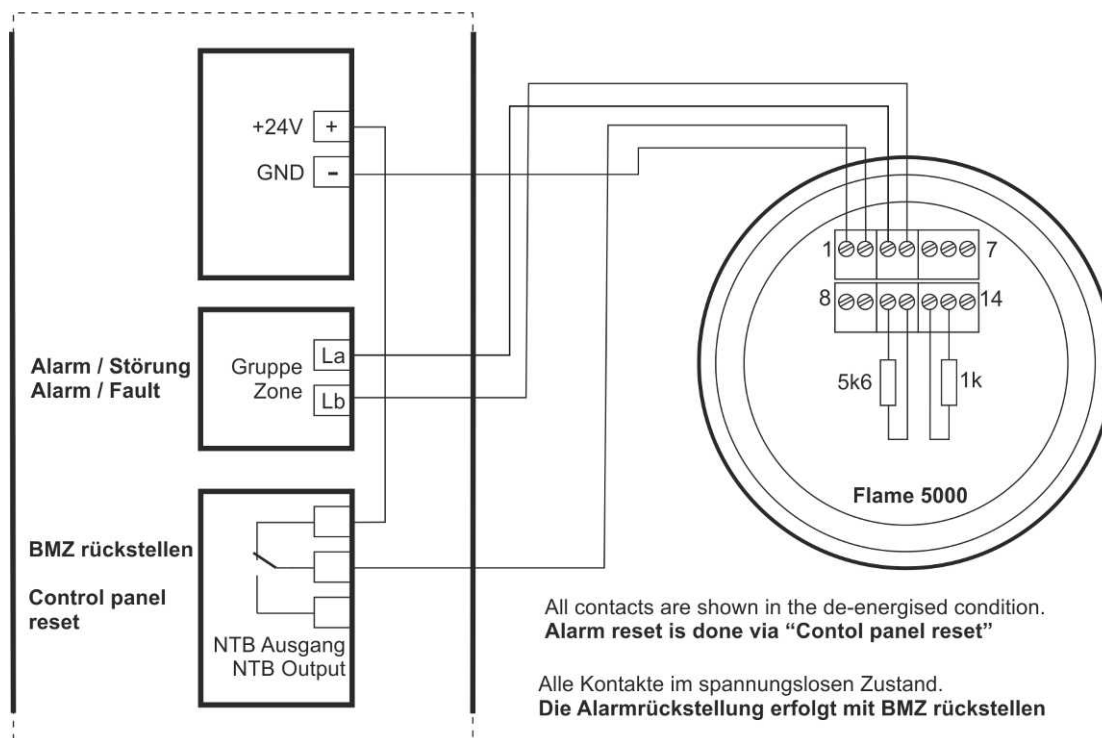
The end-of-line element must be a 3k3 resistor.
The fire alarm control panel must also be set to this value.

2.11.9 Flame detector with colour video monitoring Flame 5000

2.11.9.1 Connection with MQZ1000-1



2.11.9.2 Connection – resetting via relay output



An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

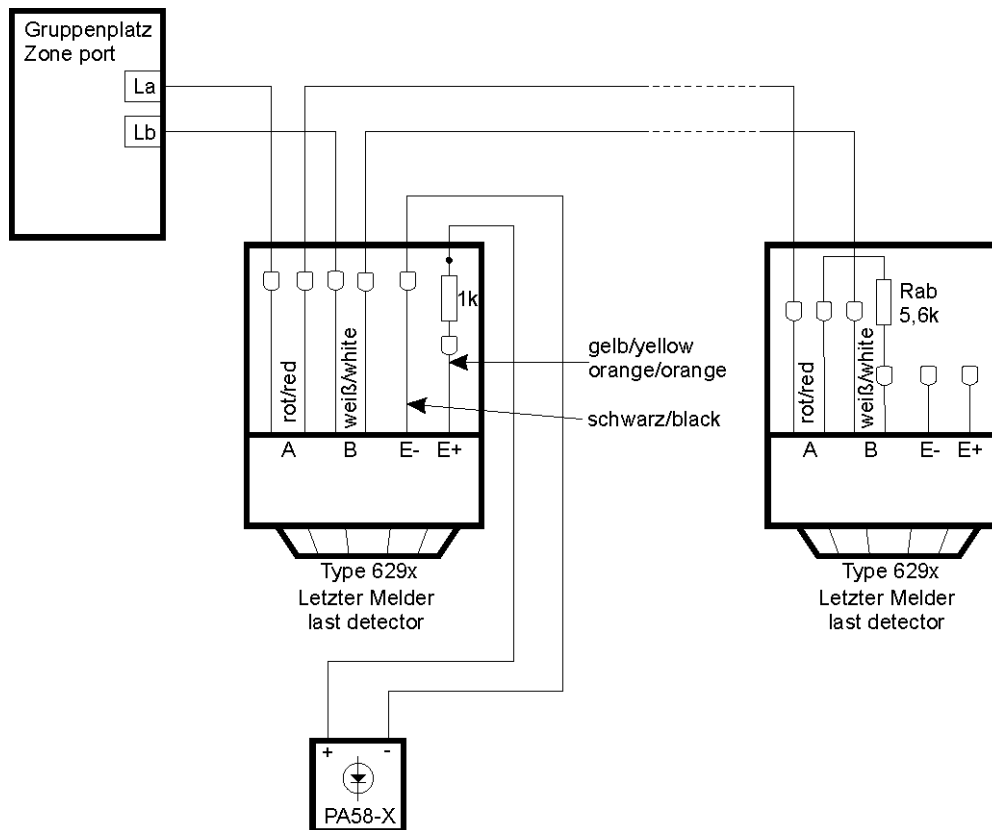
2.11.10 Thermal Detectors 6295, 6296, 6297 and 6298

2.11.10.1 Notes

A maximum of 32 detectors may be connected to a conventional detection line.

Type	EN 54-5 Class
6295	57°C – A2S
6296	72°C – B2
6297	87°C – CS
6298	117°C – ES

2.11.10.2 Connection



Make sure that the temperature resistance of the connection cable is sufficient.

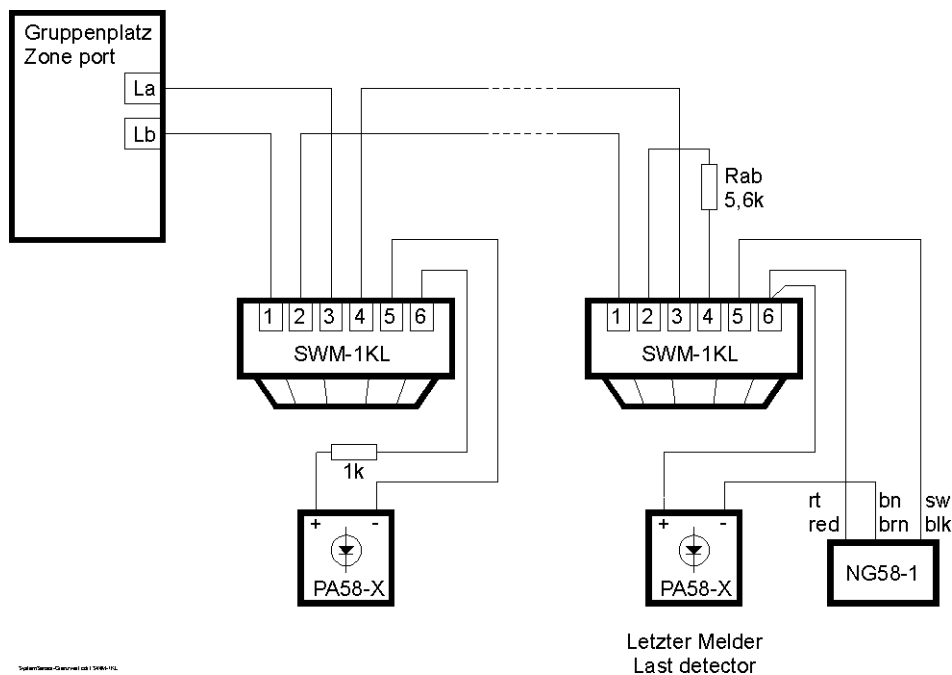
2.11.11 Thermal Max Detector SWM-1KL

2.11.11.1 Notes

The number of detectors of a zone is not limited since only a thermally controlled, normally open contact (bimetallic strip) is used. Therefore the quiescent current of a detector is 0.

The connection below can be used for the 57, 80 and 100 degree version.

2.11.11.2 Connection



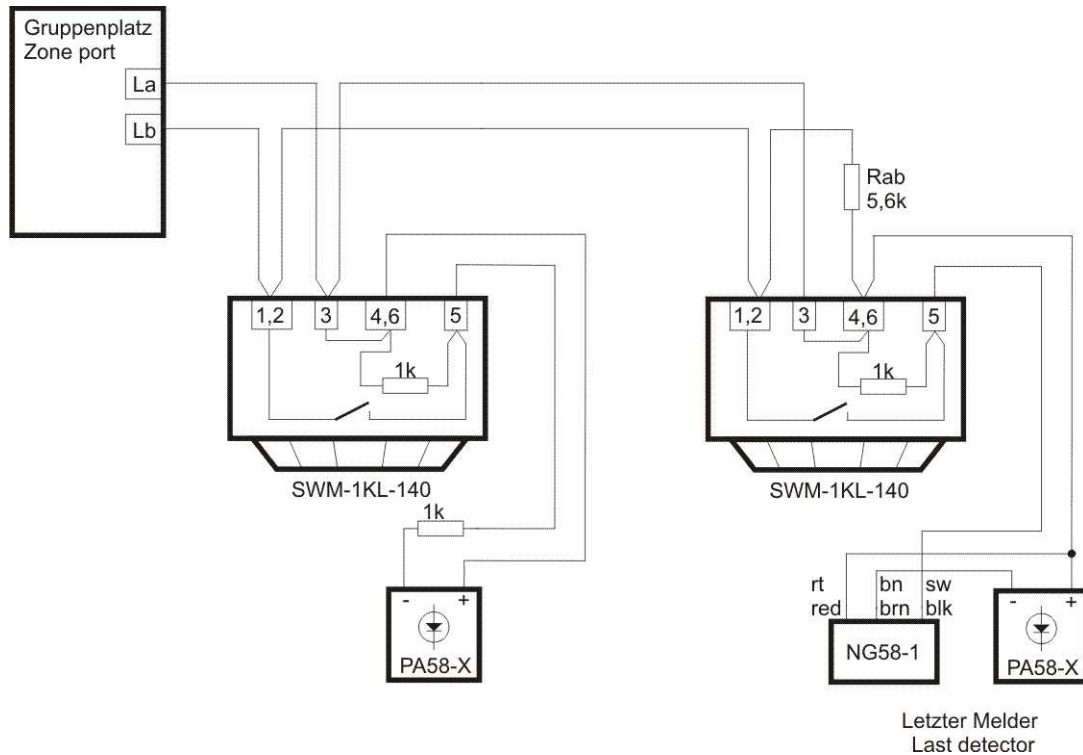
Make sure that the temperature resistance of the connection cable is sufficient.

2.11.12 Thermal Max Detector SWM-1KL-140

2.11.12.1 Notes

The integrated resistor has to be replaced by a 1kOhm resistor.

2.11.12.2 Connection



Make sure that the temperature resistance of the connection cable is sufficient.

2.11.13 Thermal detector HT-27121-275

2.11.13.1 Notes

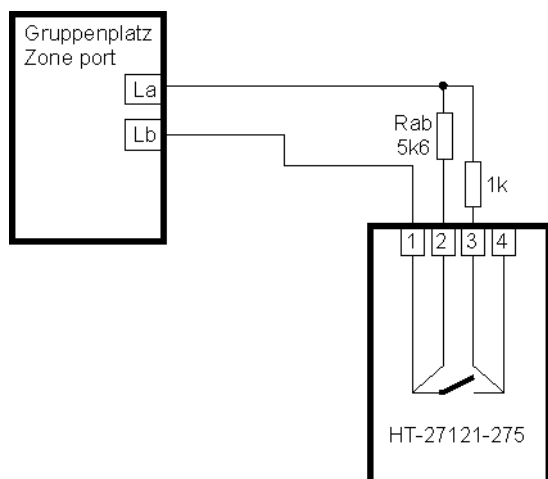
The number of detectors of a zone is not limited since only a thermally controlled, normally open contact (bimetallic strip) is used. (Quiescent current of the detector = 0 mA).

This detector activates at 135°C (275°F) and does not have a light emitting diode.

This connection also applies analogously to the following detectors, because they also do not have a light emitting diode:

Type	Alarm temperature	
27121-0-225	107°C	
27121-0-275	135°C	LST AN 242170
27121-0-325	162°C	
27121-0-360	182°C	
27121-0-450	232°C	
27121-0-600	315°C	
27121-0-725	385°C	

2.11.13.2 Connection



Make sure that the temperature resistance of the connection cable is sufficient.

2.11.14 Heat detector WMX5000 FS

2.11.14.1 Notes

Only one detector may be connected to a detector zone. Furthermore, the end-of-line resistor of the conventional alarm line must have 3.3kOhm. The WMX5000 is a high temperature detector whose alarm threshold can be selected (with DIP switches in the base – for further information in this regard, please refer to the manufacturer's documentation).

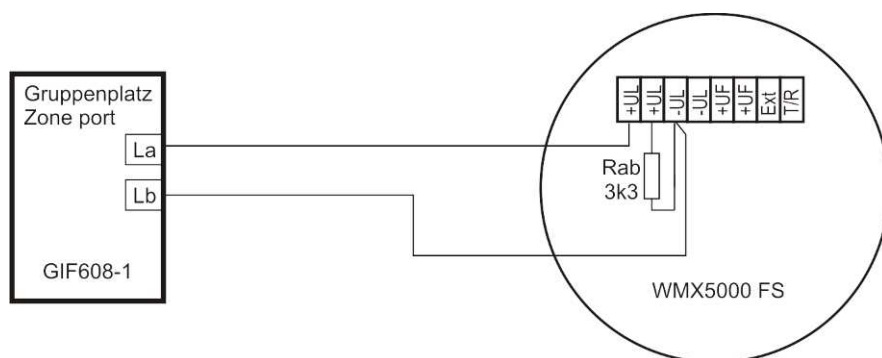
The detector is powered by the detector zone and signals its condition through the 2 lines:

- ◆ Alarm line (latching, can be reset by de-energising the detector zone)
- ◆ Fault line (optional, separate detector zone required)

If a fault line is used, the following is to be taken into account:

- ◆ Upon disablement of the alarm line, the fault line will be activated.
- ◆ In the case of alarm verification of the alarm line, the fault line will be activated while the alarm line is disabled.
- ◆ A 5.6kOhm end-of-line resistor must be used for the fault line.

2.11.14.2 Connection



Make sure that the connection cable is sufficiently temperature-resistant.

You must not connect more than one detector to a detector zone with $R_{ab} = 3.3k\Omega$. Detector zones with $R_{ab} = 5.6k\Omega$ or $C_{ab} = 47\mu F$ are not suitable. Therefore the device is only compatible with the BC016 and the BC600 (GIF608-1).

2.11.15 Fire gas detector GMX1001CO I

2.11.15.1 Note

Only one detector may be connected to one detector zone. Furthermore, the end-of-line resistor of the conventional alarm line must have 3.3kOhm. For further information in this regard, please refer to the manufacturer's documentation.

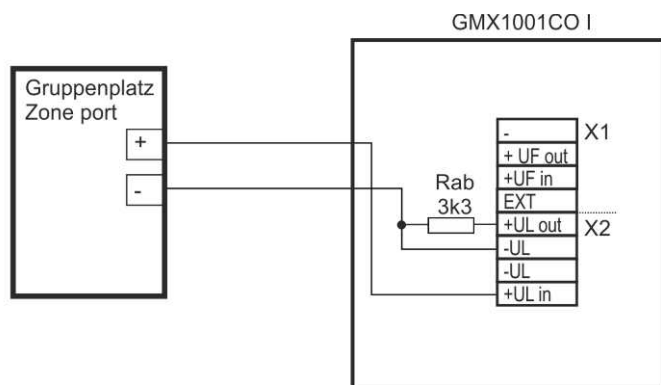
The detector is powered by the detector zone and signals its condition through the 2 lines:

- ◆ Alarm line (latching, can be reset by de-energising the detector zone)
- ◆ Fault line (optional, separate detector zone required)

If a fault line is used, the following is to be taken into account:

- ◆ Upon disablement of the alarm line, the fault line will be activated.
- ◆ In the case of alarm verification of the alarm line, the fault line will be activated while the alarm line is disabled.
- ◆ A 5.6kOhm end-of-line resistor must be used for the fault line.

2.11.15.2 Connection



Das Abschlusselement muss ein 3k3 Widerstand sein.
Die Brandmelderzentrale muss ebenfalls auf diesen Wert gestellt werden.

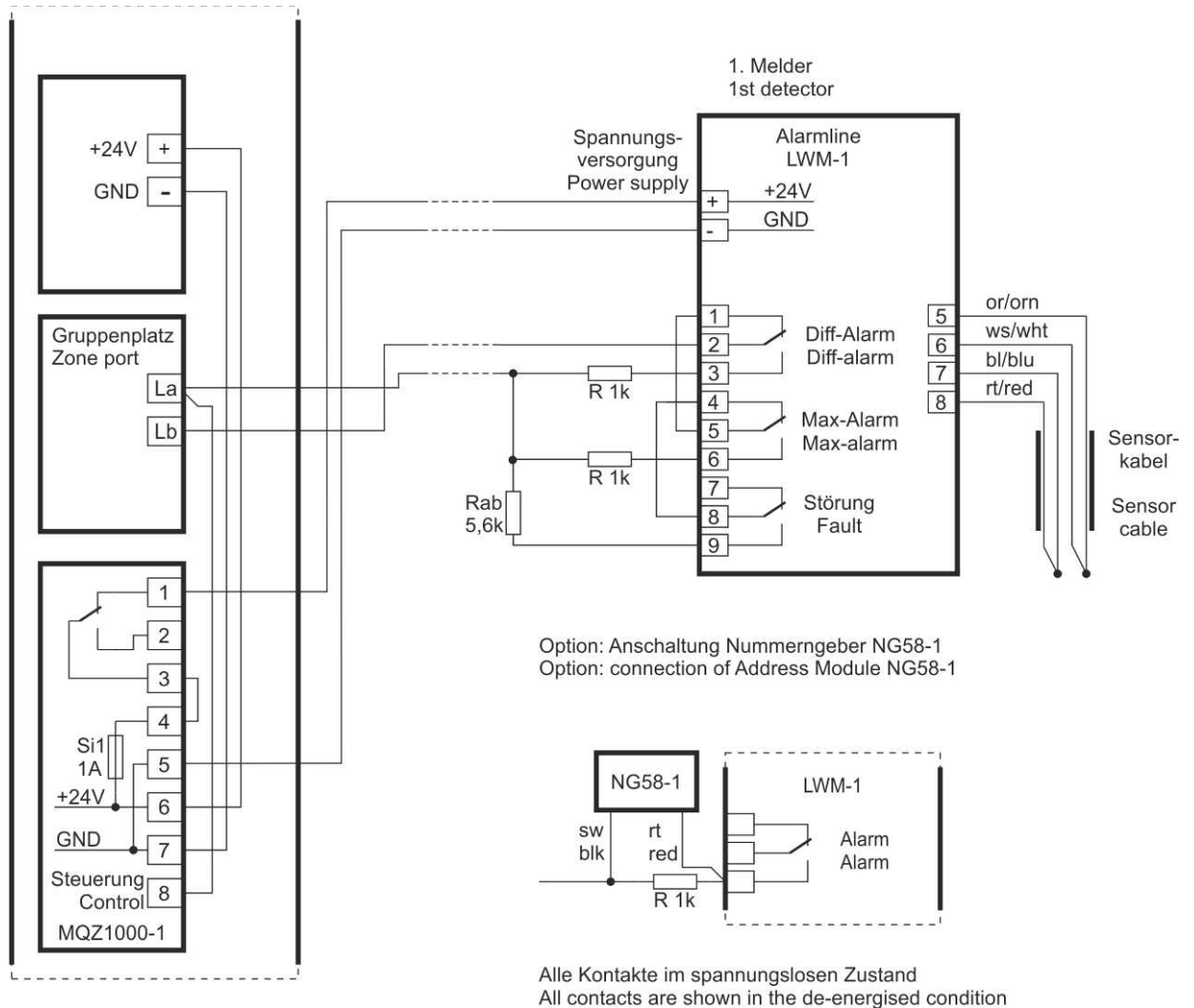
The end-of-line element must be a 3k3 resistor.
The fire alarm control panel must also be set to this value.

2.12 Linear detectors

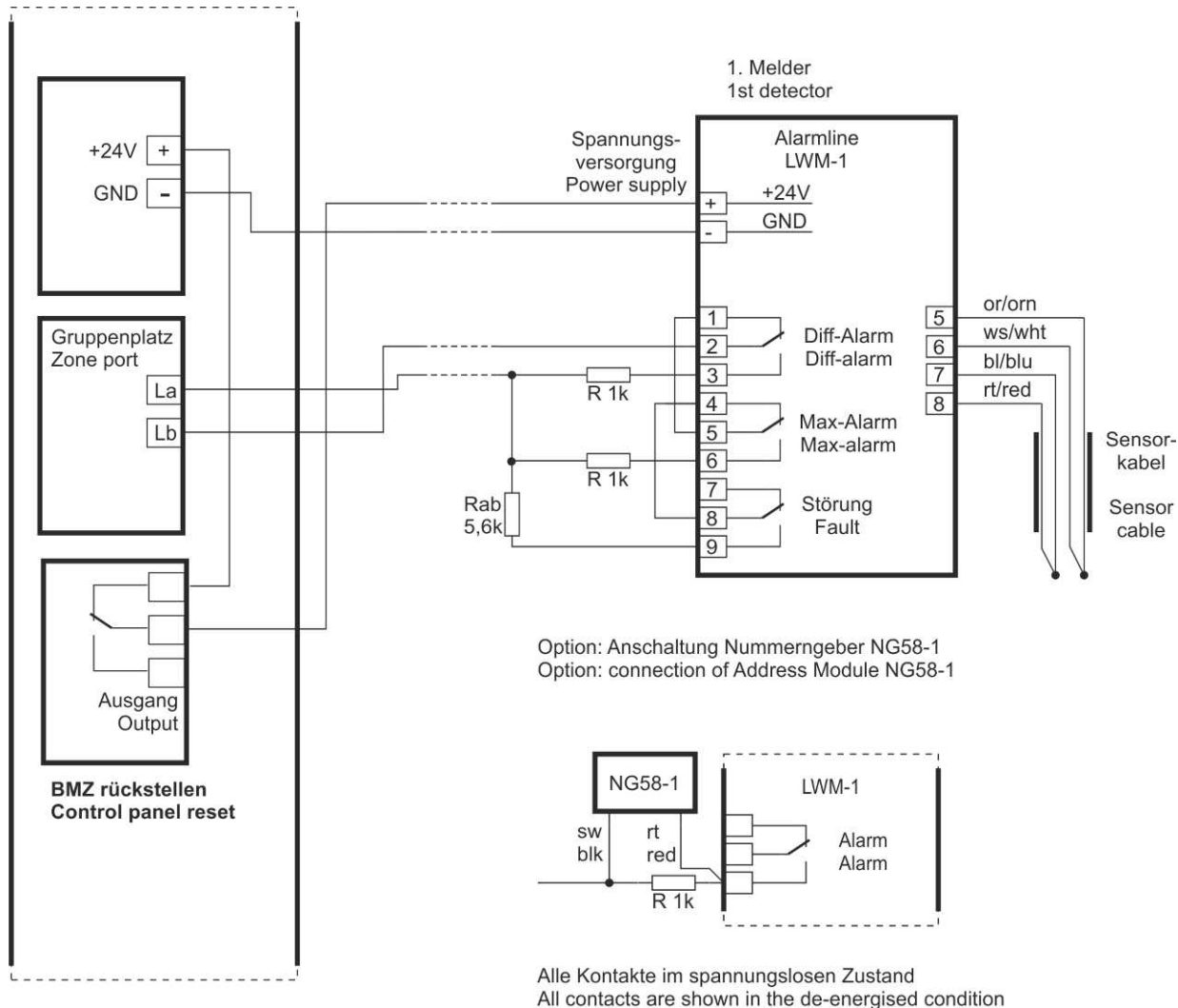
2.12.1 Linear Heat Detector Unit LWM-1

For the evaluation of the temperature, a special sensor cable is connected to the Linear Heat Detector Unit Alarmline LWM-1.

2.12.1.1 Connection with MQZ1000-1

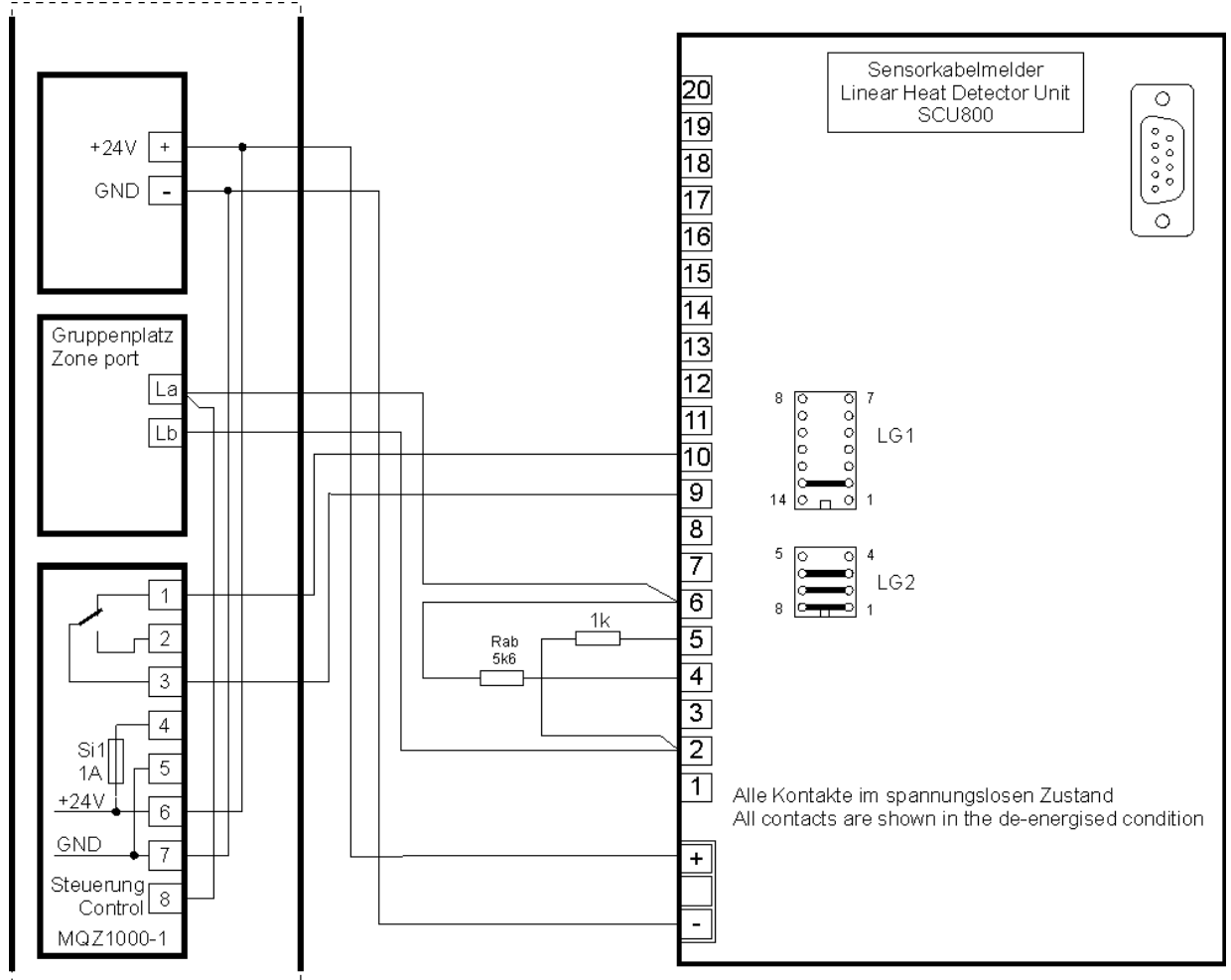


2.12.1.2 Connection - resetting by means of relay contact



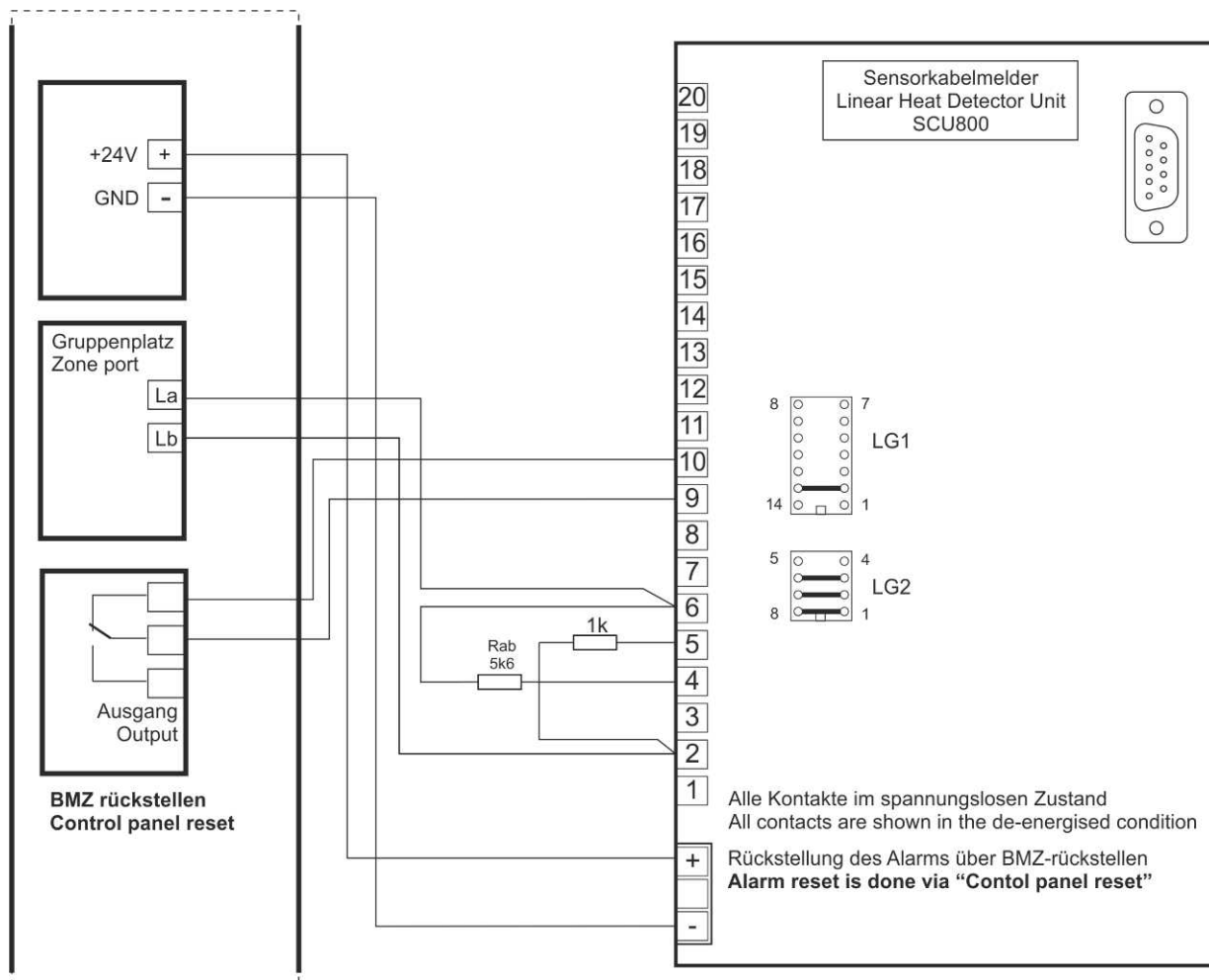
2.12.2 Linear Heat Detector Unit SCU800

2.12.2.1 Connection with MQZ1000-1



For the resetting of the SCU800, jumpers must be attached to the pin connector BR2. The product is delivered with jumpers attached between 2-3 and 4-5. The jumpers must be attached between the following pins: 1-2; 3-4; 5-6.

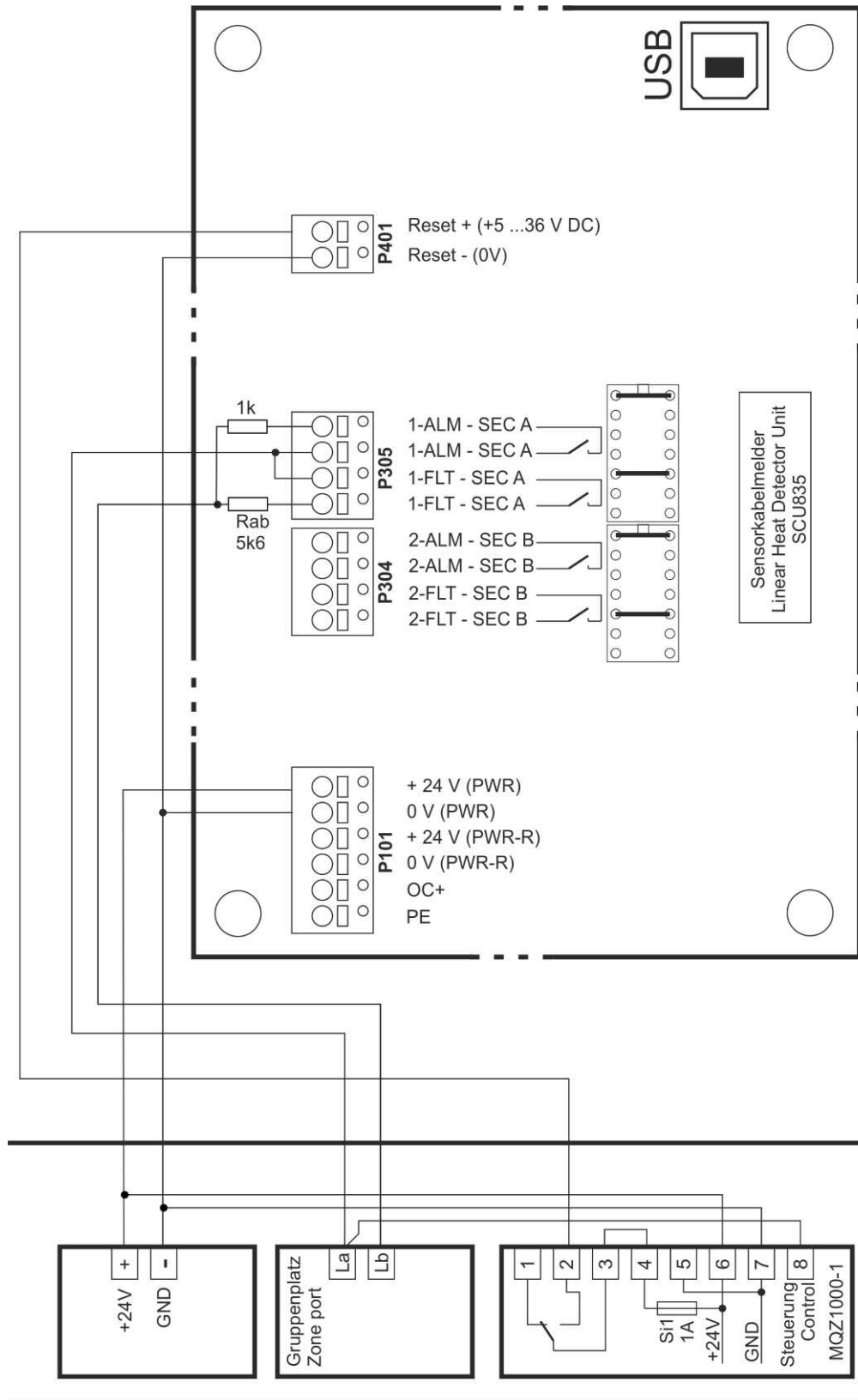
2.12.2.2 Connection - resetting by means of relay contact



For the resetting of the SCU800, jumpers must be attached to the pin connector BR2. The product is delivered with jumpers attached between 2-3 and 4-5. The jumpers must be attached between the following pins: 1-2; 3-4; 5-6.

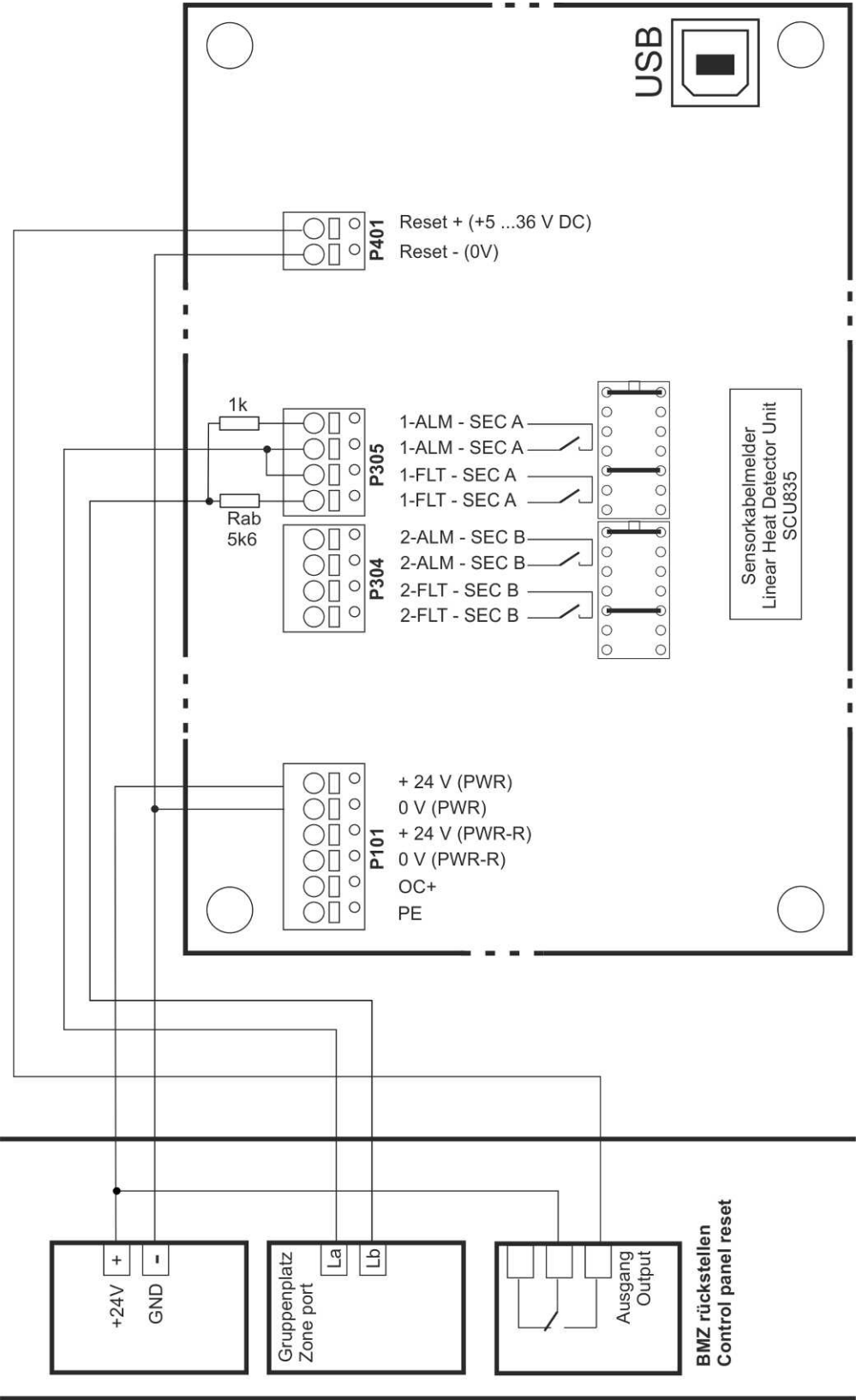
2.12.3 Linear Heat Detector Unit SCU835-1

2.12.3.1 Connection with MQZ1000-1



All contacts are shown in the de-energised condition.
Alarm reset is done via "Contol panel reset"

2.12.3.2 Connection - resetting by means of relay contact

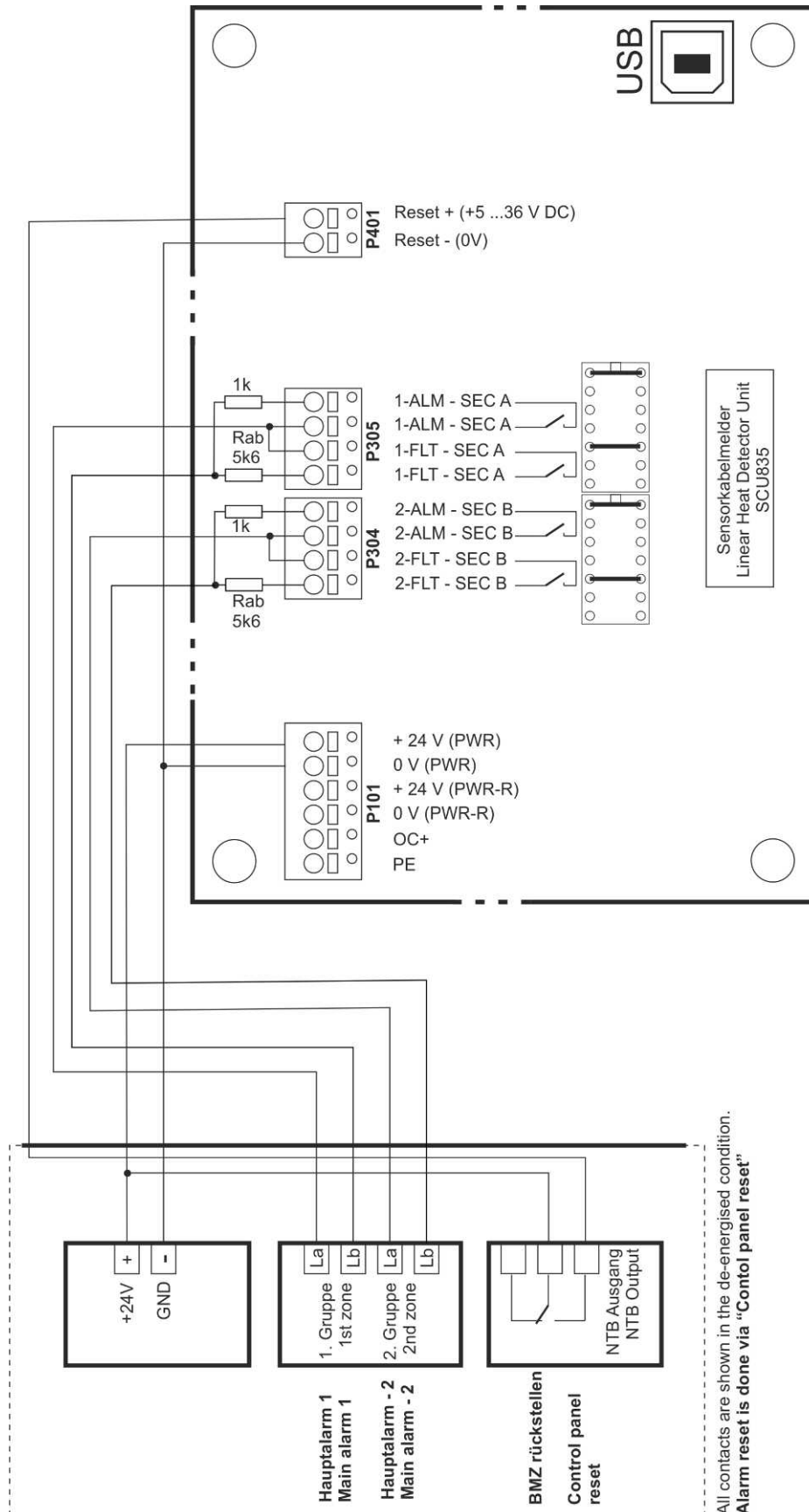


Rückstellung des Alarms über BMZ-rückstellen
Alarm reset is done via "Control panel reset"

Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

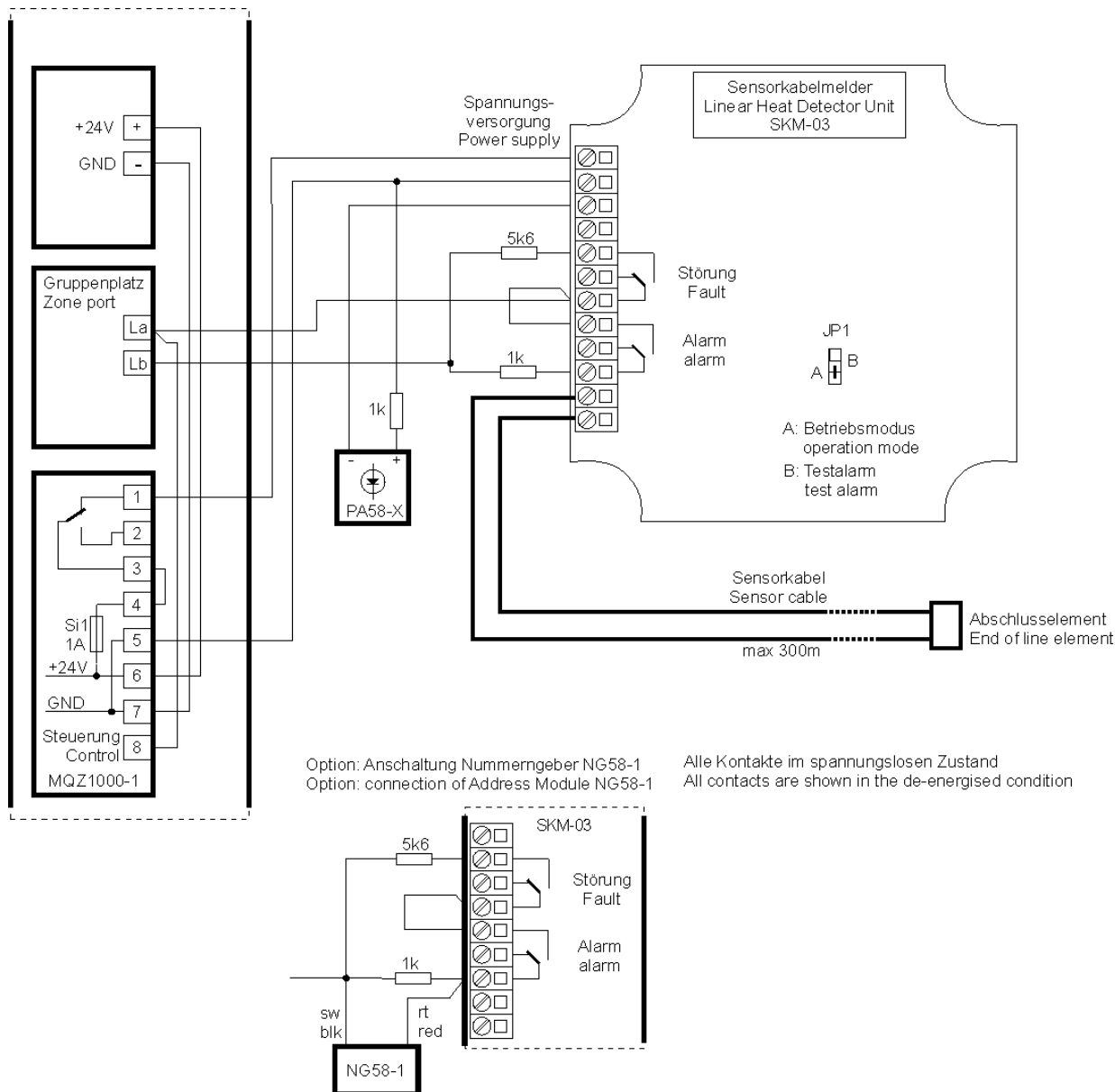
2.12.4 Linear Heat Detector Unit SCU835-2

2.12.4.1 Connection - resetting by means of relay contact

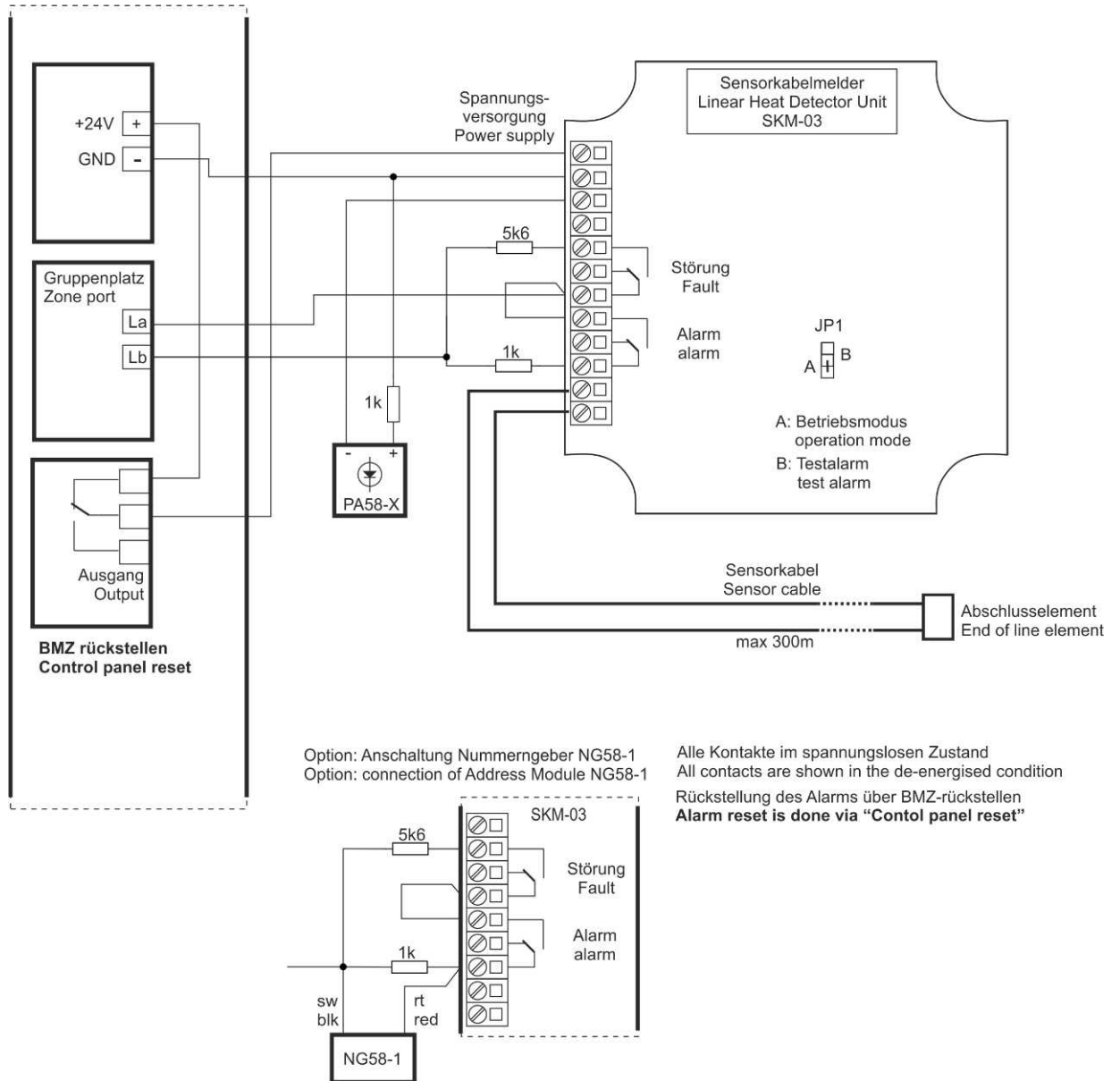


2.12.5 Linear Heat Detector Unit SKM-03

2.12.5.1 Connection with MQZ1000-1

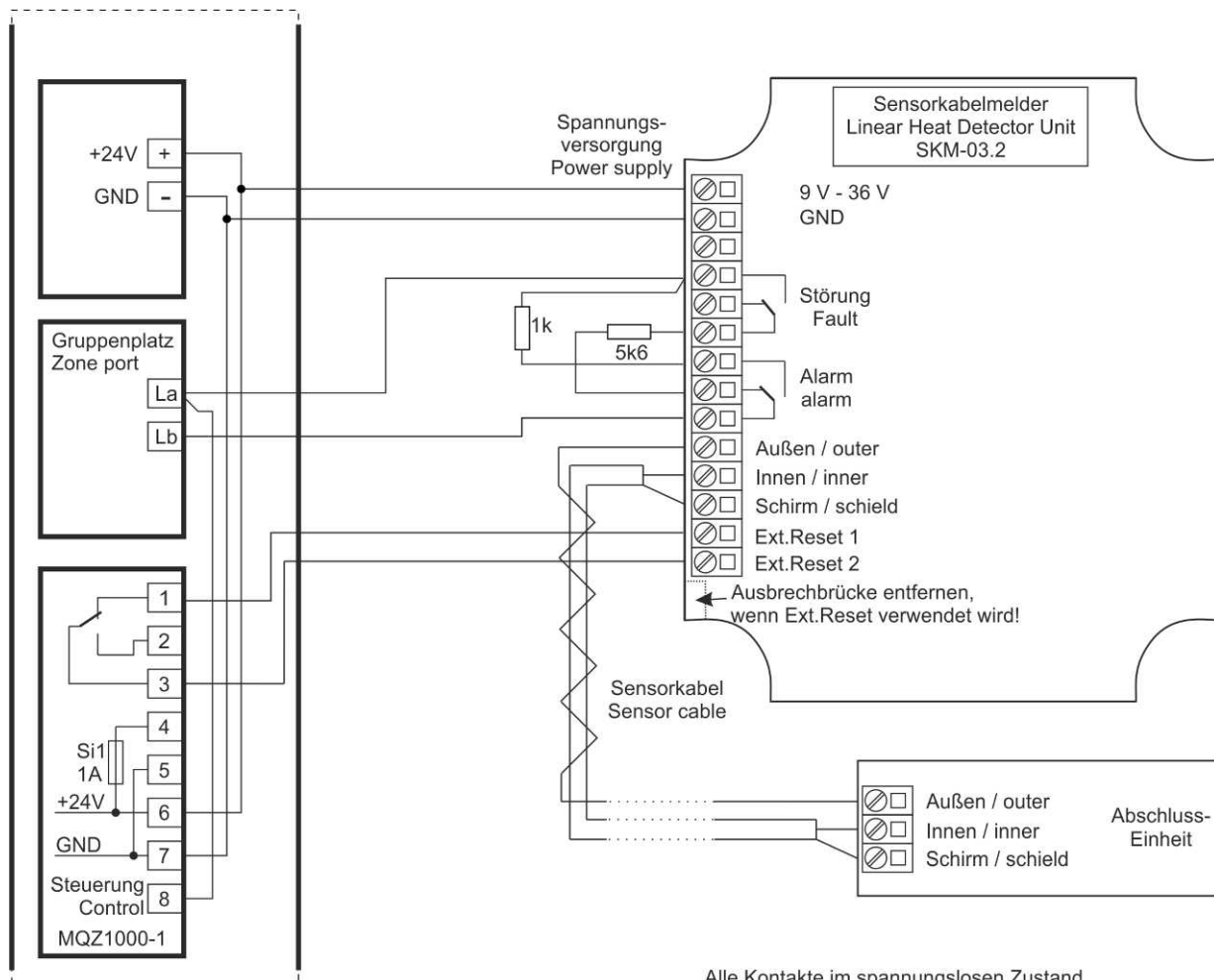


2.12.5.2 Connection - resetting by means of relay contact



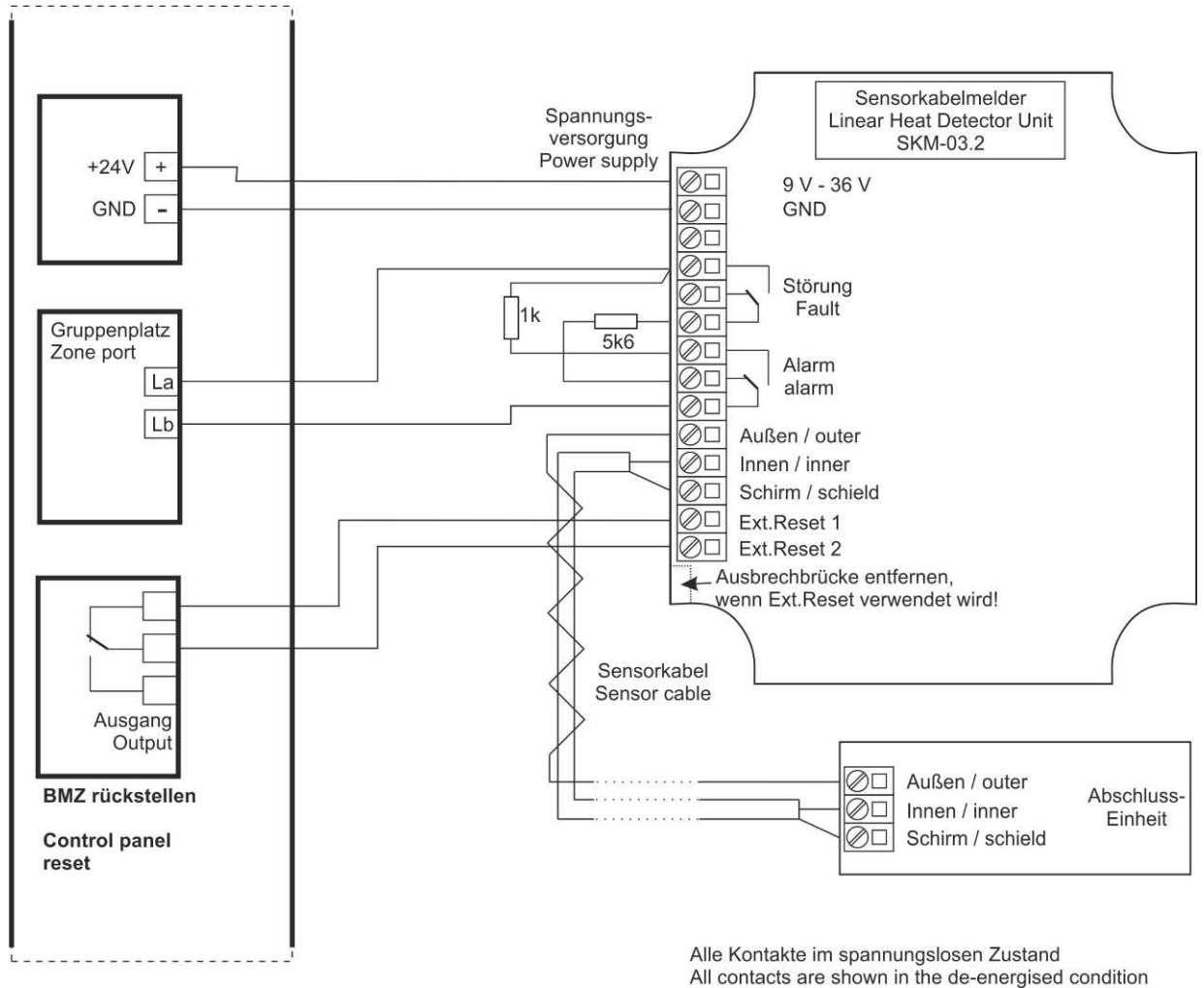
2.12.6 Linear Heat Detector Unit SKM-03.2

2.12.6.1 Connection with MQZ1000-1



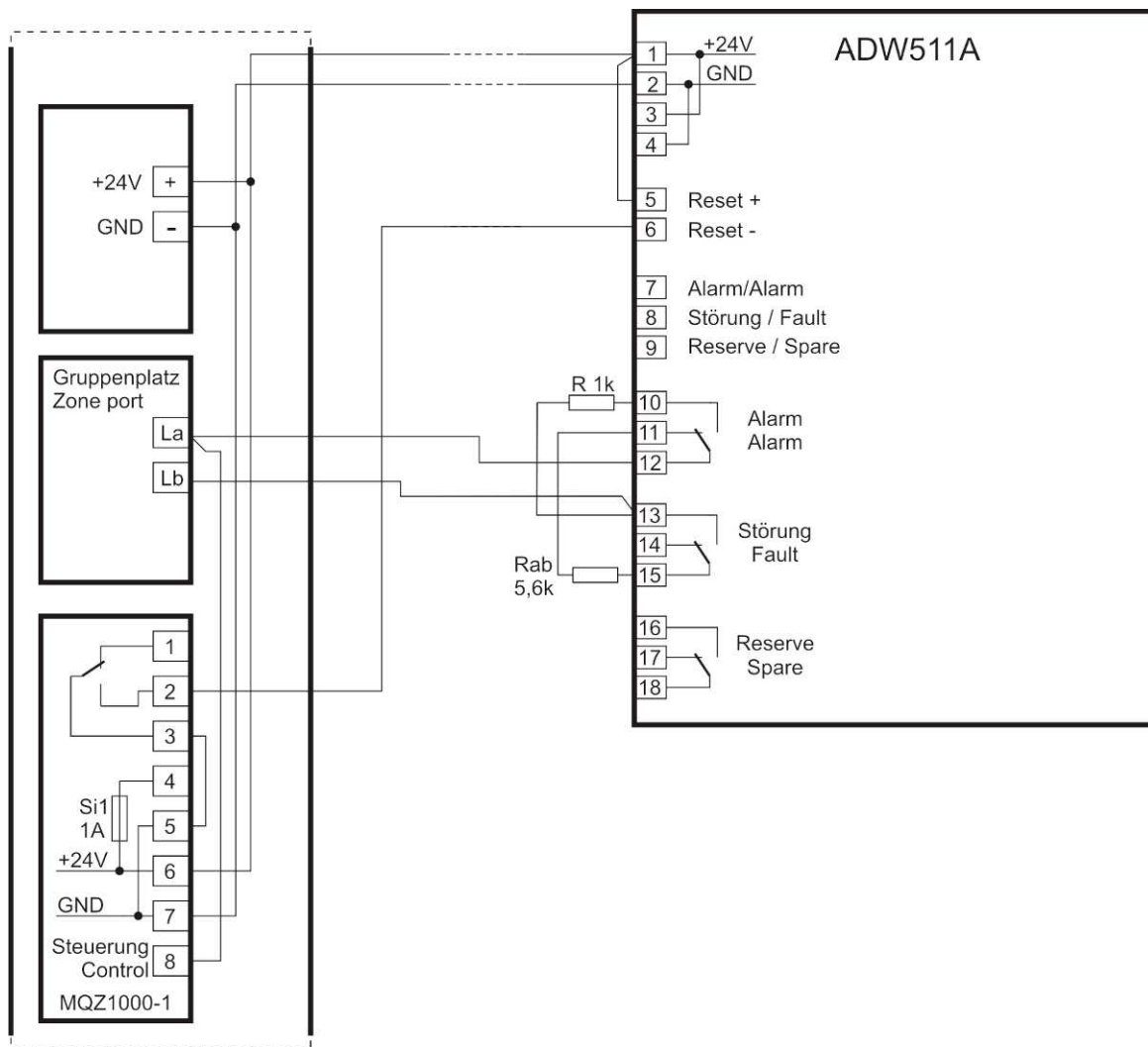
Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

2.12.6.2 Connection - resetting by means of relay contact

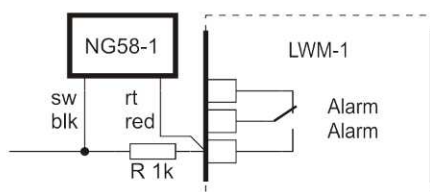


2.12.7 Linear Heat Detector Unit ADW511A

2.12.7.1 Connection with MQZ1000-1



Option: Anschaltung Nummerngeber NG58-1
 Option: connection of Address Module NG58-1

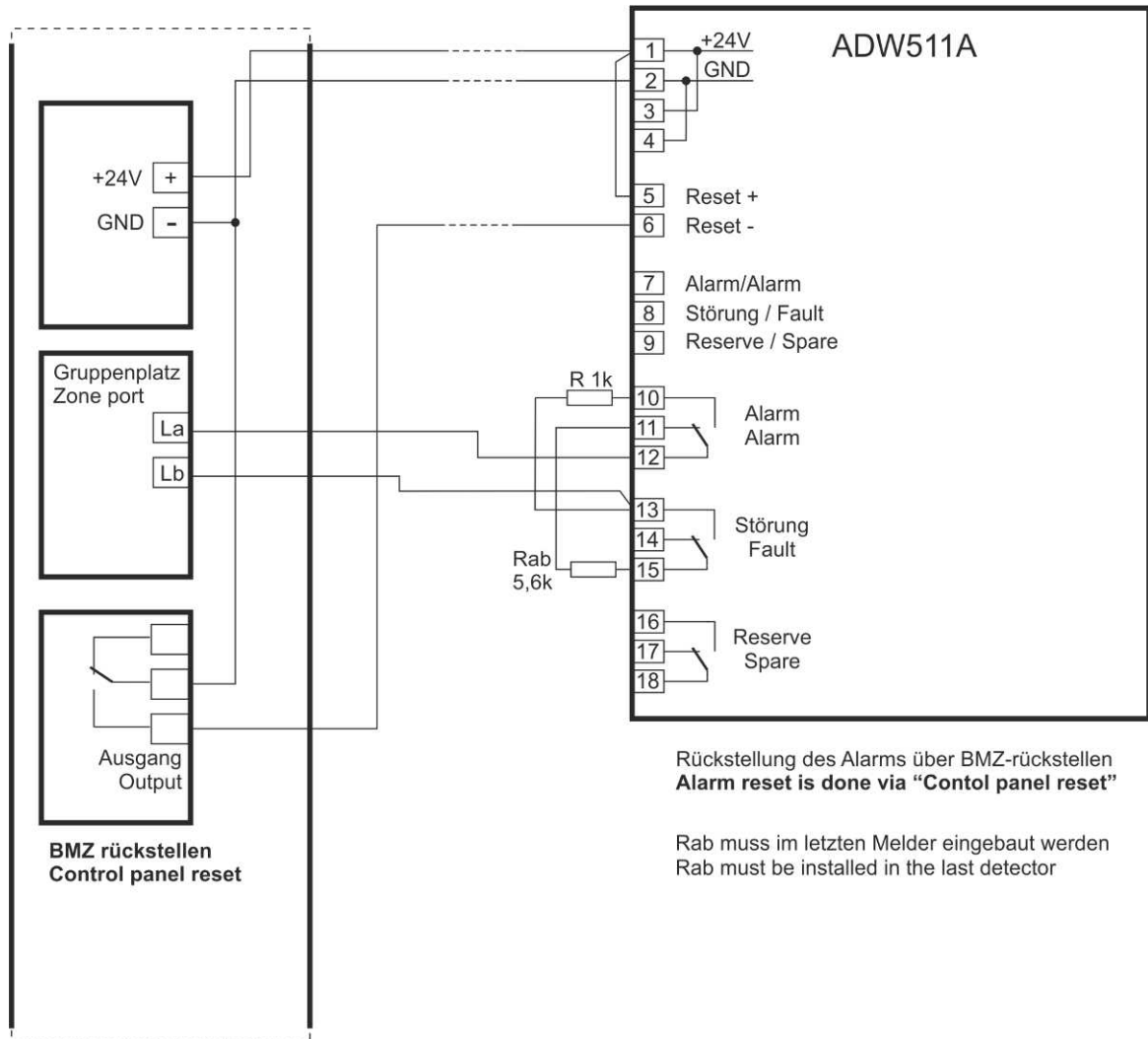


Alle Kontakte im spannungslosen Zustand
 All contacts are shown in the de-energised condition

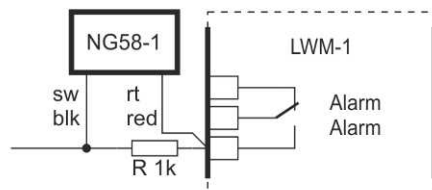
Rab muss im letzten Melder eingebaut werden
 Rab must be installed in the last detector

System Sensor Groupenplatz 1000-1

2.12.7.2 Connection - resetting by means of relay contact



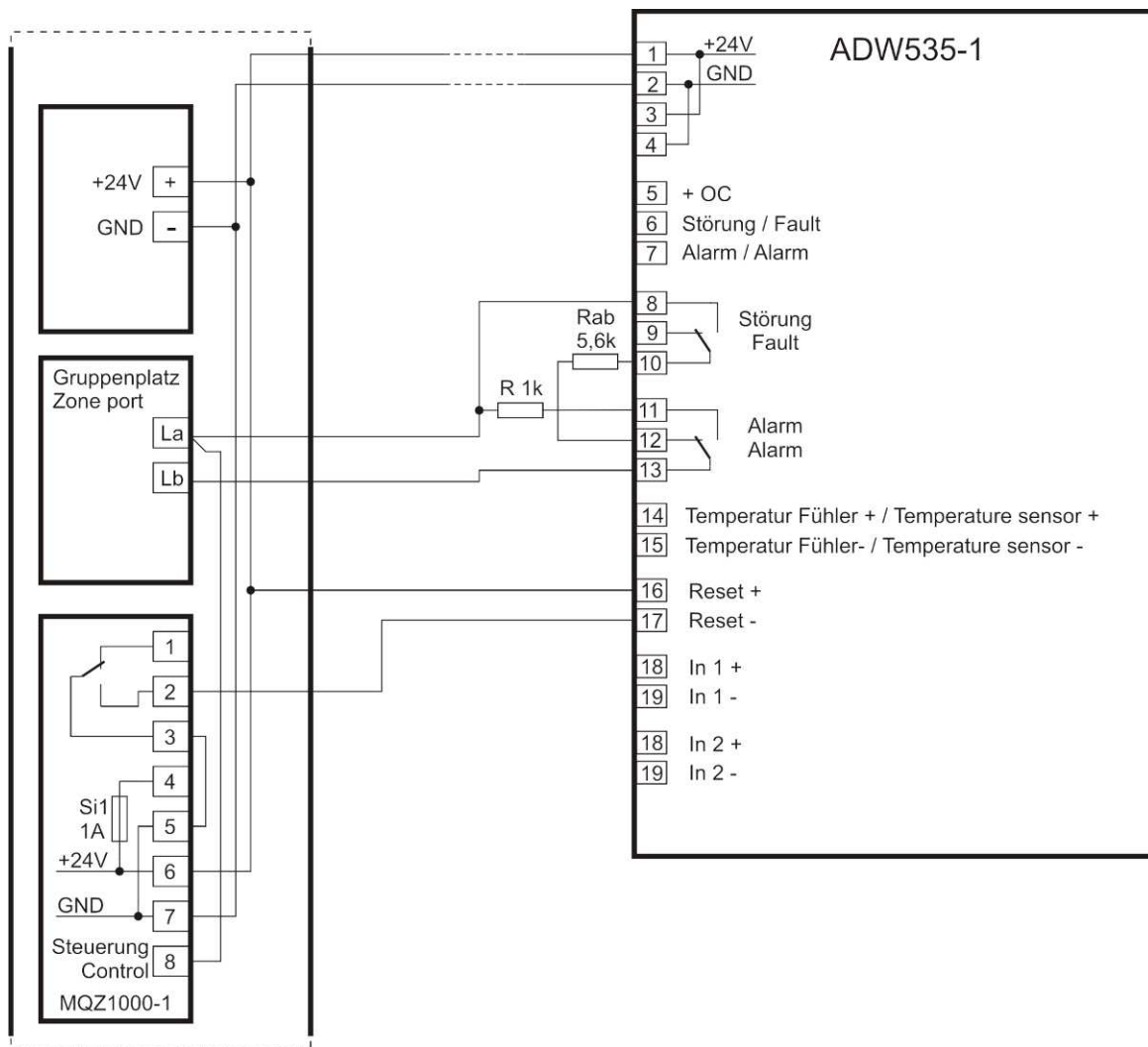
Option: Anschaltung Nummerngeber NG58-1
Option: connection of Address Module NG58-1



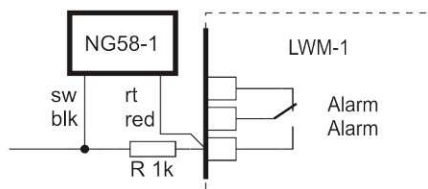
Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

2.12.8 Linear Heat Detector Unit ADW535-1

2.12.8.1 Connection with MQZ1000-1



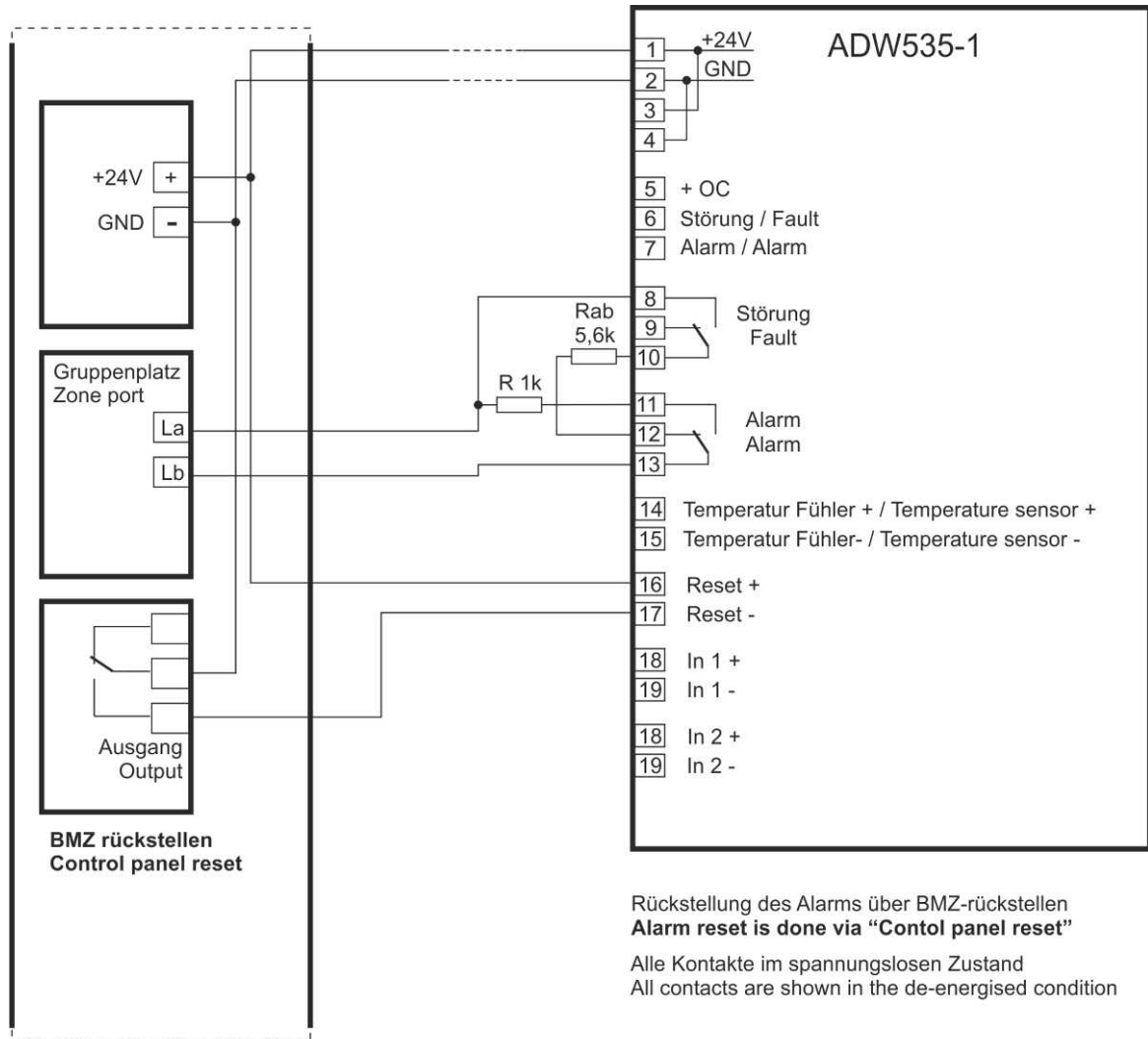
Option: Anschaltung Nummerngeber NG58-1
 Option: connection of Address Module NG58-1



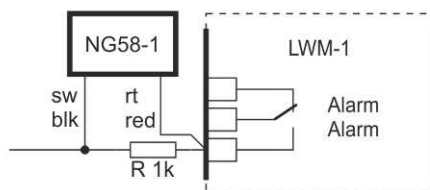
Alle Kontakte im spannungslosen Zustand
 All contacts are shown in the de-energised condition

Rab muss im letzten Melder eingebaut werden
 Rab must be installed in the last detector

2.12.8.2 Connection - resetting by means of relay contact

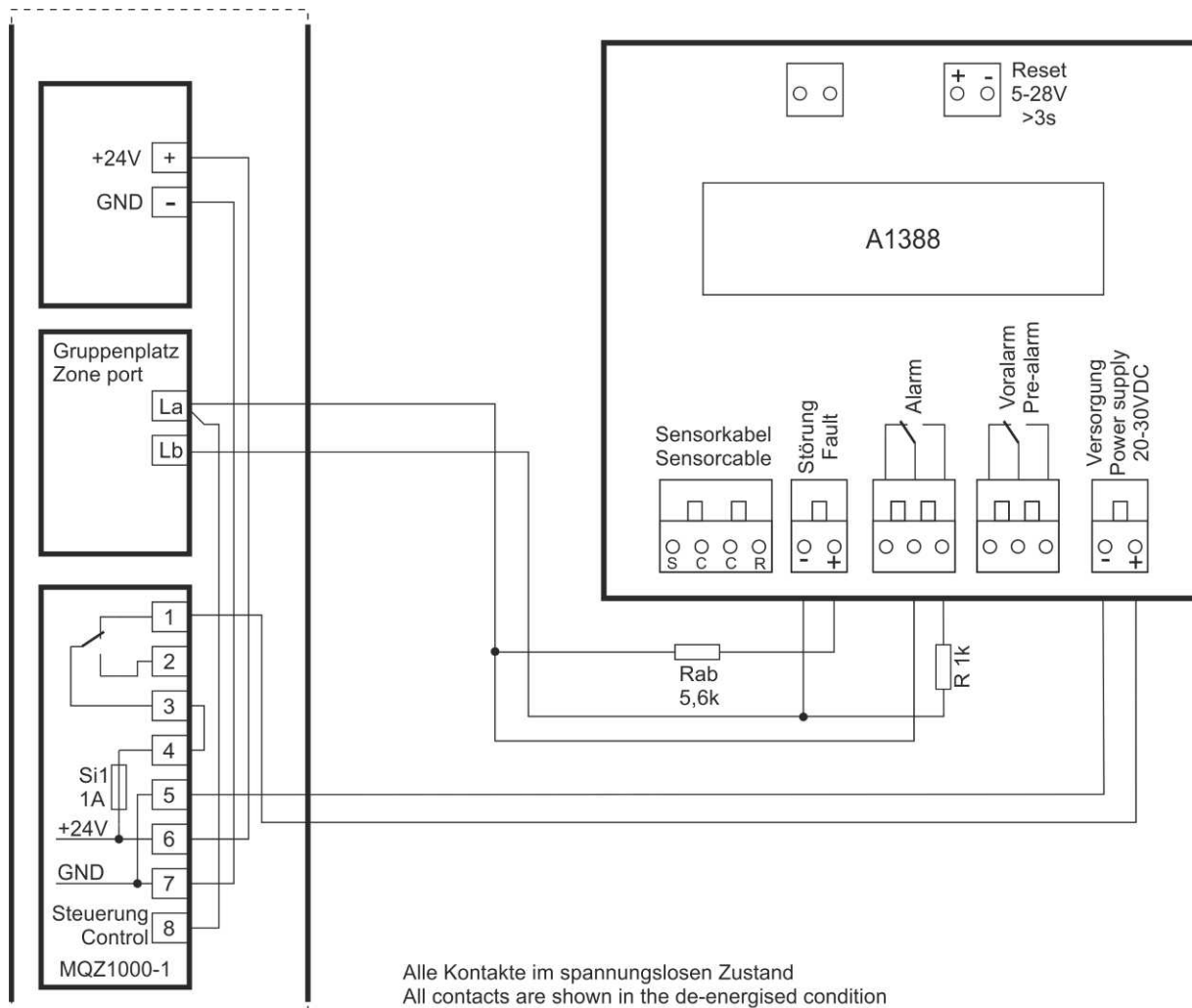


Option: Anschaltung Nummerngeber NG58-1
 Option: connection of Address Module NG58-1



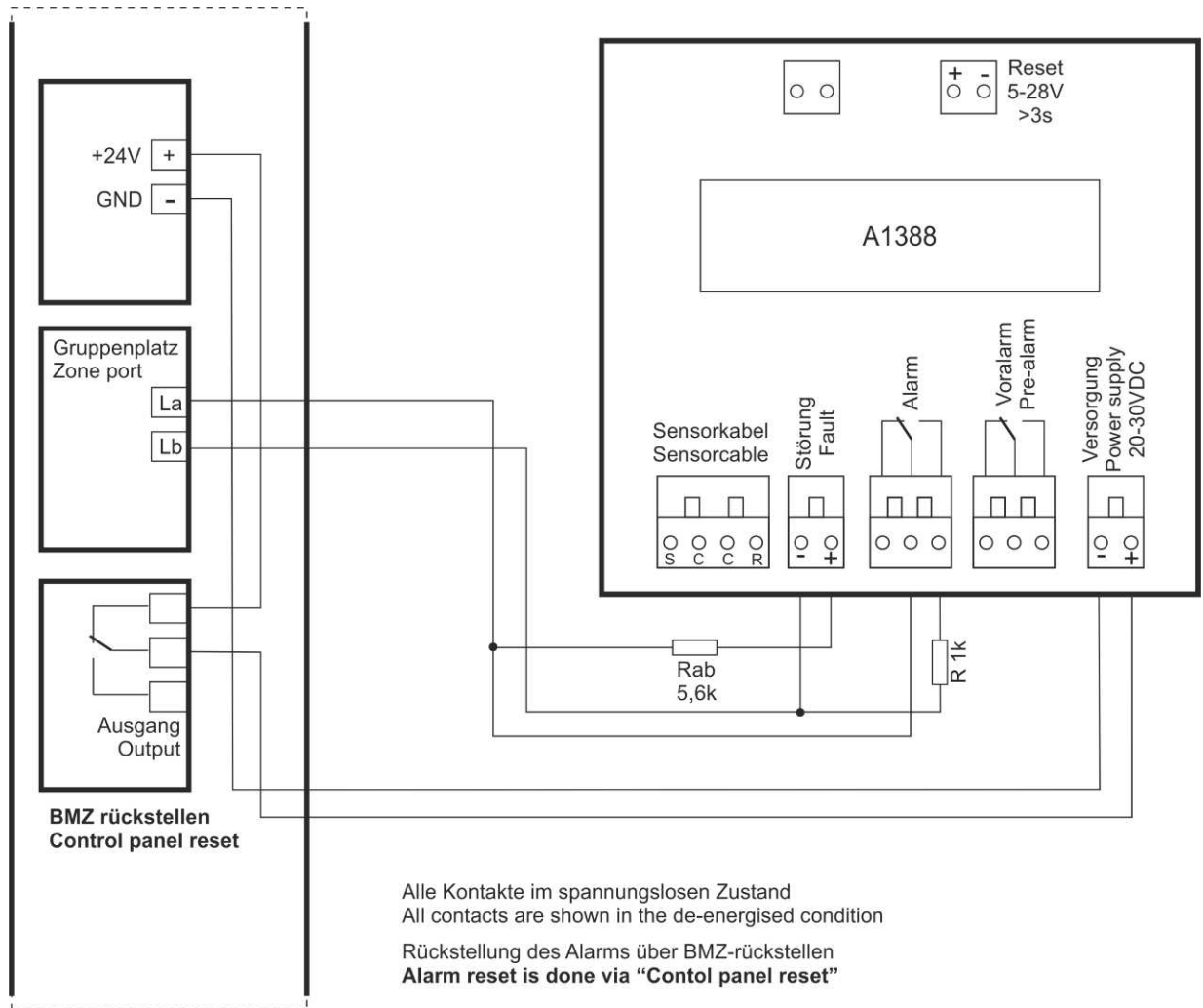
2.12.9 Linear Heat Detector Unit A1388

2.12.9.1 Connection with MQZ1000-1



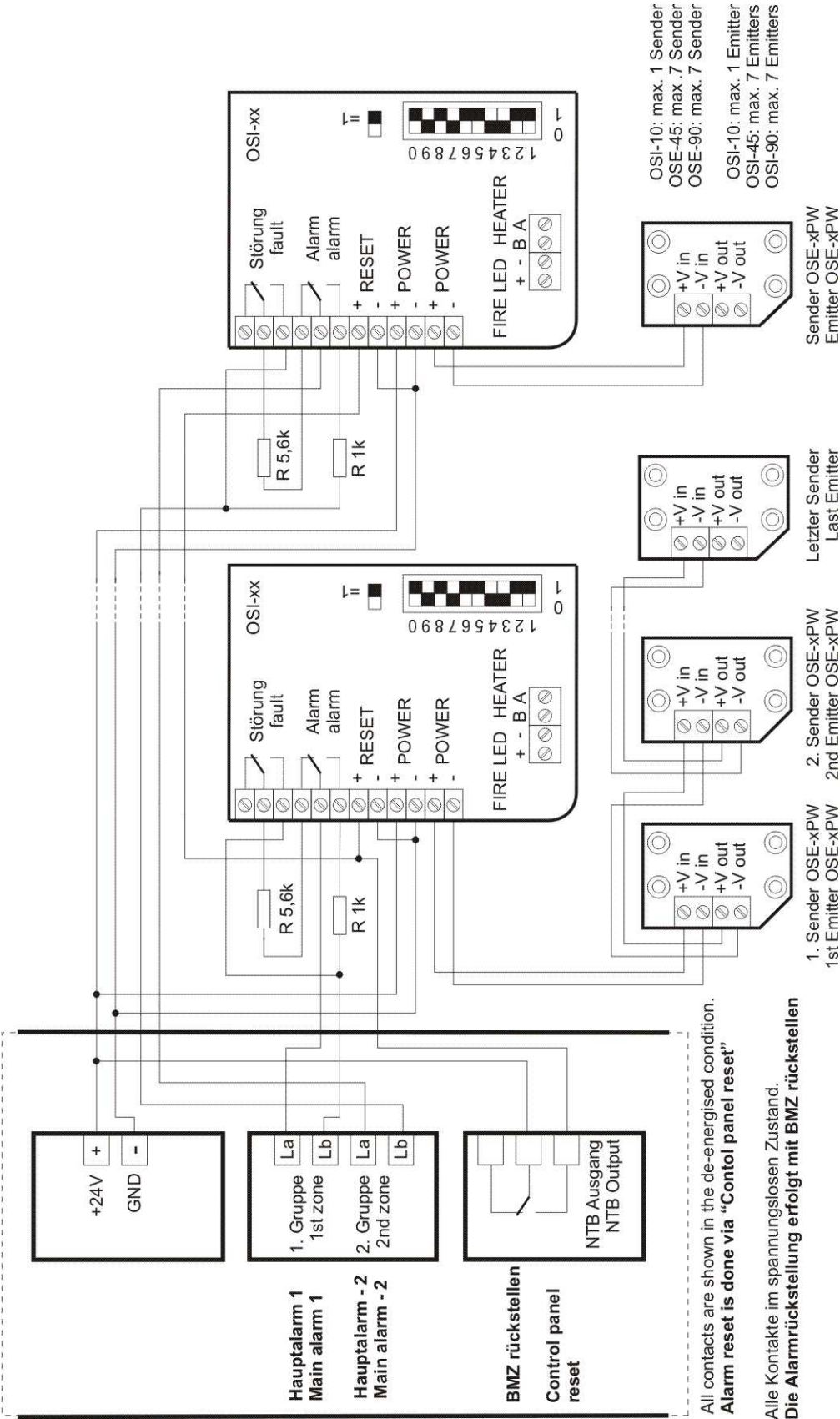
Only one A1388 may be connected to a conventional zone port. The detector reset must be performed via a voltage reset. The polarity of the wiring must be observed. The wiring of the sensor cable can be found in the product manual.

2.12.9.2 Connection - resetting by means of relay contact



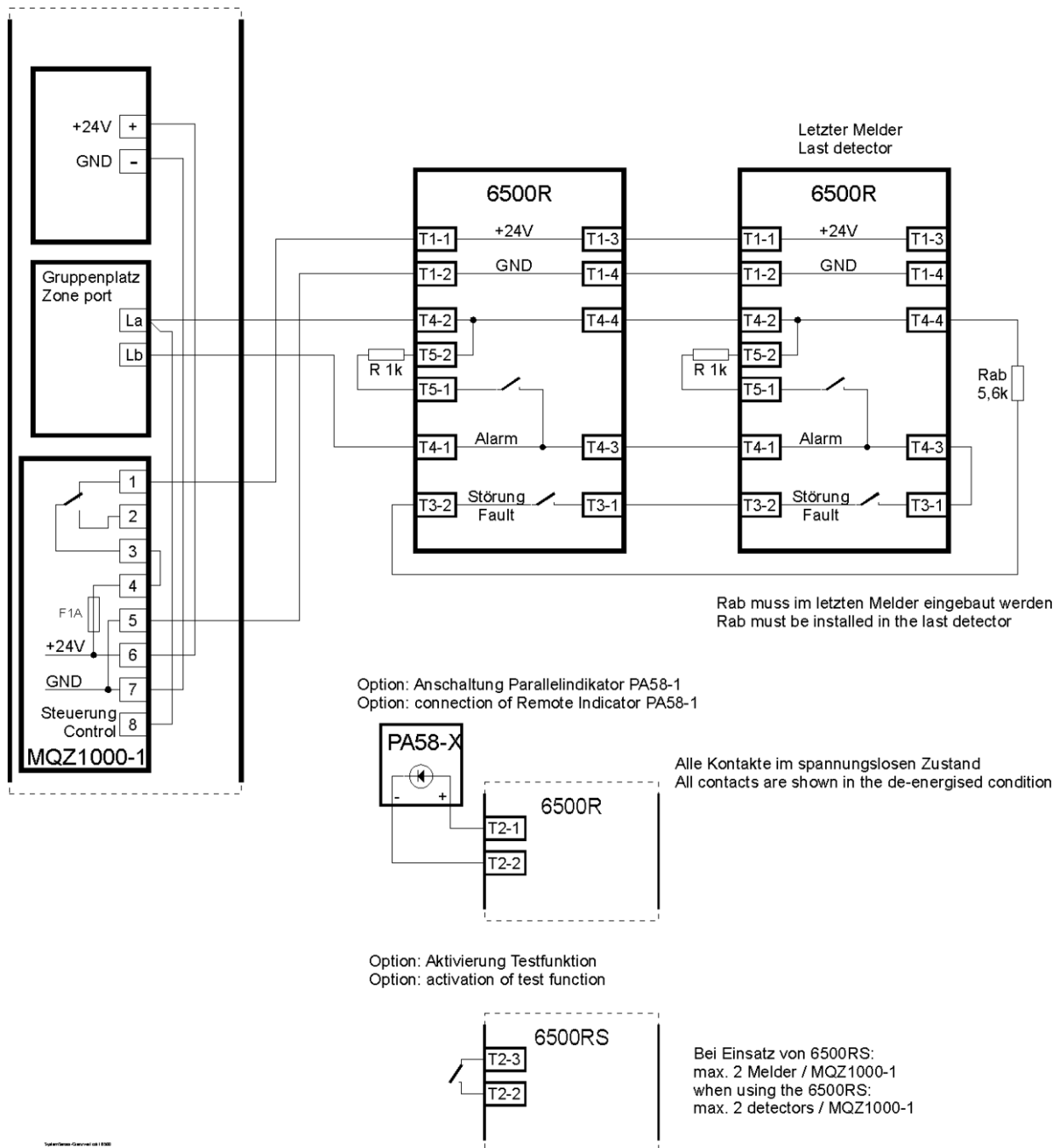
Only one A1388 may be connected to a conventional line, and the resetting must be carried out by means of a voltage reset. The polarity of the cabling has to be correct. For the connection of the sensor cable, please refer to the documentation that accompanies the product.

2.12.10 Beam Smoke Detector OSID



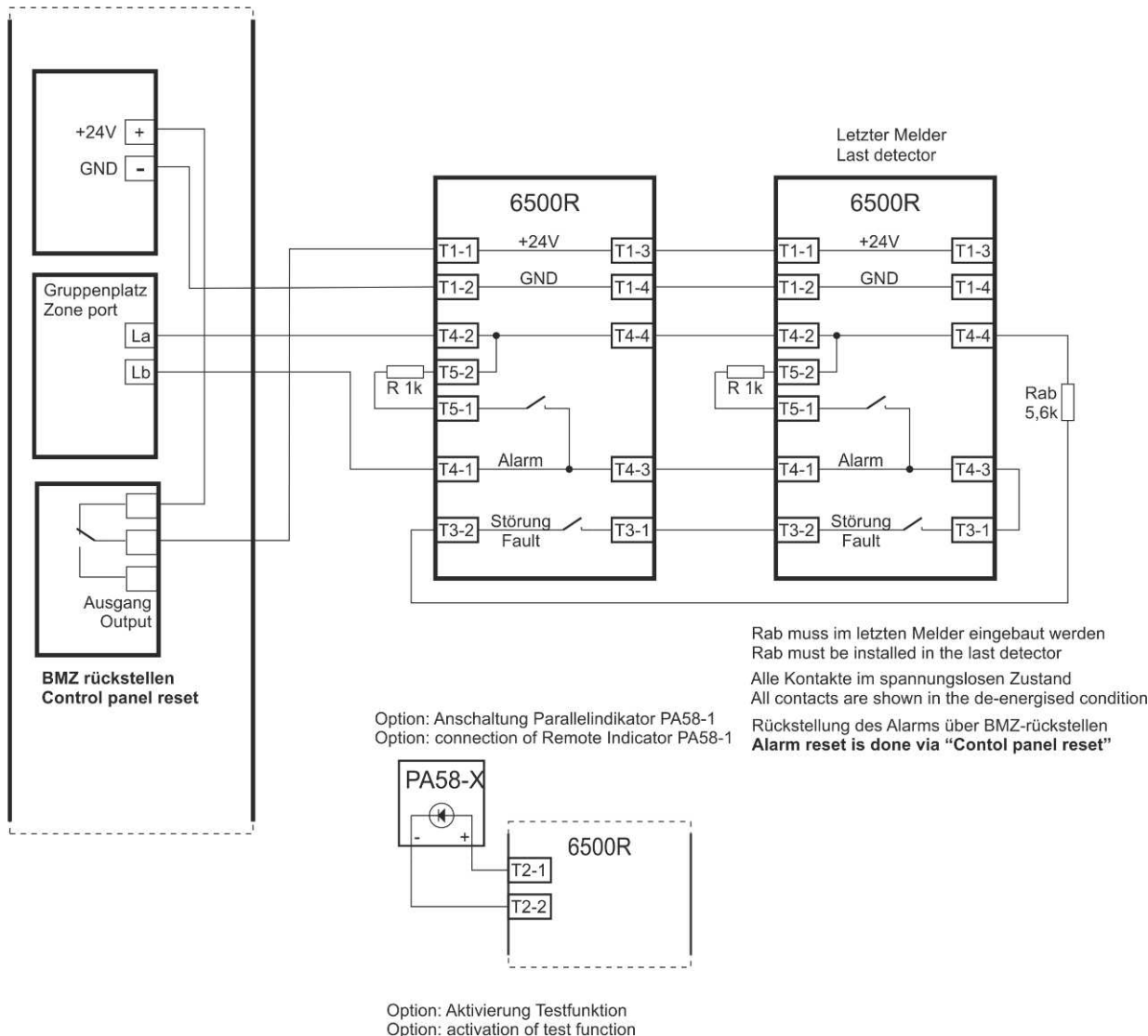
2.12.11 Beam Smoke Detector 6500R/RS

2.12.11.1 Connection with MQZ1000-1



Please note that if the detector zone is disabled, all detectors of this zone are no longer working!
An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

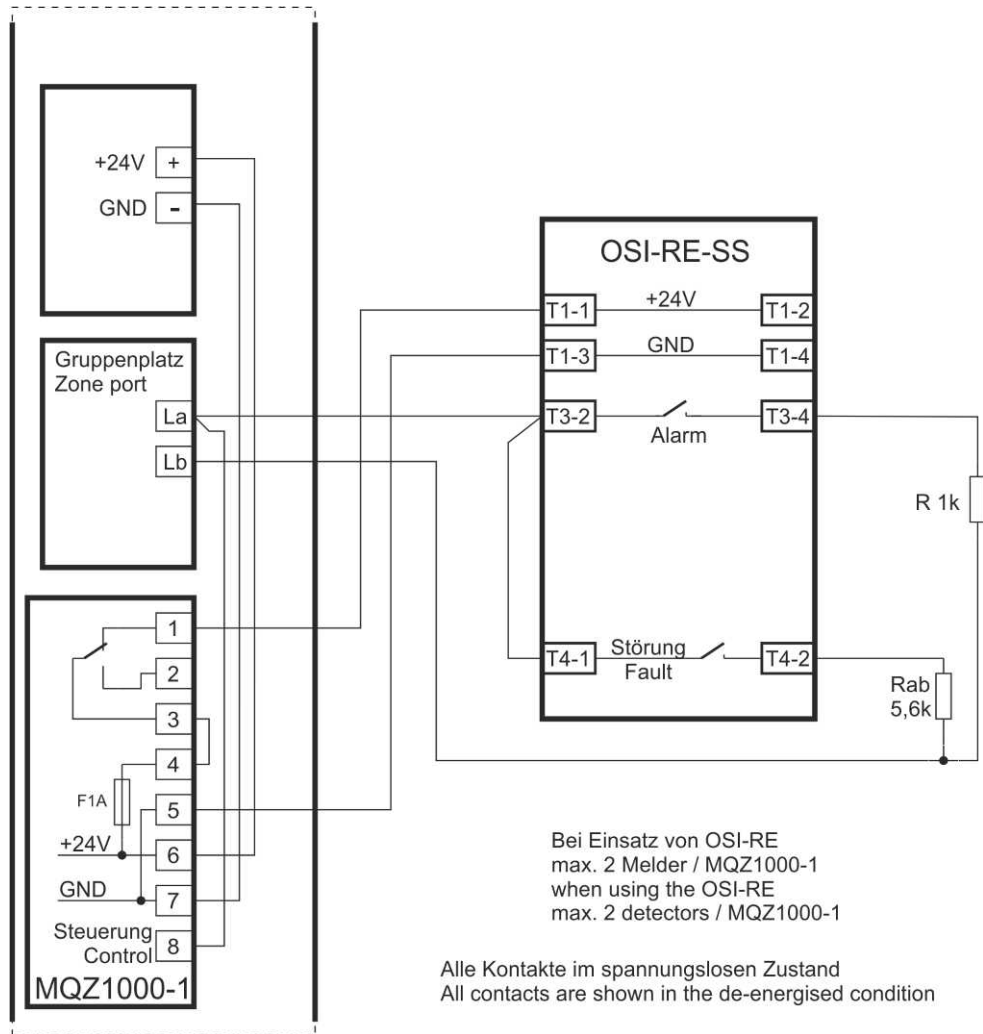
2.12.11.2 Connection - resetting by means of relay contact



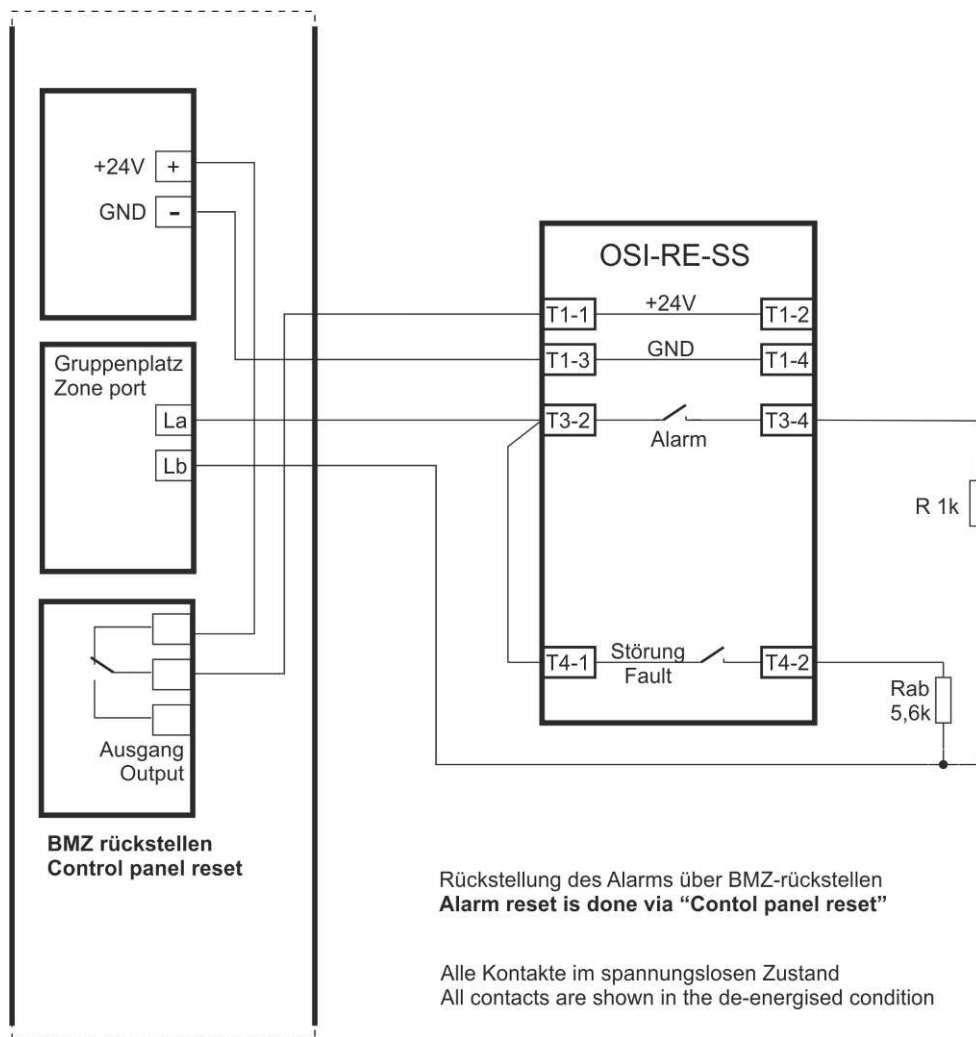
Please note that if the detector zone is disabled, all detectors of this zone are no longer working! An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

2.12.12 Beam Smoke Detector – OSI-RE-SS

2.12.12.1 Connection with MQZ1000-1

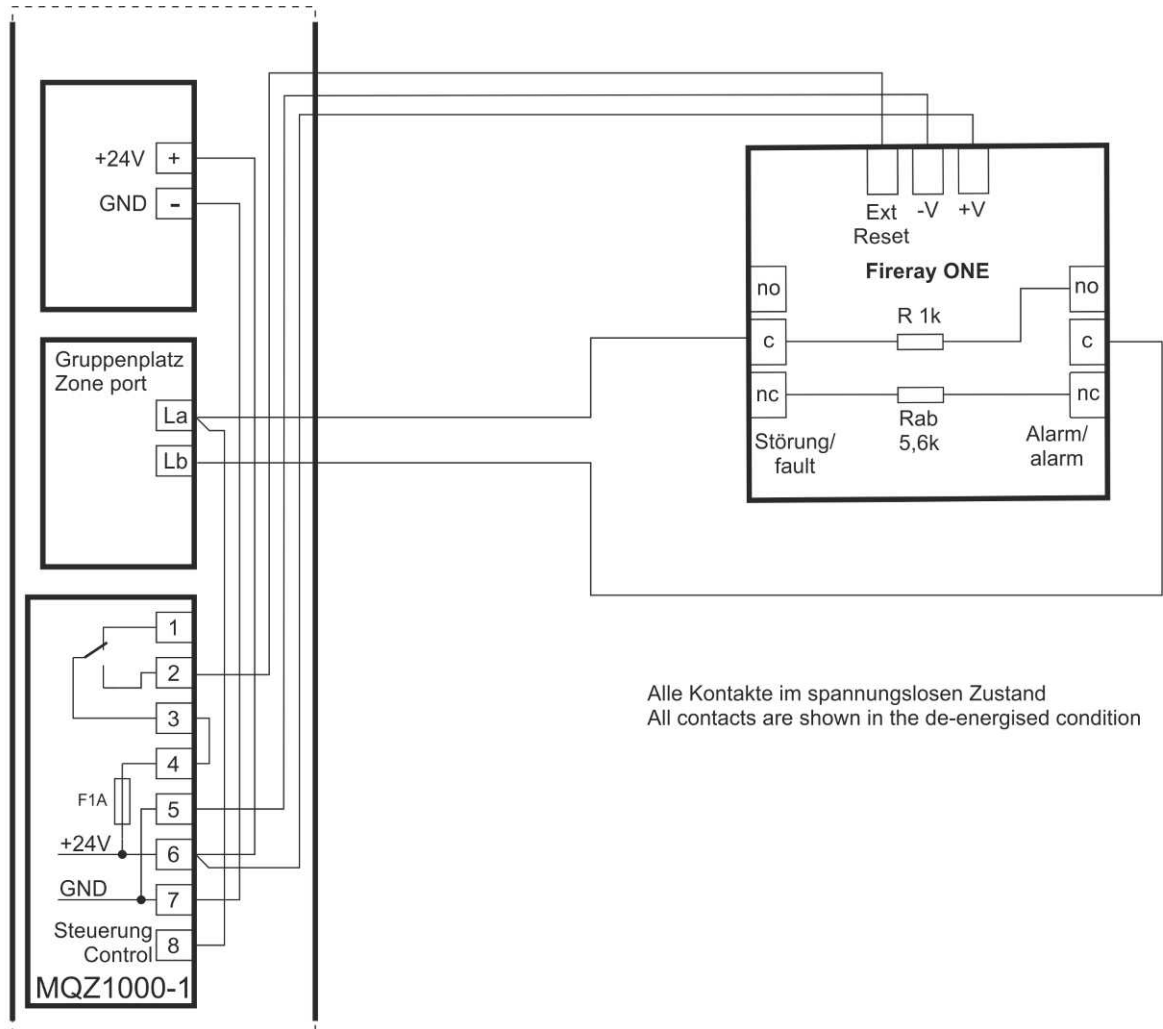


2.12.12.2 Connection - resetting by means of relay contact



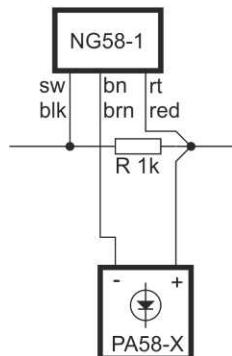
2.12.13 Beam Smoke Detector – Fireray ONE

2.12.13.1 Connection with MQZ1000-1



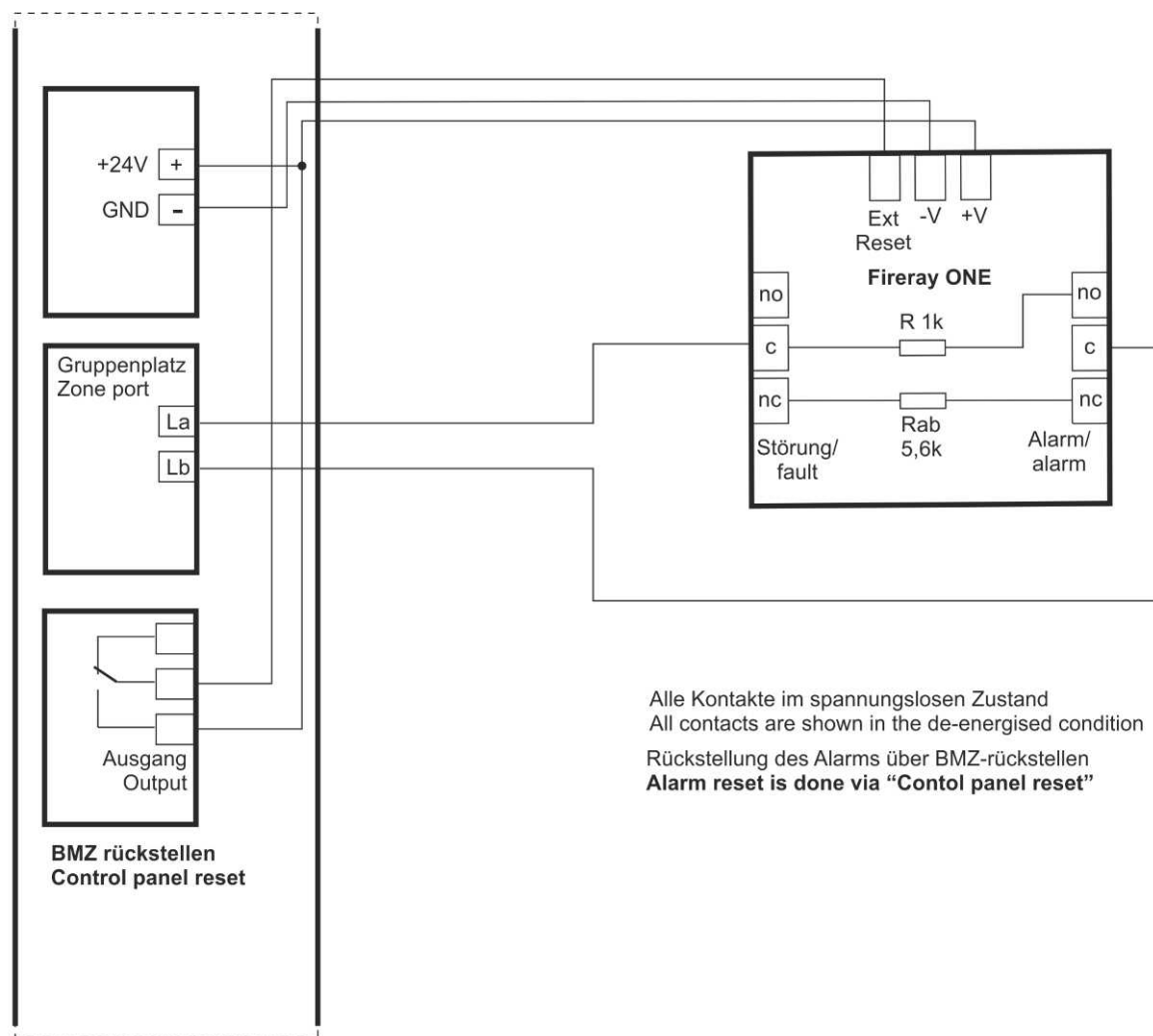
Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

Option: Anschaltung Nummerngeber NG58-1
und Parallelindikator PA58-1
Option: connection of Address Module NG58-1
and Remote Indicator PA58-1



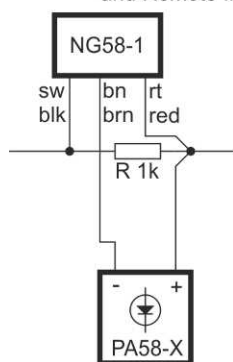
An alarm verification according to EN 54-2 Type A (in the case of the BC600, it is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone) is only permissible if the detector is reset via the Ext RESET input of the detector – see the drawing.

2.12.13.2 Connection - resetting by means of relay contact



Option: Anschaltung Nummerngeber NG58-1
und Parallelindikator PA58-1

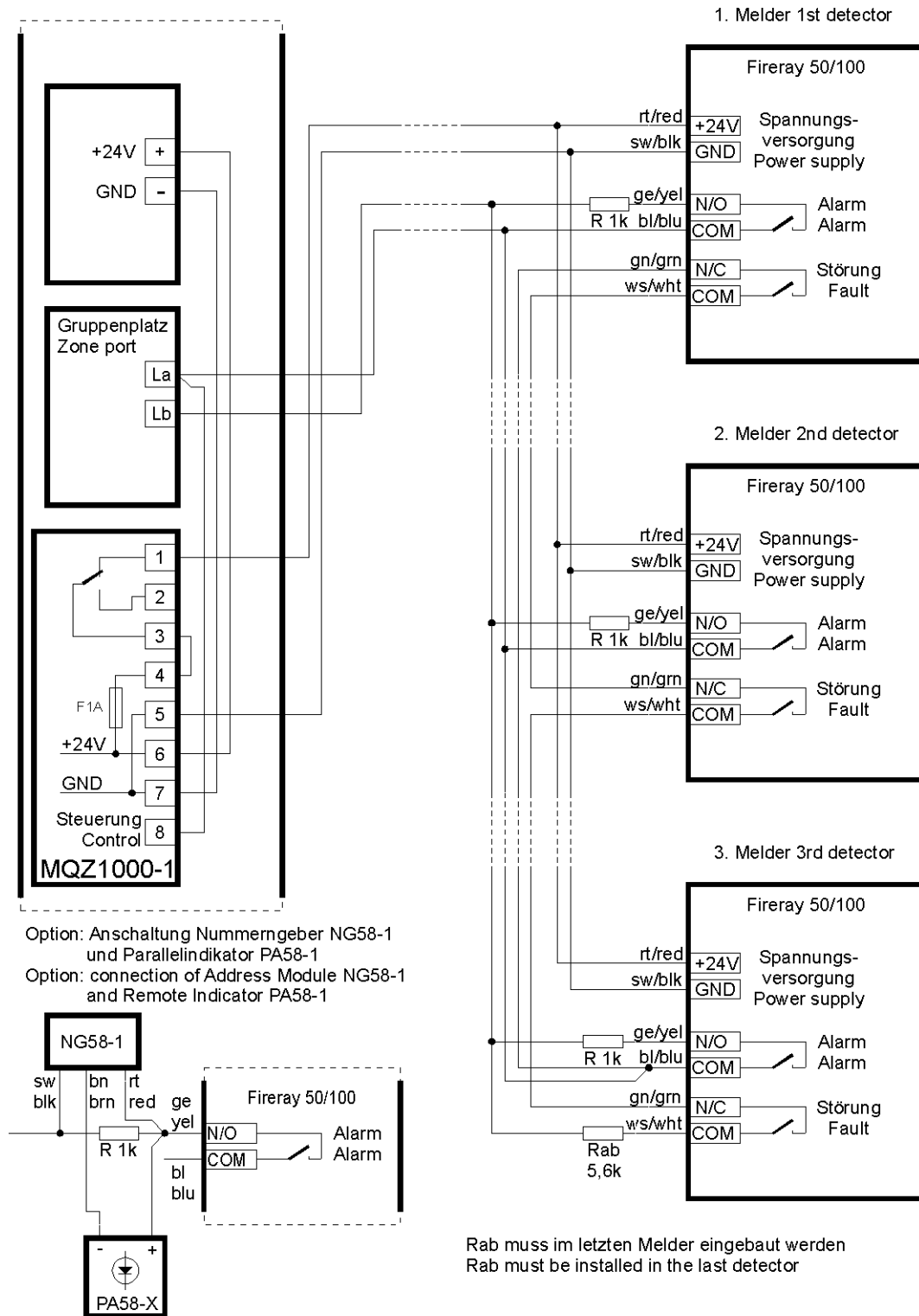
Option: connection of Address Module NG58-1
and Remote Indicator PA58-1



An alarm verification according to EN 54-2 Type A (in the case of the BC600, it is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone) is only permissible if the detector is reset via the Ext RESET input of the detector – see the drawing.

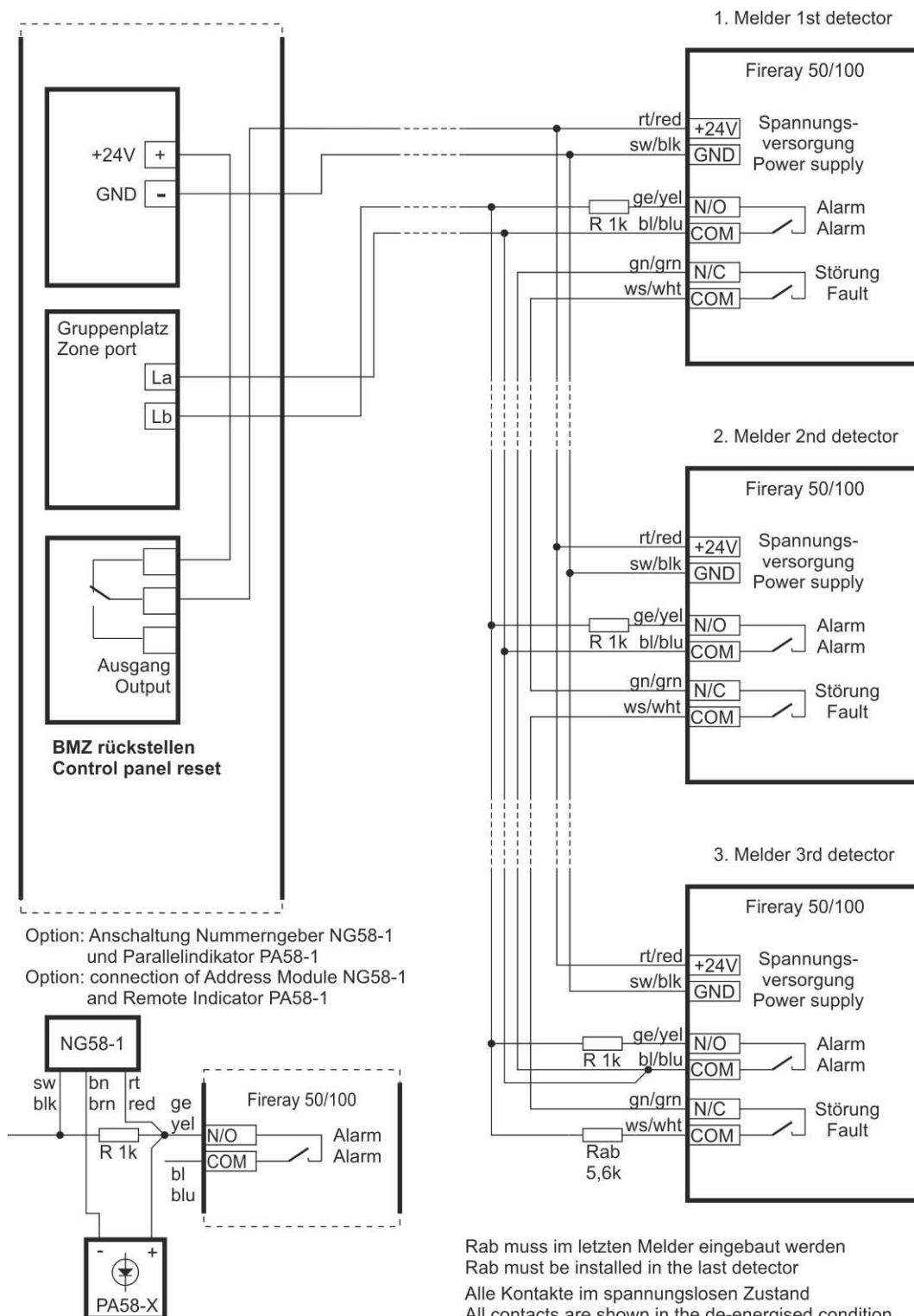
2.12.14 Beam Smoke Detector FR50/FR100

2.12.14.1 Connection with MQZ1000-1



Please note that if the detector zone is disabled, all detectors of this zone are no longer working!
An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

2.12.14.2 Connection - resetting by means of relay contact



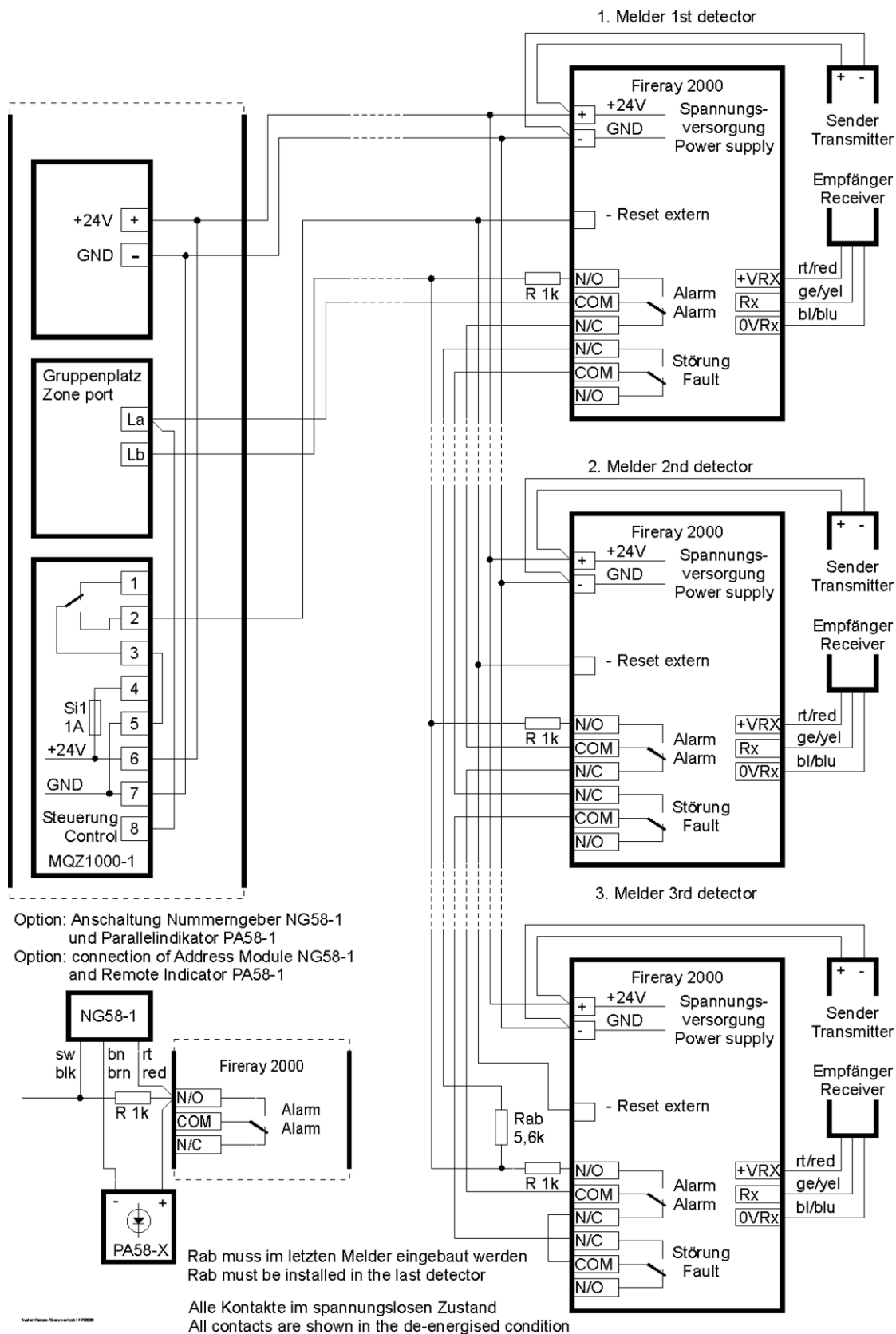
Rab muss im letzten Melder eingebaut werden
Rab must be installed in the last detector
Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition
Rückstellung des Alarms über BMZ-rückstellen
Alarm reset is done via "Contol panel reset"



Please note that if the detector zone is disabled, all detectors of this zone are no longer working! An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

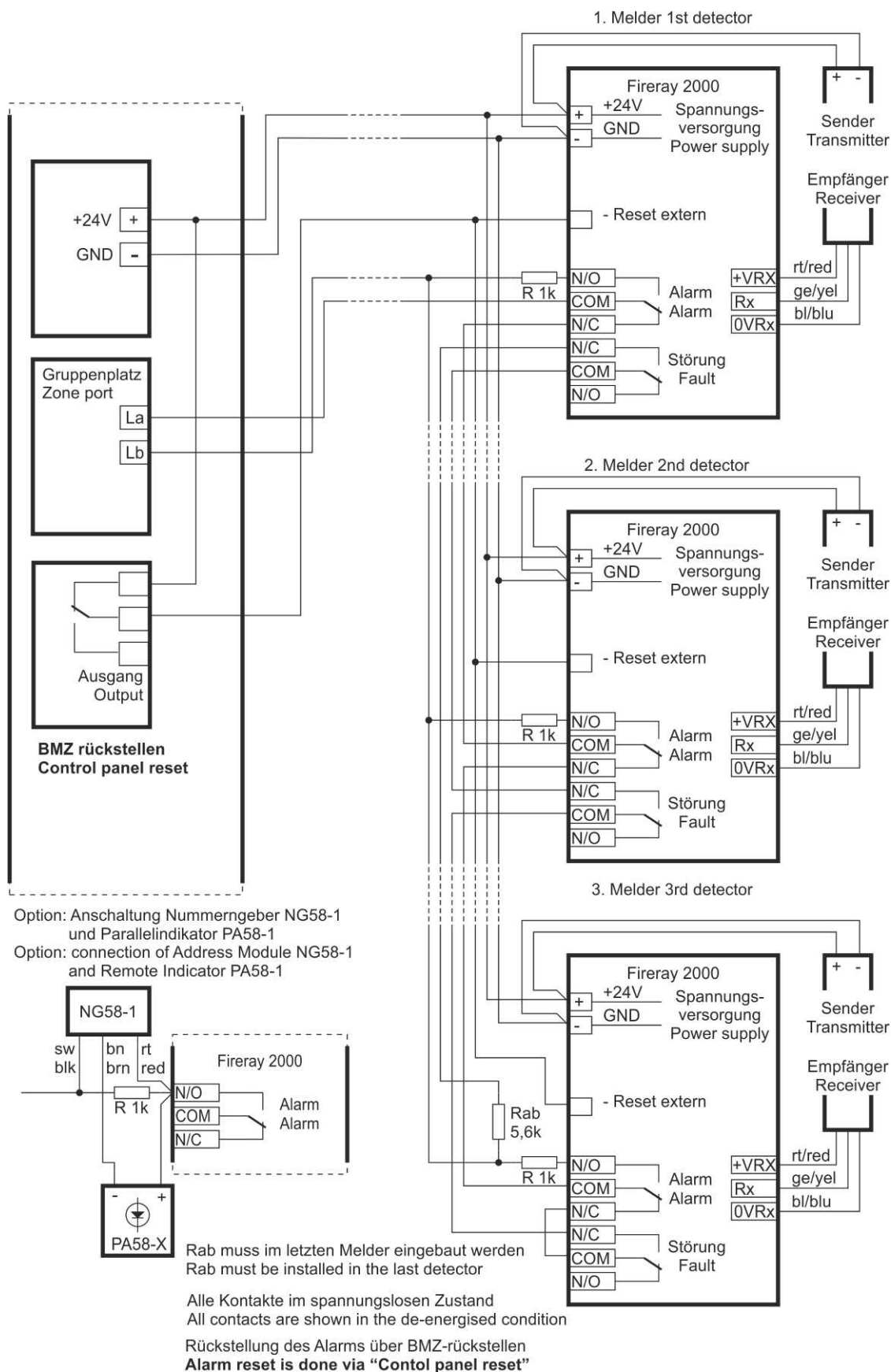
2.12.15 Beam Smoke Detector FR2000

2.12.15.1 Connection with MQZ1000-1



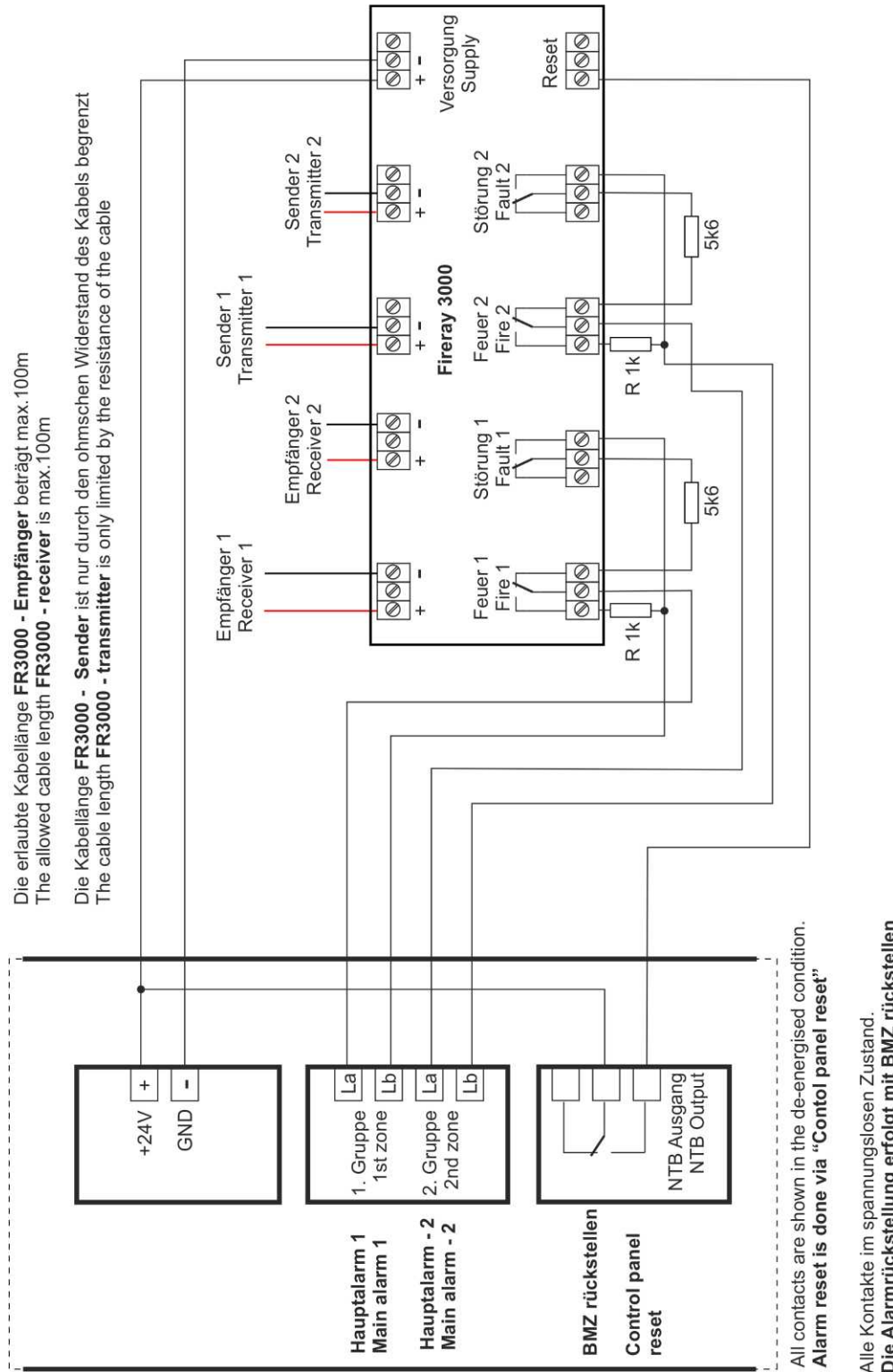
Please note that if the detector zone is disabled, all detectors of this zone are no longer working! An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

2.12.15.2 Connection - resetting by means of relay contact



Please note that if the detector zone is disabled, all detectors of this zone are no longer working! An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

2.12.16 Beam Smoke Detector FR3000



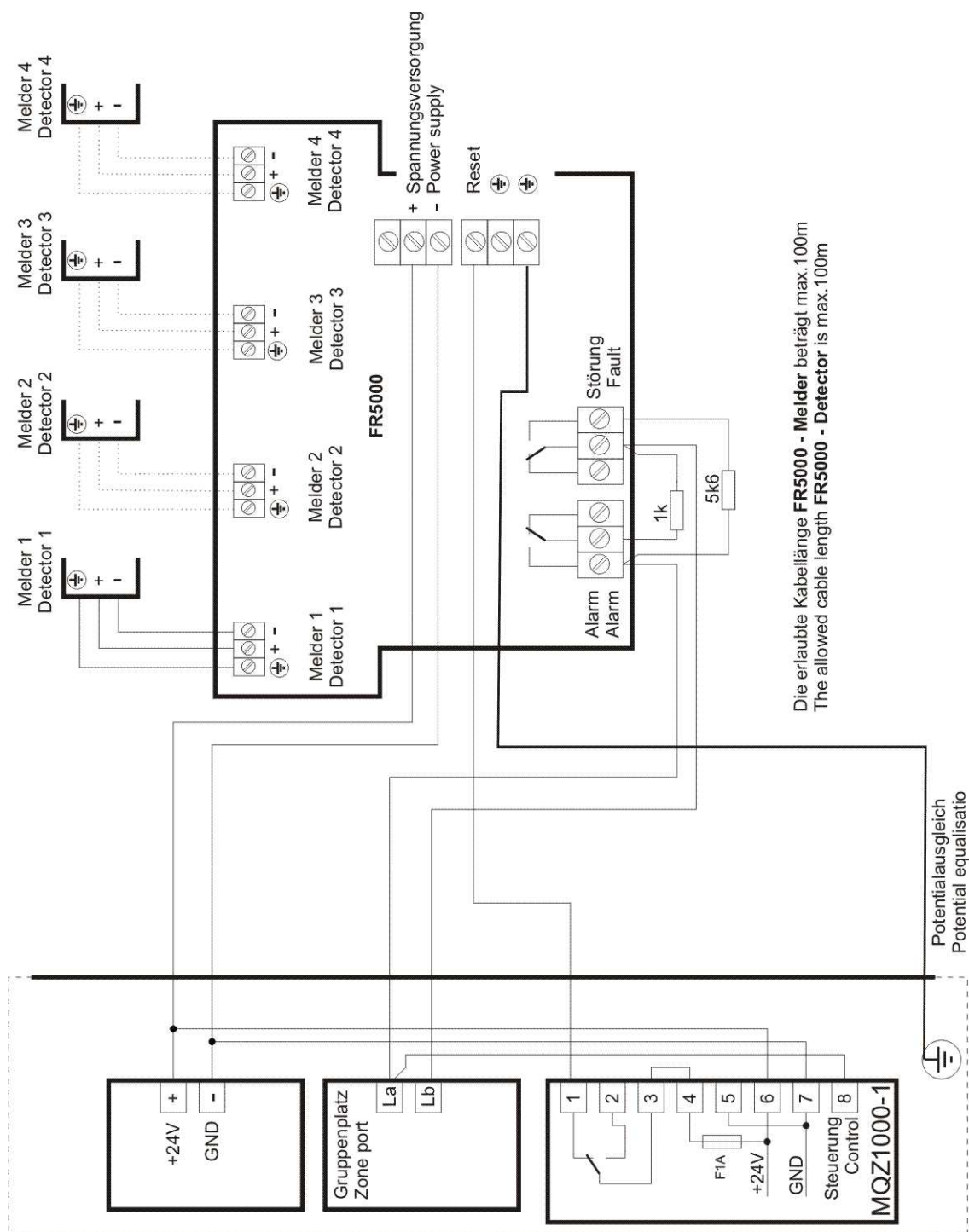
2.12.17 Beam Smoke Detector FR5000

There are two versions of the Beam Smoke Detector FR5000. The old version allows you to connect 4 detectors, and the new version has 2 detector lines with separate alarm relays.

Distinguishing features

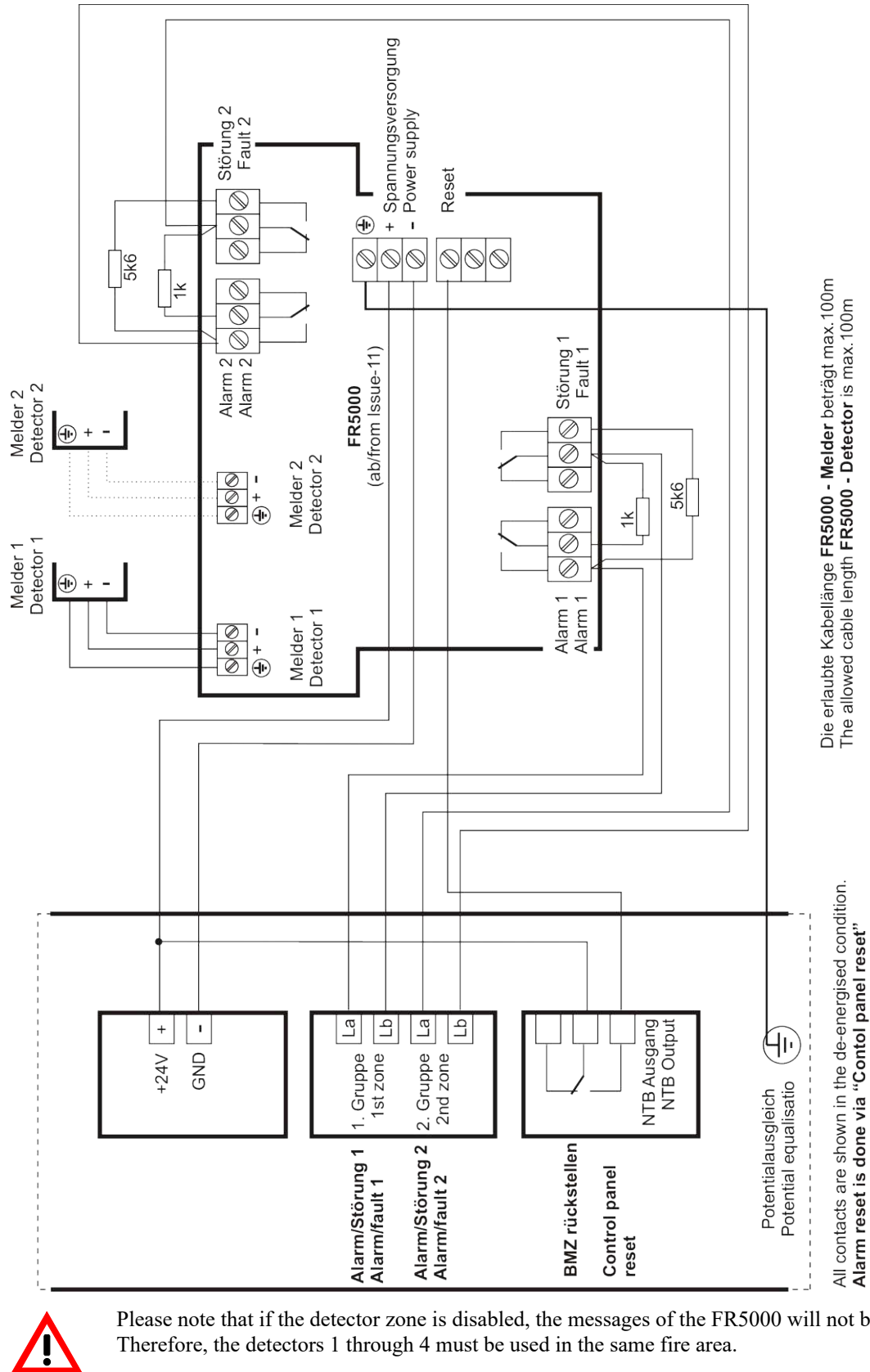
- ◆ Packaging: on the packaging of the new version of the FR5000 there is the note "Issue-11".
- ◆ Number of LEDs: the new version has 3 LEDs, the old version has 5 LEDs.

2.12.17.1 Old version



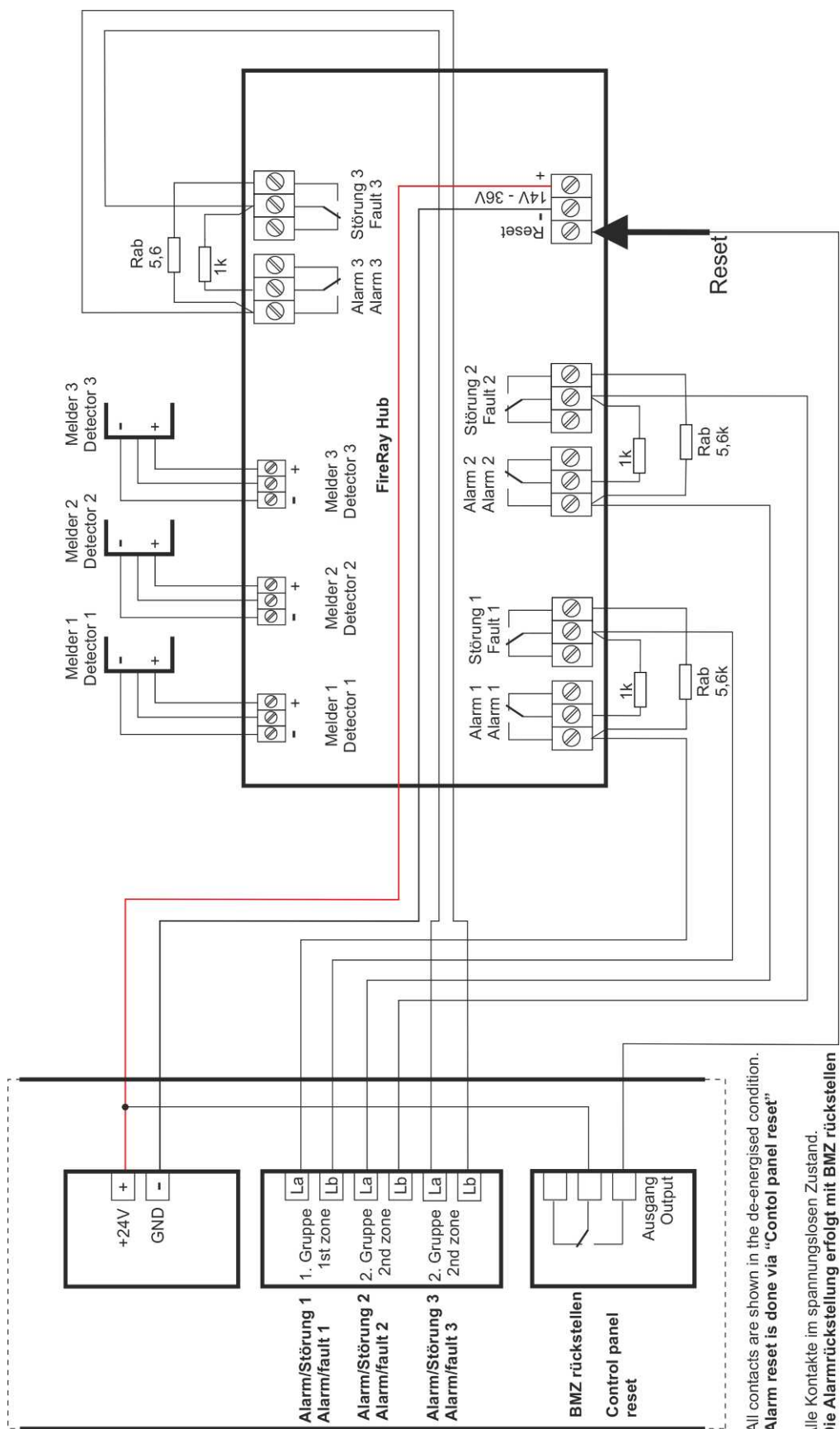
Please note that if the detector zone is disabled, the messages of the FR5000 will not be evaluated. Therefore, the detectors 1 through 4 must be used in the same fire area.

2.12.17.2 New version



Please note that if the detector zone is disabled, the messages of the FR5000 will not be evaluated. Therefore, the detectors 1 through 4 must be used in the same fire area.

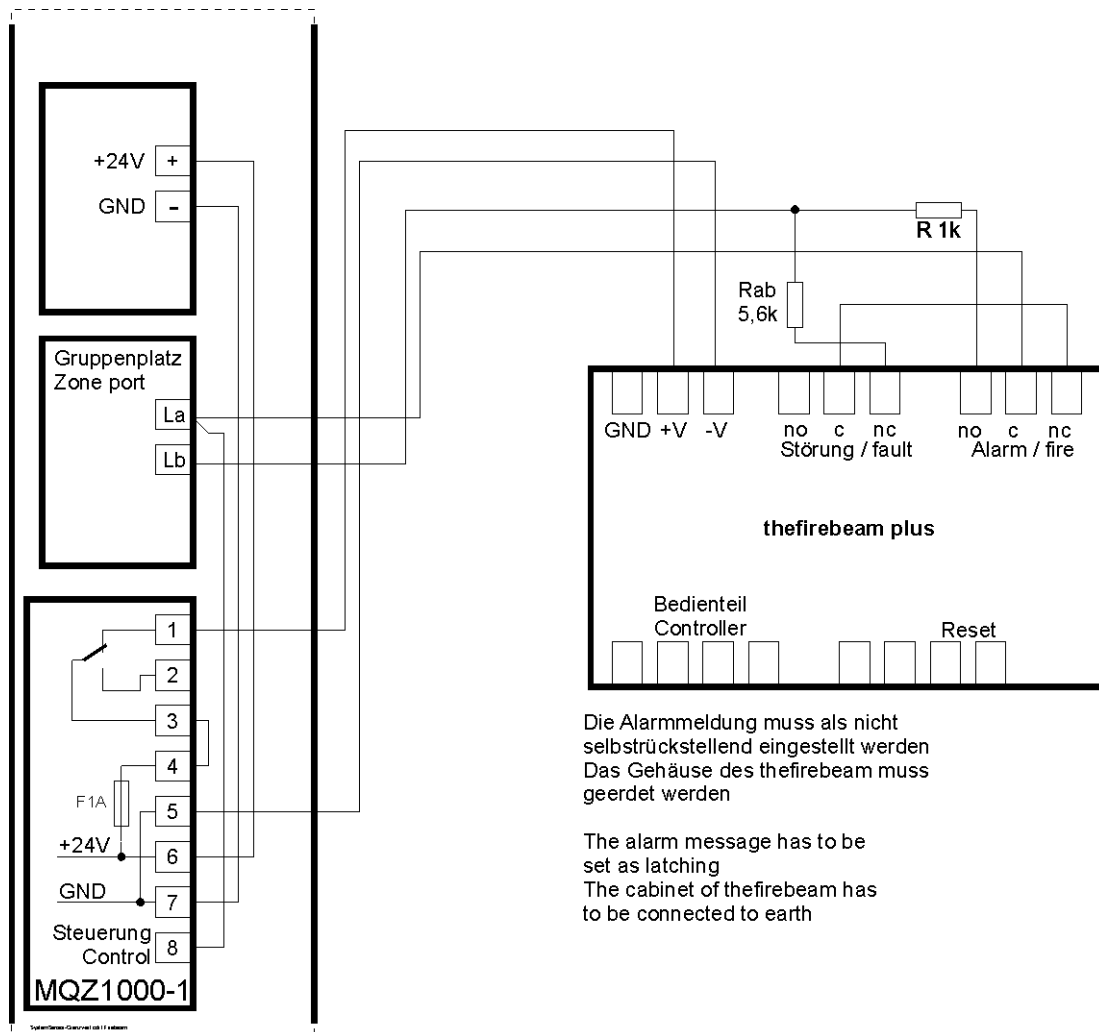
2.12.18 Beam Smoke Detector FireRay-Hub



Please note that if the detector zone is disabled, the messages of the FireRay-Hub will not be evaluated. Therefore, the detectors 1 through 3 must be used in the same fire area.

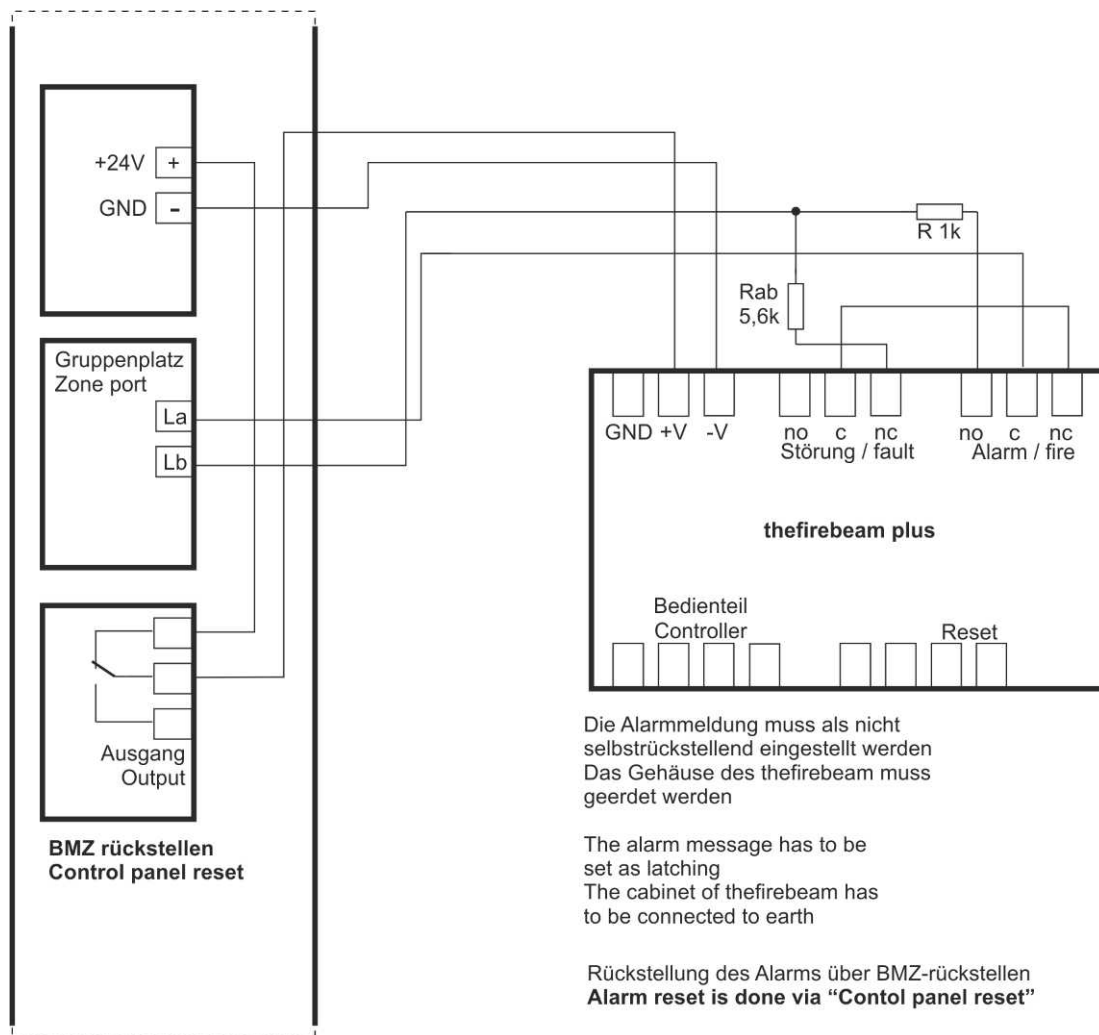
2.12.19 Beam Smoke Detector thefirebeam plus

2.12.19.1 Connection with MQZ1000-1



After applying the supply voltage, the fault relay will remain released for 8 seconds. Therefore, a brief fault can occur on the fire detection control panel after the enablement of the detector zone, after a control panel reset and after power ON.

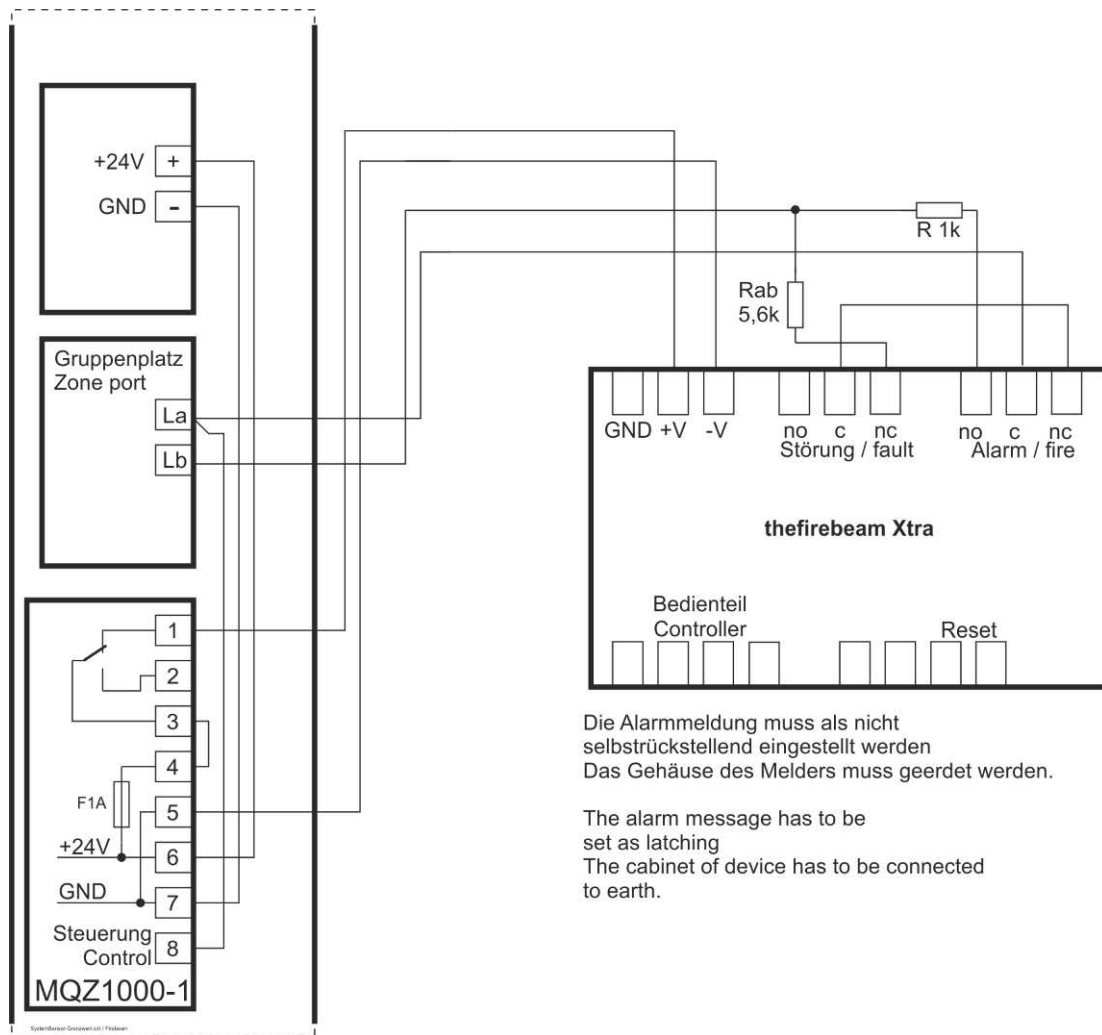
2.12.19.2 Connection - resetting by means of relay contact



After applying the supply voltage, the fault relay will remain released for 8 seconds. Therefore, a brief fault can occur on the fire detection control panel after the enablement of the detector zone, after a control panel reset and after power ON.

2.12.20 Beam Smoke Detector Thefirebeam Xtra

2.12.20.1 Connection with MQZ1000-1



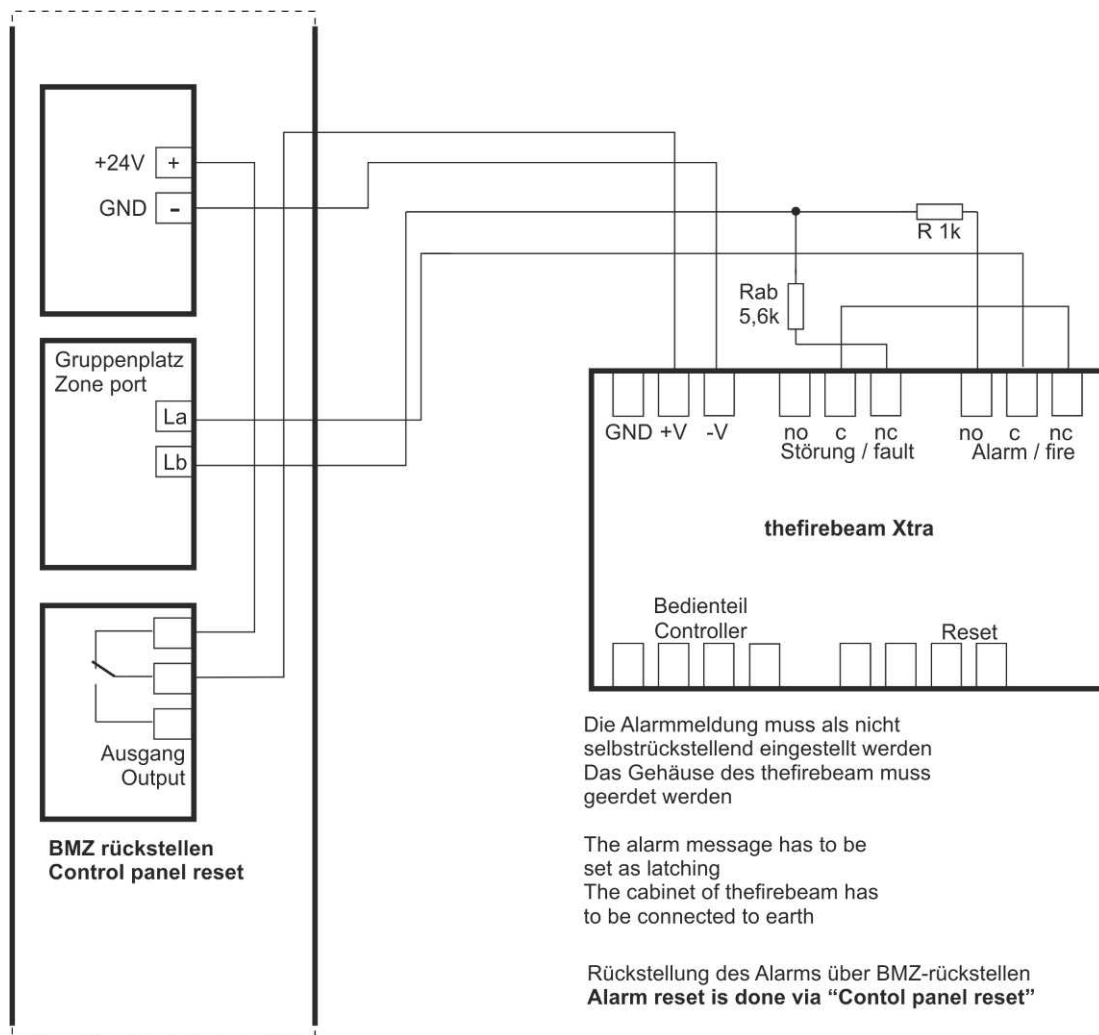
Die Alarmmeldung muss als nicht selbstrückstellend eingestellt werden
Das Gehäuse des Melders muss geerdet werden.

The alarm message has to be set as latching
The cabinet of device has to be connected to earth.



After applying the supply voltage, the fault relay will remain released for 8 seconds. Therefore, a brief fault can occur on the fire detection control panel after the enablement of the detector zone, after a control panel reset and after power ON.

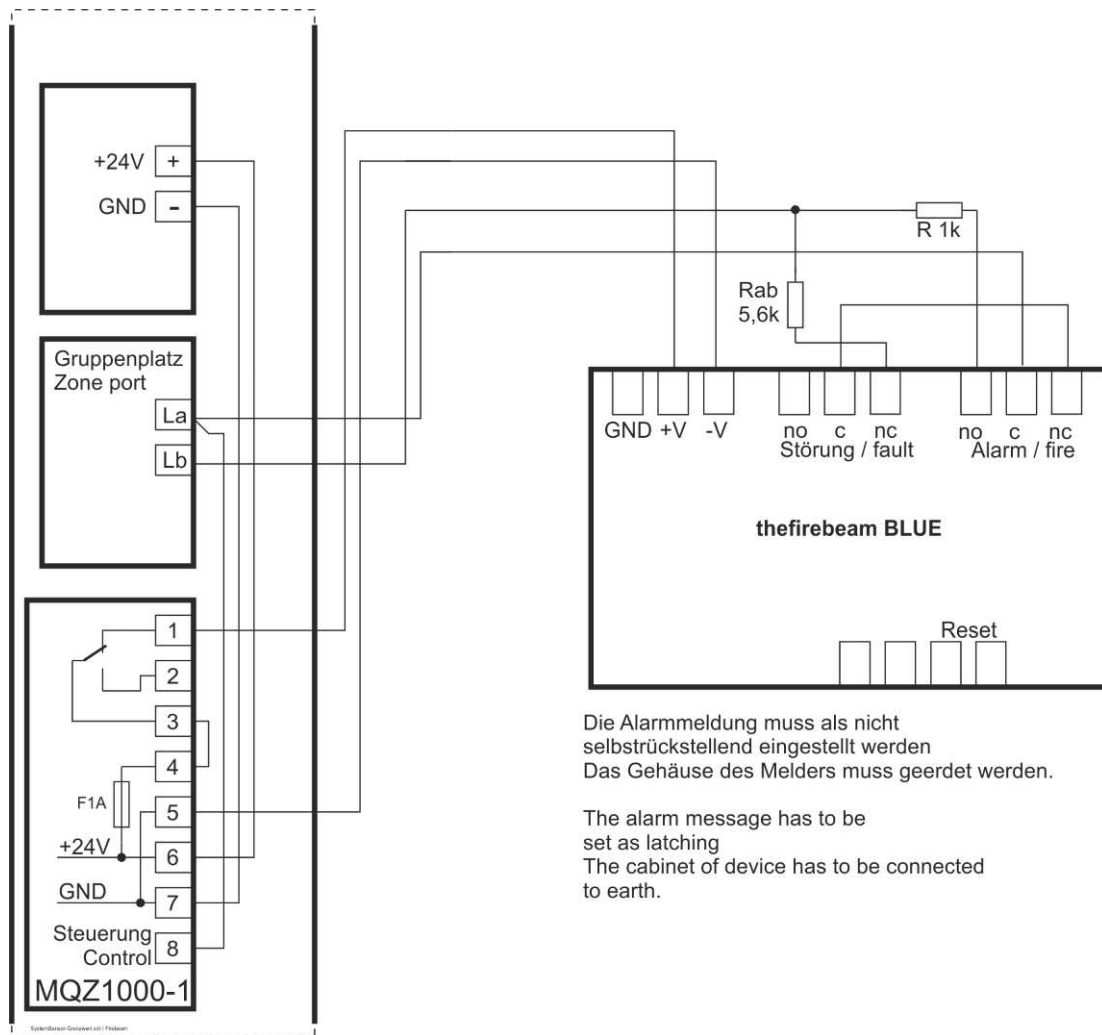
2.12.20.2 Connection - resetting by means of relay contact



After applying the supply voltage, the fault relay will remain released for 8 seconds. Therefore, a brief fault can occur on the fire detection control panel after the enablement of the detector zone, after a control panel reset and after power ON.

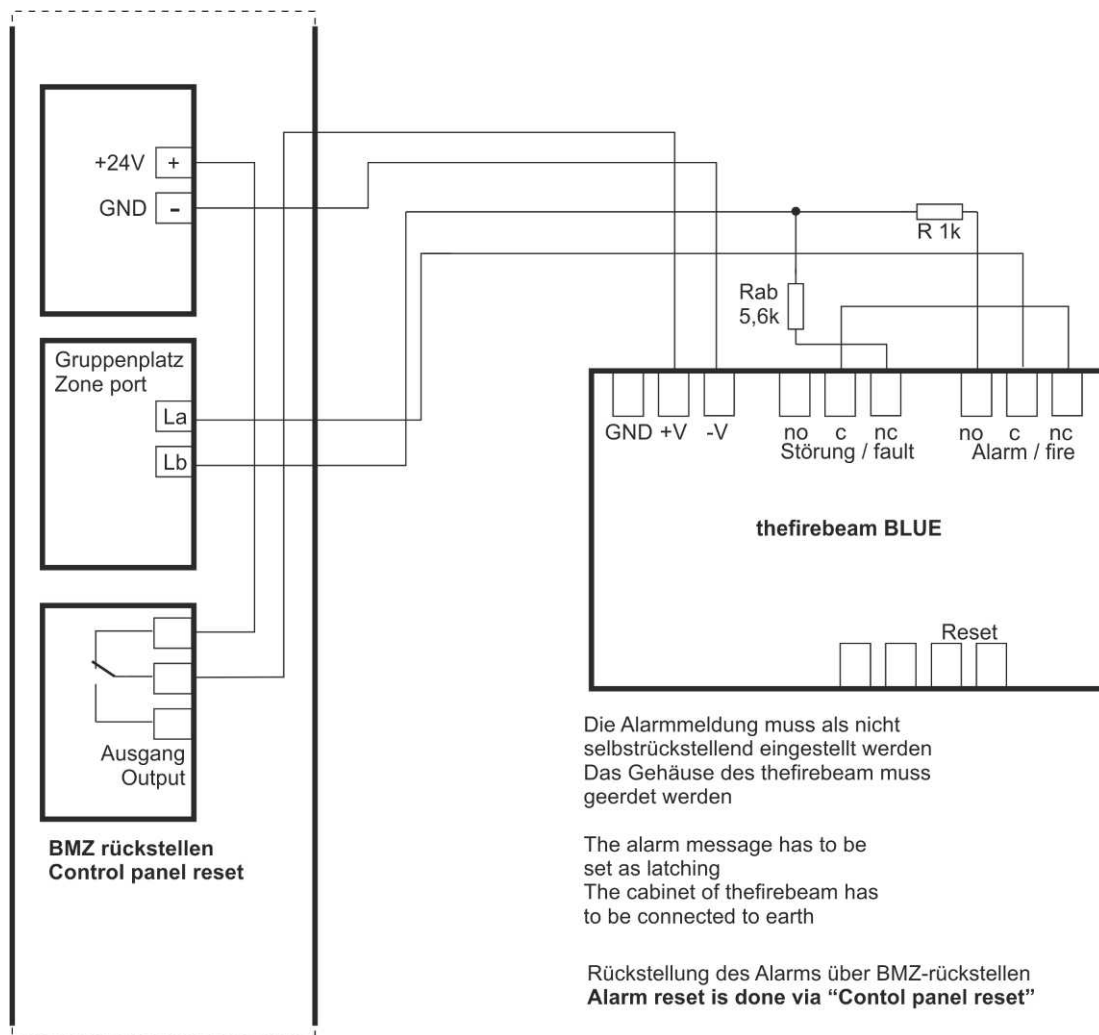
2.12.21 Beam Smoke Detector Thefirebeam BLUE

2.12.21.1 Connection with MQZ1000-1



After applying the supply voltage, the fault relay will remain released for 8 seconds. Therefore, a brief fault can occur on the fire detection control panel after the enablement of the detector zone, after a control panel reset and after power ON.

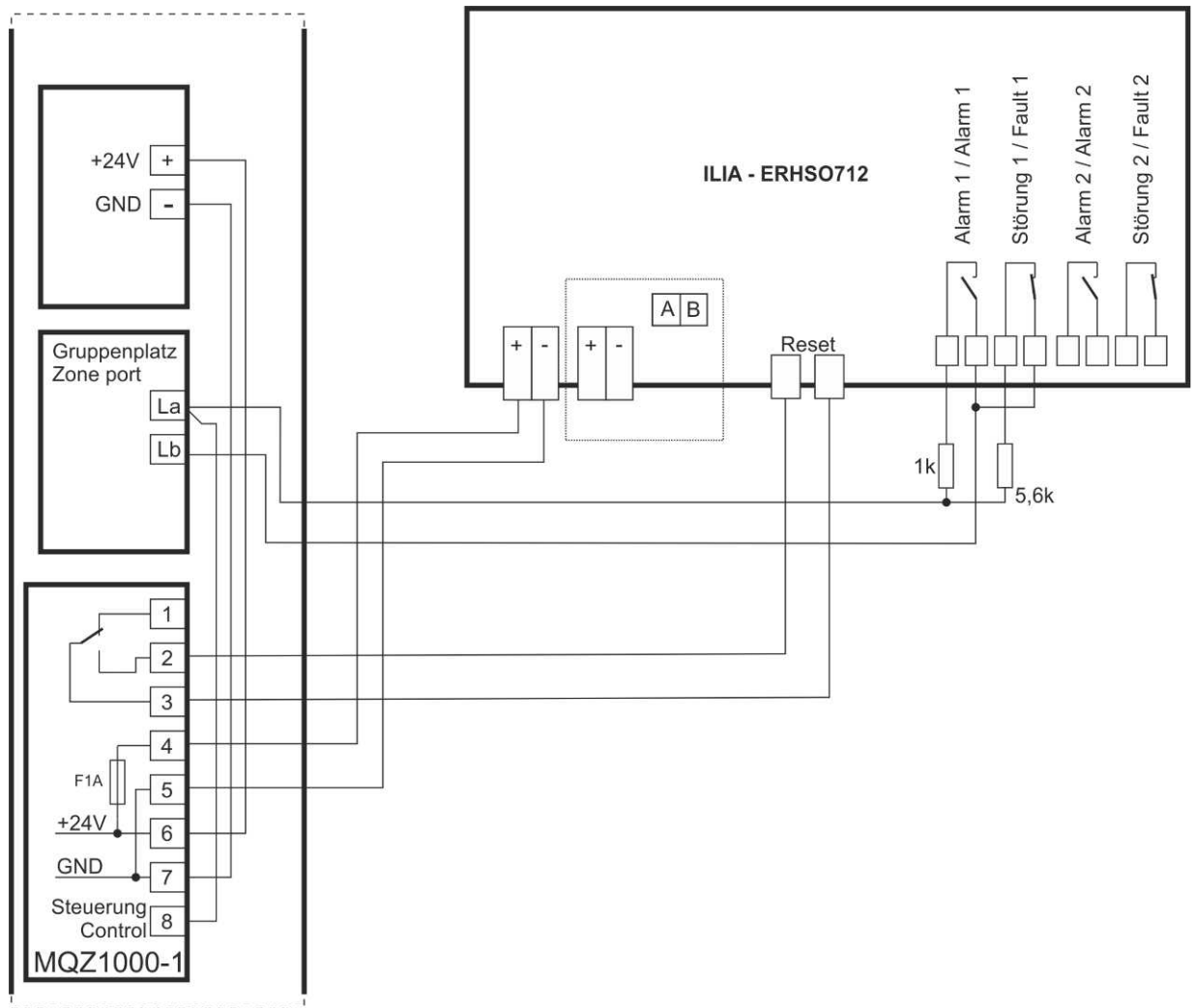
2.12.21.2 Connection - resetting by means of relay contact



After applying the supply voltage, the fault relay will remain released for 8 seconds. Therefore, a brief fault can occur on the fire detection control panel after the enablement of the detector zone, after a control panel reset and after power ON.

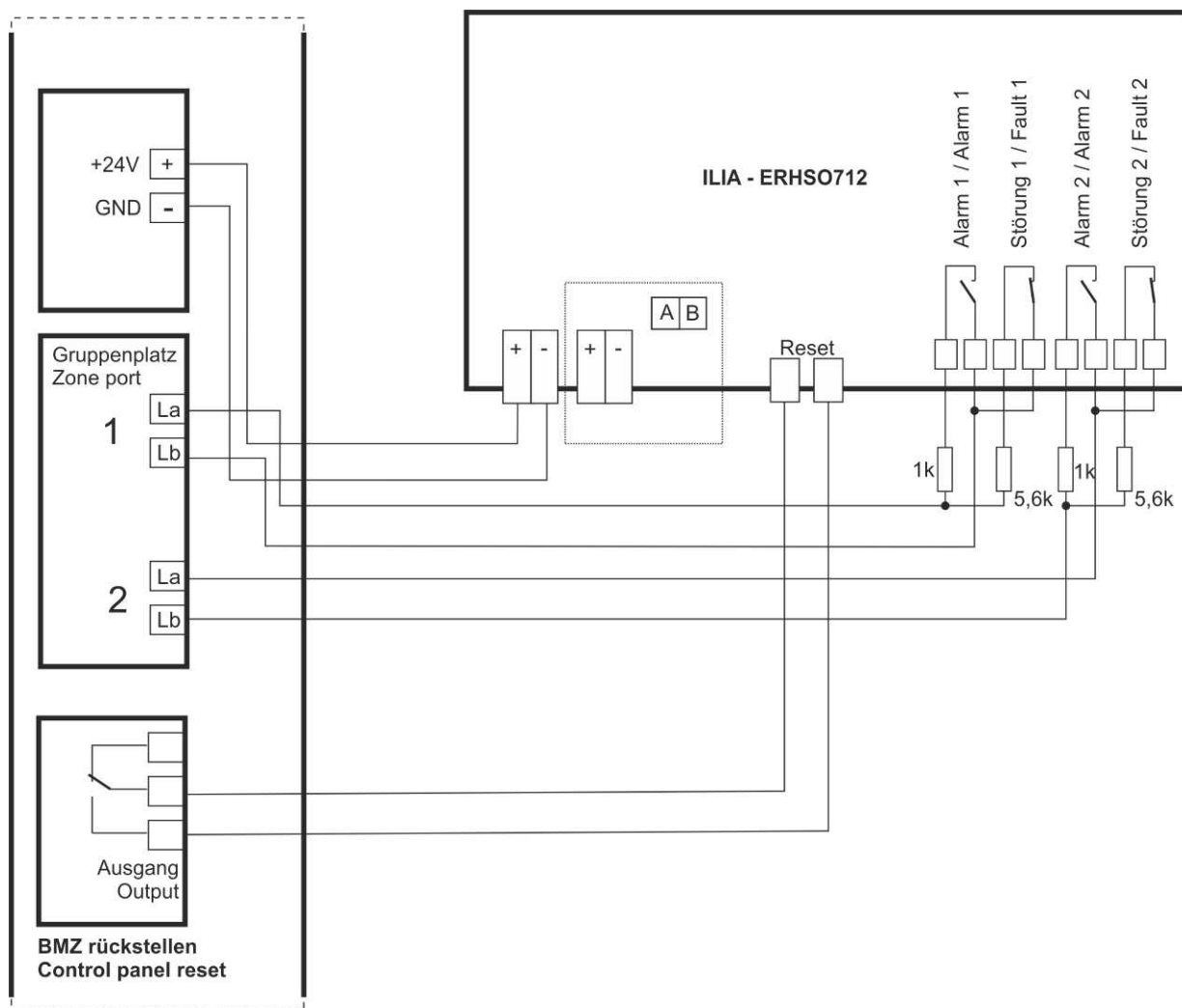
2.12.22 Beam Smoke Detector ILIA ERHSO712

2.12.22.1 Connection – resetting by means of MQZ1000-1



Please note that if the detector zone is disabled, messages will not be evaluated. Therefore, the detectors 1 and 2 must be used in the same fire area. For this reason, the connection of only one evaluation unit is shown in this example.

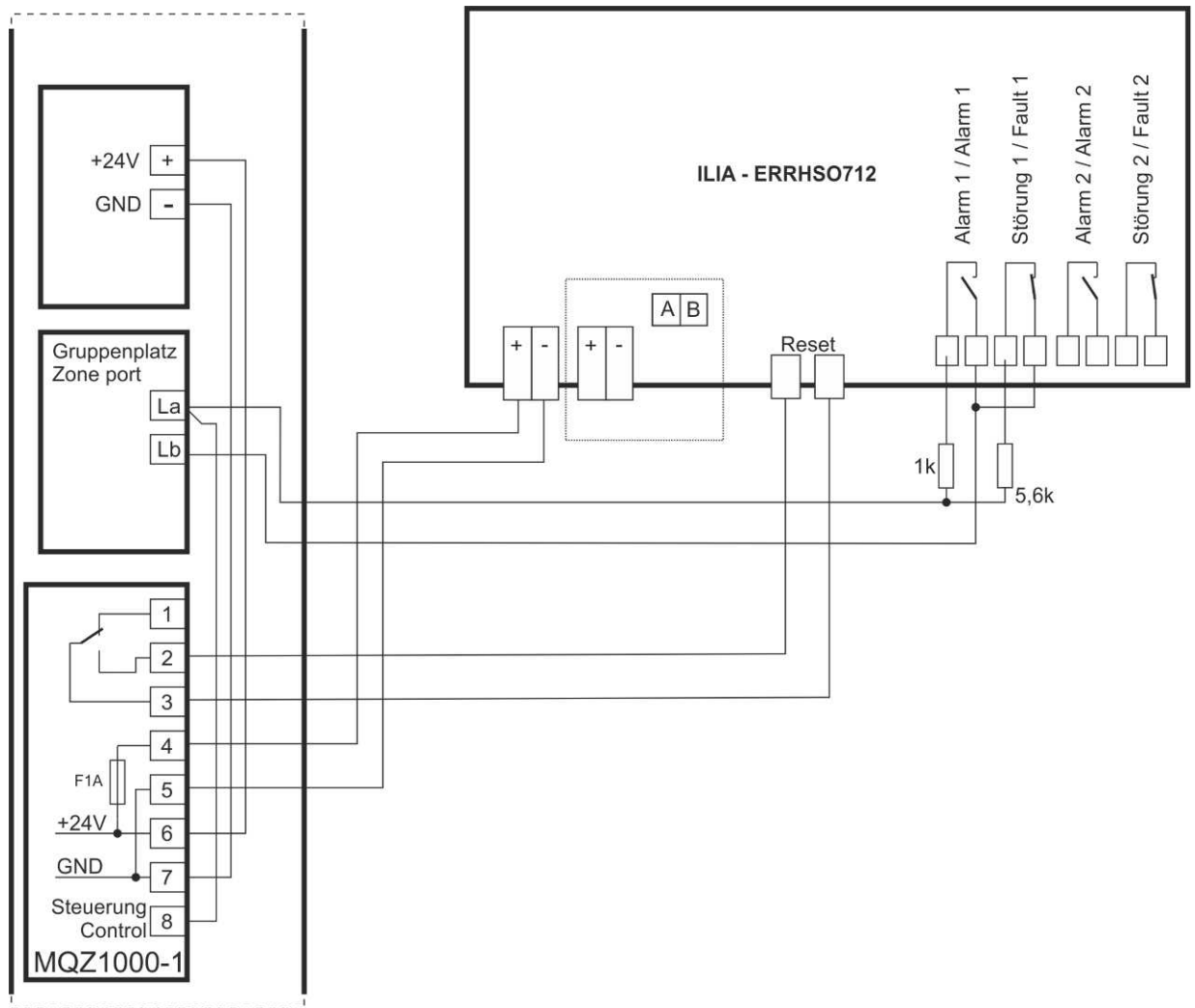
2.12.22.2 Connection – resetting via relay output



An alarm verification according to EN 54-2 Type A / Type B is not permissible.

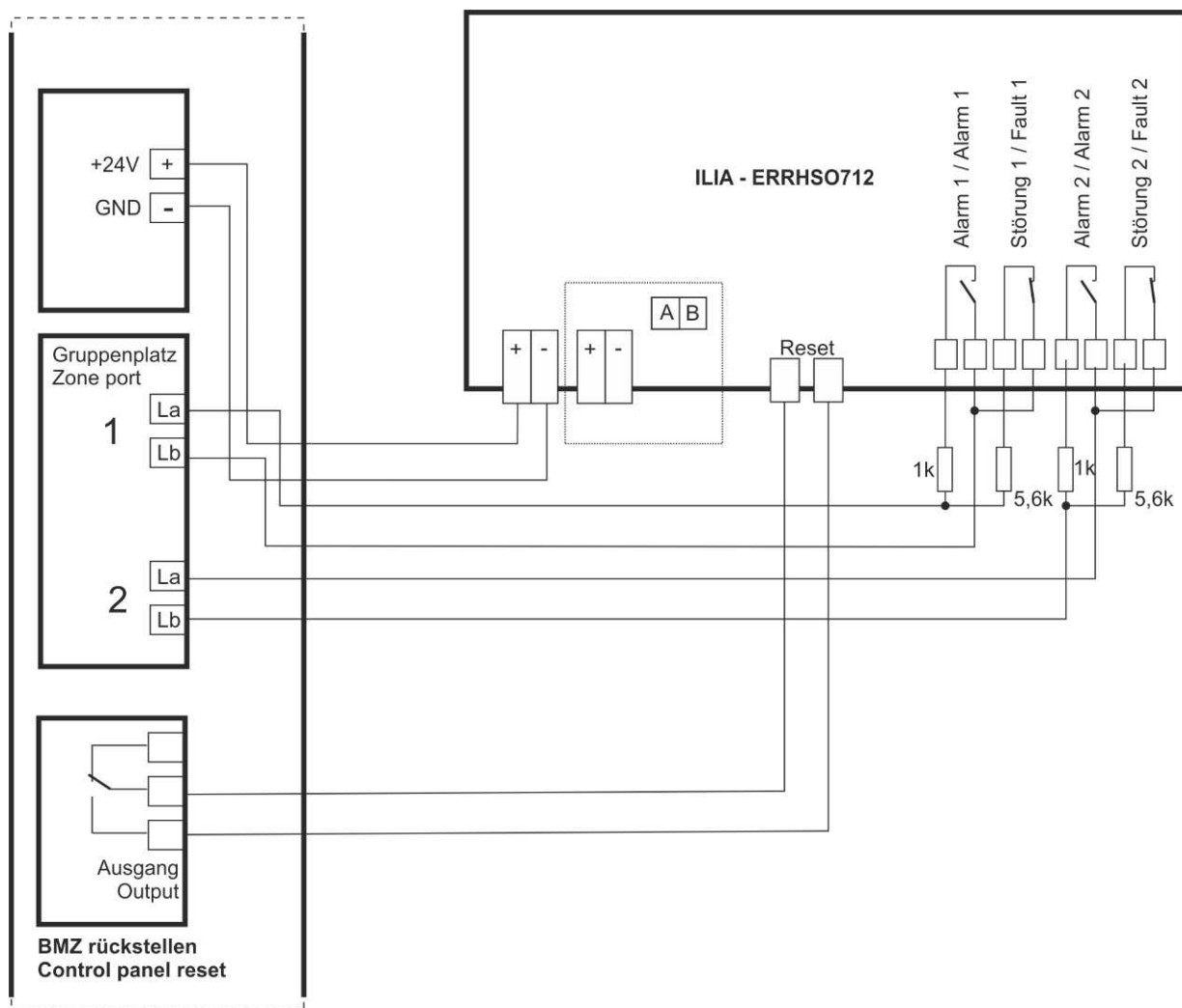
2.12.23 Beam Smoke Detector ILIA ERRHSO712

2.12.23.1 Connection – resetting by means of MQZ1000-1



Please note that if the detector zone is disabled, messages will not be evaluated. Therefore, the detectors 1 and 2 must be used in the same fire area. For this reason, the connection of only one evaluation unit is shown in this example.

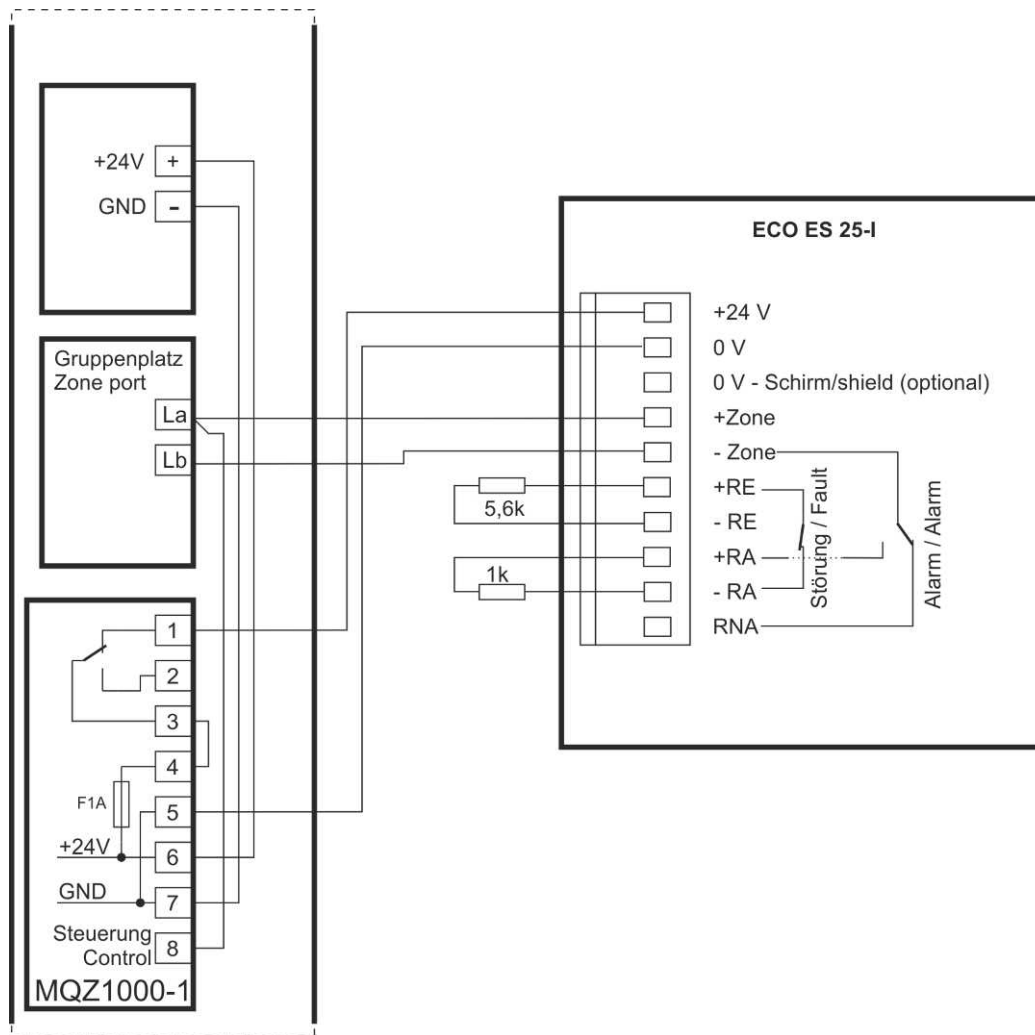
2.12.23.2 Connection – resetting via relay output



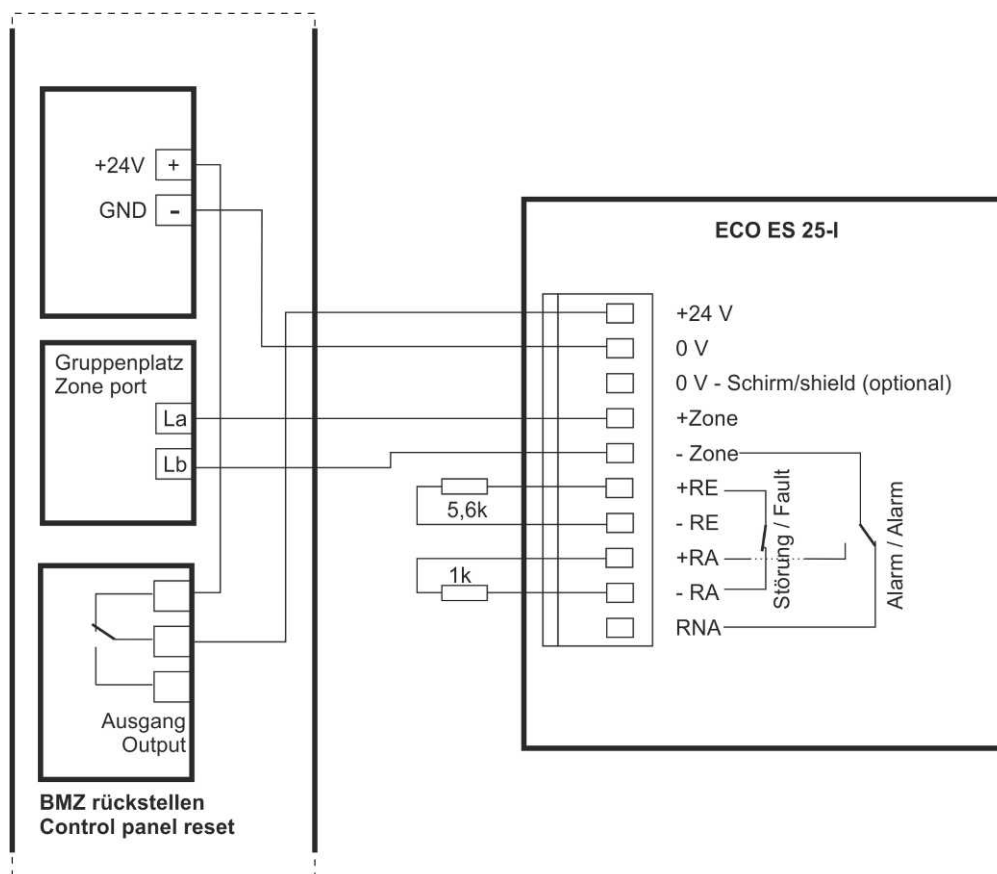
An alarm verification according to EN 54-2 Type A / Type B is not permissible.

2.12.24 Beam Smoke Detector ECO ES 25-I

2.12.24.1 Connection – resetting by means of MQZ1000-1



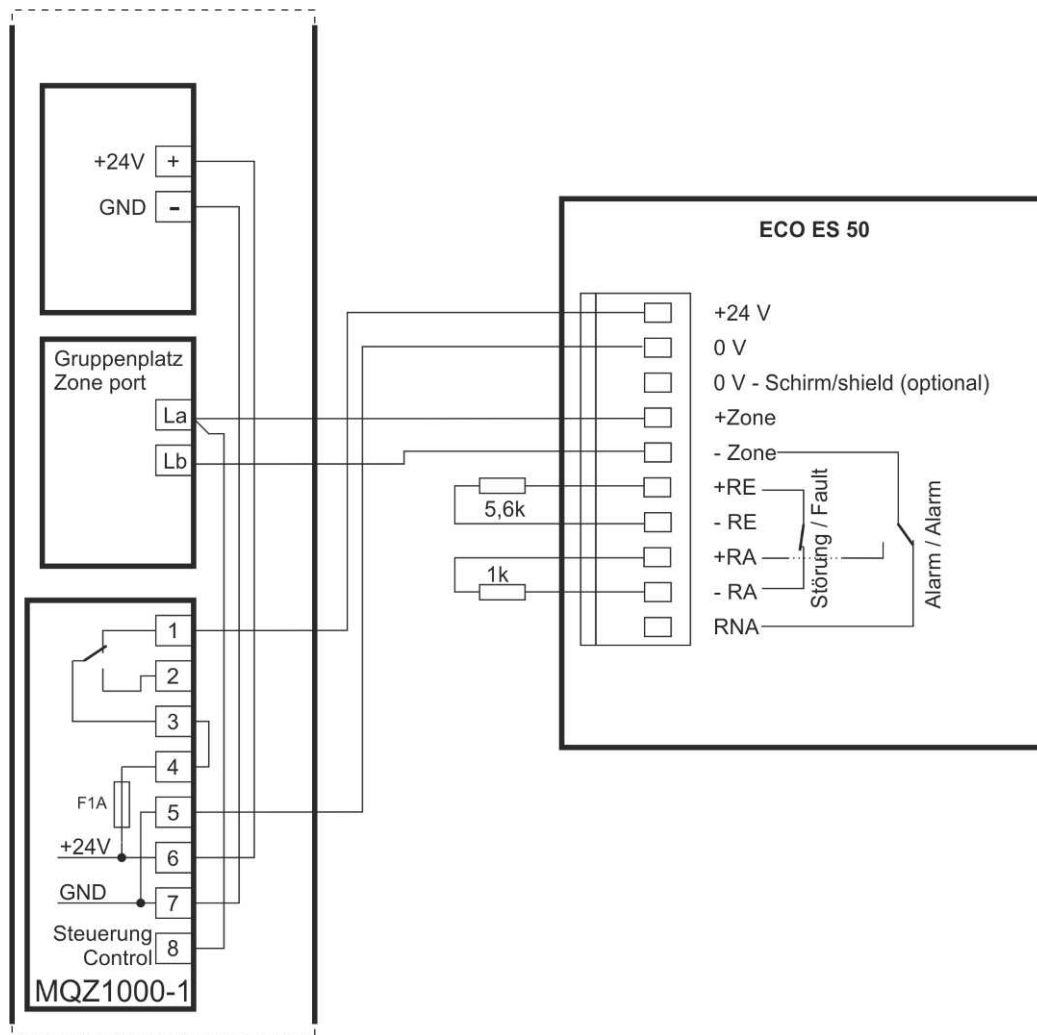
2.12.24.2 Connection – resetting via relay output



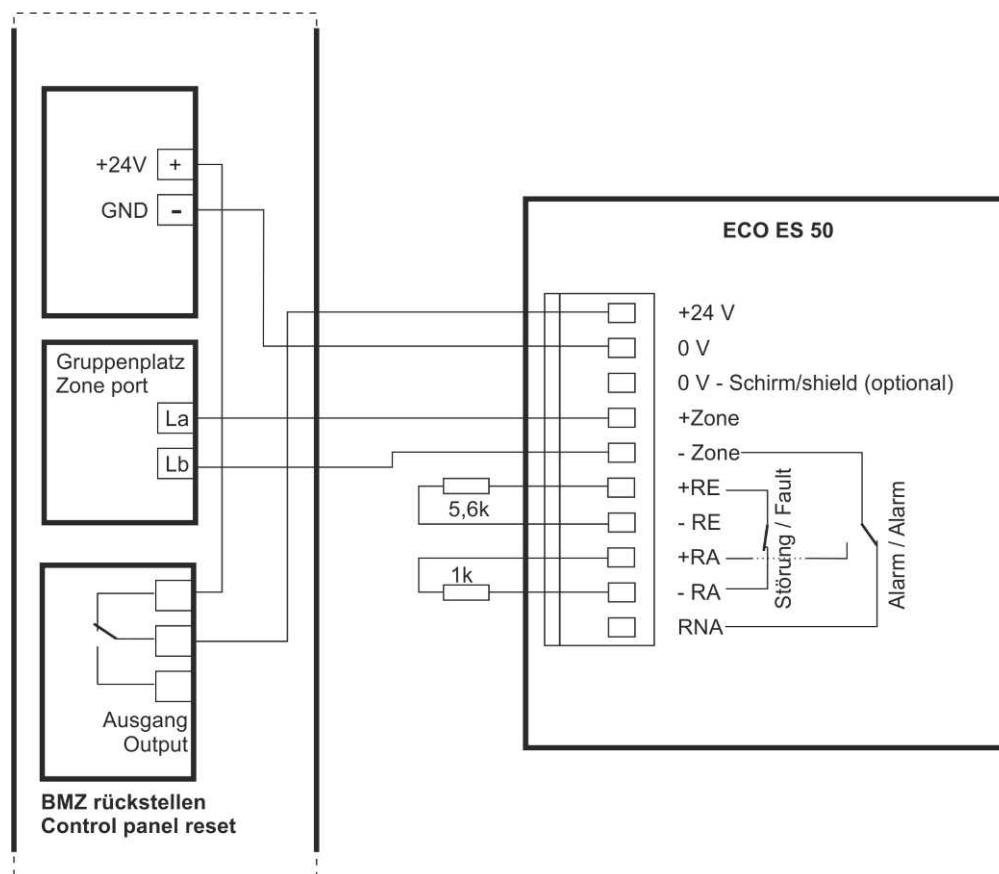
An alarm verification according to EN 54-2 Type A / Type B is not permissible.

2.12.25 Beam Smoke Detector ECO ES 50

2.12.25.1 Connection – resetting by means of MQZ1000-1



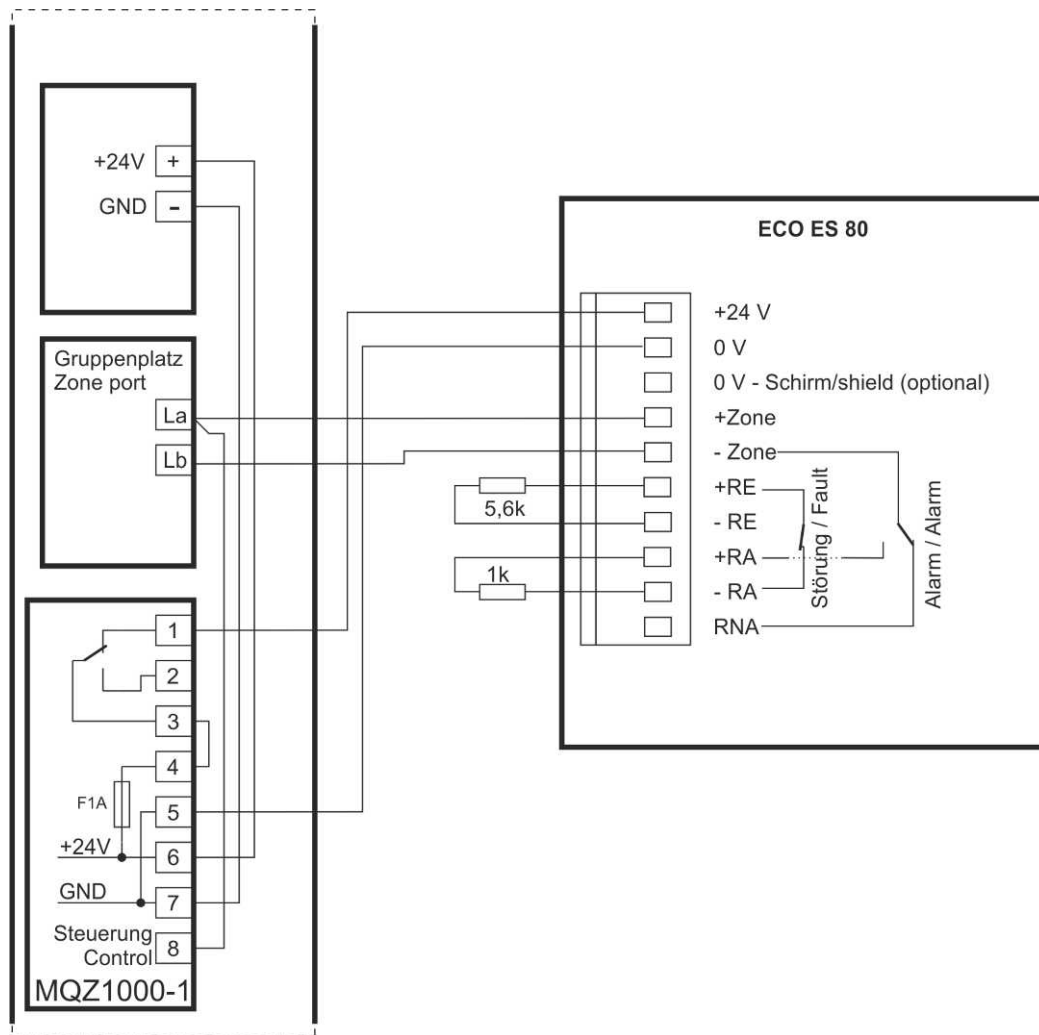
2.12.25.2 Connection – resetting via relay output



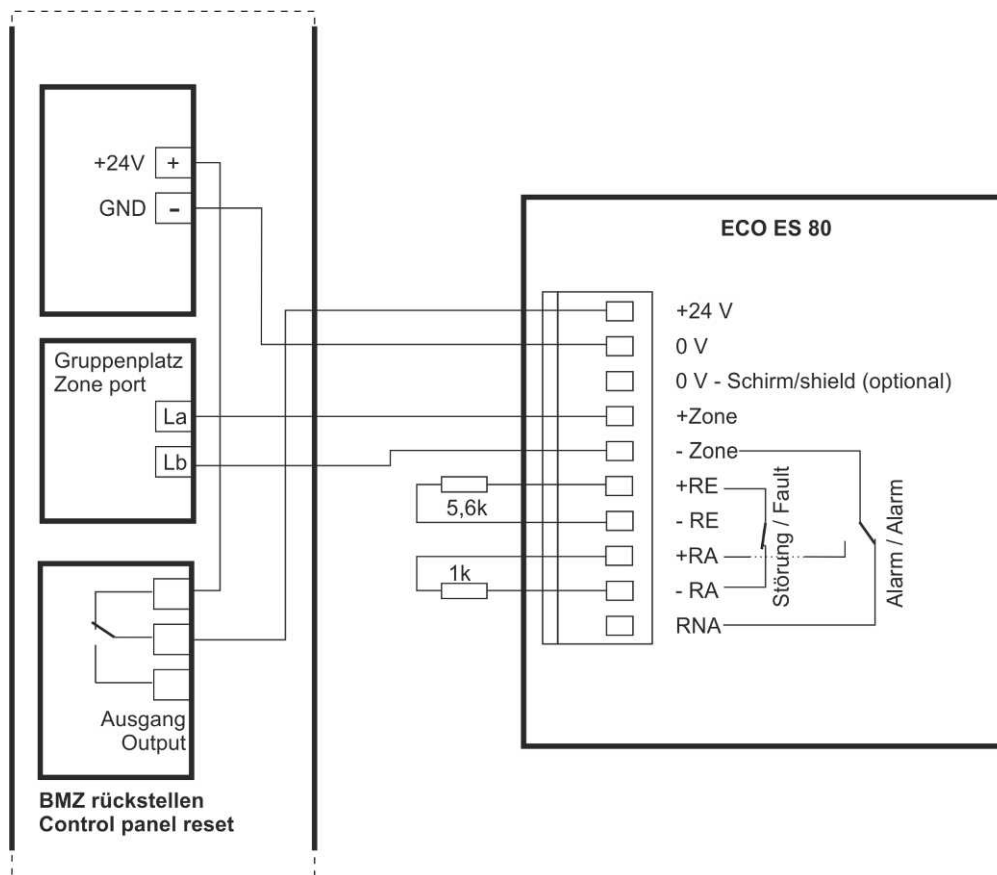
An alarm verification according to EN 54-2 Type A / Type B is not permissible.

2.12.26 Beam Smoke Detector ECO ES 80

2.12.26.1 Connection – resetting by means of MQZ1000-1



2.12.26.2 Connection – resetting via relay output



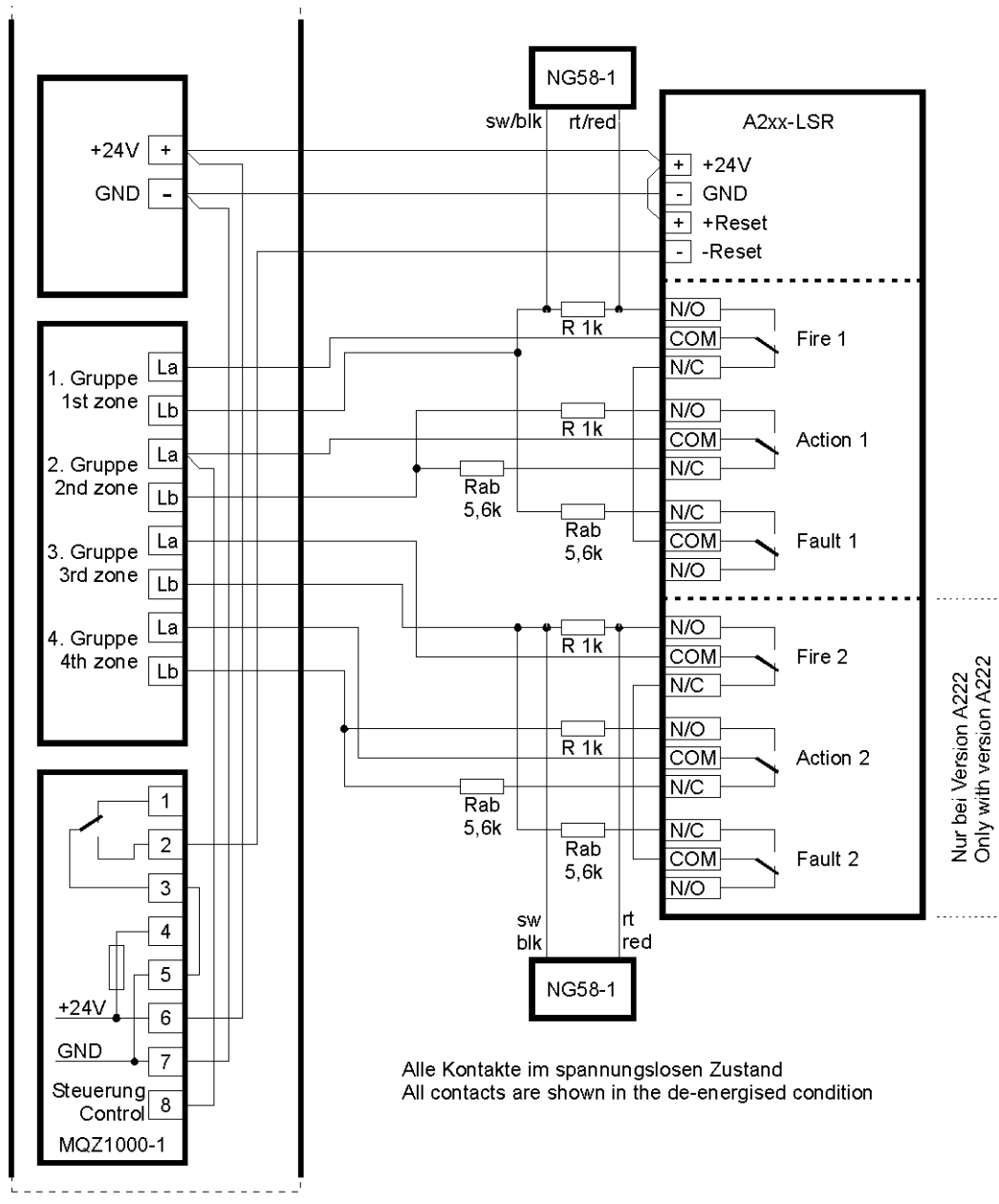
An alarm verification according to EN 54-2 Type A / Type B is not permissible.

2.13 Aspirating smoke detectors

2.13.1 Aspirating smoke detectors A211E-LSR and A222E-LSR

The aspirating smoke detectors A211E-LSR and A222E-LSR are designed for ADM technology, but they can also be used in conventional technology.

2.13.1.1 Connection with MQZ1000-1

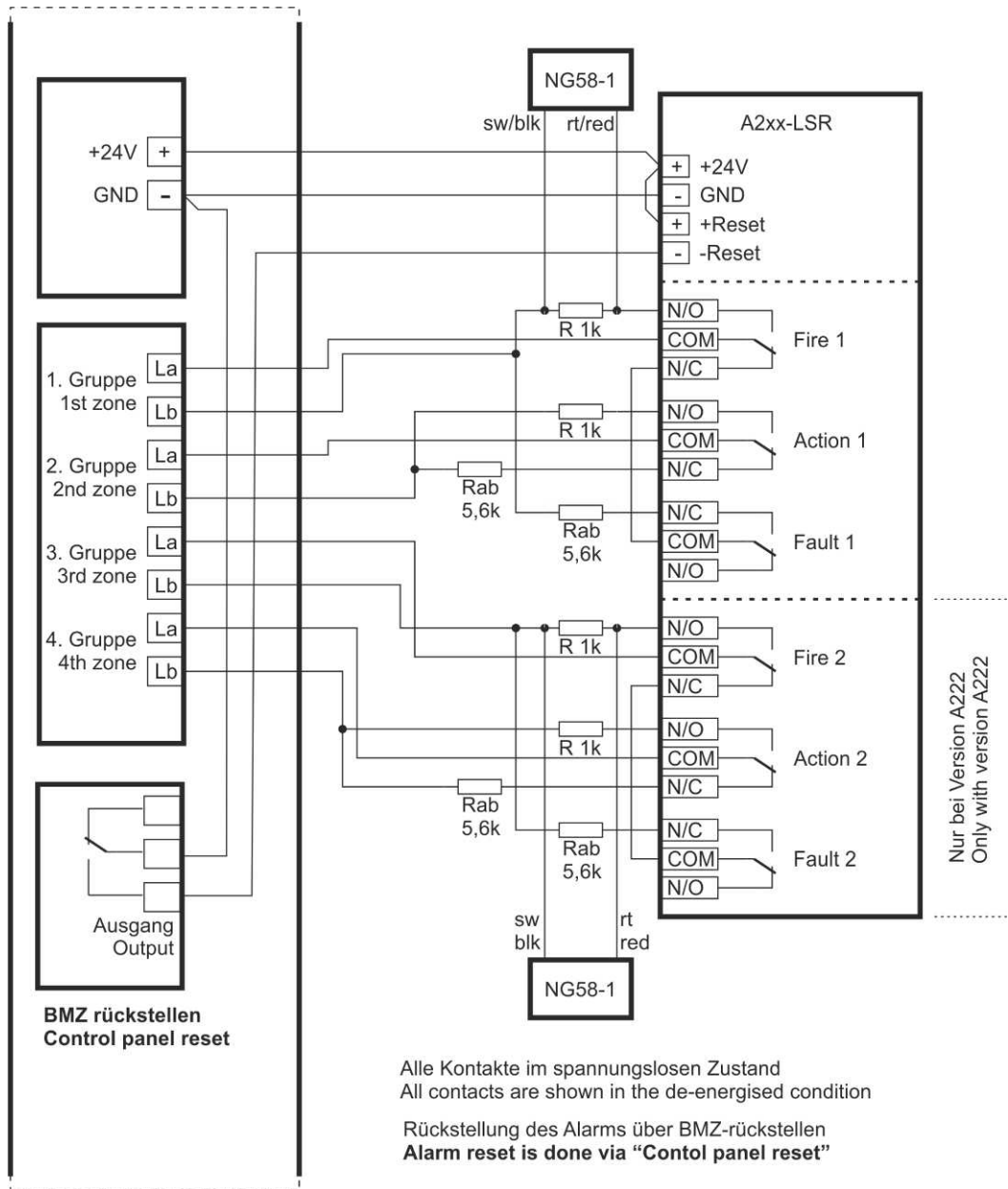


The aspirating smoke detector A211E-LSR has only one relay output each for Fire, Action and Fault and only one detector base.



Please note that if the detector zone is disabled, all detectors of this zone are no longer working!

2.13.1.2 Connection – resetting via relay output

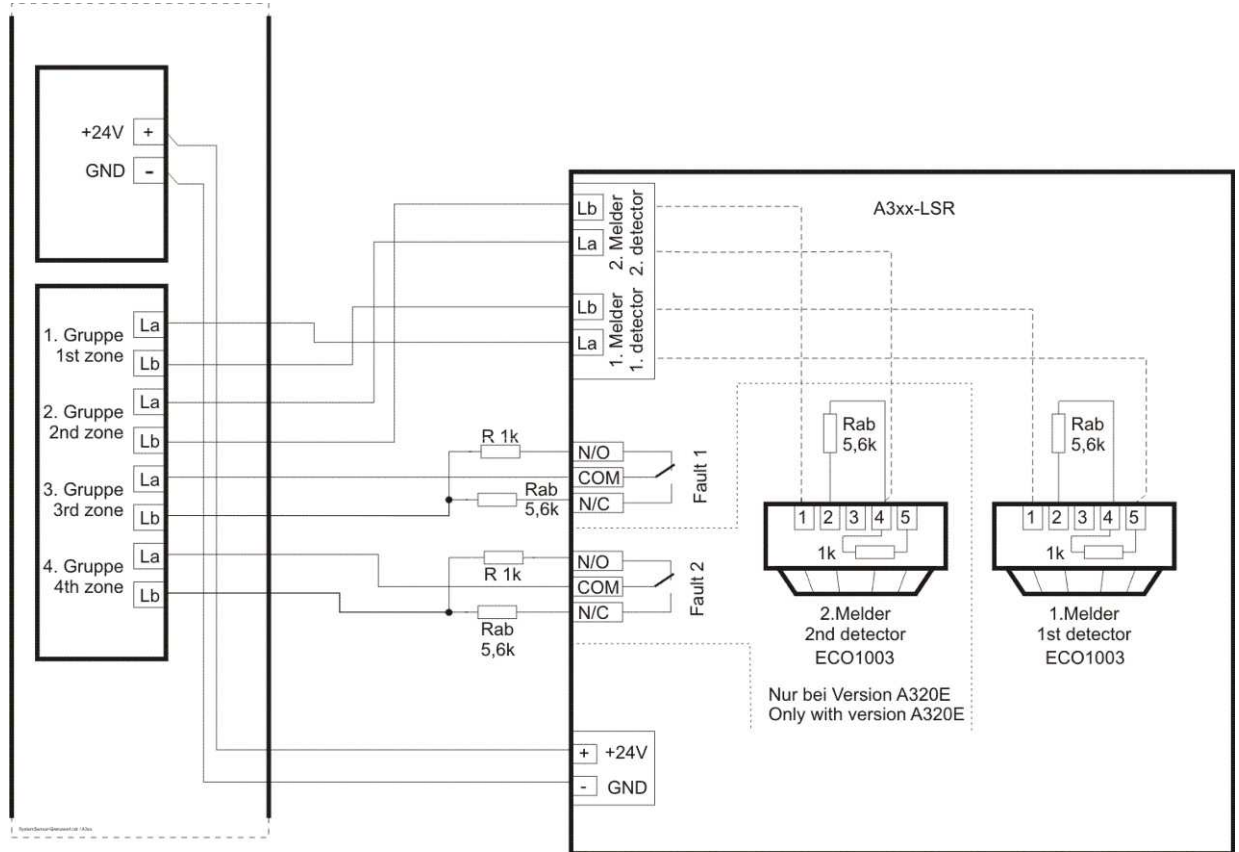


The aspirating smoke detector A211E-LSR has only one relay output each for Fire, Action and Fault and only one detector base.



Please note that if the detector zone is disabled, all detectors of this zone are no longer working!

2.13.2 Aspirating smoke detectors A310E and A320E



Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

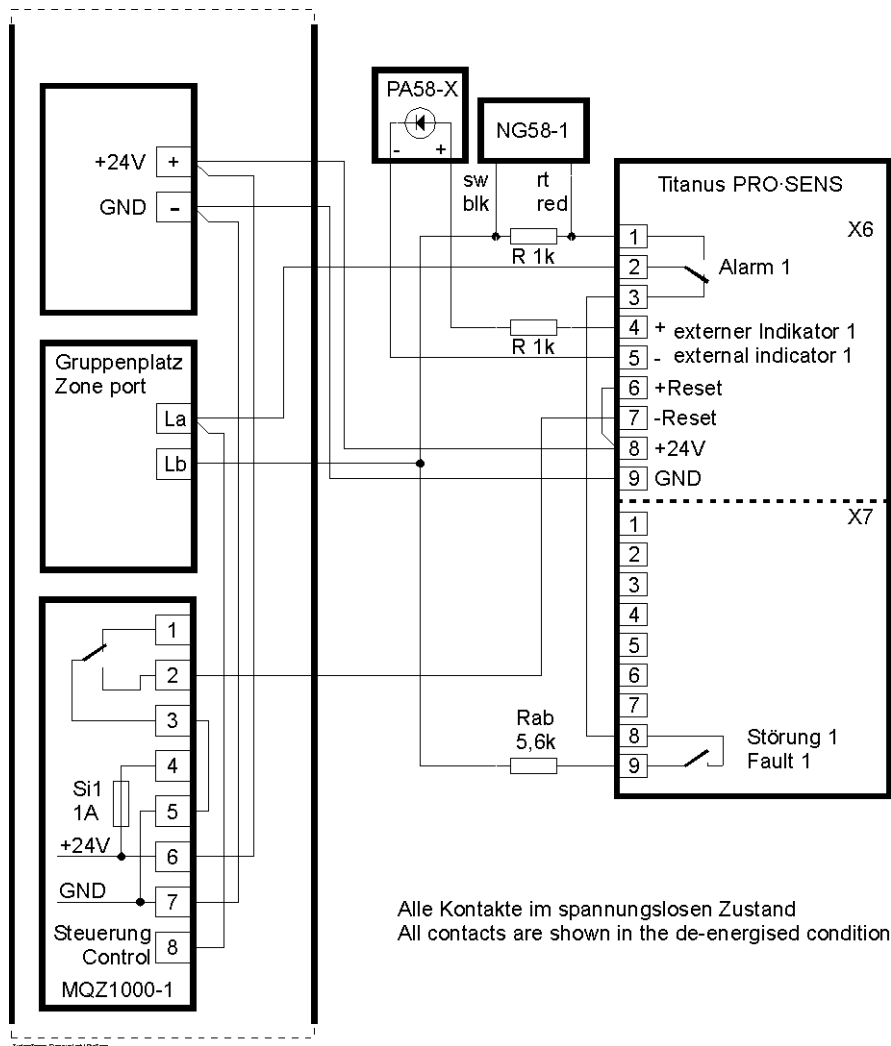
The outputs Fault 1 and Fault 2 are self-resetting and indicate faults of the A3xx. Fault messages of the optical detectors are indicated on the respective conventional detector zone.



Please note that if the detector zone is disabled, all detectors of this zone are no longer working!

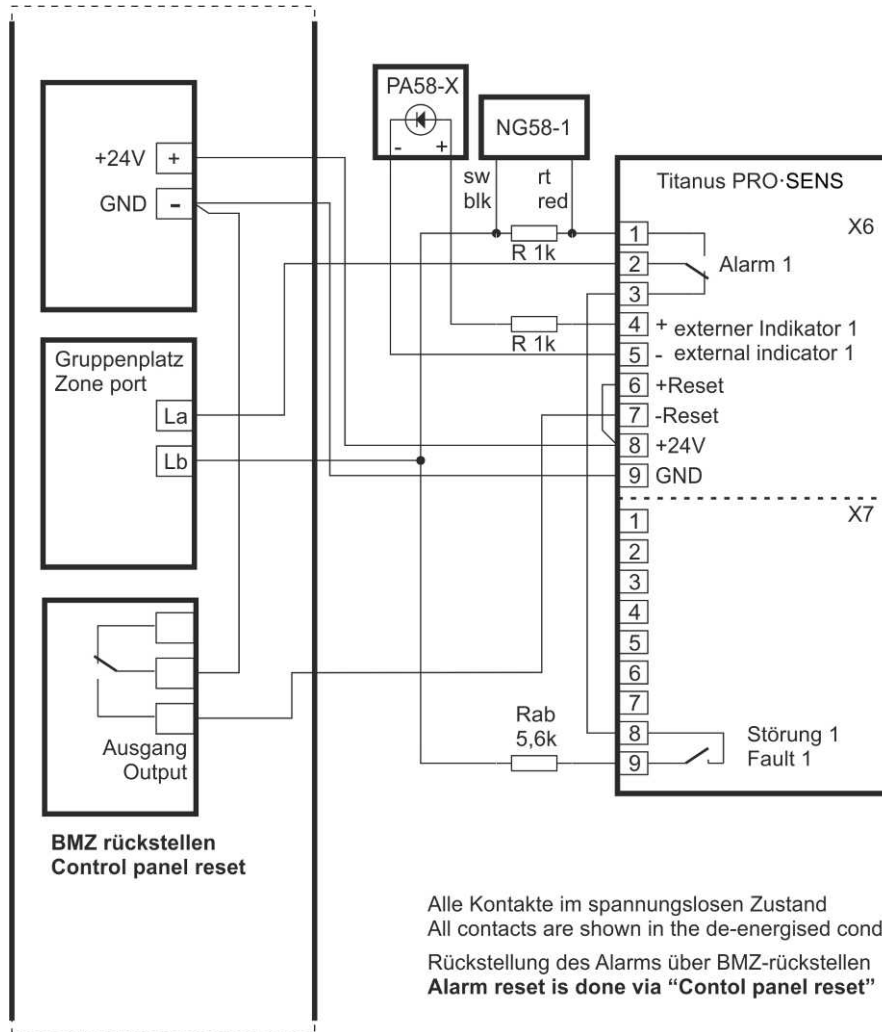
2.13.3 Aspirating smoke detector Titanus PRO·SENS – TP1/A

2.13.3.1 Connection of an aspirating smoke detector with MQZ1000-1



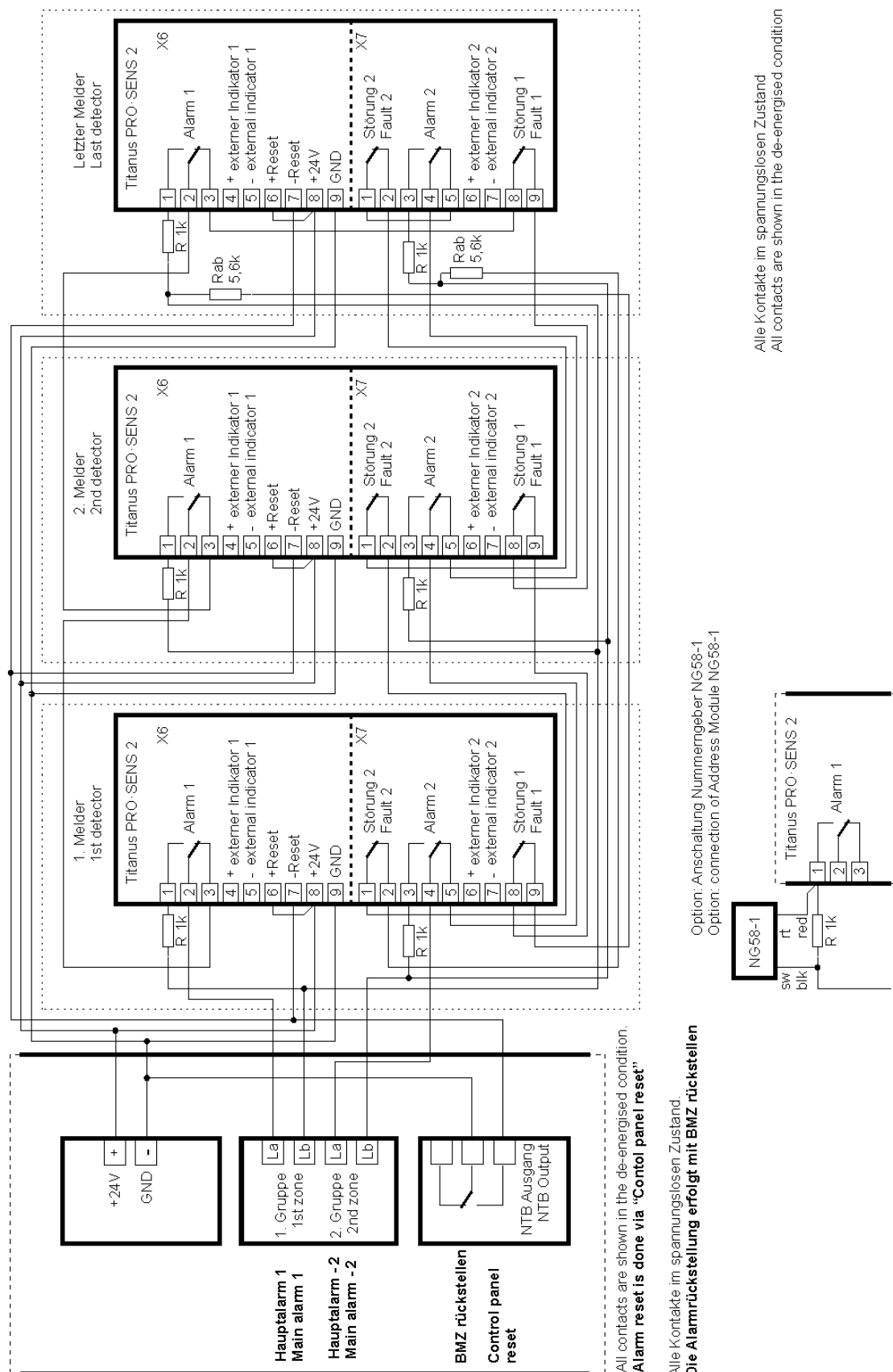
On pin connector JU2/3 (main printed circuit board), the jumper has to be set to position 1-2, which means that the fault relay is set to operate as NORMALLY OPEN contact.

2.13.3.2 Connection of an aspirating smoke detector – resetting by means of relay contact



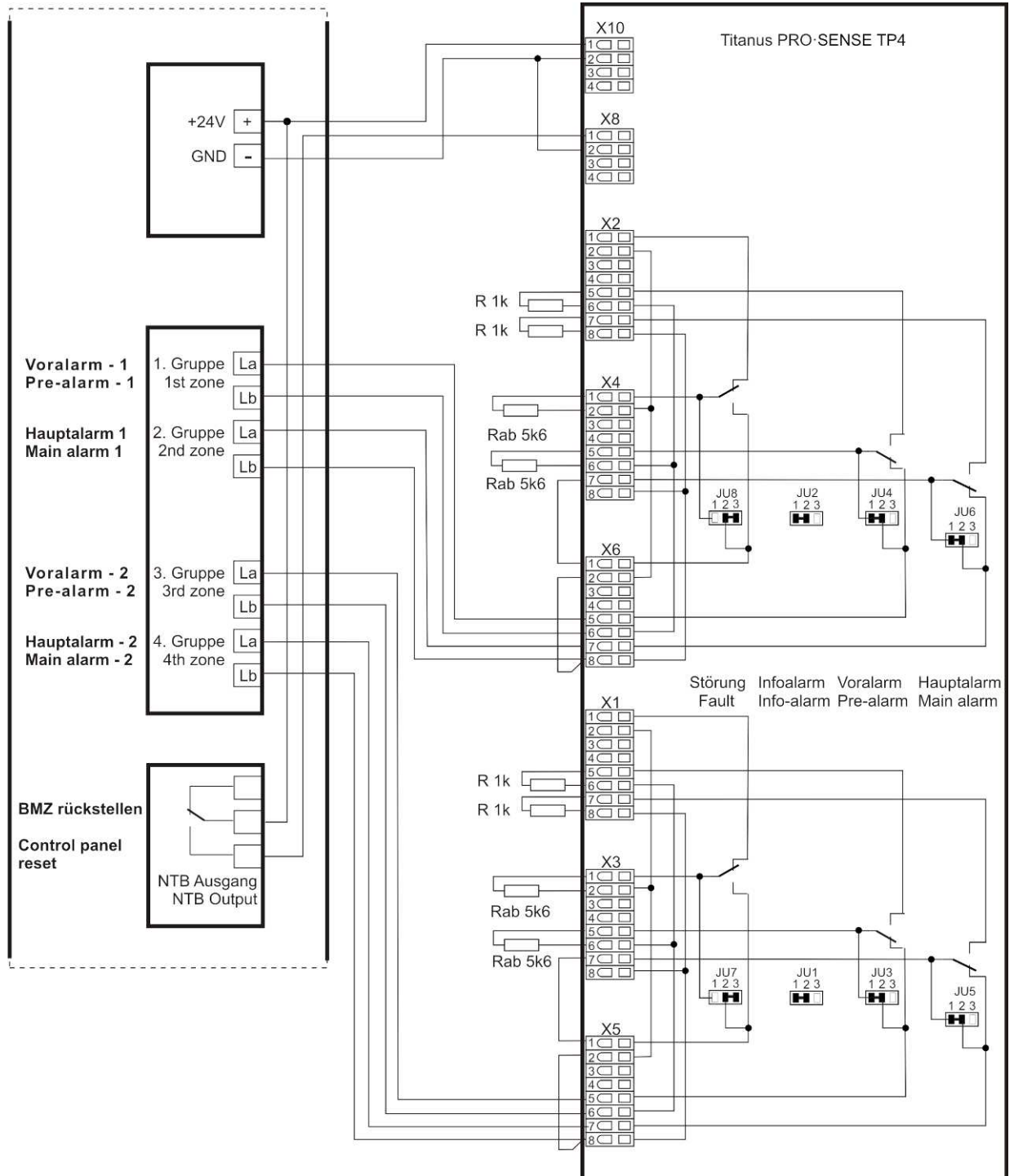
On pin connector JU2/3 (main printed circuit board), the jumper has to be set to position 1-2. In this way, the fault relay is set to operate as NORMALLY OPEN contact.

2.13.4 Aspirating smoke detector Titanus PRO·SENS – TP1/A with two channels



On pin connector JU2/3 (main printed circuit board), the jumper has to be set to position 1-2, which means that the fault relay is set to operate as NORMALLY OPEN contact.

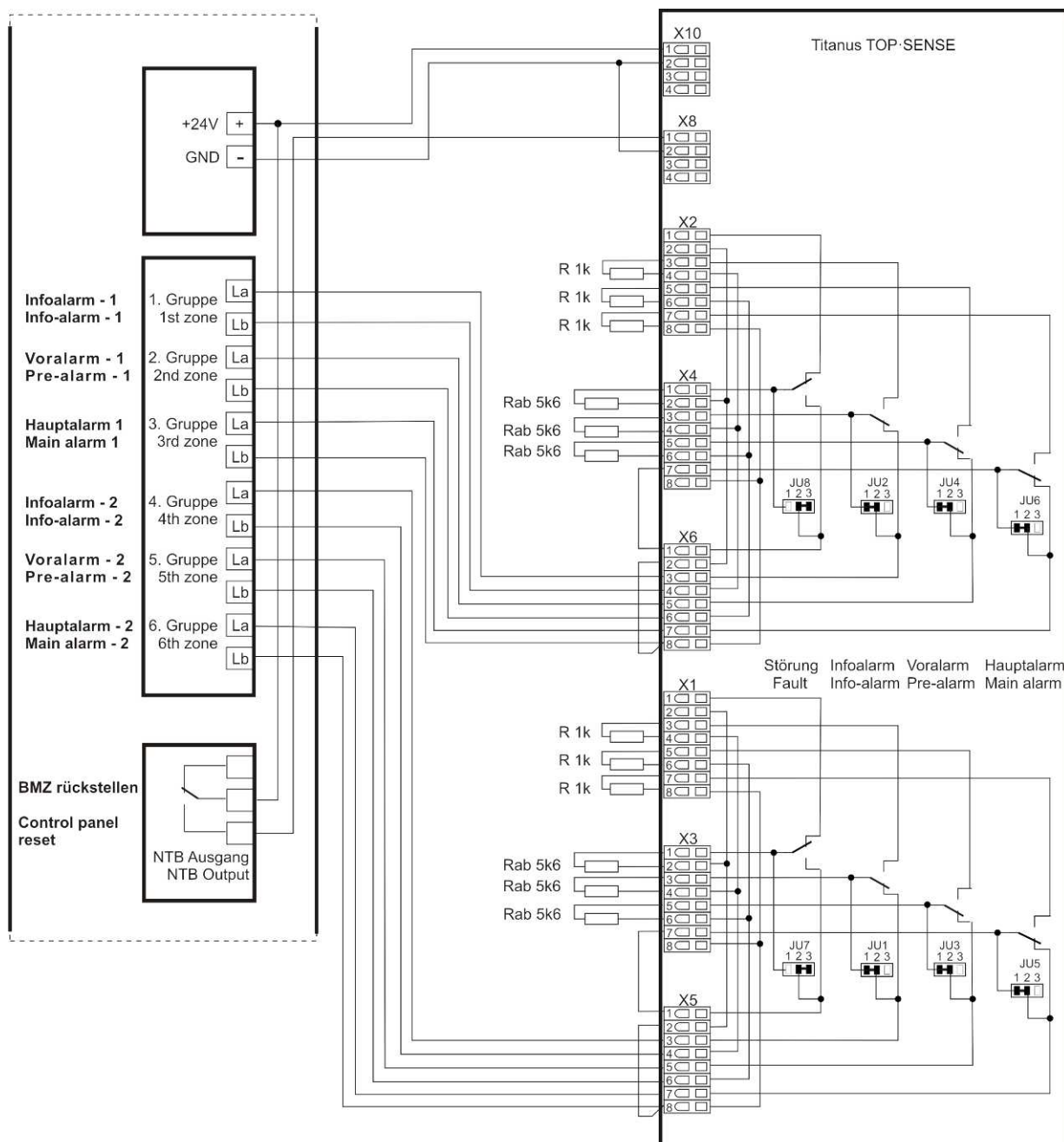
2.13.5 Aspirating smoke detector Titanus PRO·SENS – TP-4



All contacts are shown in the de-energised condition.
Alarm reset is done via "Control panel reset"

Alle Kontakte im spannungslosen Zustand.
Die Alarmrückstellung erfolgt mit BMZ rückstellen

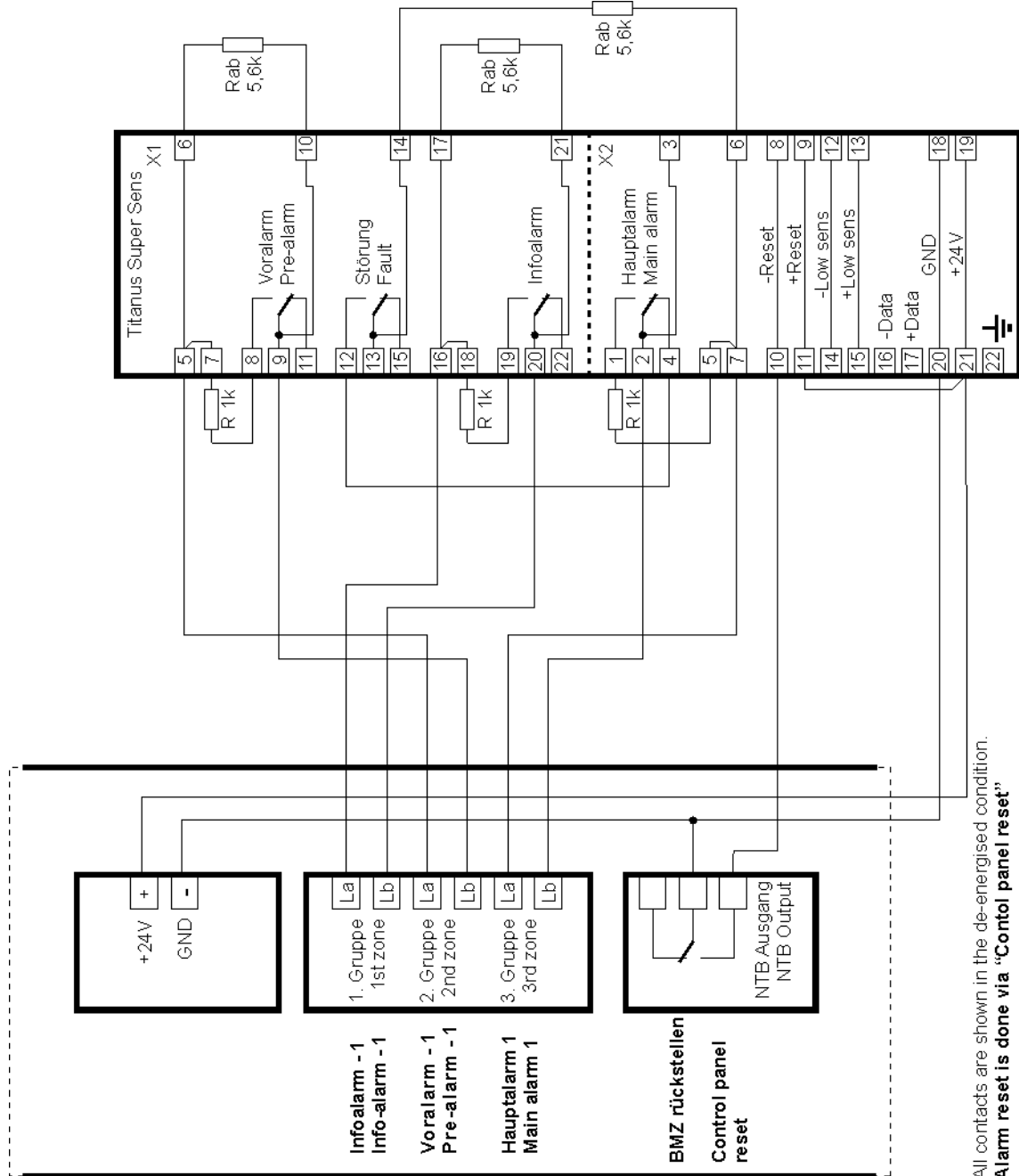
2.13.6 Aspirating smoke detector Titanus TOP·SENS – TT-1



All contacts are shown in the de-energised condition.
Alarm reset is done via "Control panel reset"

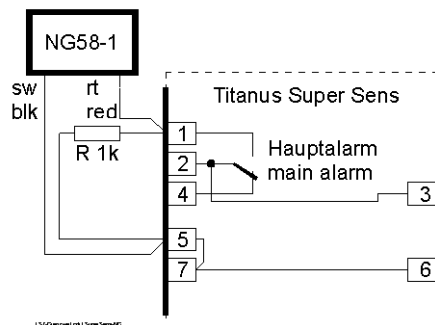
Alle Kontakte im spannungslosen Zustand.
Die Alarmrückstellung erfolgt mit BMZ rückstellen

2.13.7 Aspirating smoke detector Titanus Super Sens – T-SS

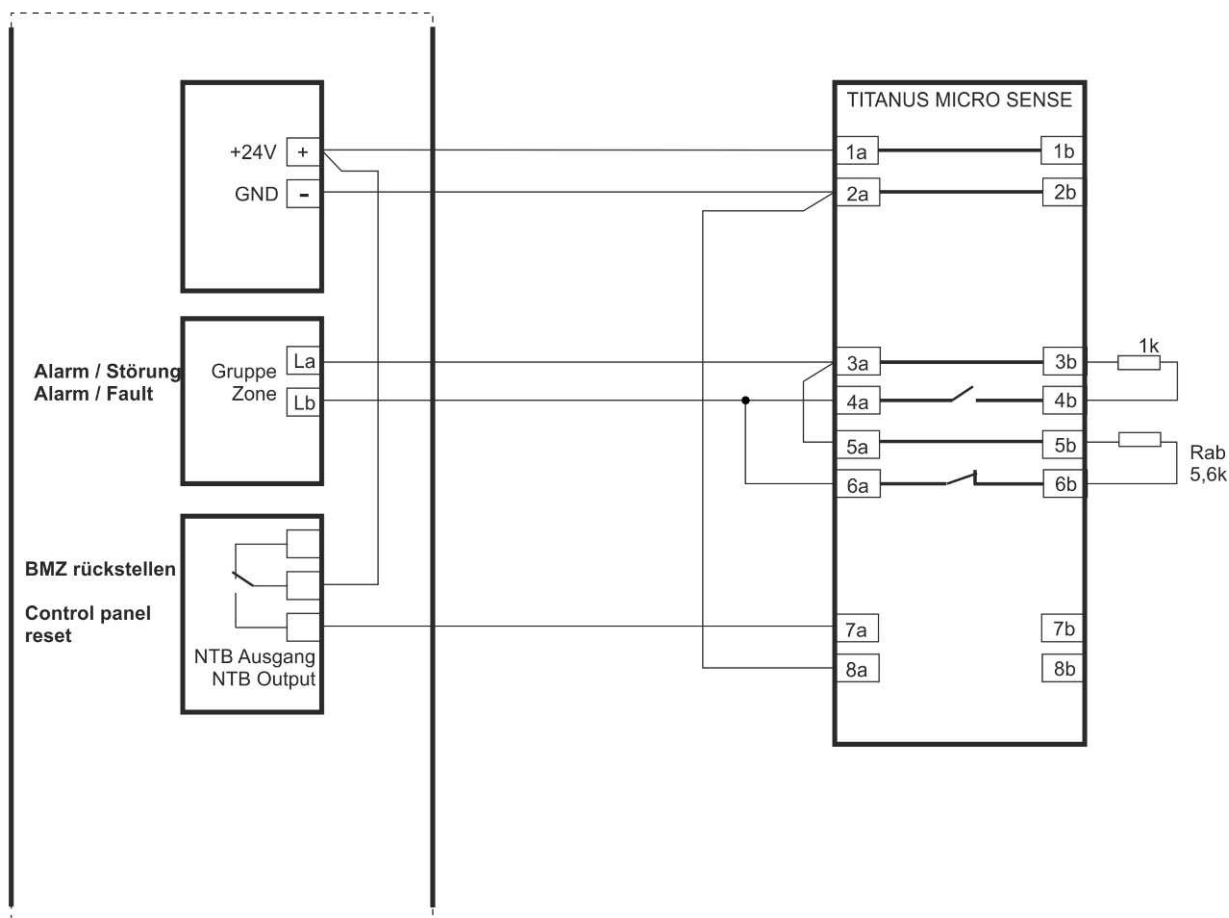


Connection of the address module

Option: Anschaltung Nummerngeber NG58-1
 option: connection address module NG58-1



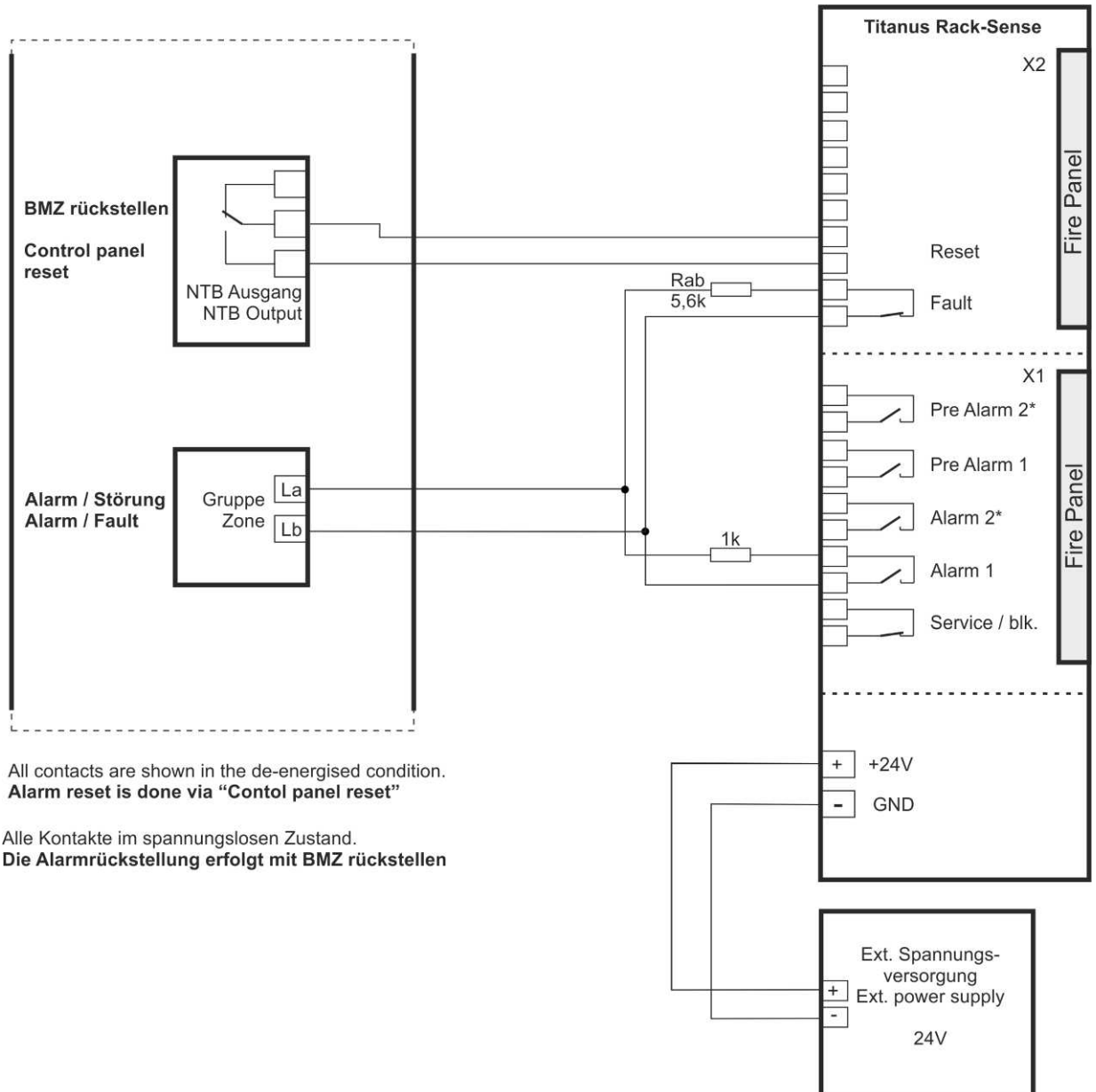
2.13.8 Aspirating smoke detector Titanus MICRO SENSE



All contacts are shown in the de-energised condition.
Alarm reset is done via "Control panel reset"

Alle Kontakte im spannungslosen Zustand.
Die Alarmerückstellung erfolgt mit BMZ rückstellen

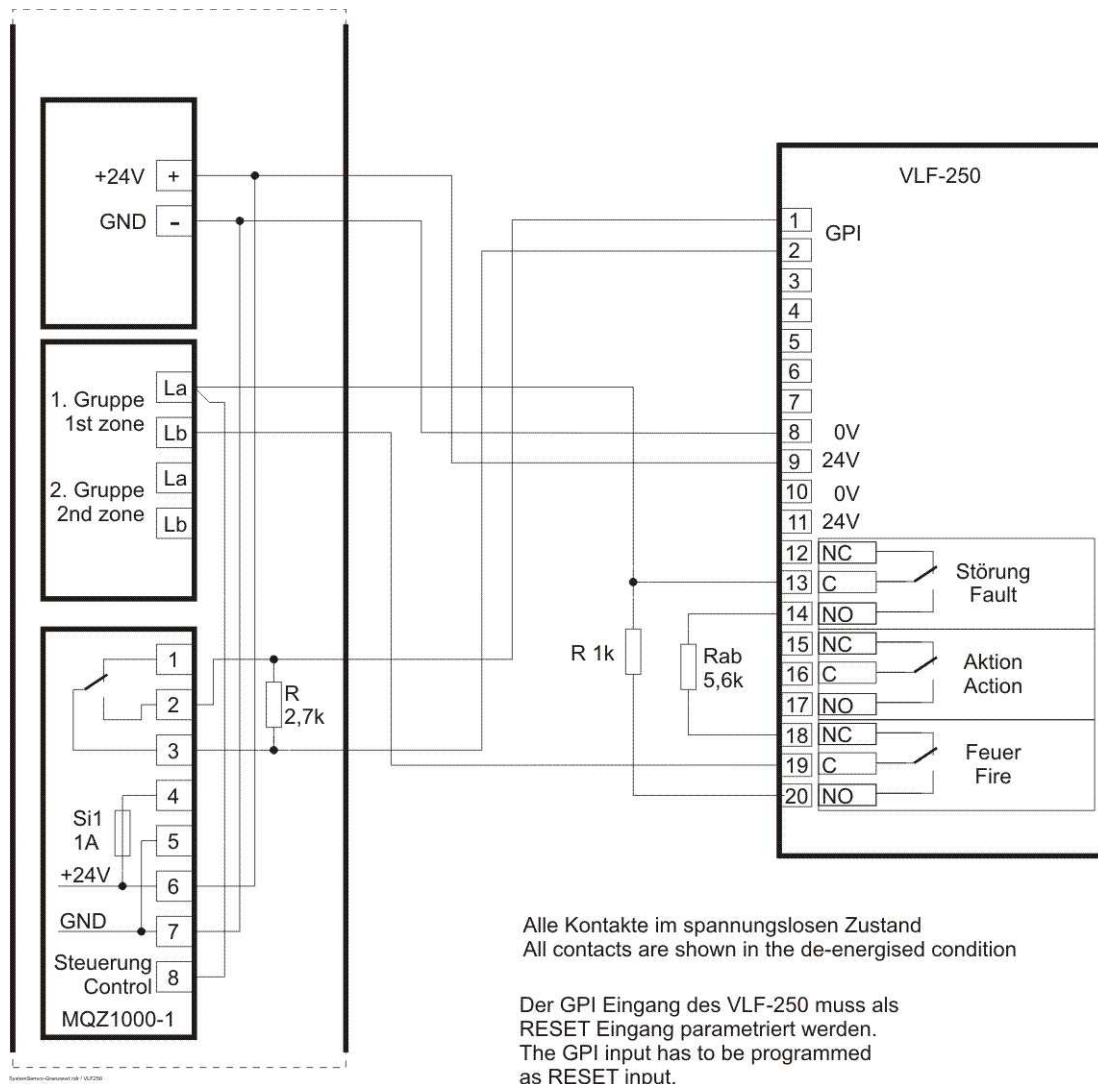
2.13.9 Aspirating smoke detector Titanus RACK SENSE



The reset input of the Rack-Sense must be actuated without applying a potential.

2.13.10 Aspirating smoke detector Vesda VLF-250 / VLF-500

2.13.10.1 Connection with MQZ1000-1

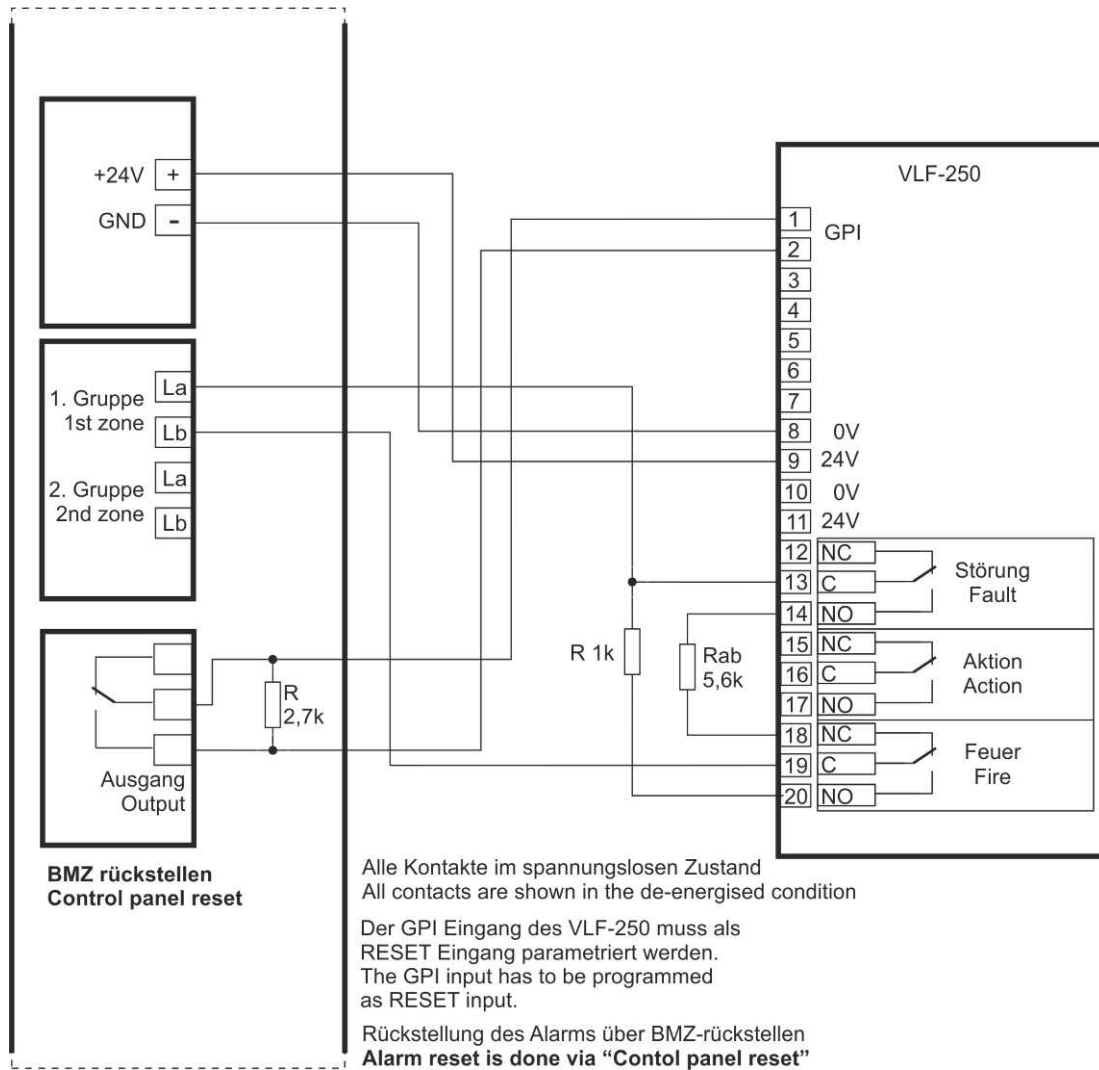


You need a special software for the setup and commissioning of the Smoke Aspiration System Vesda VLF-250 / VLF-500.



The aspirating smoke detector Vesda VLF-500 has the same terminal configuration as the VLF-250.

2.13.10.2 Connection – resetting by means of relay contact



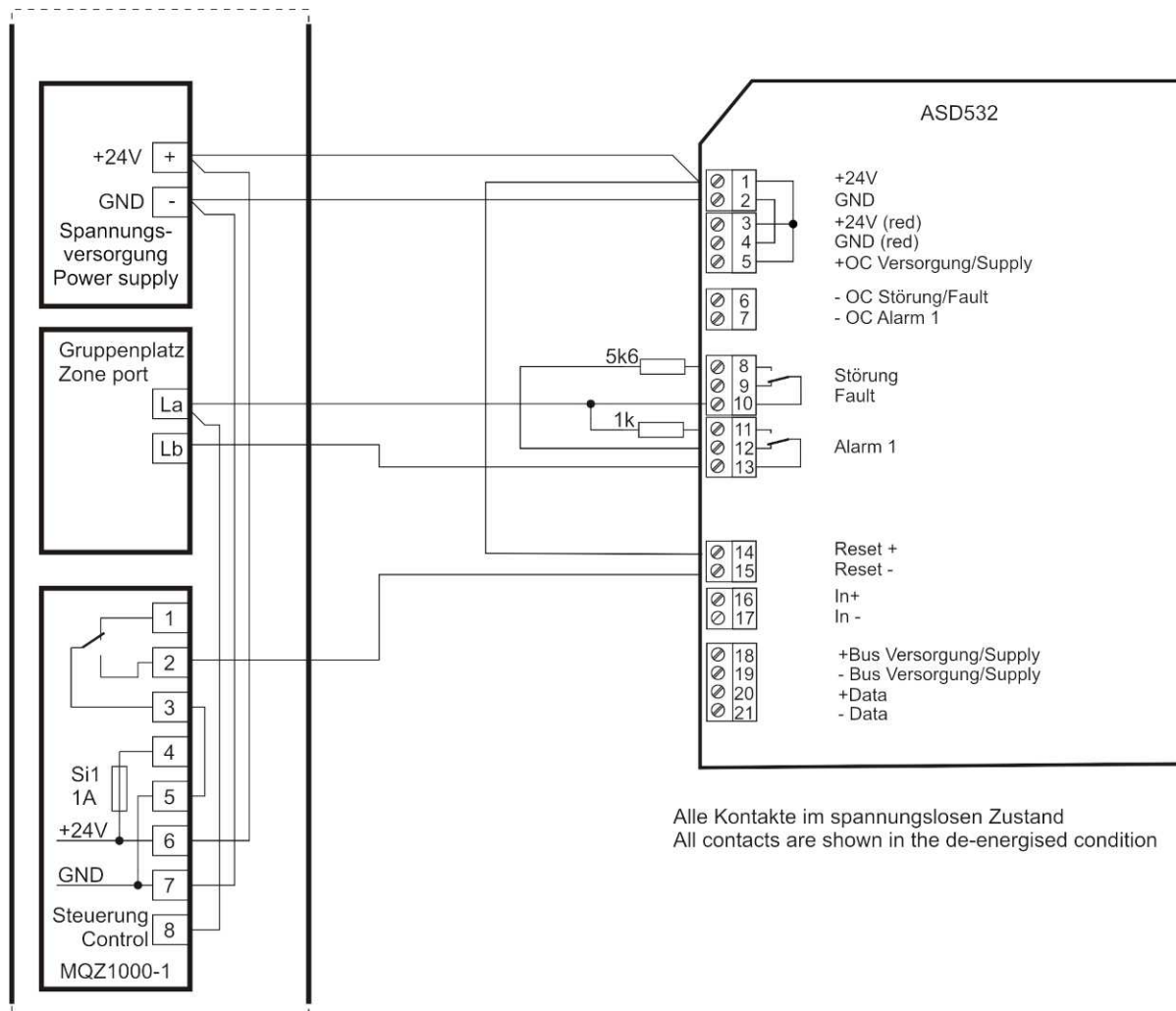
You need a special software for the setup and commissioning of the Smoke Aspiration System Vesda VLF-250 / VLF-500.



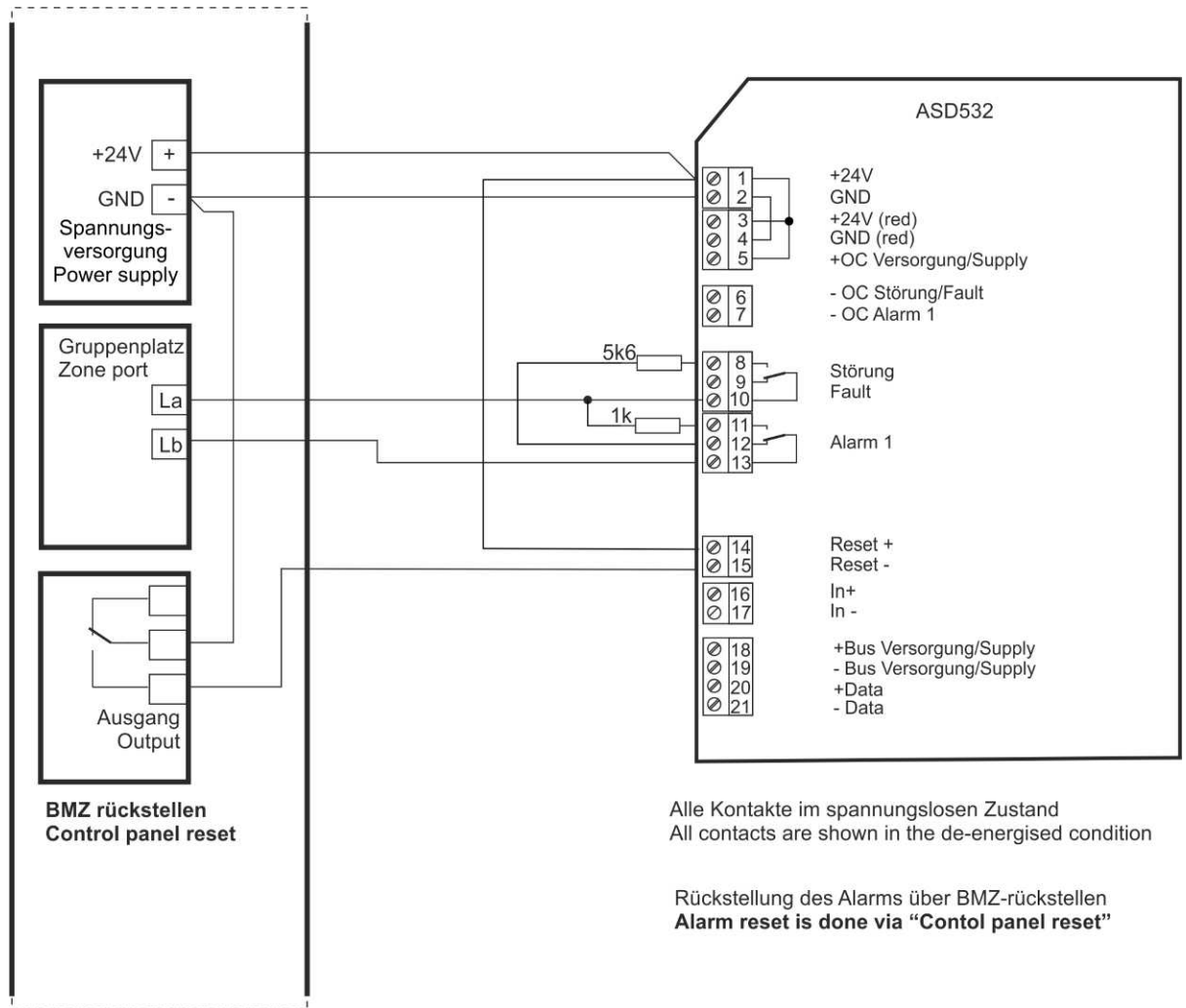
The Smoke Aspiration System Vesda VLF-500 has the same terminal configuration as the VLF-250.

2.13.11 Aspirating smoke detector ASD532

2.13.11.1 Connection with MQZ1000-1

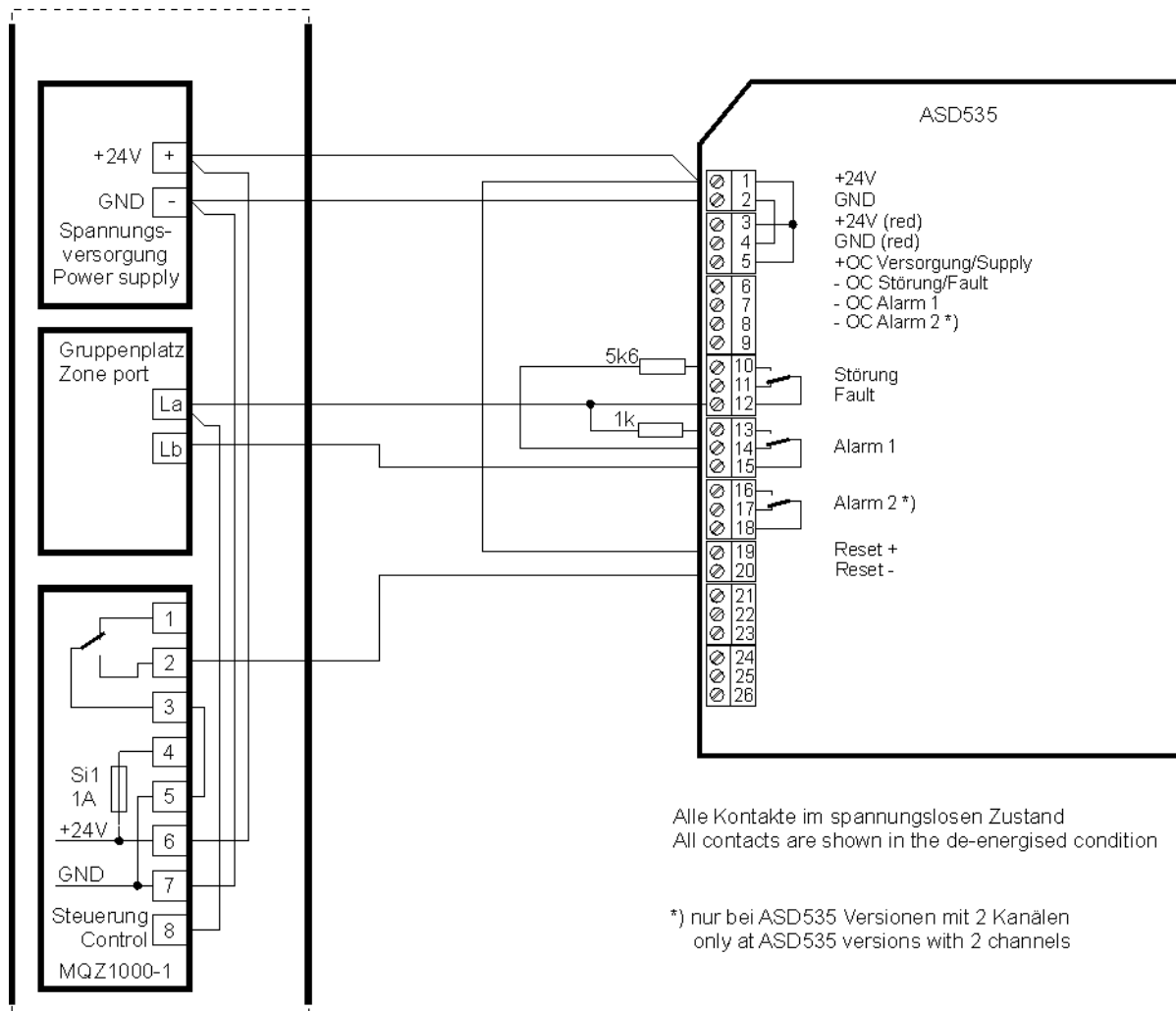


2.13.11.2 Connection – resetting by means of relay contact

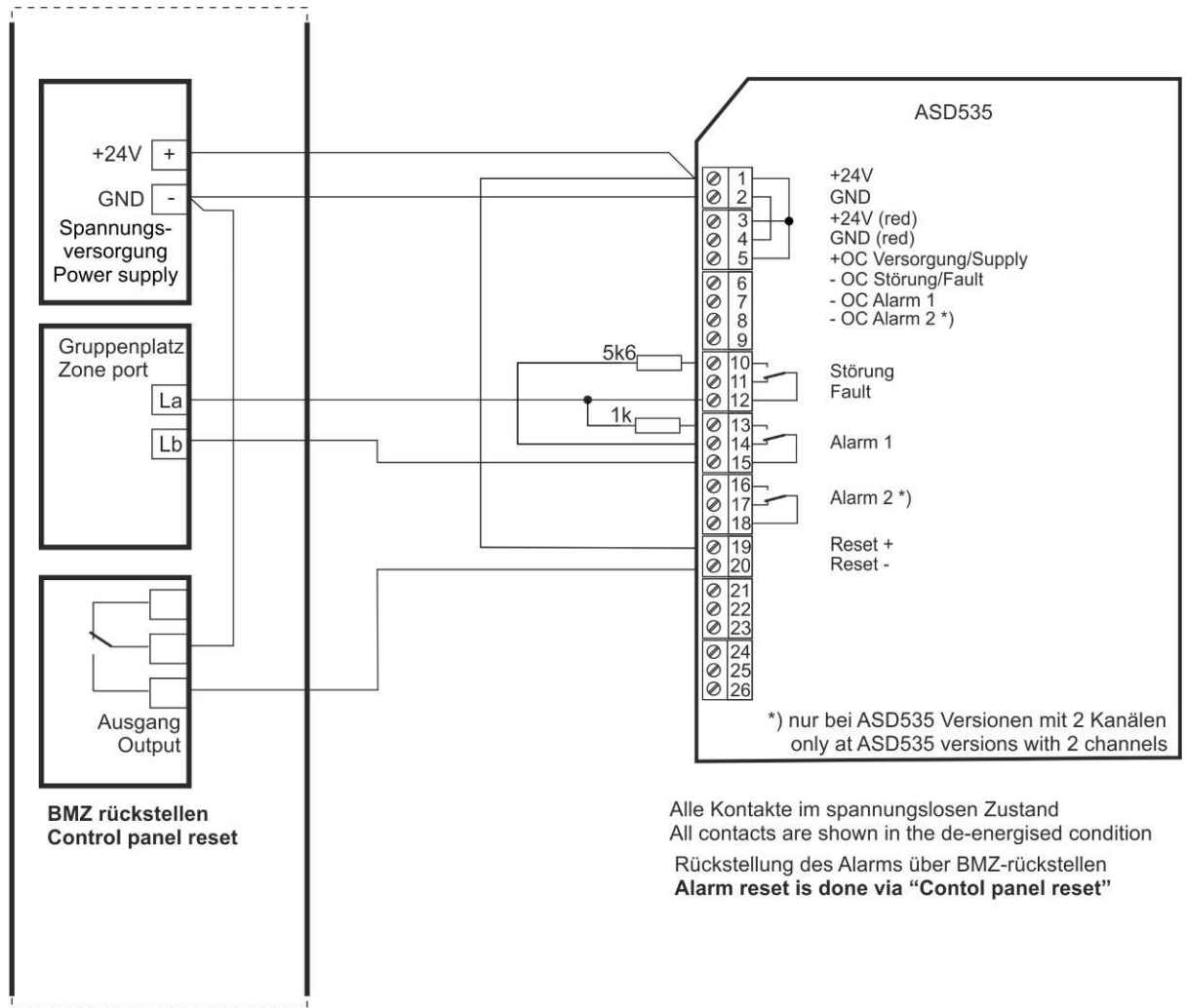


2.13.12 Aspirating smoke detector ASD535 – 1 channel

2.13.12.1 Connection with MQZ1000-1

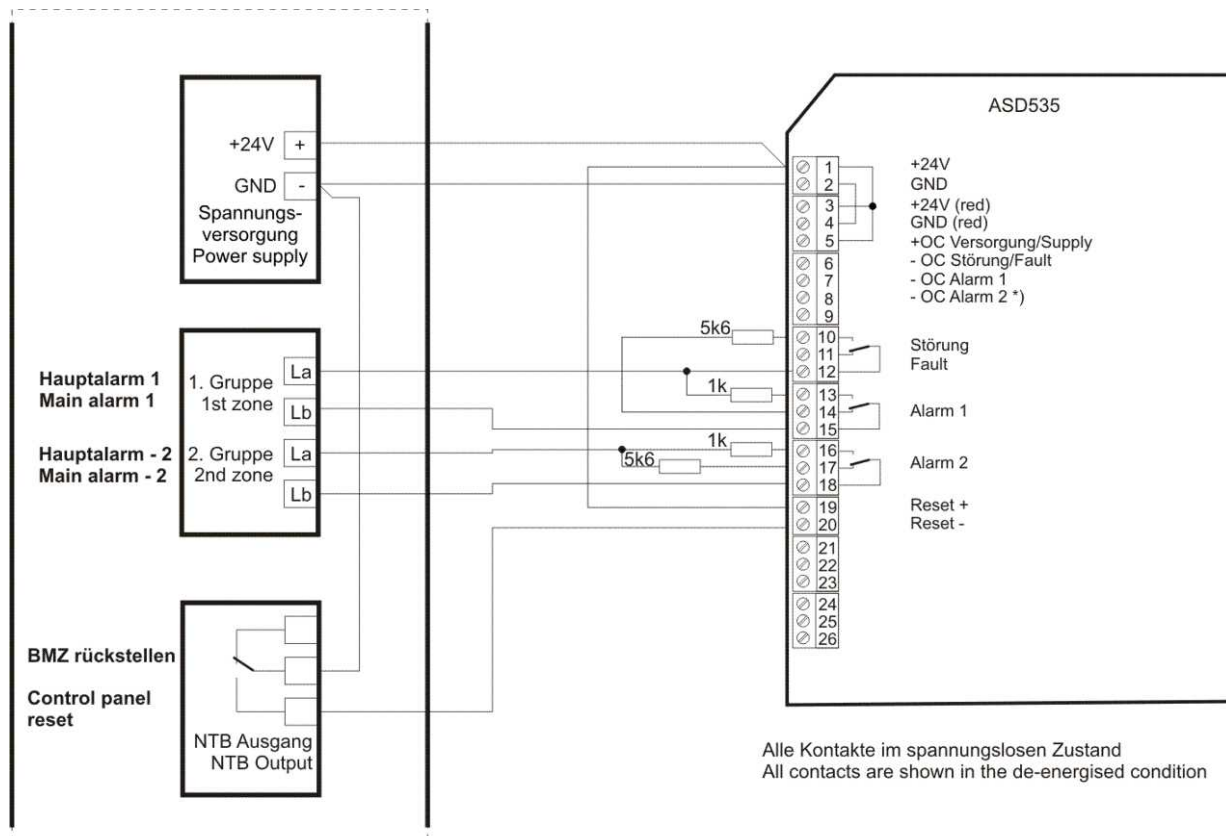


2.13.12.2 Connection – resetting by means of relay contact



2.13.13 Aspirating smoke detector ASD535 – 2 channels

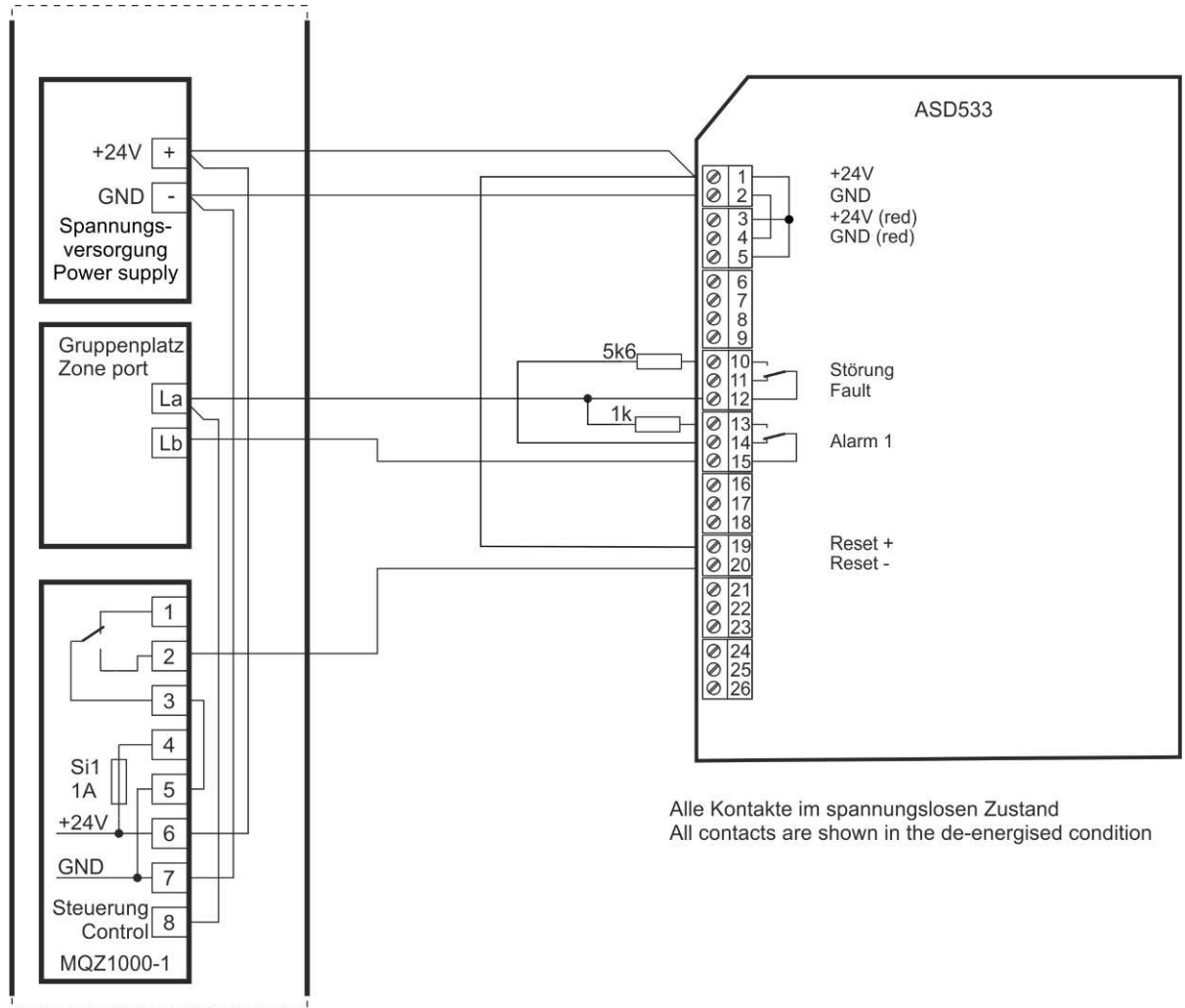
Connection if the ASD535 is equipped with 2 channels:



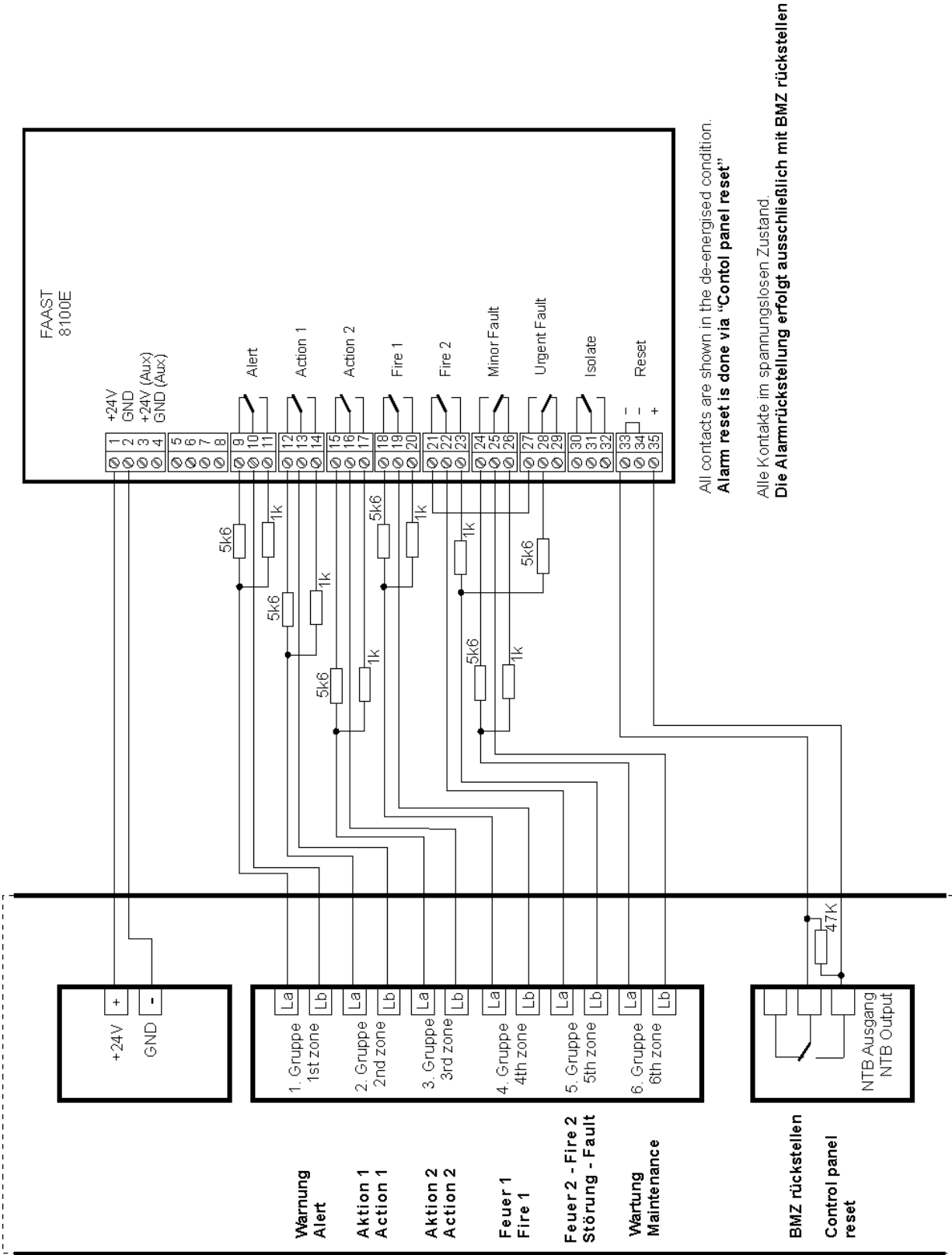
All contacts are shown in the de-energised condition.
Alarm reset is done via "Contol panel reset"

Alle Kontakte im spannungslosen Zustand.
Die Alarmrückstellung erfolgt mit BMZ rückstellen

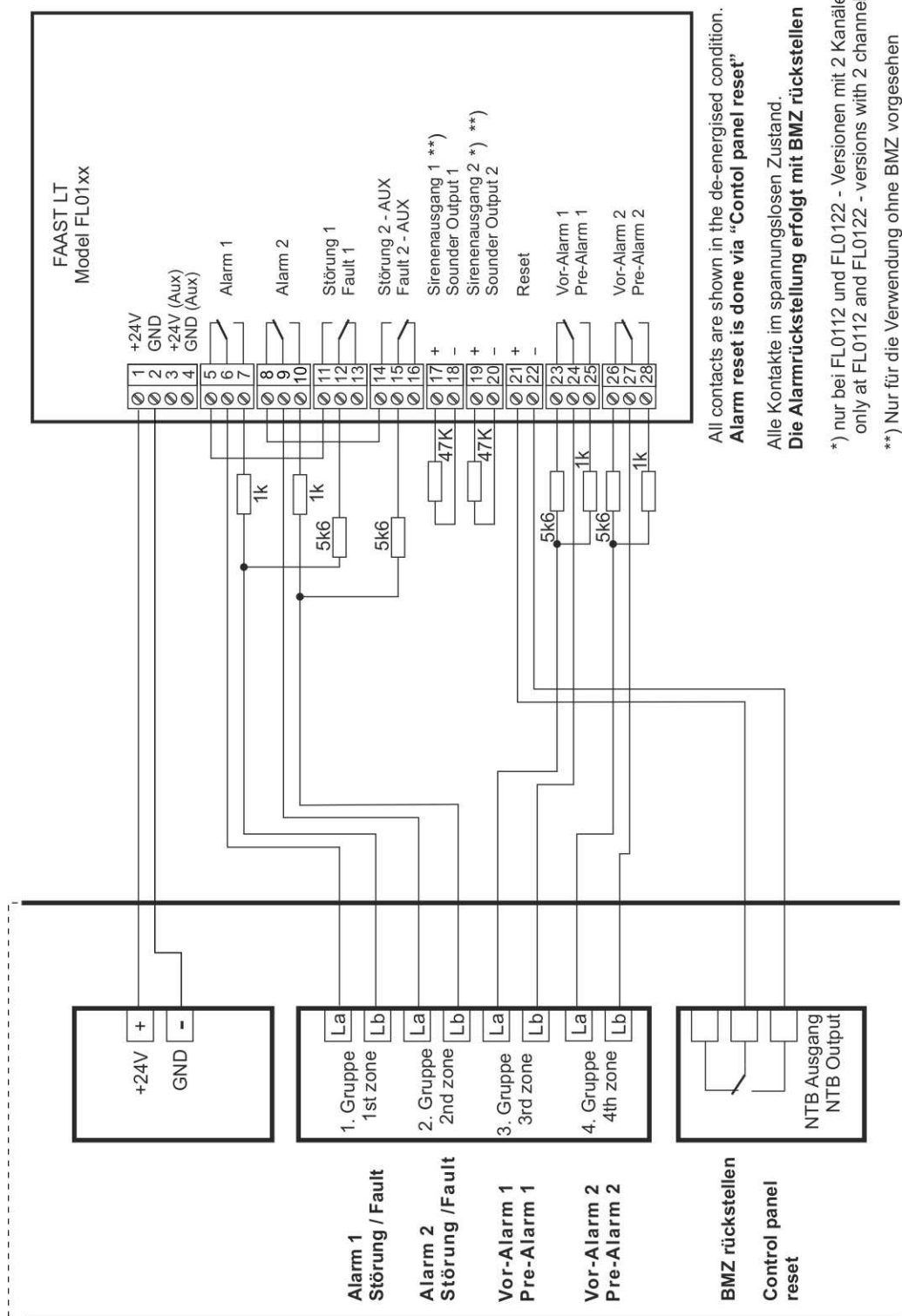
2.13.14 Aspirating smoke detector ASD533



2.13.15 Aspirating smoke detector FFAST 8100E



2.13.16 Aspirating smoke detector FAAST LT – model FL01xx – with 2 channels

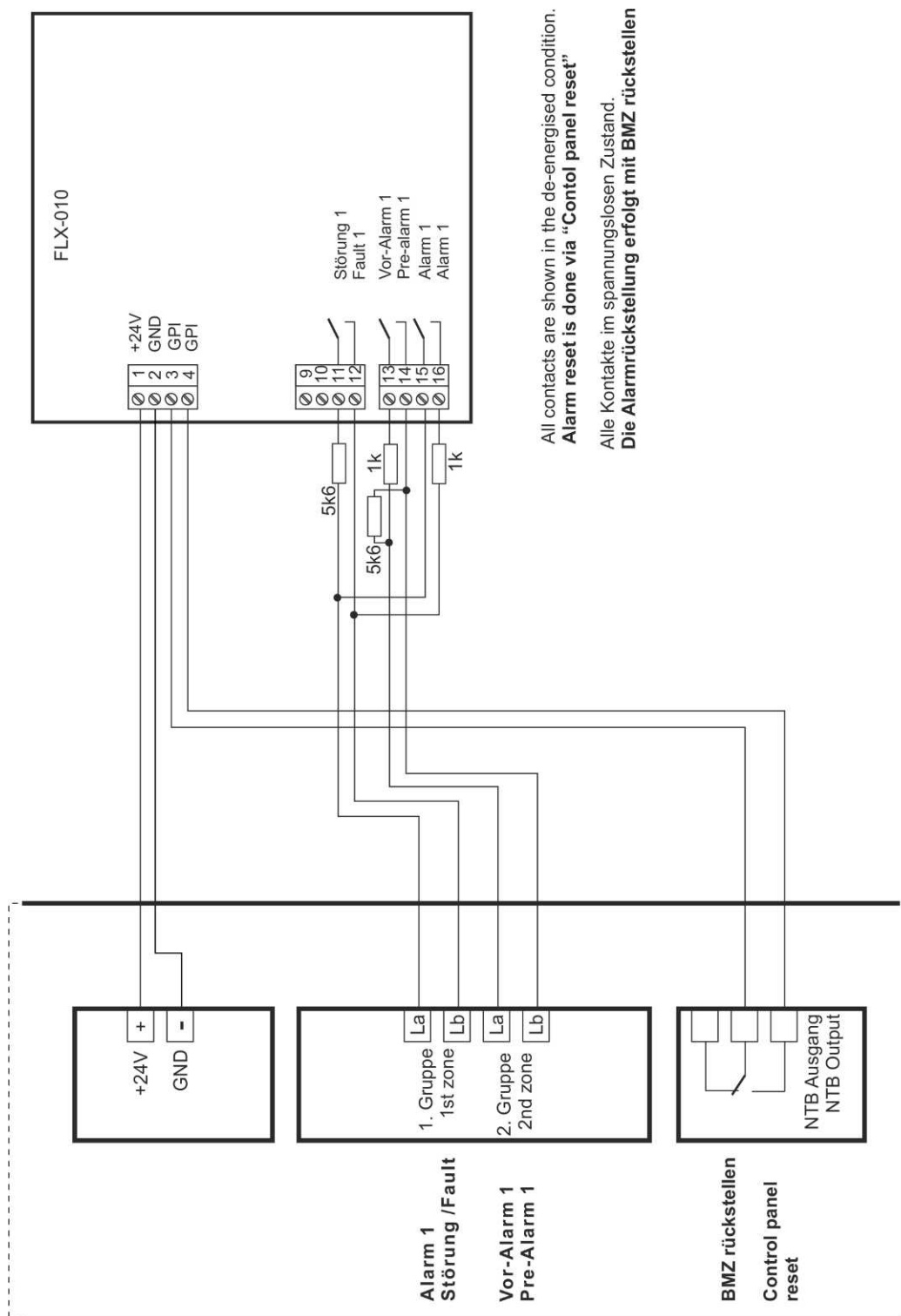


The **Optical Laser Smoke Detector F-SEN-SSE** (Art. No. 241124) serves as a replacement for the laser smoke sensor that is installed in an aspirating smoke detector Series FAAST LT. The detector is electrically and functionally identical with the Optical Laser Smoke Detector 72051EI, but for reasons of space it is integrated in a flatter housing. The Optical Laser Smoke Detector F-SEN-SSE is intended exclusively for installation in an aspirating smoke detector. An Optical Laser Smoke Detector F-SEN-SSE of an aspirating smoke detector can be replaced without difficulty with a detector of the same type.



If an Optical Laser Smoke Detector 7251 of a FAAST LT is replaced with a detector F-SEN-SSE, the **firmware of the aspirating smoke detector must also be updated**. For this purpose, we will provide you with the manufacturer's instructions, if necessary.

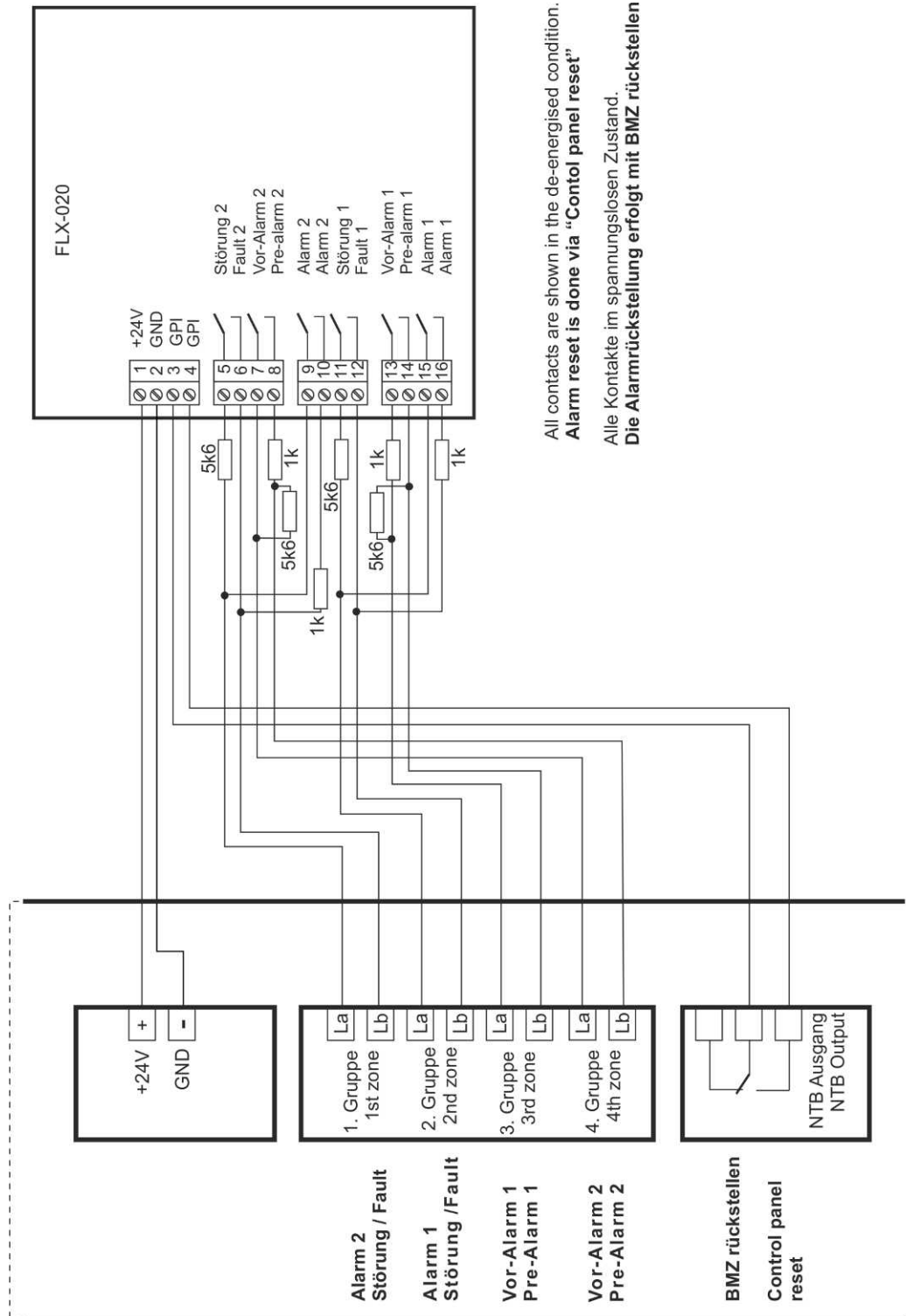
2.13.17 Aspirating smoke detector FFAST FLEX – model FLX-010 – with 1 channel



According to the installation instructions, the conditions alarm, pre-alarm and fault only allow their property Latched or Unlatched to be set jointly.

If "Latched" has been set, every message must be deleted with a control panel reset.

2.13.18 Aspirating smoke detector FAAST FLEX – model FLX-020 – with 2 channels



All contacts are shown in the de-energised condition.
Alarm reset is done via "Control panel reset"

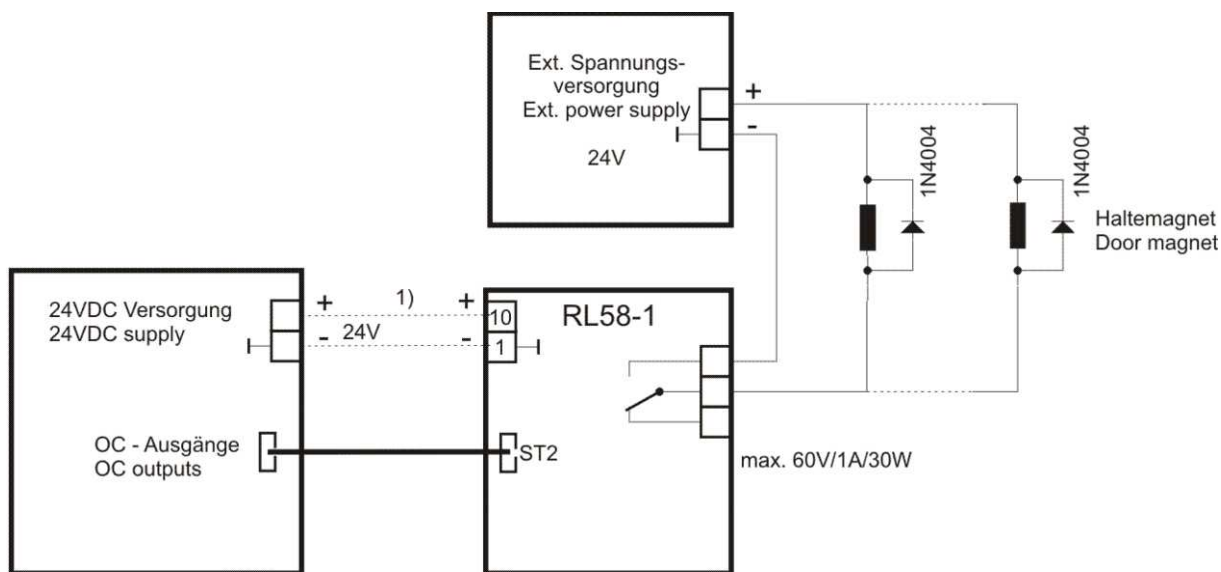
Alle Kontakte im spannungslosen Zustand.
Die Alarmrückstellung erfolgt mit BMZ rückstellen



According to the installation instructions, the conditions alarm, pre-alarm and fault only allow their property Latched or Unlatched to be set jointly.
If "Latched" has been set, every message must be deleted with a control panel reset.

2.14 Connection of door magnets

When connecting door magnets, you have to make sure that the nominal current through the relay contact is not exceeded. In addition, a separate 24VDC supply and a clamping diode 1N4004 have to be used for the door magnet.

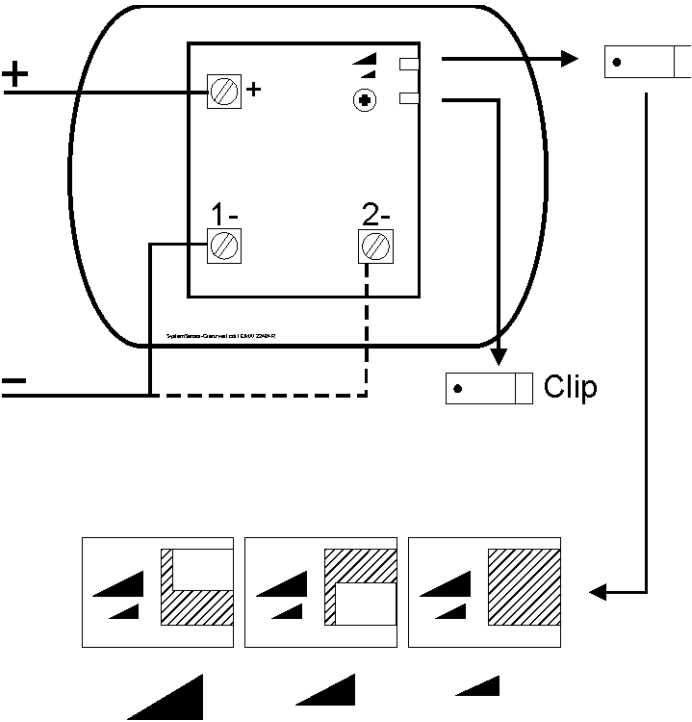


1) Getrennte 24VDC Versorgung nur erforderlich in Abhängigkeit der verwendeten Baugruppe (siehe Handbuch B der LST BMZ)
Independent 24VDC power supply only needed in dependency of the used componentry (see Manual B of the LST fire panel)

2.15 Connection of sirens

This section shows the connection of conventional sounders and strobes.
An end-of-line element has to be connected to the last alarming device, if a monitored siren output is used for the actuation.

2.15.1 Sounder EMA1224B4x



The connection and setting of the siren tone is explained in the following table.
ATTENTION: the old version and the new version differ just slightly in their type code.

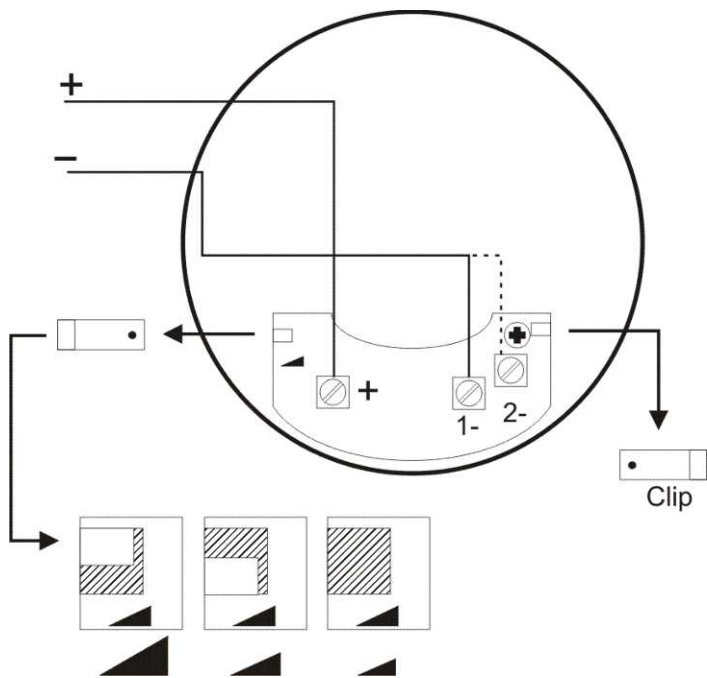
2.15.1.1 Sounder EMA1224B4R D / EMA1224B4W D (old version)

Connection Screw Terminals			Clip	Tone
+	1-	2-		
✓	✓		✓	1200-500Hz DIN tone
✓		✓	✓	1200-500Hz DIN tone
✓	✓		removed	500-1200Hz Slow whoop tone
✓		✓	removed	800Hz continuous tone

2.15.1.2 Sounder EMA1224B4R-D / EMA1224B4W-D (new version)

Connection Screw terminals			Clip	Tone
+	1-	2-		
✓	✓		✓	1200-500Hz DIN tone
✓		✓	✓	800Hz continuous tone
✓	✓		removed	500-1200Hz Slow whoop tone
✓		✓	removed	1200-500Hz DIN tone

2.15.2 Sounder DBS1224B4x



The connection and setting of the siren tone is explained in the following table.

ATTENTION: the old version and the new version differ just slightly in their type code.

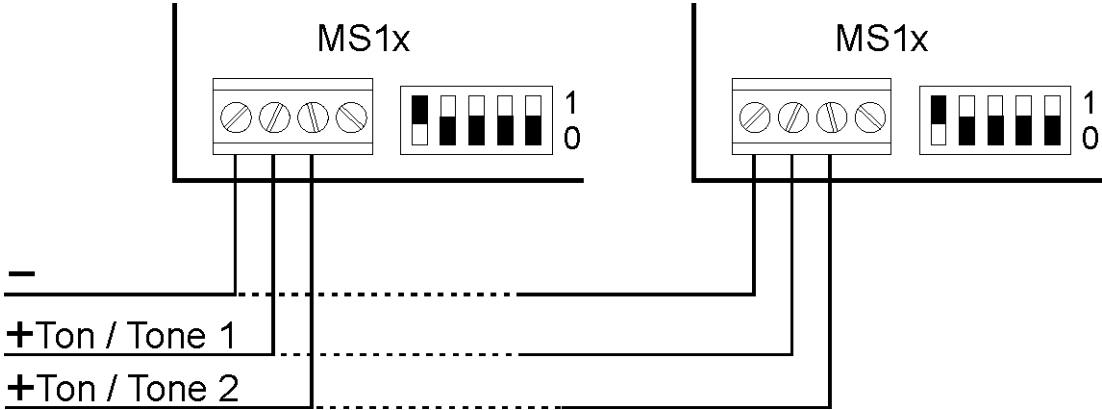
2.15.2.1 Sounder DBS1224B4W D (old version)

Connection Screw Terminals			Clip	Tone
+	1-	2-		
✓	✓			1200-500Hz DIN tone
✓		✓		1200-500Hz DIN tone
✓	✓		removed	500-1200Hz Slow whoop tone
✓		✓	removed	800Hz continuous tone

2.15.2.2 Sounder DBS1224B4W-D (new version)

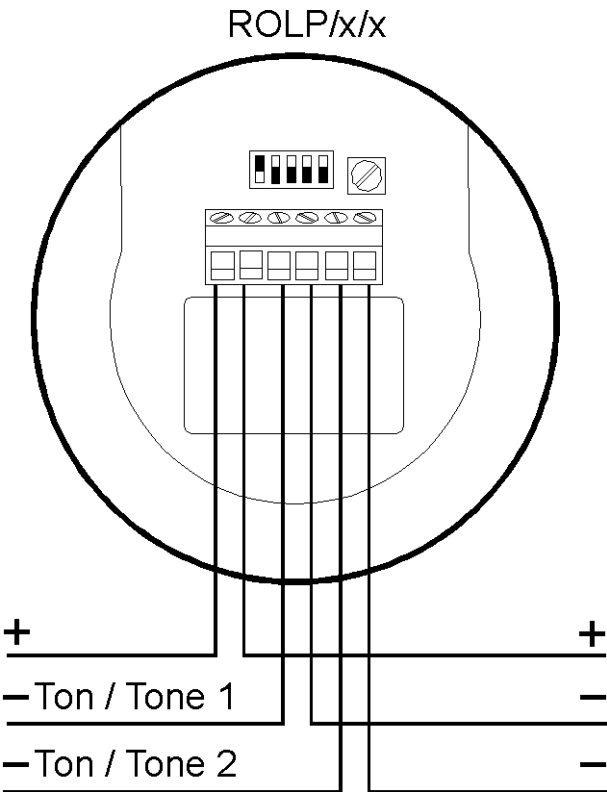
Connection Screw terminals			Clip	Tone
+	1-	2-		
✓	✓		✓	1200-500Hz DIN tone
✓		✓	✓	800Hz continuous tone
✓	✓		removed	500-1200Hz Slow whoop tone
✓		✓	removed	1200-500Hz DIN tone

2.15.3 Sounder MS1R



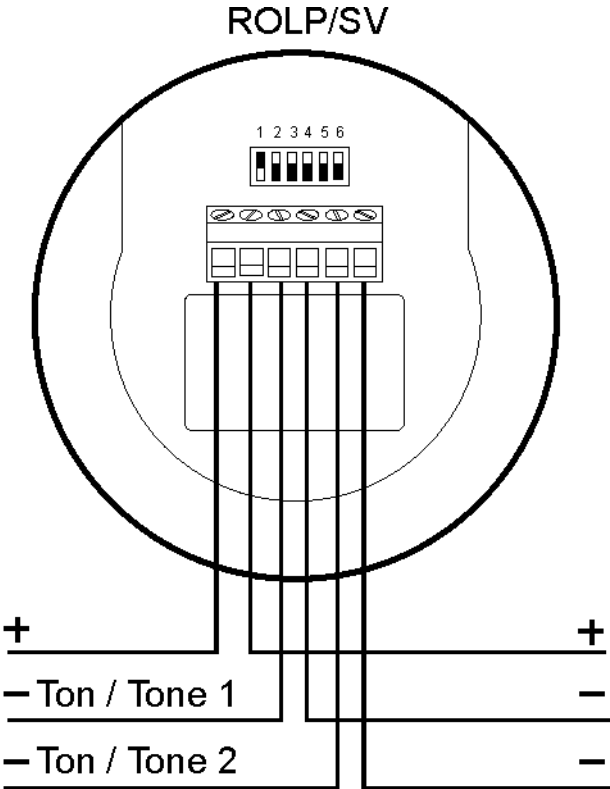
DIP switch					Tone 1	Tone 2
1	2	3	4	5		
1	0	0	0	0	1200-500Hz DIN tone	1000Hz continuous tone
0	1	0	0	0	500-1200Hz Slow whoop tone	1000Hz continuous tone

2.15.4 Sounder ROLP



DIP switch					Tone 1	Tone 2
1	2	3	4	5		
1	1	0	0	0	1200-500Hz DIN tone	970Hz – BS tone
1	1	0	0	1	500-1200Hz Slow whoop tone	970Hz – BS tone
1	0	0	1	0	970Hz – BS tone	970Hz – BS tone

2.15.5 Sounder ROLP/SV

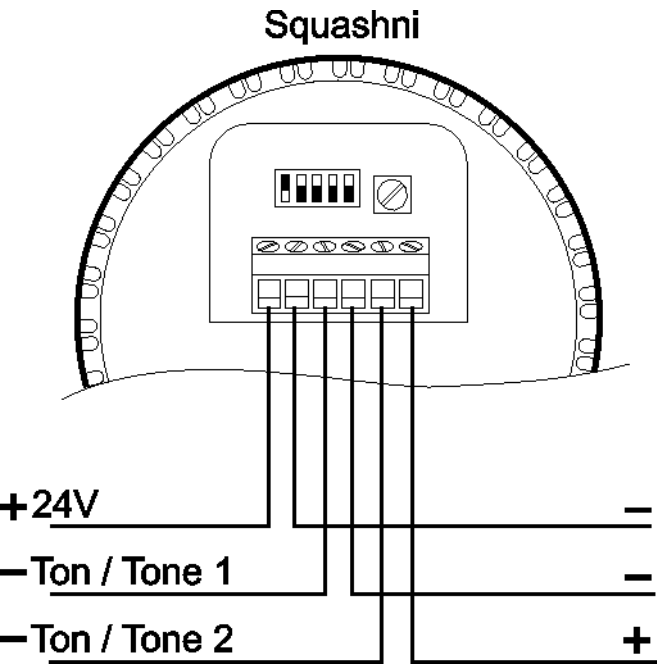


DIP switch 1 is used for setting the sound level: 0 = low; 1 = high. This corresponds to a difference of 20dB (A).

The DIP switches 2 through 6 allow you to set the tones. Tone 2 results from the switch position.

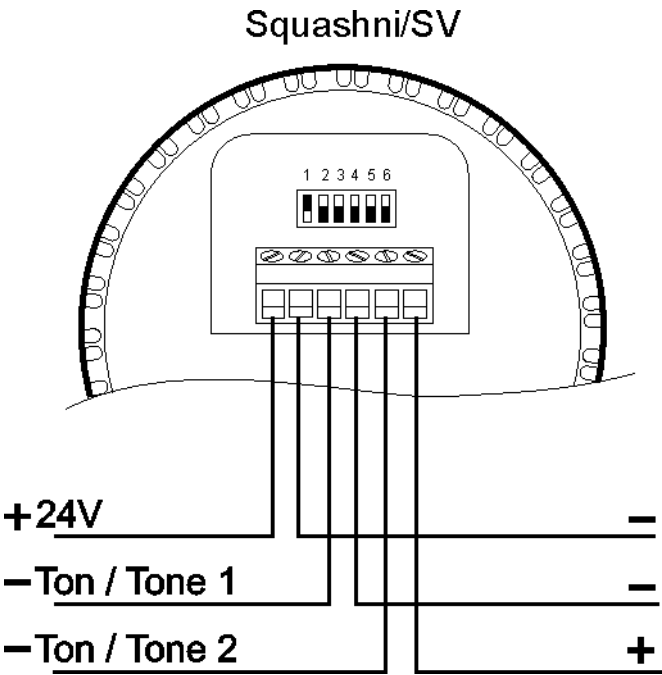
DIP switch					Tone 1	Tone 2
2	3	4	5	6		
1	1	0	0	0	1200-500Hz DIN tone	970Hz – BS tone
1	1	0	0	1	500-1200Hz Slow whoop tone	970Hz – BS tone
1	0	0	1	0	970Hz – BS tone	970Hz – BS tone

2.15.6 Sounder SQUASHNI



DIP switch					Tone 1	Tone 2
1	2	3	4	5		
1	1	0	0	0	1200-500Hz DIN tone	970Hz – BS tone
1	1	0	0	1	500-1200Hz Slow whoop tone	970Hz – BS tone
1	0	0	1	0	970Hz – BS tone	970Hz – BS tone

2.15.7 Sounder SQUASHNI/SV

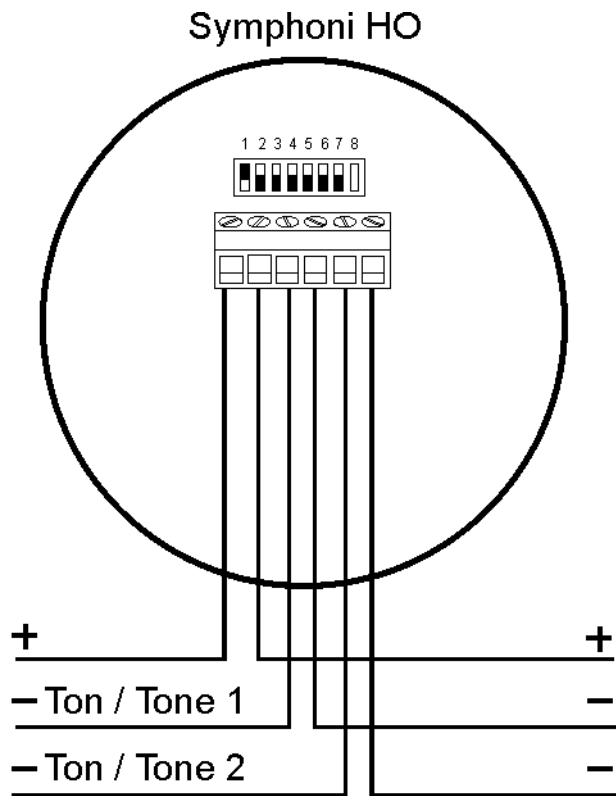


DIP switch 1 is used for setting the sound level: 0 = low; 1 = high.

The DIP switches 2 through 6 allow you to set the tones. Tone 2 results from the switch position.

DIP switch					Tone 1	Tone 2
2	3	4	5	6		
1	1	0	0	0	1200-500Hz DIN tone	970Hz – BS tone
1	1	0	0	1	500-1200Hz Slow whoop tone	970Hz – BS tone
1	0	0	1	0	970Hz – BS tone	970Hz – BS tone

2.15.8 Sounder SYMPHONI HO



By means of the DIP switches 1 through 5 the tones can be set. Tone 2 results from the switch position.

DIP switch					Tone 1	Tone 2
1	2	3	4	5		
1	1	0	0	0	1200-500Hz DIN tone	970Hz – BS tone
1	1	0	0	1	500-1200Hz Slow whoop tone	970Hz – BS tone
1	0	0	1	0	970Hz – BS tone	970Hz – BS tone

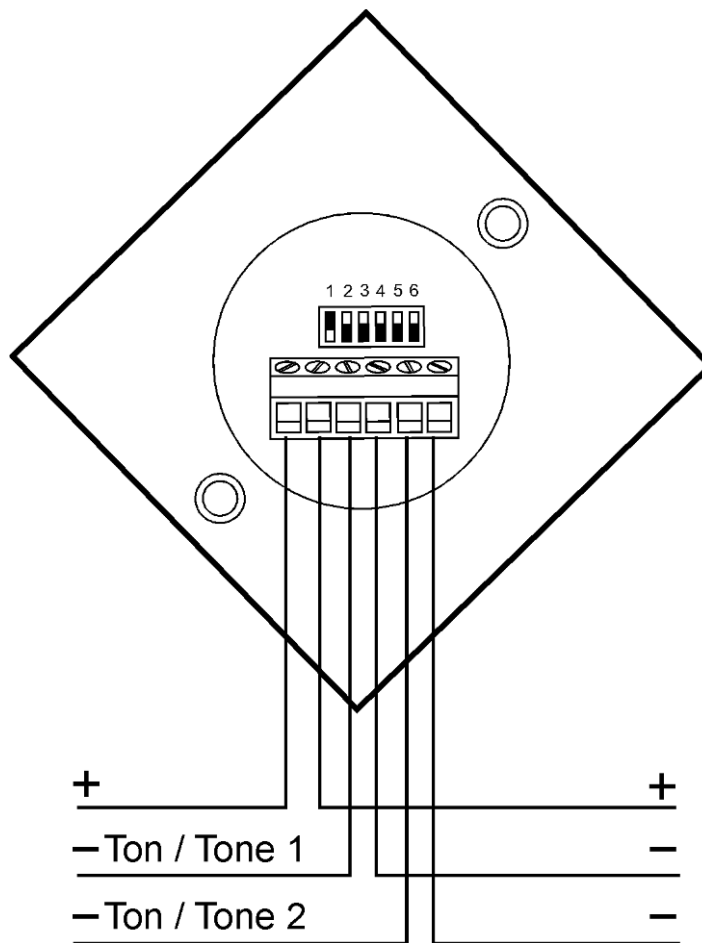
The DIP switches 6 and 7 are used for setting the sound level.

DIP SWITCH		Sound level
6	7	
1	1	Very high
1	0	High
0	1	Medium
0	0	Low

DIP switch 8 is not used.

2.15.9 Sounder ASKARI – Compact/AC/SV/R/S – Compact/AC/SV/W1/S

ASKARI AC/SV

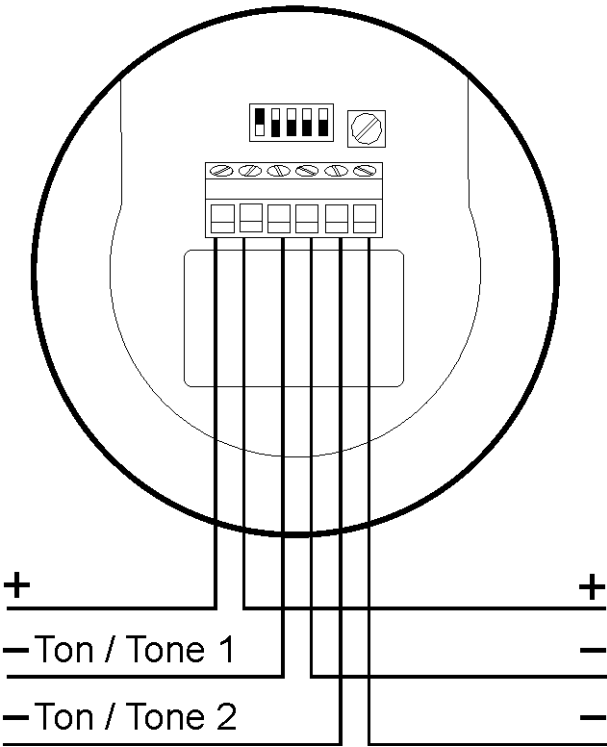


DIP switch 1 is used for setting the sound level: 0 = high; 1 = very high.

By means of the DIP switches 2 through 6 the tones can be set. Tone 2 results from the switch position.

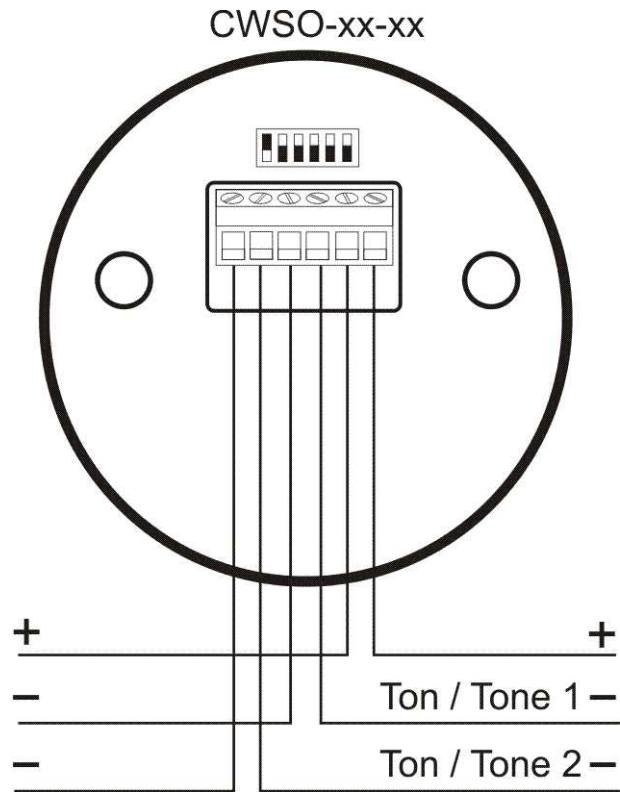
DIP switch					Tone 1	Tone 2
2	3	4	5	6		
1	1	0	0	0	1200-500Hz DIN tone	970Hz – BS tone
1	1	0	0	1	500-1200Hz Slow whoop tone	970Hz – BS tone
1	0	0	1	0	970Hz – BS tone	970Hz – BS tone

2.15.10 Sounder-Strobe ROLP-SOLISTA
ROLP-SOLISTA-BEACON-X



DIP switch					Tone 1	Tone 2
1	2	3	4	5		
1	1	0	0	0	1200-500Hz DIN tone	970Hz – BS tone
1	1	0	0	1	500-1200Hz Slow whoop tone	970Hz – BS tone
1	0	0	1	0	970Hz – BS tone	970Hz – BS tone

2.15.11 Sounder CWSO-xx-xx

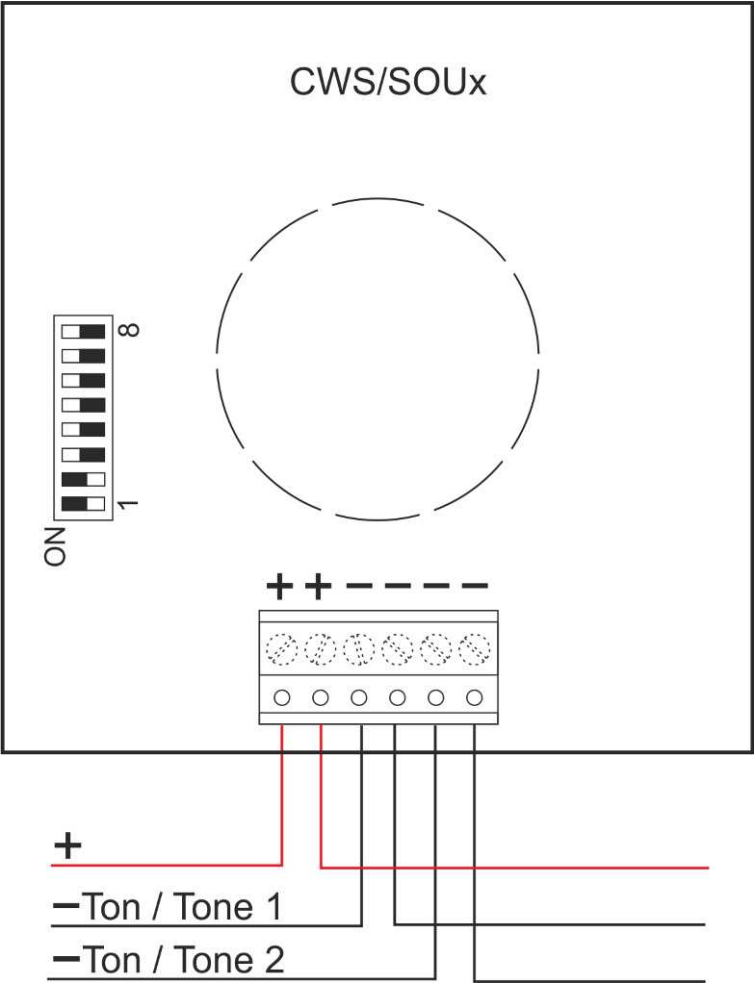


DIP switch 6 is used for setting the sound level: 0 = medium; 1 = high.

The DIP switches 1 through 5 allow you to set the tones. Tone 2 results from the switch position.

DIP switch					Tone 1	Tone 2
1	2	3	4	5		
1	0	1	0	1	1200-500Hz DIN tone	DIN, PFEER
1	1	1	0	1	500-1200Hz Slow whoop tone	NEN2575
1	1	0	0	1	800Hz – BS tone	BS 5839 Pt 1

2.15.12 Sounder-Strobe CWS/SOUx



By means of the DIP switches 1 through 5 the tones can be set. Tone 2 results from the switch position.

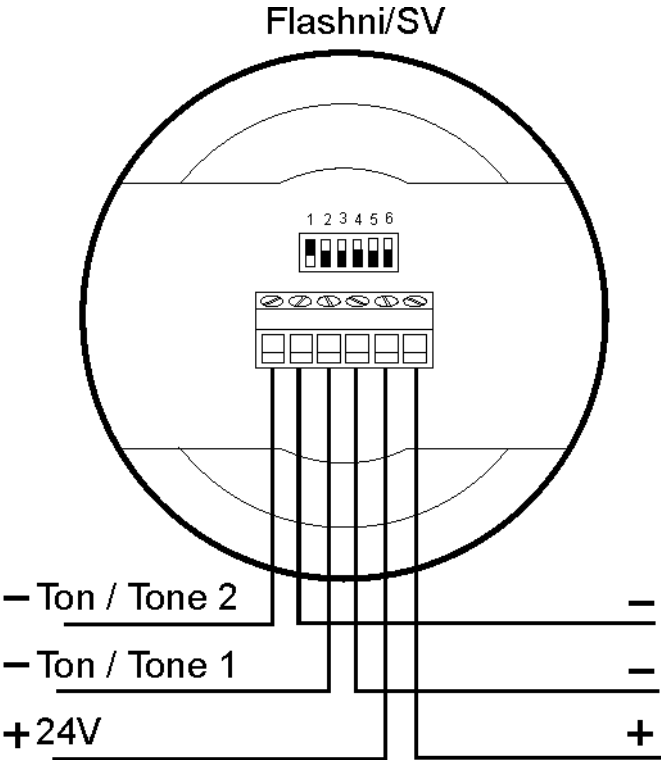
DIP switch					Tone 1	Tone 2
1	2	3	4	5		
0	0	1	1	1	1200-500Hz DIN tone	800Hz
1	0	1	0	1	500-1200Hz Slow whoop tone	500-1200Hz Slow whoop tone
0	1	0	1	1	970Hz – BS tone	1000Hz – BS tone

The DIP switches 6 and 7 are used for setting the sound level.

DIP SWITCH		Sound level
6	7	
1	1	Very high
0	1	High
1	0	Medium
0	0	Low

DIP switch 8 is not used.

2.15.13 Sounder-Strobe FLASHNI-SV

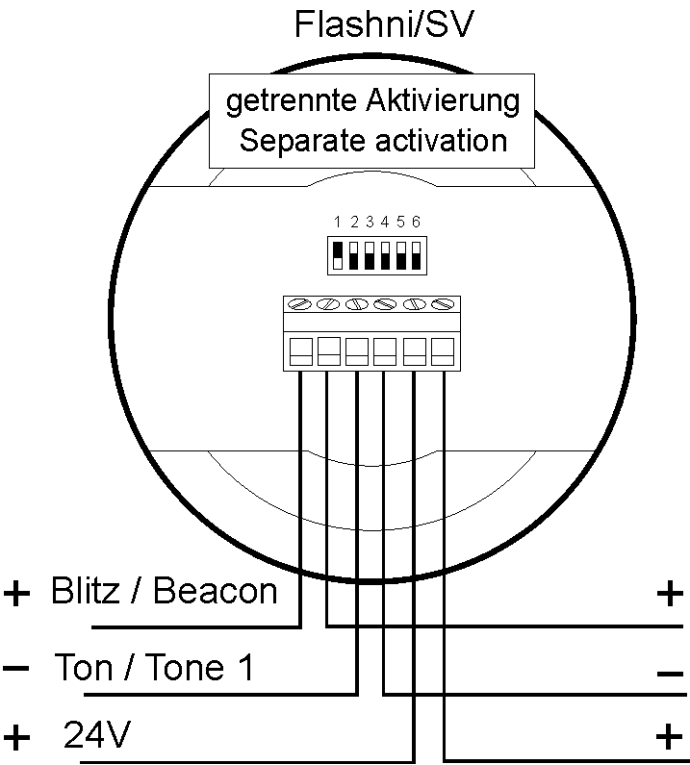


DIP switch 1 is used for setting the sound level: 0 = low; 1 = high.

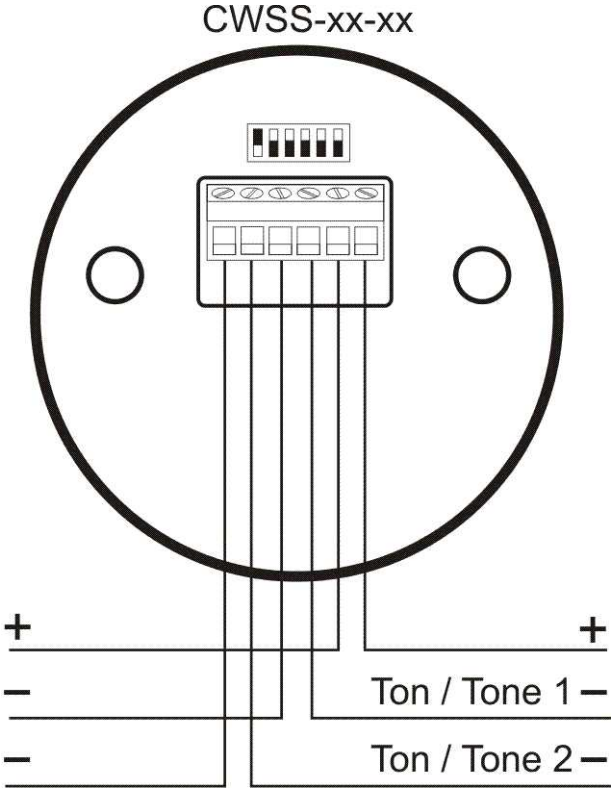
The DIP switches 2 through 6 allow you to set the tones. Tone 2 results from the switch position.

DIP switch					Tone 1	Tone 2
2	3	4	5	6		
1	1	0	0	0	1200-500Hz DIN tone	970Hz – BS tone
1	1	0	0	1	500-1200Hz Slow whoop tone	970Hz – BS tone
1	0	0	1	0	970Hz – BS tone	970Hz – BS tone

2.15.14 Sounder-Strobe FLASHNI-SV with separate actuation



2.15.15 Sounder-Strobe CWSS-xx-xx

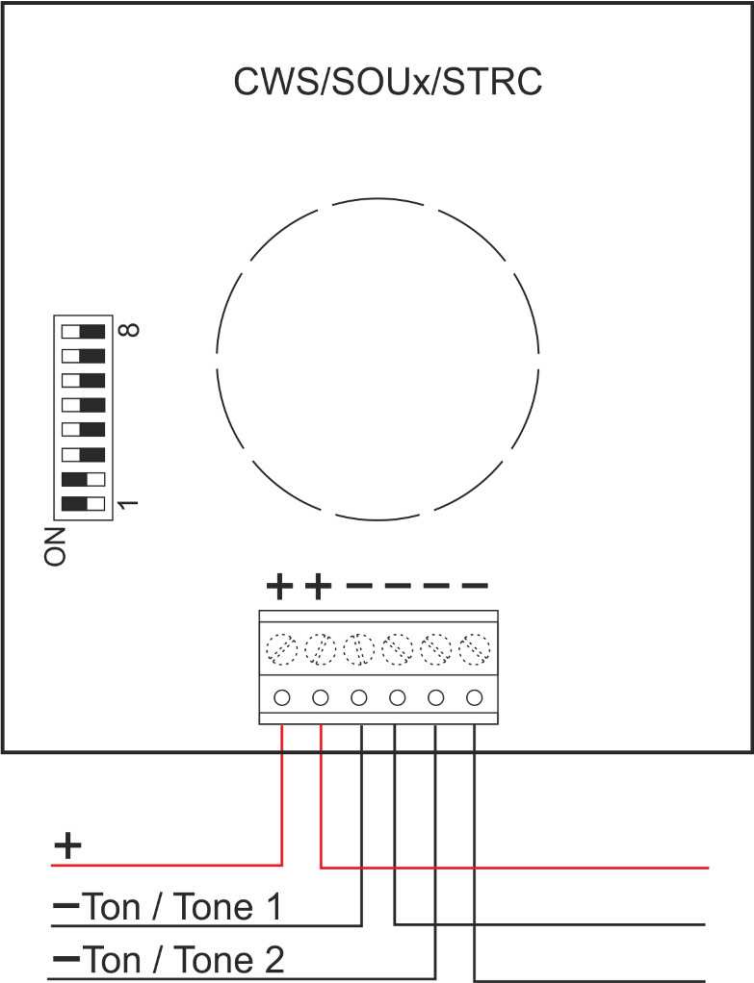


DIP switch 6 is used for setting the sound level: 0 = medium; 1 = high.

The DIP switches 1 through 5 allow you to set the tones. Tone 2 results from the switch position.

DIP switch					Tone 1	Tone 2
1	2	3	4	5		
1	0	1	0	1	1200-500Hz DIN tone	DIN, PFEER
1	1	1	0	1	500-1200Hz Slow whoop tone	NEN2575
1	1	0	0	1	800Hz – BS tone	BS 5839 Pt 1

2.15.16 Sounder-Strobe CWS/SOUx/STRC



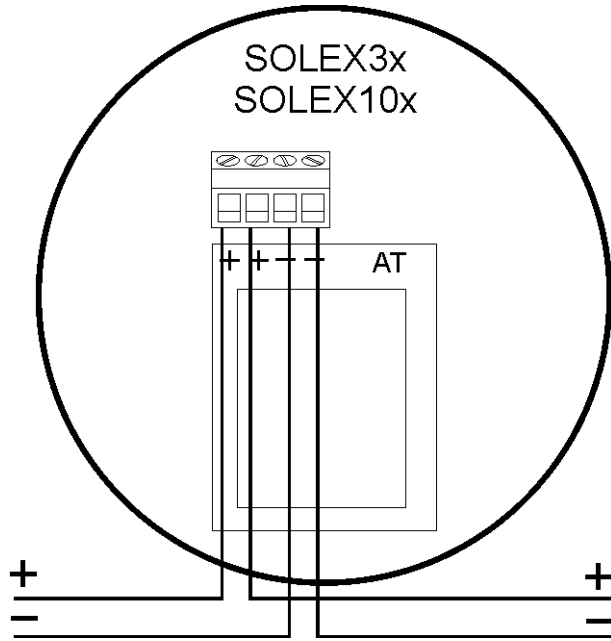
By means of the DIP switches 1 through 5 the tones can be set. Tone 2 results from the switch position.

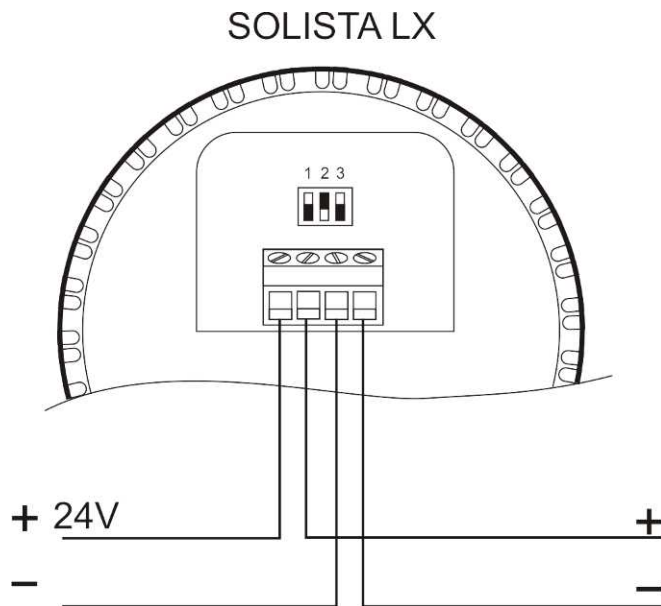
DIP switch					Tone 1	Tone 2
1	2	3	4	5		
0	0	1	1	1	1200-500Hz DIN tone	800Hz
1	0	1	0	1	500-1200Hz Slow whoop tone	500-1200Hz Slow whoop tone
0	1	0	1	1	970Hz – BS tone	1000Hz – BS tone

The DIP switches 6 and 7 are used for setting the sound level.

DIP SWITCH		Sound level
6	7	
1	1	Very high
0	1	High
1	0	Medium
0	0	Low

DIP switch 8 is not used.

2.15.17 Strobe SOLEX

2.15.18 Strobe SOLISTA LX

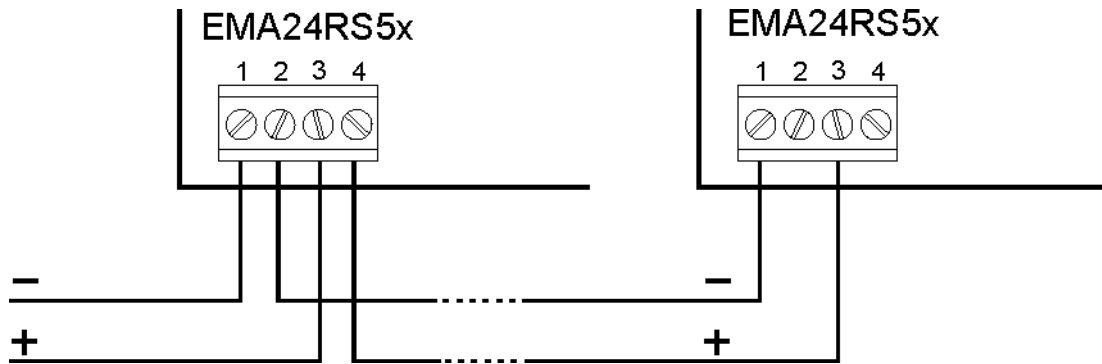
DIP switch 1 is used for setting the flash frequency: 0 = 0.5Hz; 1 = 1Hz.

DIP switch 2 is used for setting the power level: 0 = low; 1 = high.

DIP switch 3 is not used.

2.15.19 Strobe EMA24RS5x

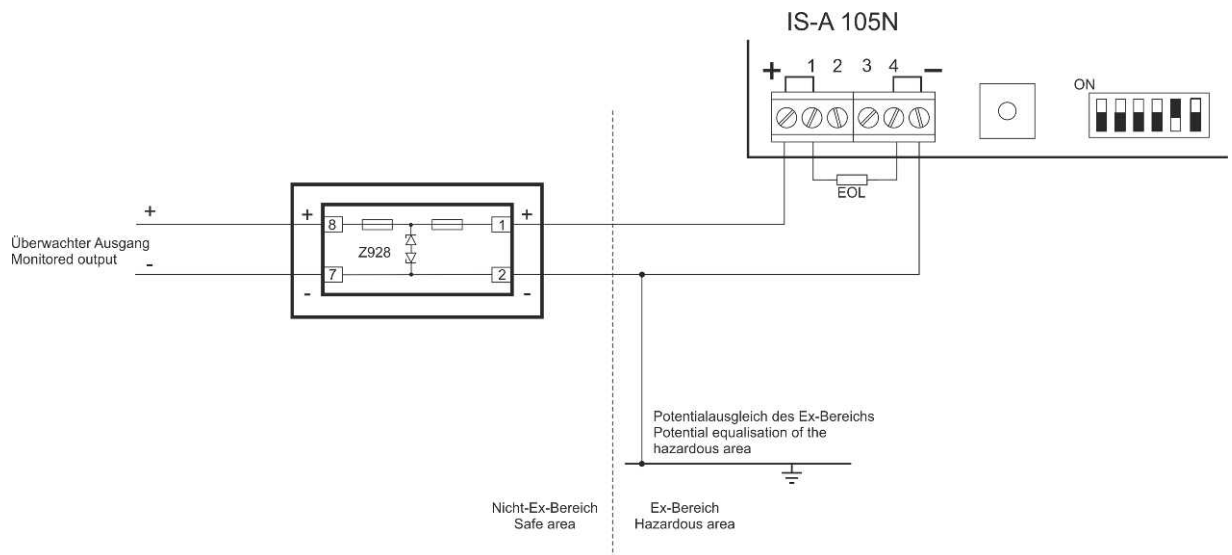
The position of the potentiometer for the flash frequency must not be changed.



2.16 Connecting signalling devices in hazardous areas

2.16.1 IS-A105N – sounder

2.16.1.1 Connection of the Sounder IS-A105N for use of 1 tone



The element designated "EOL" has to be chosen such that it fits the monitored output.



This sounder can be operated via the following outputs: SZ58-3, alarming device 1 output of the ZTB601-1 or monitored alarming device output of the BC216. The potential equalisation near the barrier results in an earth fault. In this case the earth fault detection of the fire detection control panel may be deactivated.

The tone of the sounder is set by means of switches. Here is an excerpt from the list of possible combinations:

DIP						Tone 1	Tone 2	Tone 3
1	2	3	4	5	6			
0	0	0	1	0	0	DIN tone and PFEER	Continuous tone 800 Hz	Alternating tone 800 / 1000 Hz

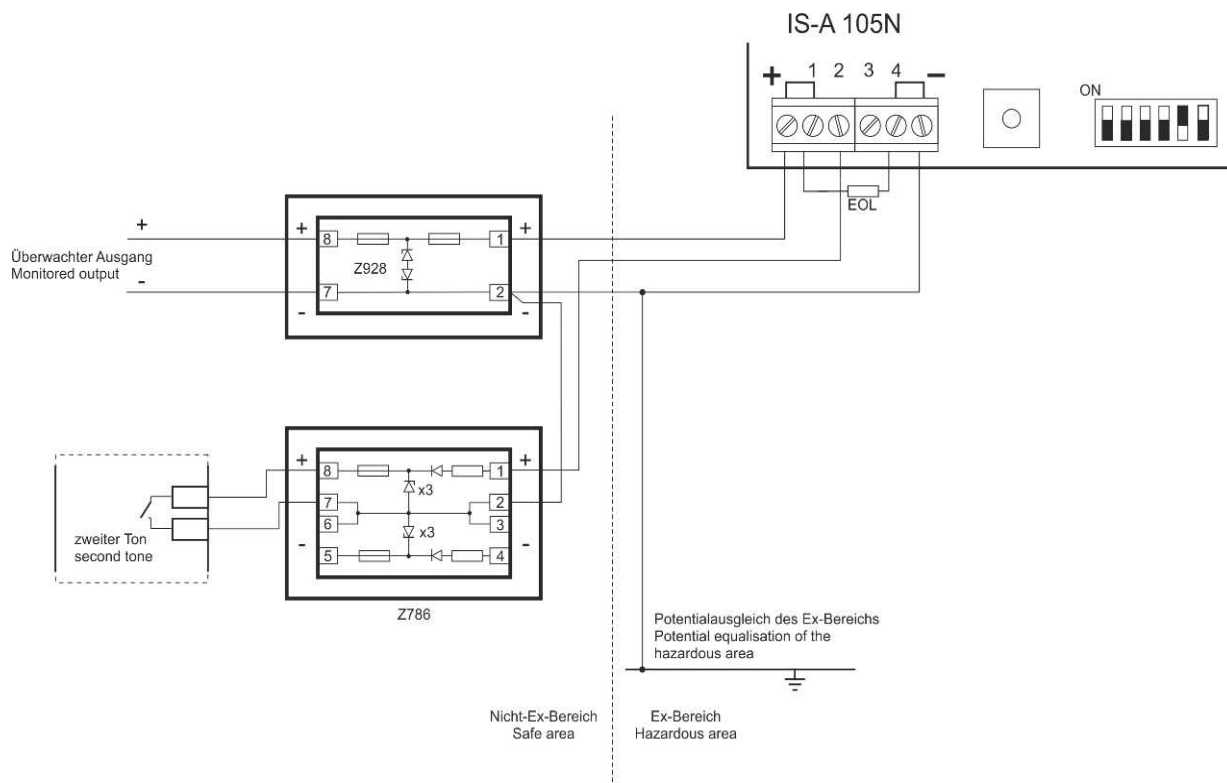
The sounder allows activation of up to three different tones. This is done by applying the supply to different terminals.

Tone 1 = terminal 1 and terminal 4

Tone 2 = terminal 2 and terminal 4

Tone 3 = terminal 3 and terminal 4

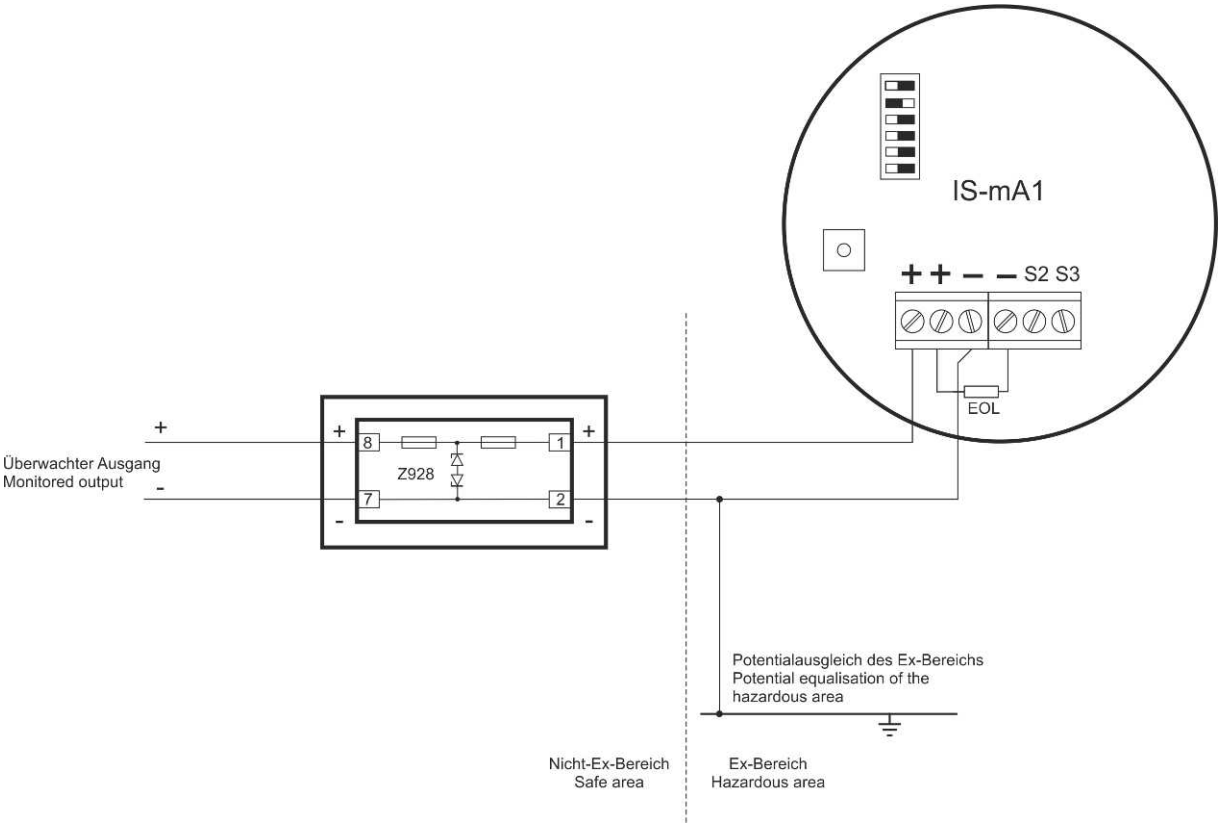
2.16.1.2 Connection of the Sounder IS-A105N for use of 2 tones



This sounder can be operated via the following outputs: SZ58-3, alarming device 1 output of the ZTB601-1 or monitored alarming device output of the BC216. The potential equalisation near the barrier results in an earth fault. In this case the earth fault detection of the fire detection control panel may be deactivated.

2.16.2 IS-mA1 – sounder

2.16.2.1 Connection of the Sounder IS-mA1 for use of 1 tone



The element designated "EOL" has to be chosen such that it fits the monitored output.

 This sounder can be operated via the following outputs: SZ58-3, alarming device 1 output of the ZTB601-1 or monitored alarming device output of the BC216. The potential equalisation near the barrier results in an earth fault. In this case the earth fault detection of the fire detection control panel may be deactivated.

The tone of the sounder is set by means of switches. Here is an excerpt from the list of possible combinations:

DIP					Tone 1	Tone 2	Tone 3
1	2	3	4	5			
0	0	0	0	0	Continuous tone (340 Hz)	Alternating tone 800 / 1000 Hz	Continuous tone
0	0	0	1	0	DIN tone and PFEER	Continuous tone 800 Hz	Alternating tone 800 / 1000 Hz

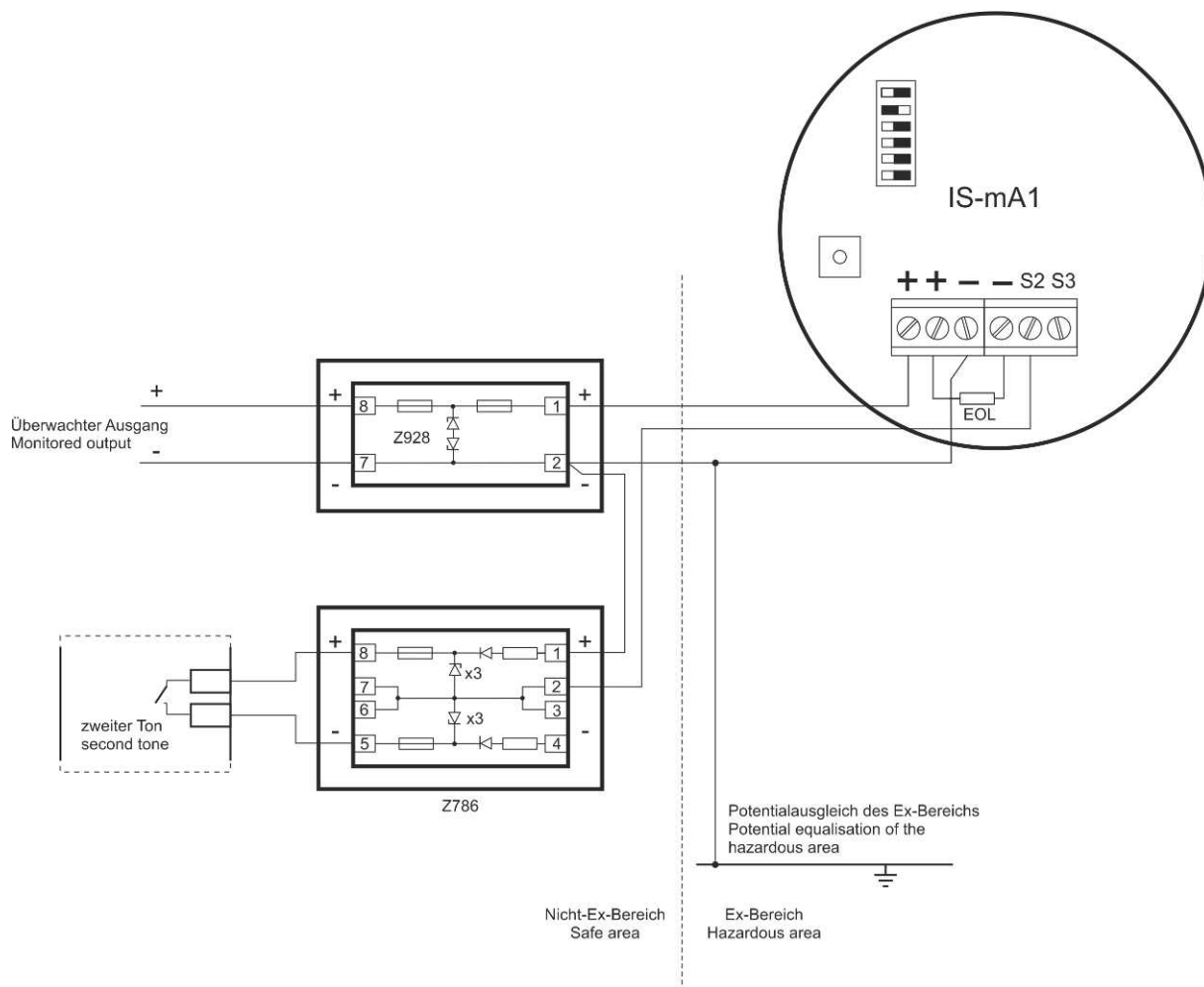
The sounder allows activation of up to three different tones. This is done by applying the supply to different terminals.

Tone 1 = + and -

Tone 2 = + and S2

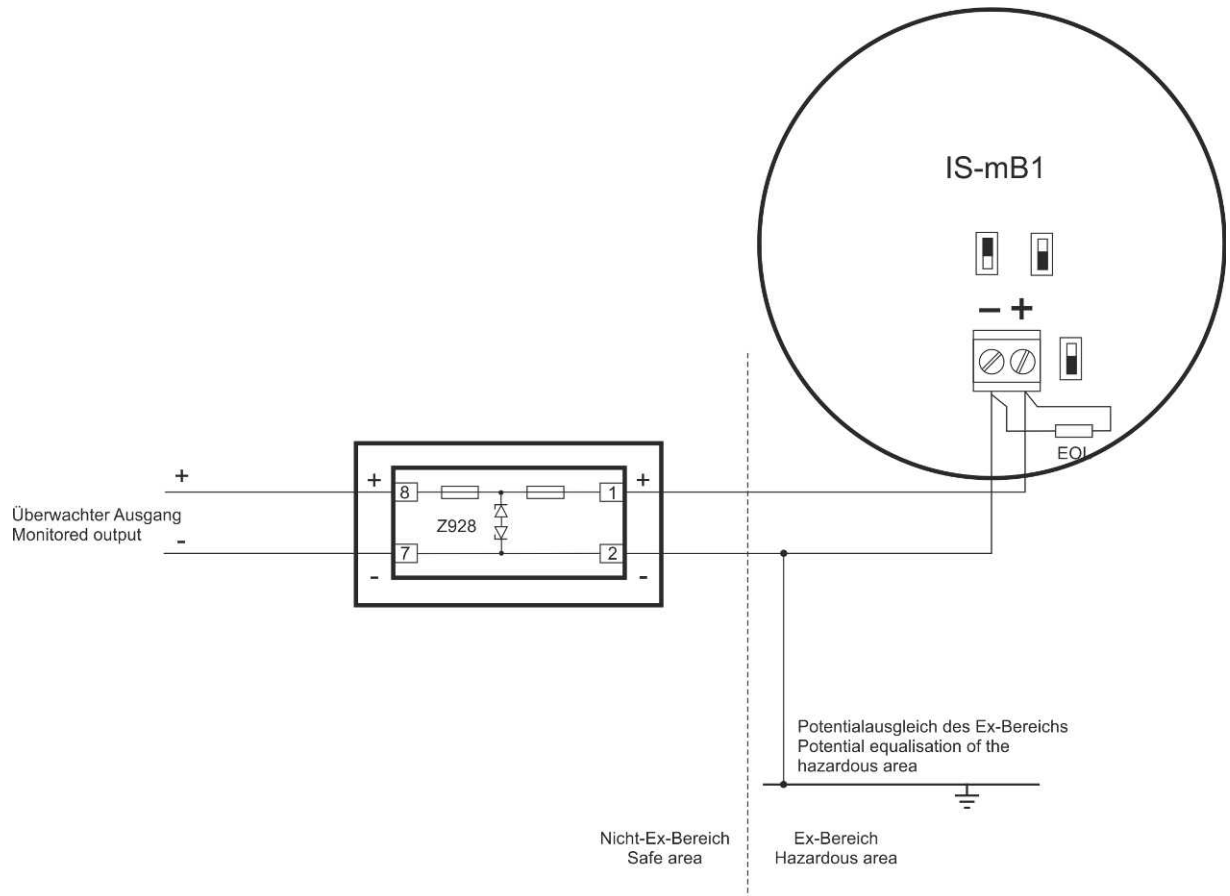
Tone 3 = + and S3

2.16.2.2 Connection of the Sounder IS-mA1 for use of 2 tones



This sounder can be operated via the following outputs: SZ58-3, alarming device 1 output of the ZTB601-1 or monitored alarming device output of the BC216. The potential equalisation near the barrier results in an earth fault. In this case the earth fault detection of the fire detection control panel may be deactivated.

2.16.3 IS-mB1 – blinking light



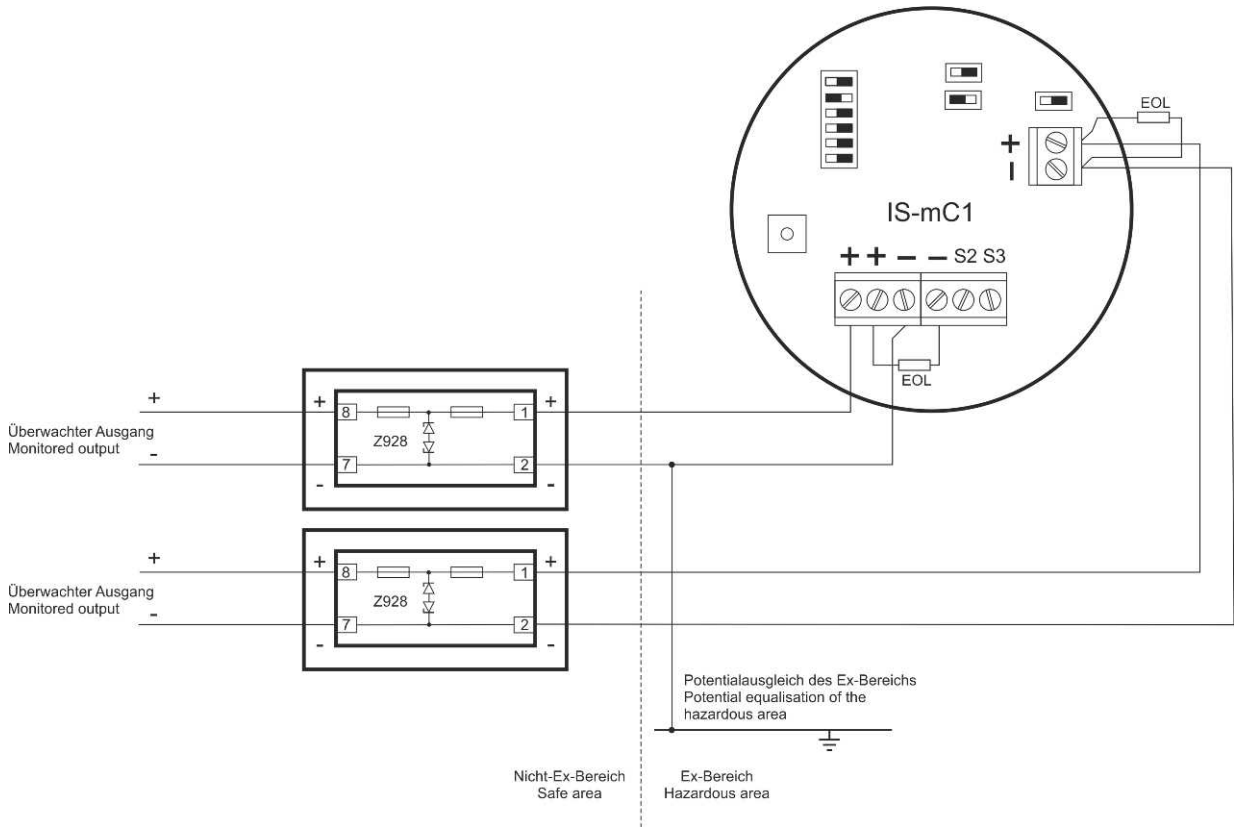
The element designated "EOL" has to be chosen such that it fits the monitored output.



This blinking light can be operated via the following outputs: SZ58-3, alarming device 1 output of the ZTB601-1 or monitored alarming device output of the BC216. The potential equalisation near the barrier results in an earth fault. In this case the earth fault detection of the fire detection control panel may be deactivated.

2.16.4 IS-mC1 – sounder and blinking light

2.16.4.1 Connection of the Sounder IS-mC1 for use of 1 tone



The element designated "EOL" has to be chosen such that it fits the monitored output.

 This sounder can be operated via the following outputs: SZ58-3, alarming device 1 output of the ZTB601-1 or monitored alarming device output of the BC216. The potential equalisation near the barrier results in an earth fault. In this case the earth fault detection of the fire detection control panel may be deactivated.

The tone of the sounder is set by means of switches. Here is an excerpt from the list of possible combinations:

DIP					Tone 1	Tone 2	Tone 3
1	2	3	4	5			
0	0	0	0	0	Continuous tone (340 Hz)	Alternating tone 800 / 1000 Hz	Continuous tone
0	0	0	1	0	DIN tone and PFEER	Continuous tone 800 Hz	Alternating tone 800 / 1000 Hz

As drawn here in the example, the optical part of this alarming device can be activated separately from the acoustic alarming.

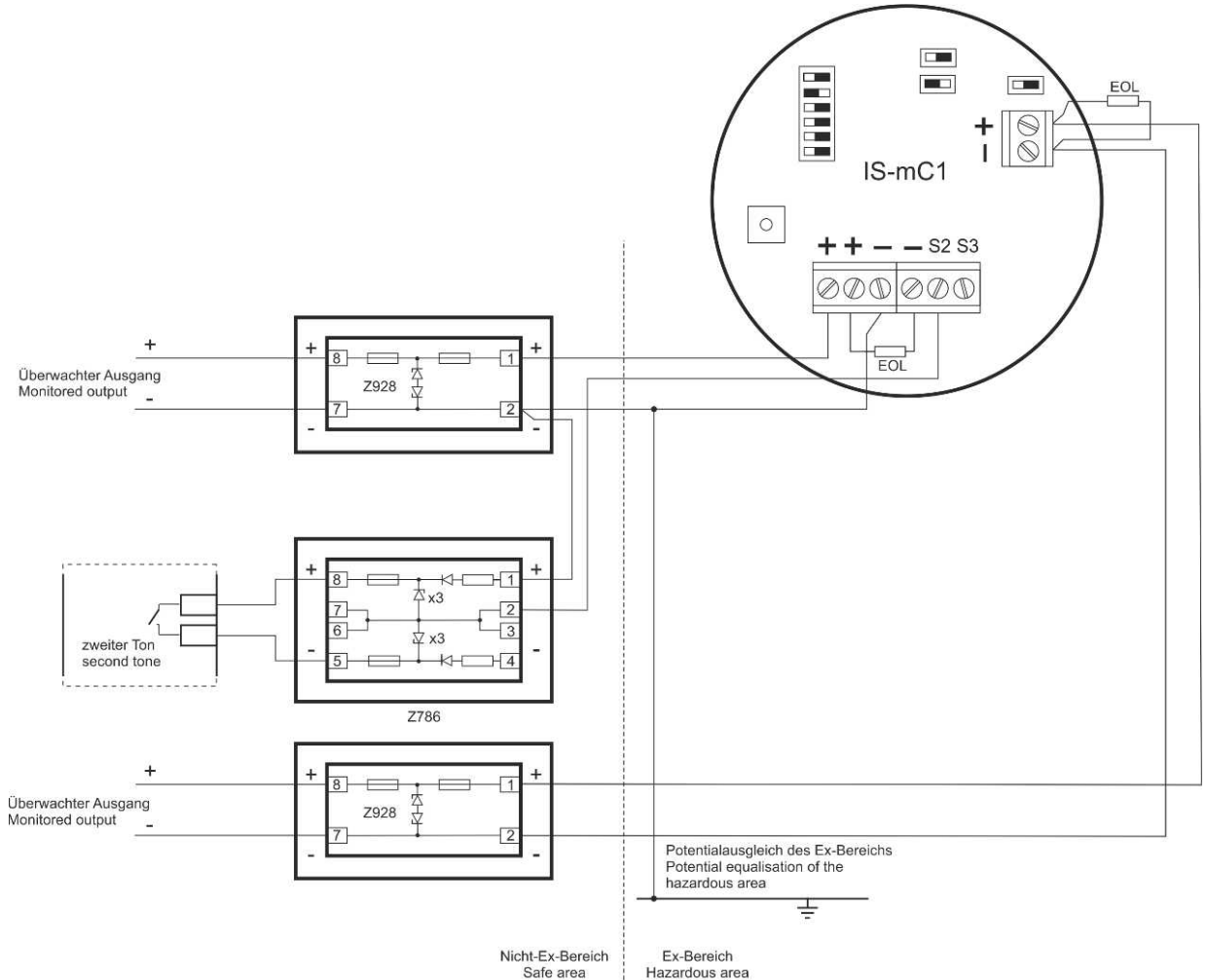
The sounder allows activation of up to three different tones. This is done by applying the supply to different terminals.

Tone 1 = + and -

Tone 2 = + and S2

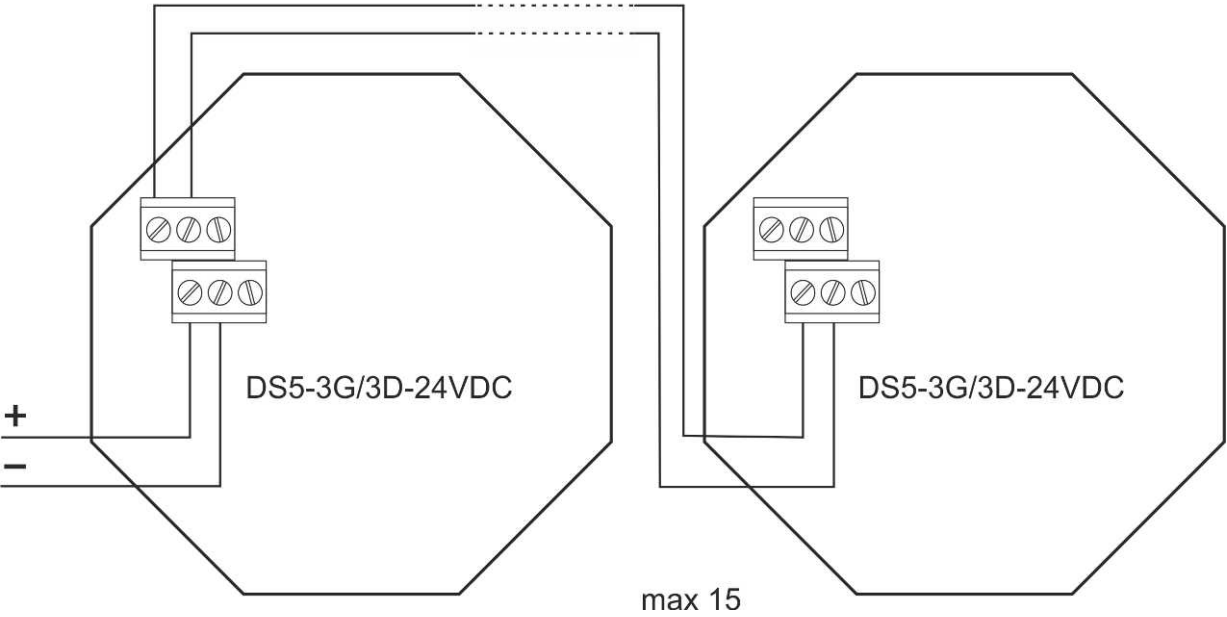
Tone 3 = + and S3

2.16.4.2 Connection of the Sounder IS-mC1 for use of 2 tones



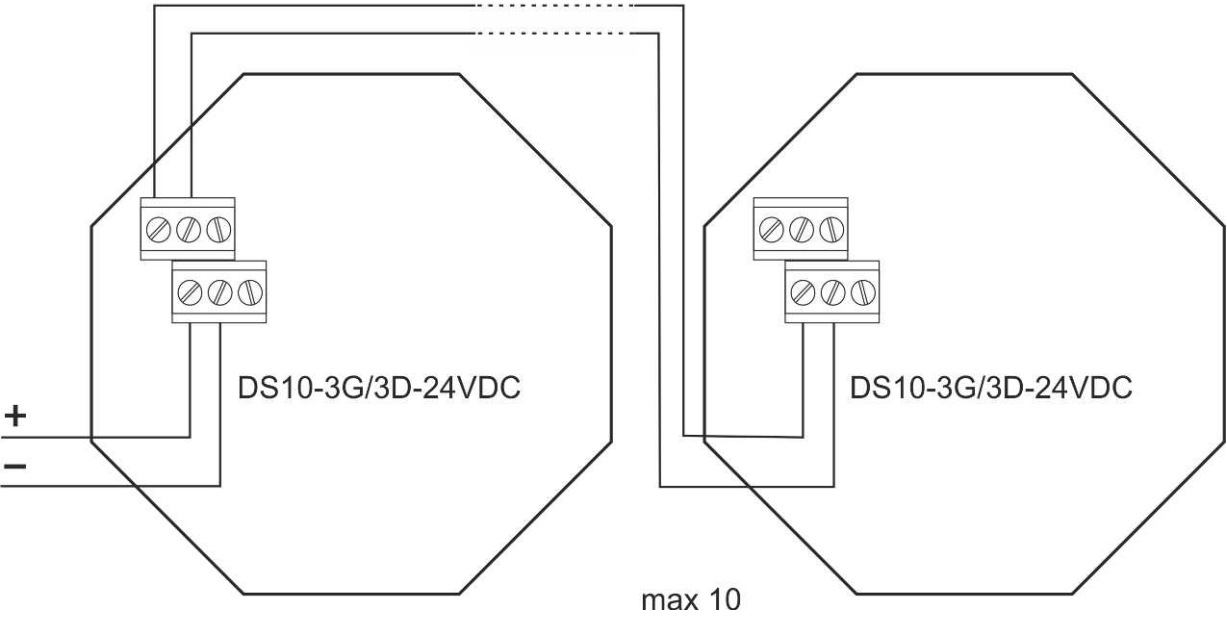
This sounder can be operated via the following outputs: SZ58-3, alarming device 1 output of the ZTB601-1 or monitored alarming device output of the BC216. The potential equalisation near the barrier results in an earth fault. In this case the earth fault detection of the fire detection control panel may be deactivated.

2.16.5 DS5-3G/3D-24VDC

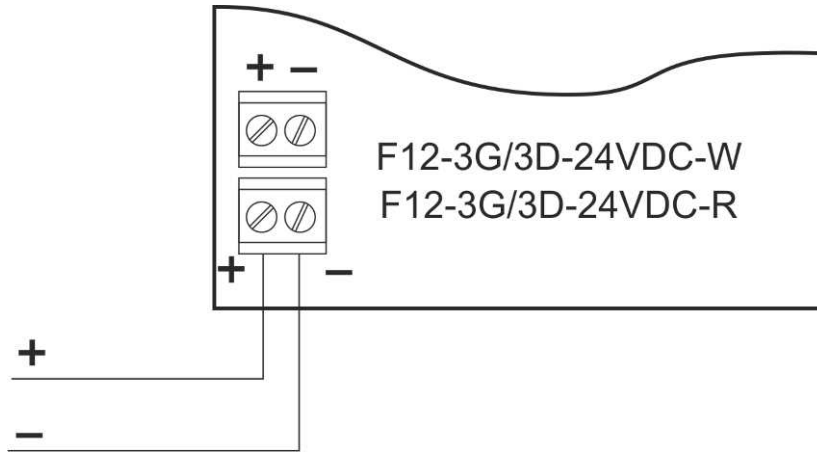


Please note the instructions in the manufacturer's documentation that accompanies the product.

2.16.6 DS10-3G/3D-24VDC



Please note the instructions in the manufacturer's documentation that accompanies the product.

2.16.7 F12-3G/3D-24VDC-W – F12-3G/3D-24VDC-R

Please note the instructions in the manufacturer's documentation that accompanies the product.

2.16.8 Coding of Address Module NG58-1

Together with the Fire Detection Control Panels Series BC216 (with a Conventional Detector Interface GIF8-1), BC016 and BC600 (with a Conventional Detector Interface GIF608-1), the Address Module NG58-1 allows the exact identification of a detector in alarm condition. The number of the detector in alarm condition will be displayed on the fire detection control panel. The number to be displayed must be preset (coded) on the address module within the range 0 to 63.



On the Fire Detection Control Panels Series BC016 and Series BC216, the evaluation of the address module must be set to **binary** in the parameter setup (menu **Global settings**). In the case of the BC600 it is not necessary to parameterise the type of evaluation. The Fire Detection Control Panel Series BC06 does not support address modules.

The use of a remote indicator for single or multiple detectors is not supported by the detector 2151E-LC.

The number is preset by cutting up to six address jumpers. According to their order, the jumpers have the following values:

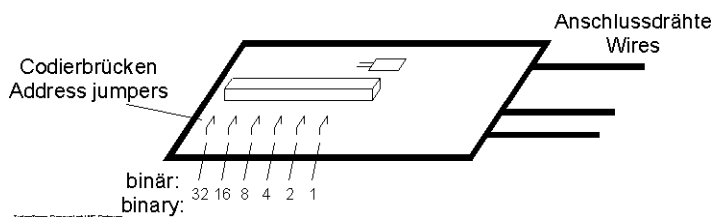
binary coding: 1, 2, 4, 8, 16 and 32

Example: number 25

binary coding: $25 = 16 + 8 + 1 \rightarrow$ Jumpers with the value 16, 8 and 1 must be cut.

Example: number 12

binary coding: $12 = 8 + 4 \rightarrow$ Jumpers with the value 8 and 4 must be cut.



3 ADM TECHNOLOGY

3.1 General

This chapter applies to fire detection control panels with a loop interface. This document only describes the technical possibilities of connecting dialog devices, on the basis of electrical engineering and information processing. Standards or other regulations that have to be observed to guarantee the fire protection capability of the fire detection system, have not been taken into account. These regulations vary considerably in different countries and can therefore not be considered in this document.



We would like to put special attention on the fact that, especially in the field of danger detection systems, technical possibilities are often drastically limited by country-specific regulations. Please do get familiar with the country-specific regulations for fire detection systems before you start planning, cabling and mounting devices. In case of doubt please contact the appropriate local authority. Of course we are also at your disposal for any further information.



Legal notice about the loop modules (input/output devices)

The respective inputs or outputs do not have the monitoring function defined by VdS 2543 : 2021-03. Therefore, all devices that can be connected and which are to be used as Type 1 devices must be mounted in the immediate proximity to the input/output device.

3.2 Series 200 / 200 Advanced Protocol

System Sensor improved their Series 200 devices (detectors, modules, sounders). The detectors Series 200AP are electrically and mechanically compatible and have, among other things, the following distinctive features:

- ◆ New design – the detectors are available in two different colours
- ◆ Versions with or without integrated isolator available
- ◆ Address range 1 to 159

The Series 200AP products are available in 2 different colours: white and ivory. The colour type is coded in the product name as a suffix. "IV" stands for ivory. If the product name does NOT include this suffix, the colour of the detector is white. The two different types of Series 200AP detectors are electrically and mechanically identical.

3.2.1 How to identify an Advanced Protocol product

The automatic detectors Series 200 differ from the detectors Series 200AP in the design. The picture below shows a new optical smoke detector 200AP on the left and a detector from the Series 200 range on the right.

Detector Series 200AP

Detector Series 200



For all other loop elements, such as input / output modules, loop sirens and strobes, you have to pay attention to the different type code, in order to determine whether the extended address range can be used.



Series 200AP loop elements always have address switches for setting the loop addresses in the range 1...159.

3.3 Hints for project planning

The loop interface is designed to supervise dialog detectors and allows you to connect the following number of elements:

Series	Detectors	Modules	Max. number per loop
200	99	99	198
200AP	159	159	318

To be able to use the extended address range (1-159) of the Series 200AP devices, the following requirements have to be met in the case of the BC216:

- ◆ ZTB216-x firmware PL149 – Vxx.23 or higher
- ◆ LIF64-1 firmware PL148 – V1.06 0909 or higher
- ◆ LIF128-1 firmware PL174 – V2.02 0850 or higher

On the BC600, the extended address range of the Series 200AP (1-159) is supported by firmware version 1.00 or higher.



When using Series 200 detectors (addresses 1-99) together with Series 200AP detectors (addresses 1-159) on the same loop, for compatibility reasons you **MUST NOT** use the detector addresses 110-119.



Series 200AP detectors can be ordered with an integrated isolator at the PLUS connection. Therefore you will not need to install additional isolator modules or isolator bases.



When using Series 200 detectors, you can insert isolator bases or isolator modules or modules with integrated isolator between two detector zones. A short circuit within a detector zone between two isolators will not interfere with other detector zones.



If an LIF64 uses a firmware which is older than version 1.06, and if addresses higher than 99 are used, the message "Detector/module with address 0 set" is indicated on the BC216.

All detectors and modules on a loop are connected in parallel on a two-wire line. The loop wiring is usually realised as a circular line. Thanks to the ring-shaped cabling, all elements on the loop remain functional in the event of a single wire breakage. If necessary, it is also possible to connect branch lines to the loop (for examples, see from page 467 onwards in Chapter 3.18: "Examples for the wiring of detector circuits").



On a BC216-1 or on every BCnet216 sectional panel, up to 400 inputs (detectors, modules, FWI, ...) and up to 128 outputs (modules, NTB, ...) can be managed.



A loop must **not be connected to another loop**, because otherwise a single wire breakage will not be detected. A star-shaped wiring is possible within a detector zone.

We strongly recommend the use of the loop calculator tool (FireSysCALC_xxxx.ods) which is available in the download area of the LST website (registration required). This is even more important when you have a lot of loop elements as well as when using loop-powered elements and in case of a long distance (loop length) between the elements and the control panel.



Fire Detection Control Panels Series BC216 allow simultaneous activation of up to 8 detector/module LEDs per loop. This has to be taken into account when remote indicators and sounders which are actuated via parallel outputs are used.

In the case of Fire Detection Control Panels Series BC600, this limitation can be cancelled by setting the remote indicator output to the property "individual" (PARSOFT window **Element parameters – General**). The devices that are actuated via remote indicator output must be considered in the loop calculator tool FireSysCALC_xxx.ods, which is available in the download area of the LST website.

3.4 Use of isolators

3.4.1 General

The terms isolator, dual-isolator, isolator module and isolator base have the same meaning and refer to a product which has an electronic circuit on the input side AND on the output side. It serves to open the loop line in the event of a short circuit on the line.

The reduction in the length of the loop that is caused by the increased use of isolators can be compensated for by increasing the wire gauge.

The mentioned loop lengths – see the table – only consider the resistance of the isolators and not the current consumption of the loop elements. We strongly recommend the use of the loop calculator tool FireSysCALC_xxxx.ods which is available in the download area of the LST website (registration required).

This is even more important when you have a lot of loop elements as well as when using loop-powered elements and in case of a long distance (loop length) between the elements and the control panel.



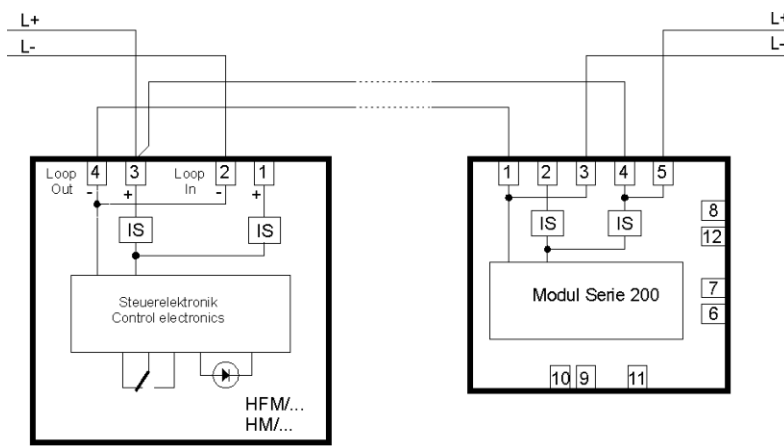
We recommend using the loop calculator tool FireSysCALC_xxxx.ods, which is available in the download area of the LST website (registration required).

3.4.2 Number of isolators

The number of isolators on a loop is limited due to the ohmic resistance that affects the maximum length of the loop. The isolators of the Series 200 products have a resistance of approx. 0.3 Ohm/element and the isolators of the Series 200AP products have a resistance of approx. 0.13 Ohm/element. The isolators of the Manual Call Points Series HFM/HM or Series HME have a resistance of approx. 0.35 Ohm/element.

3.4.3 Bypassing of isolators

If the number of isolators is in direct conflict with the length of the loop, you can bypass some single (not needed!) integrated isolators, as shown below.



The installation has to comply with local regulations!

3.4.4 Notes for ISM1-2, manual call points, modules Series 200 / 200AP (M2xxE) and B524IEFT-1

The number of elements that may be connected between two Isolator Modules ISM1-2, manual call points with integrated isolators (HxM/x/22/xx/xx, MCP5A-xx08xx, HME), modules Series 200 / 200AP or Isolator Detector Bases B524IEFT-1 is limited.



For the Isolator Module ISM1-2, which belongs to the Series 200 isolators, all statements and specifications only apply to devices with serial number xxx6584 or higher.

The total weighting must not exceed the values below:

Product with isolator	Max. value
ISM1-2	16
HxM x/22/xx/xx	16
HME/FFFF/25/TT/LL	16
MEA244-x	16
All other products	32

Type	Weight
1251E Ionisation smoke detector	3
22051E Optical smoke detector	1
22051EI Optical smoke detector + isolator	1
22051TE Optical-thermal detector	1
22051TEI Optical-thermal detector + isolator	1
22051TLE Multisensor, 3 criteria	1
22051TLEI Multisensor, 3 criteria + isolator	1
2251CTLE Multisensor, 4 criteria	1
2251E Optical smoke detector	4
2251EM Optical smoke detector	1
2251TEM Optical-thermal detector	1
2251TLE Multisensor, 3 criteria	1
52051E 58°C Thermal Max detector	1
52051EI 58°C Thermal Max detector + isolator	1
52051HTE 78°C Thermal Max detector	1
52051HTEI 78°C Thermal Max detector + isolator	1
52051RE Thermal RoR detector	1
52051REI Thermal RoR detector + isolator	1
5251EM 58°C Thermal Max detector	1
5251HTEM 78°C Thermal Max detector	1
5251REM Thermal RoR detector	1
5551E 58°C Thermal Max detector	1
6500 Beam smoke detector	1
OSI-RIE-00 Beam smoke detector	1
7251 Optical laser smoke detector	1

Type	Weight
72051EI / F-SEN-SSE Optical laser smoke detector	1
A2xxE Aspirating smoke detector	1
B524 RTE Relay base	1
CR-6 Control module with six outputs	1
CR-6EA Control module with six outputs	1
DBS24ALx Base sounder	32
DBSOU-x Base sounder	1
DBSST-x Base sounder-strobe	1
BSS / DSS -x Base sounder-strobe	1
BSO Base sounder	1
BRH Base sounder-strobe	1
BRS Base sounder-strobe	1
BGL Base sounder-strobe	1
WSO/WSS Base sounder-strobe	1
IBSOU-x Base sounder	1
IBSST-x Base sounder-strobe	1
IM-10 Monitor module with 10 inputs	5
IM-10EA Monitor module with 10 inputs	5
IST200	32
M201E Control module	1
M210EA-HC – Control module	1
M201E-240 240V Control module – relay	1
M201E-240 240V-DIN Control module – relay	1
M210E Monitor module	1
M210EA Monitor module	1
M210E-CZ Conventional zone module	2
M210E-CZR Conventional zone module	8
M210EA-CZ Conventional zone module	2
M210EA-CZR Conventional zone module	8
M220E Monitor module with 2 inputs	1
M220EA Monitor module with 2 inputs	1
M221E Multi module	1
M221EA Multi module	1
M500RFE-AS RF gateway	1
M503ME Micro monitor module	8
M510E-4-20 Monitor module	4
M512ME Conventional zone module	5
MCP5A Manual call point	8

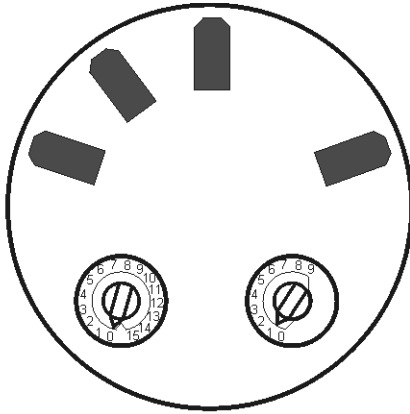
Type	Weight
MCP5A Manual call point + isolator	8
WCP5A IP67 Manual call point	8
WCP5A IP67 Manual call point + isolator	8
WMSST-x Sounder	1
WMSTR-x Sounder-strobe	1
MEA244-x	20
HxM/x/22/xx/xx	4



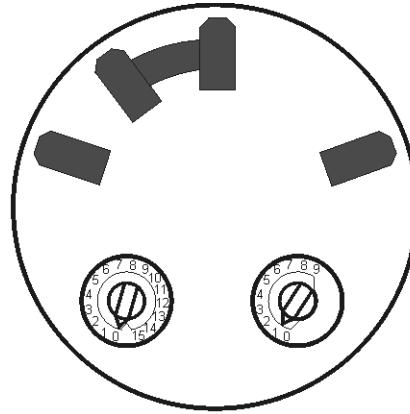
A loop element with isolator must always be counted on both sides of the isolator!

3.4.5 Series 200AP isolator

A Series 200AP detector with integrated isolator can be identified by taking a look at the product name (see the table in Chapter 3.6.2.1). At the end of the product name is an **"I" - isolator**. Secondly you can also identify an isolator product at the number of separated connection points at the bottom of the detector. Detectors with isolator function have 4 separate connectors. Detectors without isolator have a connection between two terminals. Further information about the compatibility of the detectors can be found in Chapter 3.8.



Melder der Serie200AP mit eingebauten Isolator
Series 200AP detector with integrated isolator



Melder der Serie200AP ohne Isolatorfunktion
Series 200AP detector without isolator

3.5 Cable requirements

The resistance of the loop line must not exceed 50 Ohm per wire. This corresponds to a loop length of approx. 1400m, using a 0.5mm² wire.

The capacitance of the whole loop line must not exceed 400nF.

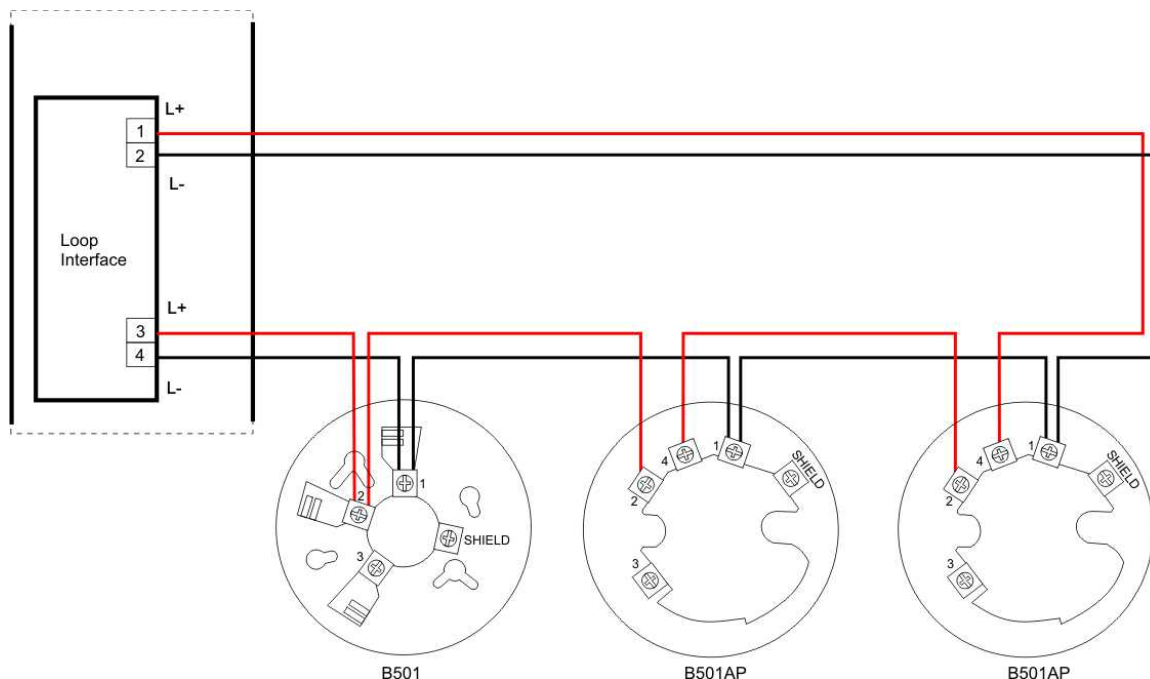


Loop lines of several loop interfaces **must not** share a common cable. **Shielded cables are not required and therefore not recommended.**

Examples of the system cabling can be found from page 467 onwards in Chapter 3.18: "Examples for the wiring of detector circuits".

3.5.1 Unshielded cable

The wiring can be done with an unshielded cable. The drawing below shows you how to connect the cable to the detectors and to the control panel.

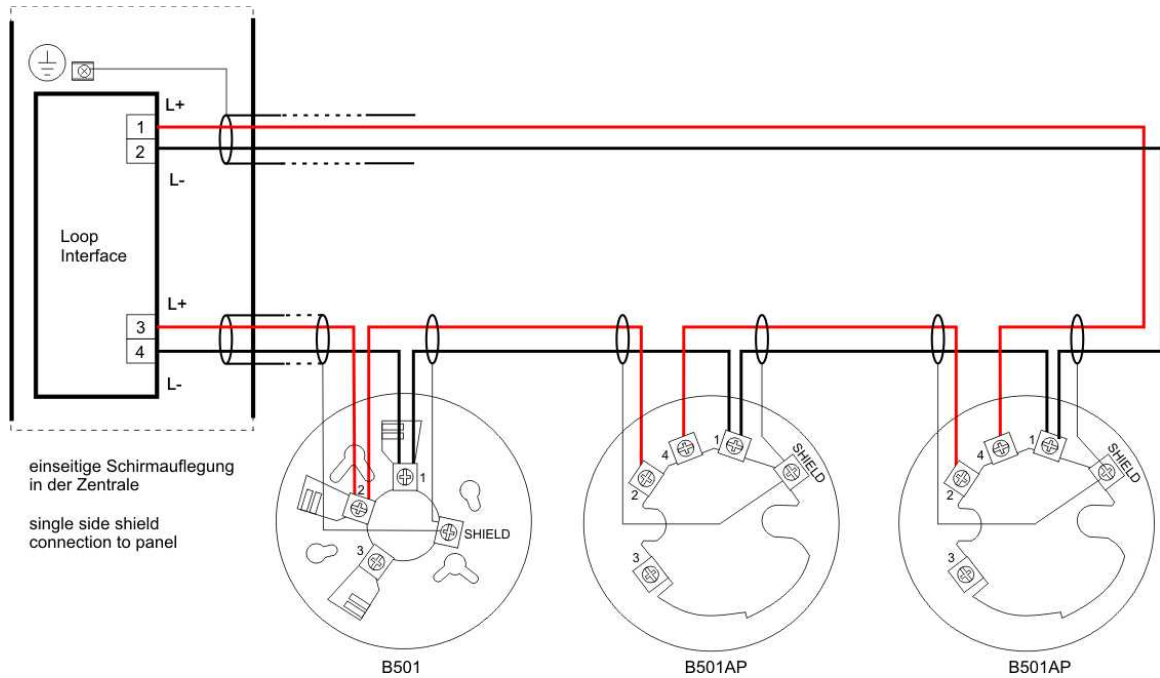


3.5.2 Shielded cable

The wiring can be done with unshielded cables. When using a shielded cable you have to take care about the following important points:

- ◆ The shield must be connected to the fire detection control panel **only at one end** of the loop.
- ◆ The shield has to be securely connected through in each detector base or module. The shield must not, under any circumstances, be interrupted in any way.
- ◆ If no shield terminal is available, the secure through-connection of the shield must be ensured by means of an auxiliary terminal.

The shield must not, under any circumstances, get in contact with any other wire or metal part.



3.6 Address programming

System Sensor products use separate address ranges for detectors and modules. Automatic detectors occupy an address in the "detector range". Modules as well as MCPs use an address in the "module range". The module M510E-4-20 is an exception. This item uses an address of the "detector range" even though it is a module.

3.6.1 Manual call points

Description	Type	Remarks	Address range
Manual Call Point	HFM/x/22/xx	with isolator	1-99
Manual Call Point	HM/x/22/xx/xx	with isolator	1-99
Manual Call Point	HFM/x/25/xx	with isolator	1-159
Manual Call Point	HM/x/25/xx/xx	with isolator	1-159
Manual Call Point Series HME	HME/FFFF/25/TT/LL	with isolator	1-159
Manual Call Point/Red/200/ISM/Glass	MCP5A-RP08FG	with isolator	1-99/1-159
Manual Call Point/Red/200/ISM/Flexi	MCP5A-RP08FF	with isolator	1-99/1-159
Manual Call Point/Red/200/Glass	MCP5A-RP07FG		1-99/1-159
Manual Call Point/Red/200/Flexi	MCP5A-RP07FF		1-99/1-159

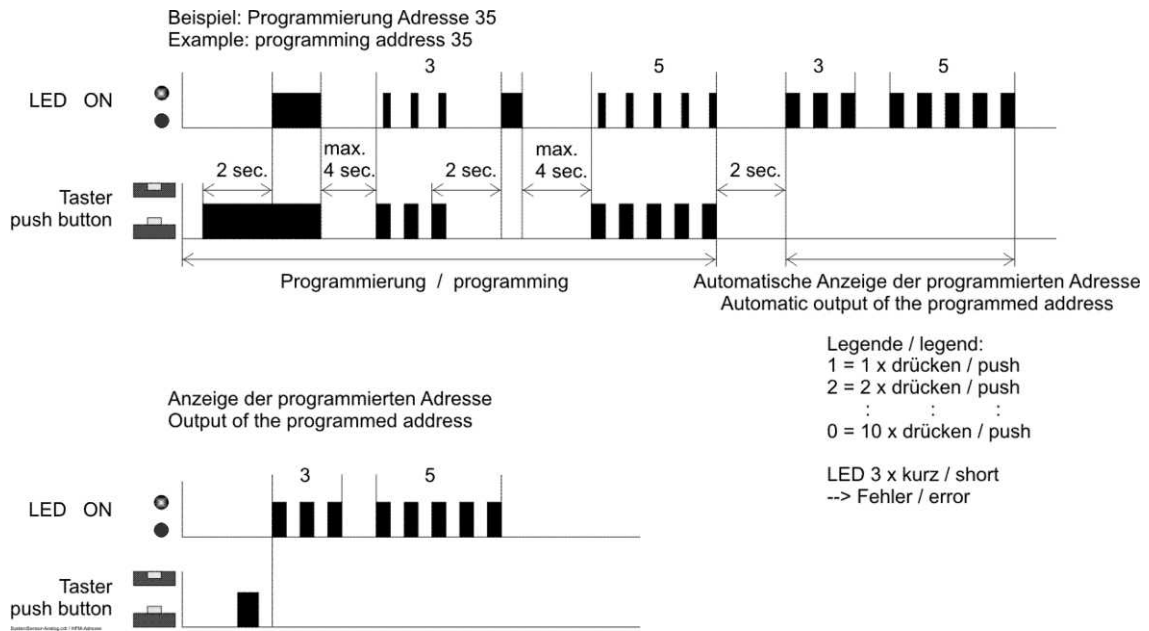
3.6.1.1 Manual Call Points Series HFM/HM – HxM/x/22/xx/xx

The manual call points are programmed by entering the desired address with a push-button. The programming process is as follows:

- ◆ Press the button for approx. 2 seconds, until the LED is ON.
- ◆ Enter the tens digit of the address, pushing the button briefly, according to the digit (example: address 35 ... push 3 times).
Note that the button must be pushed 10 times to enter the digit 0!
- ◆ Wait for approx. 2 seconds, until the LED lights up briefly.
- ◆ Enter the ones digit of the address, pushing the button briefly, according to the digit (example: address 35 ... push 5 times).
- ◆ Check the address. The tens digit and the ones digit will be displayed by the flashing LED according to the digit.

The programmed address can be displayed at any time by pushing the button briefly, as explained before.

The programming sequence is explained in the following diagram:



3.6.1.2 Manual Call Points Series HFM/HM – HxM/x/25/xx/xx

The manual call points are programmed by entering the desired address with a push-button. The programming process is as follows:

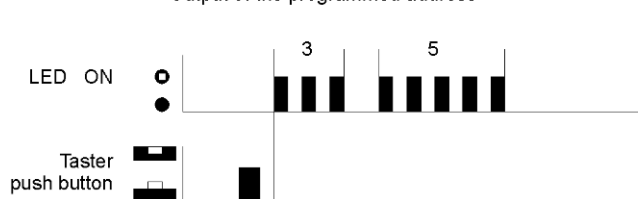
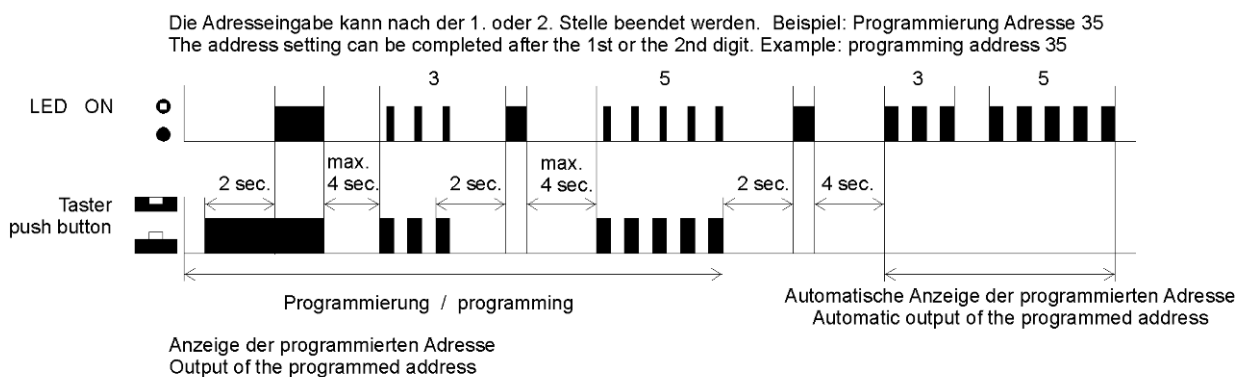
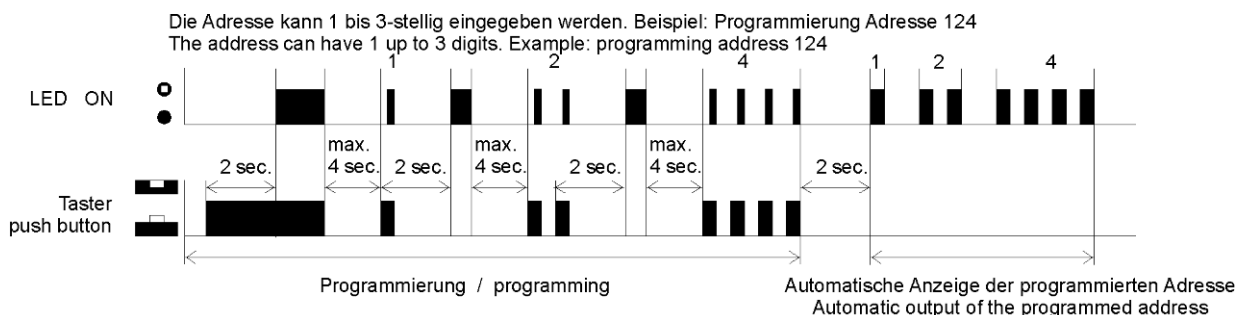
- ◆ Press the button for approx. 2 seconds, until the LED is ON.
- ◆ Enter the hundreds digit of the address, pushing the button briefly, according to the digit (example: address 124 ... push once).
- ◆ Wait for approx. 2 seconds, until the LED lights up briefly.
- ◆ Enter the tens digit of the address, pushing the button briefly, according to the digit (example: address 124 ... push twice).
Note that the button must be pushed 10 times to enter the digit 0!
- ◆ Wait for approx. 2 seconds, until the LED lights up briefly.
- ◆ Enter the ones digit of the address, pushing the button briefly, according to the digit (example: address 124 ... push 4 times).
- ◆ Check the address. The hundreds digit, the tens digit and the ones digit will be displayed by the flashing LED according to the digit.

The programmed address can be displayed at any time by pushing the button briefly, as explained before.



If a two-digit address is to be entered, only the tens digit and the ones digit have to be entered.
Example: Address 35 – the button has to be pressed 3 times and then 5 times.
If a single-digit address is used, simply press the button according to the ones digit.
Example: Address 8 → press the push-button 8 times.

The programming sequence is explained in the following diagram:



Legende / legend:
1 = 1 x drücken / push
2 = 2 x drücken / push
:
:
0 = 10 x drücken / push

LED 3 x kurz / short
--> Fehler / error

3.6.1.3 Manual Call Points Series HME – HME/FFFF/25/TT/LL

The manual call points are programmed by entering the desired address with a push-button. The programming process is as follows:

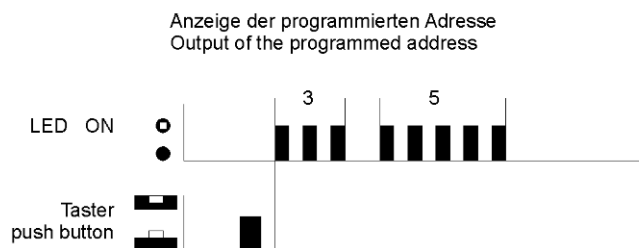
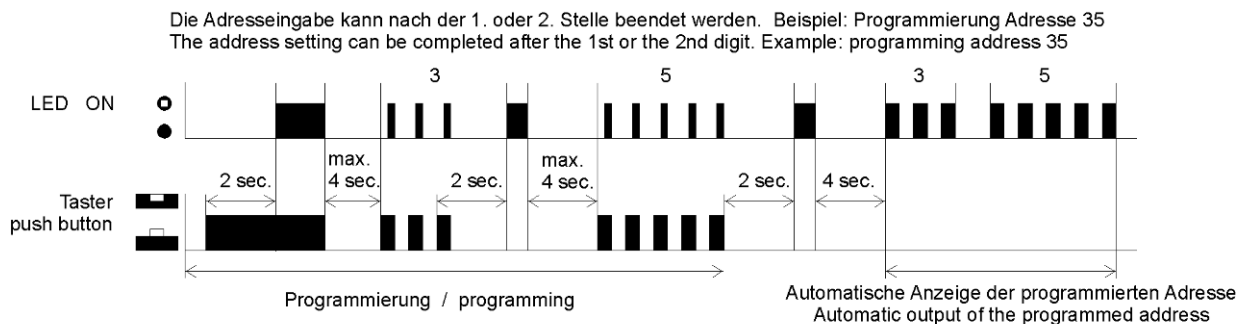
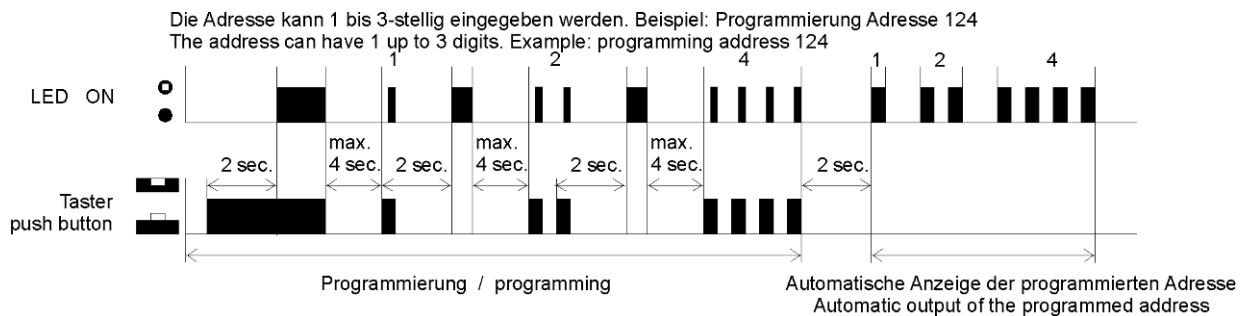
- ◆ Press the button for approx. 2 seconds, until the LED is ON.
- ◆ Enter the hundreds digit of the address, pushing the button briefly, according to the digit (example: address 124 ... push once).
- ◆ Wait for approx. 2 seconds, until the LED lights up briefly.
- ◆ Enter the tens digit of the address, pushing the button briefly, according to the digit (example: address 124 ... push twice).
Note that the button must be pushed 10 times to enter the digit 0!
- ◆ Wait for approx. 2 seconds, until the LED lights up briefly.
- ◆ Enter the ones digit of the address, pushing the button briefly, according to the digit (example: address 124 ... push 4 times).
- ◆ Check the address. The hundreds digit, the tens digit and the ones digit will be displayed by the flashing LED according to the digit.

The programmed address can be displayed at any time by pushing the button briefly, as explained before.



If a two-digit address is to be entered, only the tens digit and the ones digit have to be entered.
Example: Address 35 – the button has to be pressed 3 times and then 5 times.
If a single-digit address is used, simply press the button according to the ones digit.
Example: Address 8 → press the push-button 8 times.

The programming sequence is explained in the following diagram:

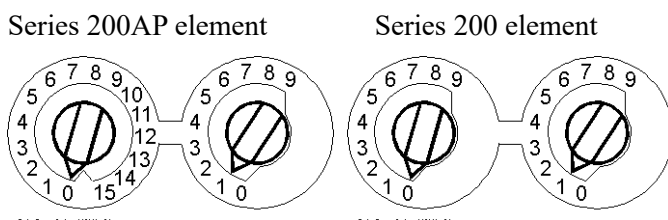


Legende / legend:
 1 = 1 x drücken / push
 2 = 2 x drücken / push
 : : :
 0 = 10 x drücken / push

LED 3 x kurz / short
--> Fehler / error

3.6.1.4 Manual Call Points Series MCP5A/WCP5A

The desired address must be set on the detector by means of two rotary switches (tens digit and ones digit).



The illustrated switch settings correspond to address 01.

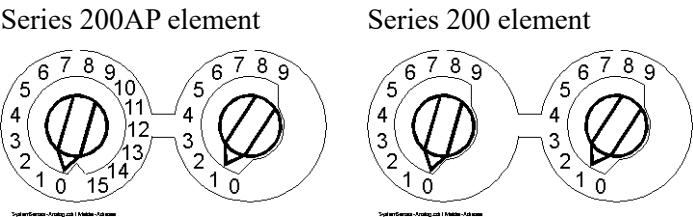


The extended address range (1-159) is supported from a certain hardware version onwards. If a separate barcode-sticker is present on the MC5A/WCP5A, the extended address range can be used.

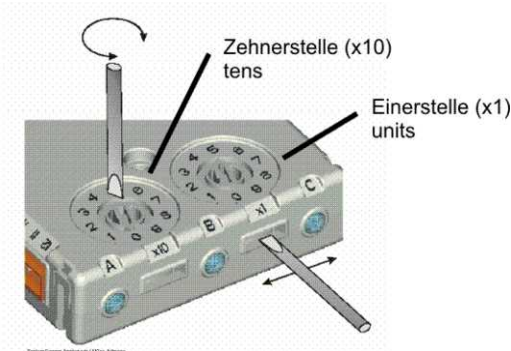


3.6.2 Detectors and modules

The desired address must be set on the detector or module by means of two rotary switches (tens digit and ones digit).

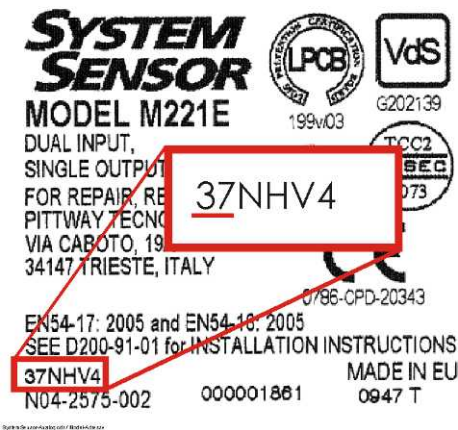


The illustrated switch settings correspond to address 01.



Depending on the installation position of the Series 200/200AP modules the address can be set from the front, by means of a screwdriver, or from the side.

Series 200/200AP modules support the extended address range from a certain version number onwards. If the version number is "37" or higher, the extended address range (1-159) can be used. The version number is printed on the module label.



3.6.2.1 Overview of automatic detectors

Type	Address range		
	1-99	1-159	1-159
Ionisation Smoke Detector	1251E		
Optical Laser Smoke Detector	7251		72051EI F-SEN-SSE
Optical Smoke Detector	ND2251EM	ND22051E	ND22051EI
Optical-Thermal Detector	2251TEM	DV22051TE	DV22051TEI
Multisensor – 3 criteria	2251TLE	22051TLE	22051TLEI
Multisensor – 4 criteria	2251CTLE	2251CTLE	
Thermal Rate-of-rise Detector		52051RE	52051REI
58°C Thermal Max Detector	5251EM	52051E	52051EI
78°C Thermal Max Detector		52051HTE	52051HTEI
Optical Smoke Detector – EX	2251EIS		
Optical Smoke Detector – EX	22051EISE		

The "I" as a suffix stands for integrated "isolator".



The **2251CTLE** Multisensor supports the extended address range (1-159) from the version number "FE" onwards. This number is printed on the detector-label.



In the case of older loop elements (datecode 09xxT, in some cases 10xxT as well), the fault "Wrong firmware version" can occur. Such loop elements have to be replaced because they contain an error in the firmware of the detectors which would result in a fault "Loop element not unique".



The 72051EI and the F-SEN-SSE can be used on the BC216 in the address range 1-99. The Fire Detection Control Panel BC600 supports the whole address range of the detector.



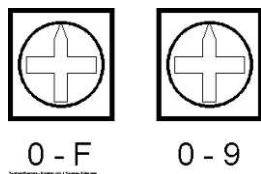
The detector 5251EM / 5551E can be operated as a thermal DIFF detector on the BC216 without any restrictions. If the detector 5251EM / 5551E is used as an A1R detector on the BC600, the maximum number of these detectors is reduced to 50 per loop. PARSOFT checks the number of parameterised elements and provides an error message if it is exceeded.

If a thermo-differential evaluation is desired, the number of elements must be reduced to a maximum of 50, for example by replacing them with 52051RE or 52051REI.

3.6.3 Loop Sounders

On the loop sounder, the address must be set by means of two rotary switches (ones digit and tens digit). The tens digit is set by means of the rotary switch 0-F (in the hexadecimal format, A stands for 10 and F stands for 15) or by means of a rotary switch 0-15. The ones digit is set by means of the rotary switch 0-9.

3.6.3.1 Sounders Series WMSxx and IBSxx (200)

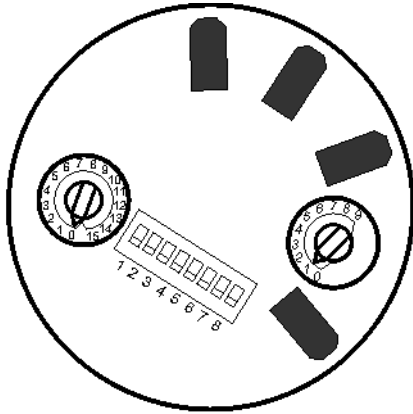


Sirens, strobes or a combination of both support different address ranges, depending on the product type. A table of the items and the corresponding address ranges can be found below.

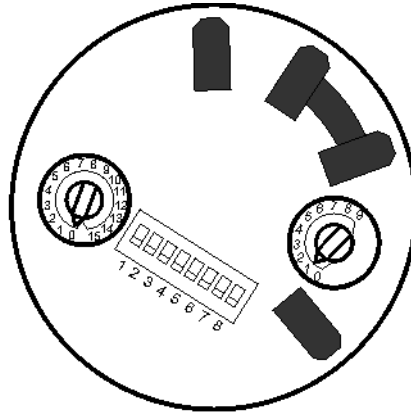
Description	Type	Remark	Address range
Sounder/strobe	WMSxx-xx-P01		1-99
Sounder/strobe	WMSxx-xx-P02	with isolator	1-99
Base sounder/strobe	IBSxx-xx-P01		1-99
Base sounder/strobe	IBSxx-xx-P02	with isolator	1-99
Sounder/strobe	WMSxx-xx-P33		1-159
Sounder/strobe	WMSxx-xx-P34	with isolator	1-159
Base sounder/strobe	IBSxx-xx-P33		1-159
Base sounder/strobe	IBSxx-xx-P34	with isolator	1-159
Sounder+strobe	WMSxx-xx-P38	with isolator	1-159
Base sounder+strobe	IBSxx-xx-P38	with isolator	1-159

In the case of the products **WMSxx-xx-P38** and **IBSxx-xx-P38**, the sounders and strobes can be addressed separately. The set address (x) is the address of the sounder unit. The following address (x+1) is the address of the strobe unit. Each of these two products occupy 2 module addresses on the loop.

3.6.3.2 Sounders Series WSx, BRH, BRS, BGL, BSx, and strobes VAD (200AP)



Serie 200AP mit eingebauten Isolator
Series 200AP detector with integrated isolator



Serie 200AP ohne Isolatorfunktion
Series 200AP detector without isolator

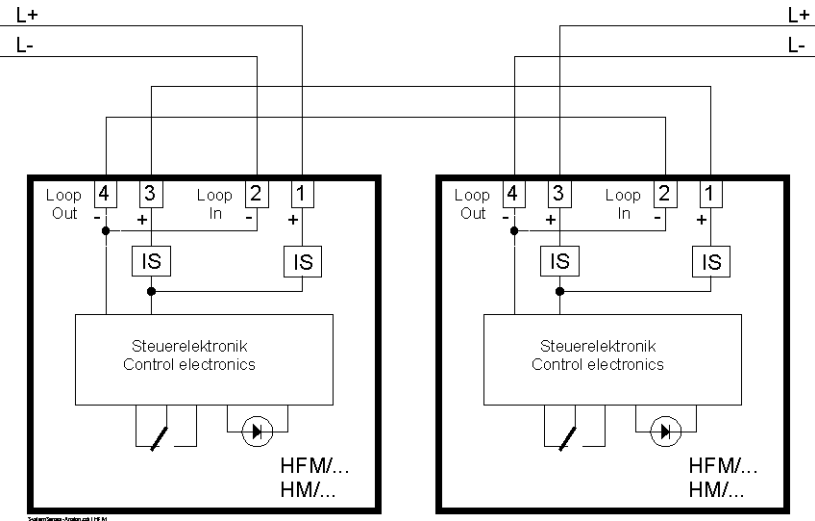
Description	Type	Remark	Address range
Sounder	WSO-Px-N		1-159
Sounder	WSO-Px-I	with isolator	1-159
Base sounder/strobe	BRH-PC-I	with isolator	1-159
Base sounder/strobe	BRS-PC-I	with isolator	1-159
Base sounder/strobe	BSS-xx-N		1-159
Base sounder/strobe	BSS-xx-I	with isolator	1-159
Base sounder/strobe	DSS-xx-N		1-159
Base sounder/strobe	DSS-xx-I	with isolator	1-159
Sounder/strobe	WSS-PR-N		1-159
Sounder/strobe	WSS-PR-I	with isolator	1-159
Sounder/strobe	WRA-xC-I	with isolator	1-159
Sounder/strobe	WWA-xC-I	with isolator	1-159
Base sounder	BSO-PP-N		1-159
Base sounder	BSO-PP-I	with isolator	1-159
Strobe	BGL-xx-I	with isolator	1-159
Strobe	WST-PR-N		1-159
Strobe	WST-PR-I	with isolator	1-159
Base sounder	BSO-DD-N		1-159
Base sounder	BSO-DD-I	with isolator	1-159
Strobe	VAD-PC-N		1-159
Strobe	VAD-PC-I	with isolator	1-159
Strobe	WRL-xC-I	with isolator	1-159
Strobe	WWL-xC-I	with isolator	1-159

3.7 Connection of manual call points

The following manual call points can be connected to the fire detection control panel:

Description	Type	Remarks	Address range
Manual Call Point/Red	HFM/x/22/xx	with isolator	1-99
Manual Call Point	HM/x/22/xx/xx	with isolator	1-99
Manual Call Point/Red	HFM/x/25/xx	with isolator	1-159
Manual Call Point	HM/x/25/xx/xx	with isolator	1-159
Manual Call Point Series HME	HME/FFFF/25/TT/LL	with isolator	1-159
Manual Call Point/Red/200/ISM/Glass	MCP5A-RP08FG	with isolator	1-99/1-159
Manual Call Point/Red/200/ISM/Flexi	MCP5A-RP08FF	with isolator	1-99/1-159
Manual Call Point/Red/200/Glass	MCP5A-RP07FG		1-99/1-159
Manual Call Point/Red/200/Flexi	MCP5A-RP07FF		1-99/1-159

3.7.1 Connection of Manual Call Points Series HFM/HM



The setting of the address is described in Chapter 3.6.1: "Manual call points " from page 206 onwards.

3.7.1.1 LED conditions of the HxM/x/22/xx/xx

<i>Condition</i>	<i>Red LED</i>
Normal operation	off/flashing ¹⁾
Alarm	on/blinking ¹⁾
Isolator activated	-
No address set	on

¹⁾ Depending on the control panel type and the parameter setup

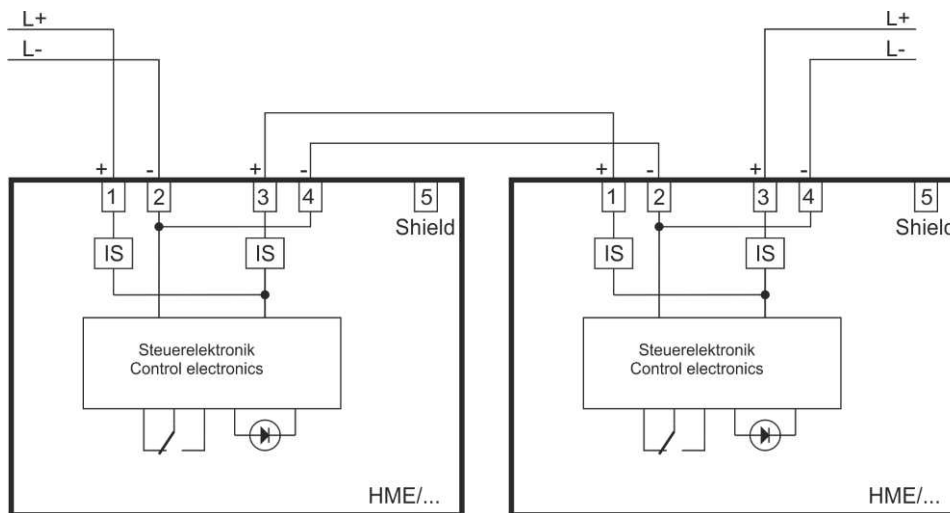
3.7.1.2 LED conditions of the HxM/x/25/xx/xx

Condition	Red LED	Green LED	Yellow LED
Normal operation	-	off/flashing ¹⁾	-
Alarm	on/blinking ¹⁾	-	-
Isolator activated	-	-	on ²⁾
No address set	on		

¹⁾ Depending on the control panel type and the parameter setup

²⁾ If the Series 200AP protocol is used, the function of the yellow LED is only guaranteed on the Fire Detection Control Panel Series BC600. If the detector is connected to a Fire Detection Control Panel Series BC216, the yellow LED will – in the event of a short circuit on the loop – only be activated for a short time period. After the integrated isolator separated the faulty loop part, the yellow LED will be off.

3.7.2 Connection of Manual Call Points Series HME



The setting of the address is described in Chapter 3.6.1: "Manual call points " from page 206 onwards.

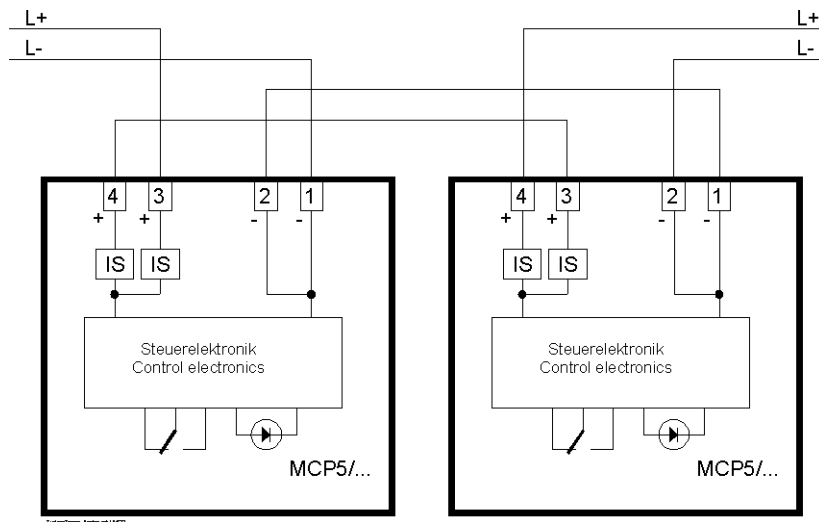
3.7.2.1 LED conditions of the HME/FFFF/25/TT/LL

Condition	Red LED	Green LED	Yellow LED
Normal operation	-	off/flashing ¹⁾	-
Alarm	on/blinking ¹⁾	-	-
Isolator activated	-	-	on ²⁾
No address set	on		
Test condition		flashing	

¹⁾ Depending on the control panel type and the parameter setup

²⁾ If the Series 200AP protocol is used, the function of the yellow LED is only guaranteed on the Fire Detection Control Panel Series BC600. If the detector is connected to a Fire Detection Control Panel Series BC216, the yellow LED will – in the event of a short circuit on the loop – only be activated for a short time period. After the integrated isolator separated the faulty loop part, the yellow LED will be off.

3.7.3 Manual Call Points Series MCP



The setting of the address is described in Chapter 3.6.1.4: "Manual Call Points Series MCP5A/WCP5A" from page 209 onwards.

3.7.3.1 LED conditions of the MCP

<i>Condition</i>	<i>Red LED</i>	<i>Green LED</i>	<i>Yellow LED</i>
Normal operation	-	off/flashing ¹⁾	-
Alarm	on/blinking ¹⁾	-	-
Isolator activated	-	-	on ²⁾
No address set	on		

¹⁾ Depending on the control panel type and the parameter setup

²⁾ If the Series 200AP protocol is used, the function of the yellow LED is only guaranteed on the Fire Detection Control Panel Series BC600. If the detector is connected to a Fire Detection Control Panel Series BC216, the yellow LED will – in the event of a short circuit on the loop – only be activated for a short time period. After the integrated isolator separated the faulty loop part, the yellow LED will be off.

3.8 Connection of intelligent automatic detectors

You have to set the desired address on the detector, by means of the two rotary switches (ones digit and tens digit). Detailed information can be found in Chapter 3.6: "Address programming" from page 206 onwards.

Basically, the Detector Bases B501 and B501AP can be used for all System Sensor Series 200 and 200AP detectors. However, there are limitations which are listed in the table below.

The table below shows the limitations concerning the isolator function when using 200AP detectors in combination with various bases.

Base type	Series 200AP detector with isolator	Series 200AP / 200 detector without isolator
B501	Isolator not used	No isolator function
B524IEFT-1	Isolator of base in operation	Isolator of base in operation
B524HTR-x	Isolator not used	No isolator function
B524RTE-x	Isolator not used	No isolator function
B501AP two wires in terminal 2	Isolator not used	No isolator function
B501AP two wires in terminal 4	Isolator not used	No isolator function
B501AP one wire each in terminals 2 and 4	ISO of detector in operation	No isolator function



To ensure the functioning of the integrated isolator of the Detector Base B501AP, terminals 2 and 4 must be used.

3.8.1 Compatibility

By means of the detector bases B501, B524IEFT-1, B524HTR, B524RTE or B501AP, the following automatic fire detectors can be connected to the Fire Detection Control Panel Series BC216.

Type	Series 200	Series 200AP	200AP with Isolator
Ionisation Smoke Detector	1251E		
Optical Laser Smoke Detector	7251		72051EI
Optical Smoke Detector	ND2251EM	ND22051E	ND22051EI
Optical-Thermal Detector	2251TEM	DV22051TE	DV22051TEI
Multisensor – 3 criteria	2251TLE	22051TLE	22051TLEI
Multisensor – 4 criteria	2251CTLE	2251CTLE	
Thermal Rate-of-rise Detector		52051RE	52051REI
58°C Thermal Max Detector	5251EM	52051E	52051EI
78°C Thermal Max Detector		52051HTE	52051HTEI
Optical Smoke Detector – IS	2251EIS		
Optical Smoke Detector – IS	22051EISE		



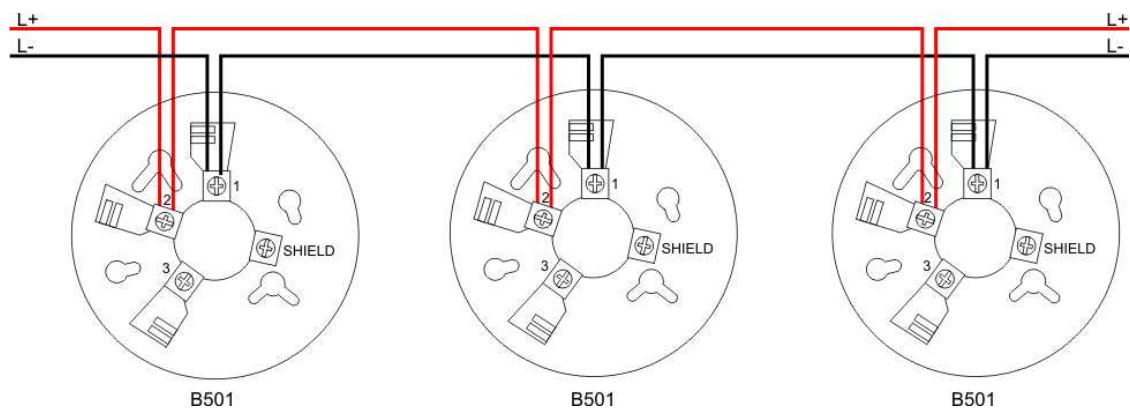
The detector 5251EM / 5551E can be operated as a thermal DIFF detector on the BC216 without any restrictions. If the detector 5251EM / 5551E is used as an A1R detector on the BC600, the maximum number of these detectors is reduced to 50 per loop. PARSOFT checks the number of parameterised elements and provides an error message if it is exceeded.

If a thermo-differential evaluation is desired, the number of elements must be reduced to a maximum of 50, for example by replacing them with 52051RE or 52051REI.

3.8.2 Detector Base B501

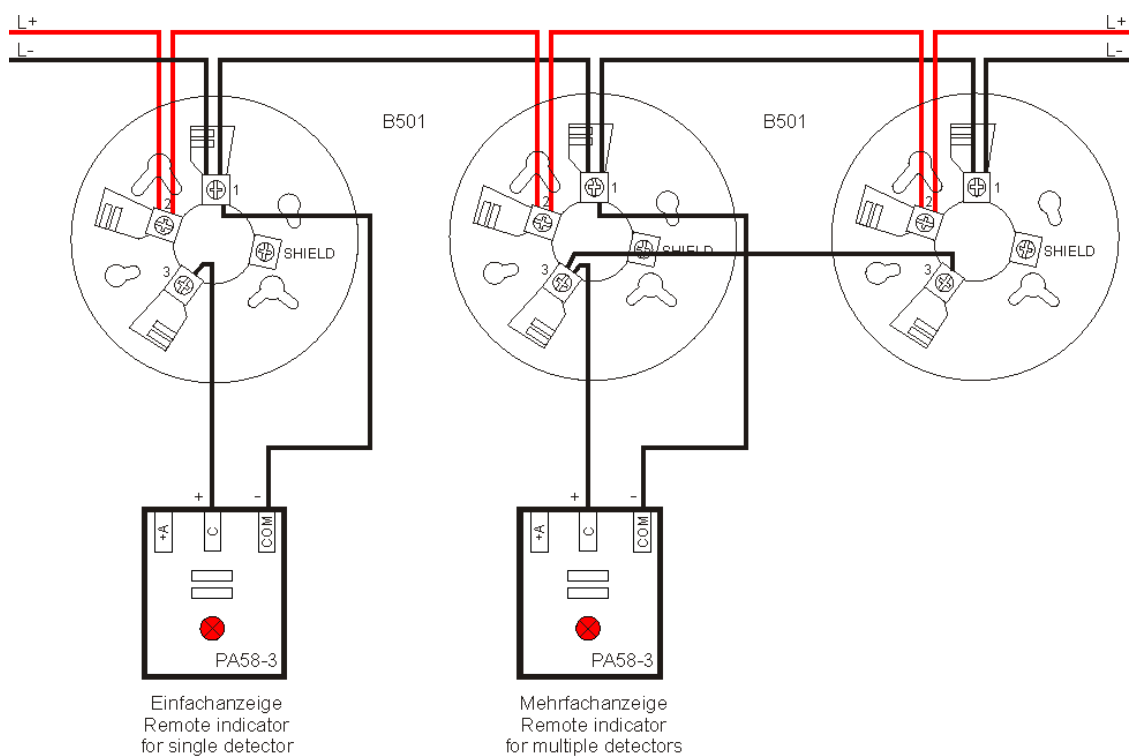
3.8.2.1 Connection of B501

All automatic detectors are connected to the detector zone in parallel. Alarm resistors or end-of-line resistors are not required.



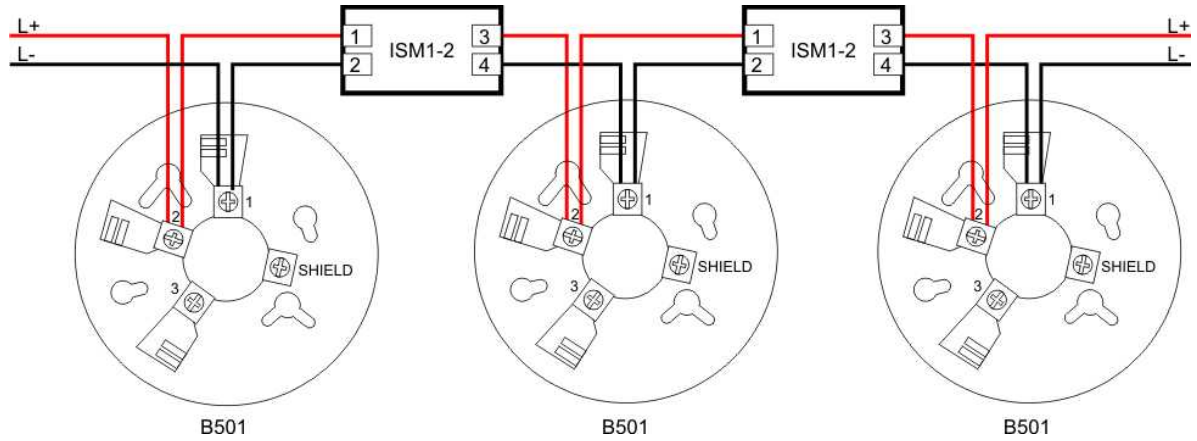
Using a Series 200AP detector with a B501 detector base will put the isolator of the detector out of operation.

3.8.2.2 Connection with Remote Indicator PA58-1 or PA58-3



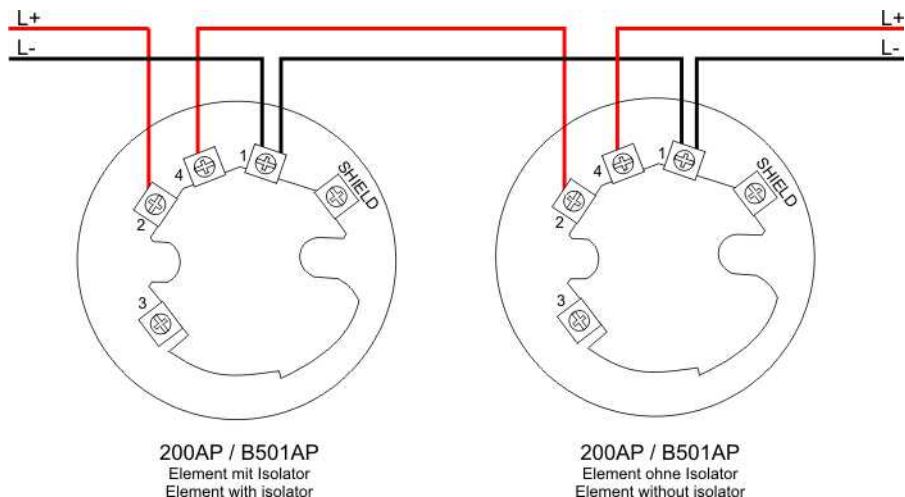
3.8.2.3 Connection with Isolator Module ISM1-2

The isolator module is only needed for Series 200 detectors because they do not have an integrated isolator.



For details please refer to Chapter 3.4: "Use of isolators" from page 199 onwards.

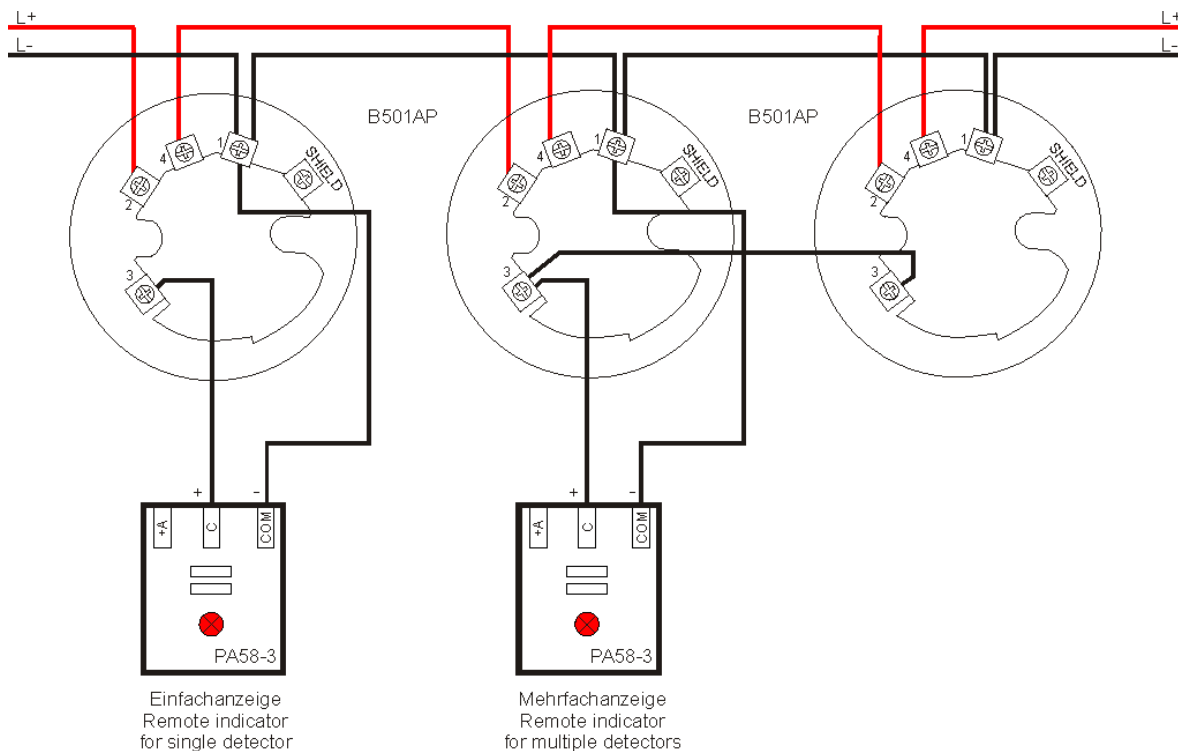
3.8.3 Detector Base B501AP



The Detector Base B501AP does not have an integrated isolator but it has one additional terminal (4) which is needed for the isolator function of Series 200AP detectors.

 If the detector is removed from the base B501AP, an integrated spring closes the contact between terminals 2 and 4 of the base, so that the loop remains closed.

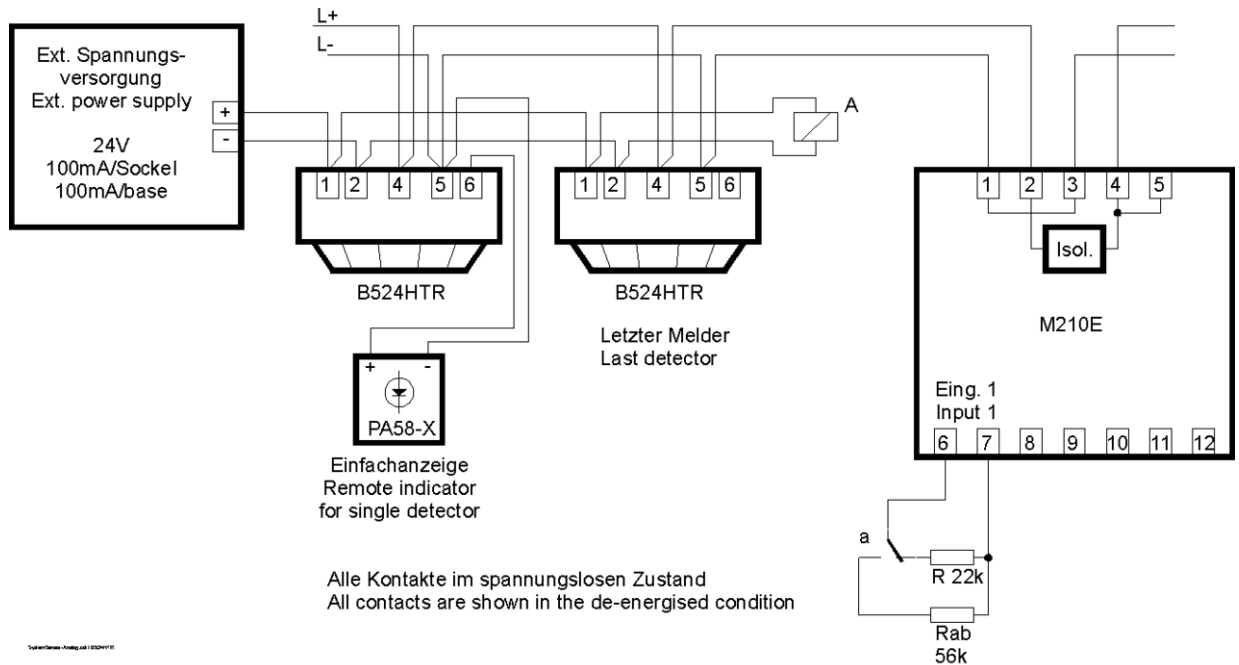
3.8.3.1 Connection with Remote Indicator PA58-1 or PA58-3



3.8.4 Detector Base B524HTR with integrated heating

The Detector Base B524HTR has a built-in heating which is powered by an external power supply. To monitor the supply voltage we recommend using a monitor module in combination with a relay which is connected to the last detector. For a list of compatible detectors, see the table on page 217 in Chapter 3.8.1: "Compatibility".

3.8.4.1 Connection



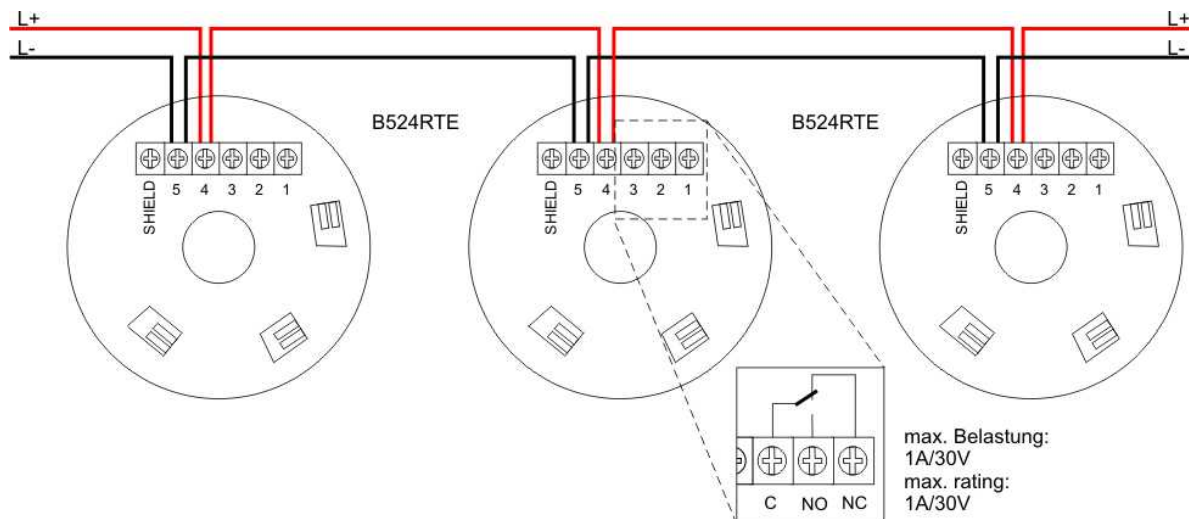
Using a Series 200AP detector with the B524HTR detector base will put the integrated isolator of the detector out of operation.

3.8.5 Detector Base B524RTE with integrated relay

When using this detector base you have to be aware that the activated detector requires continuous actuation of the remote indicator output. Therefore, the remote indicator output must not be set to flashing in the activated condition. The relay will be activated 8 seconds after the activation of the detector.

For a list of compatible detectors, see the table on page 217 in Chapter 3.8.1: "Compatibility".

3.8.5.1 Connection



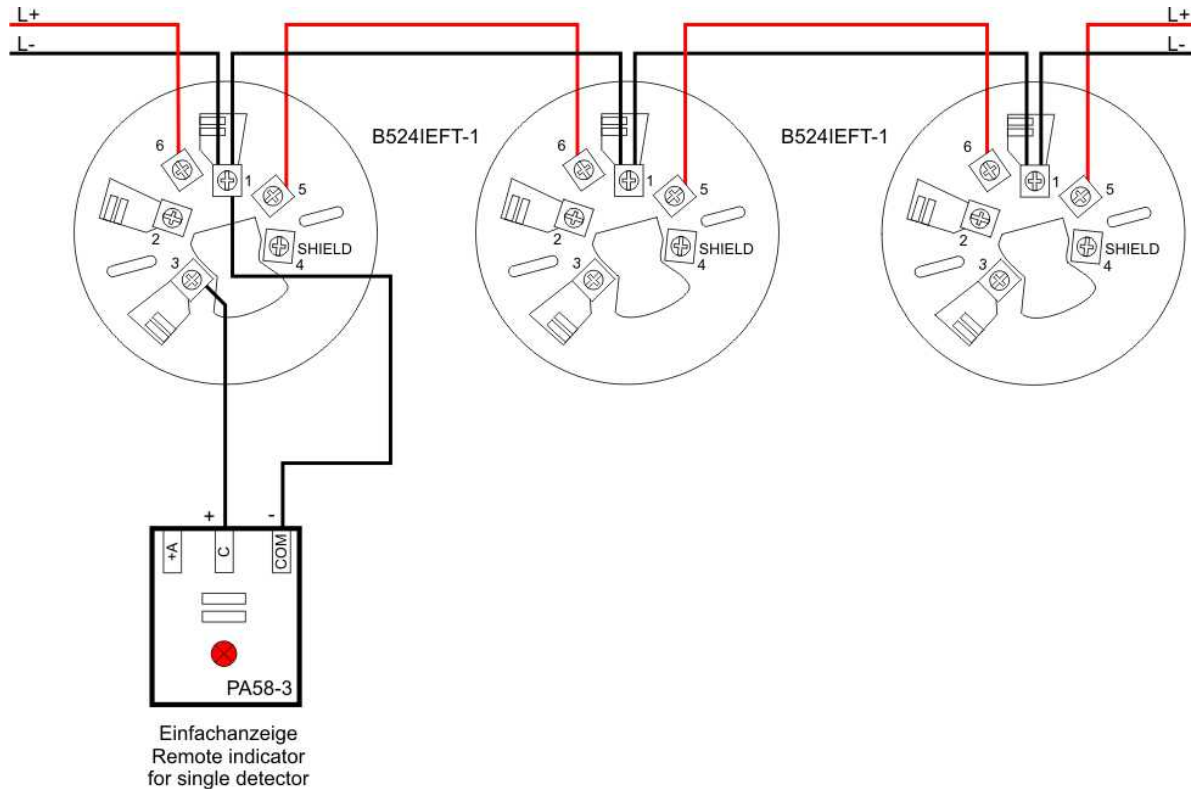
Using a Series 200AP detector with the B524RTE detector base will put the integrated isolator of the detector out of operation. Remote indicators (PA58-1, PA58-3) can not be used with this detector base.

3.8.6 Detector base B524IEFT/B524IEFT-1 with integrated isolator

An isolator is integrated in every detector base. In the event of a short circuit on the 2-wire line, the isolators before and behind the short circuit open the connection. As a result, all detectors that are not affected by the short circuit, remain in function. For a list of compatible detectors, see the table on page 217 in Chapter 3.8.1: "Compatibility".

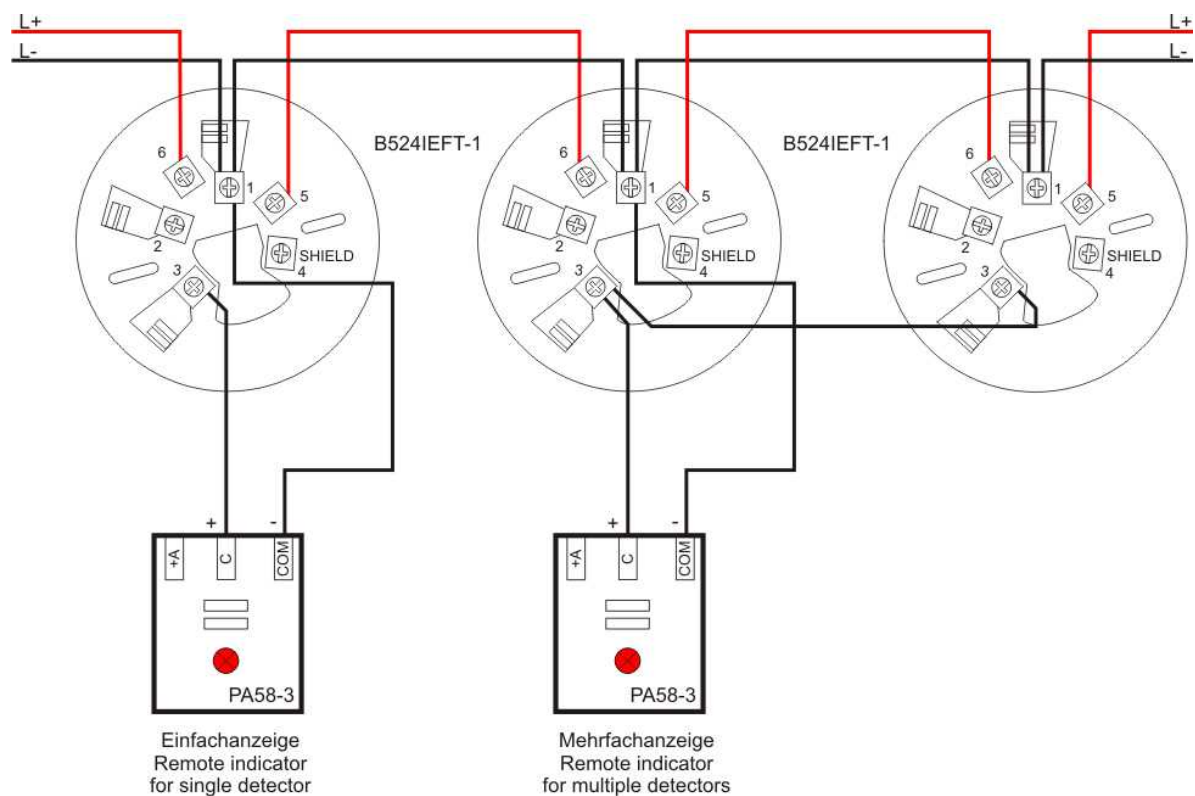
Notes: see from page 199 onwards in Chapter 3.4: "Use of isolators".

3.8.6.1 Connection



Using a Series 200AP detector with the B524IEFT-1 detector base will put the integrated isolator of the detector out of operation.

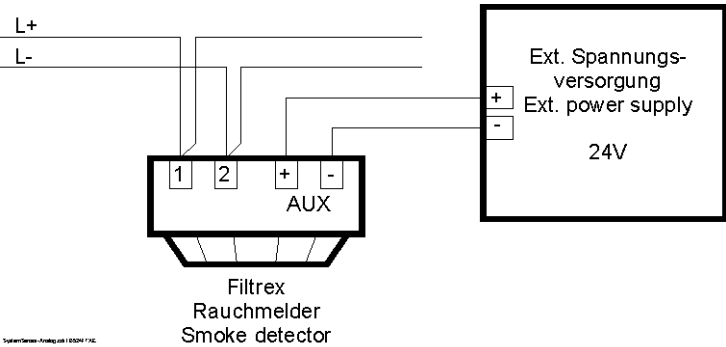
3.8.6.2 Connection with Remote Indicator PA58-1 or PA58-3



3.8.7 Detector Base B524FTXE

The following automatic fire detectors can be connected to the Fire Detection Control Panel Series BC216, using the Detector Base Filtrex B524FTXE:

Description	Type
Optical Filtrex Smoke Detector	FTX-P1



A separate power supply is required for the Filtrex detector. The detector can be powered by the fire detection control panel or by an external power supply. The use of a remote indicator is not possible.



If the detector is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

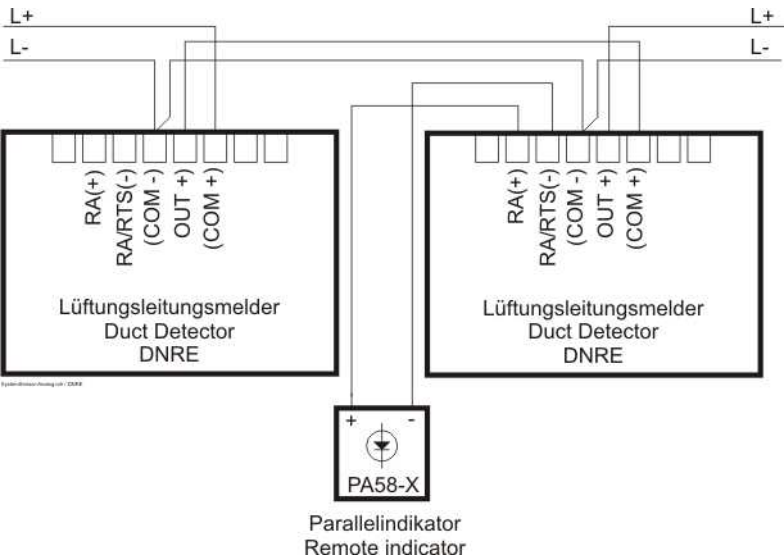
Power consumption of fan:

Condition	Input current
Stand-by cycle	6mA
Duty cycle (every 30s for 5s)	60mA

3.8.8 Duct detectors

3.8.8.1 DNRE

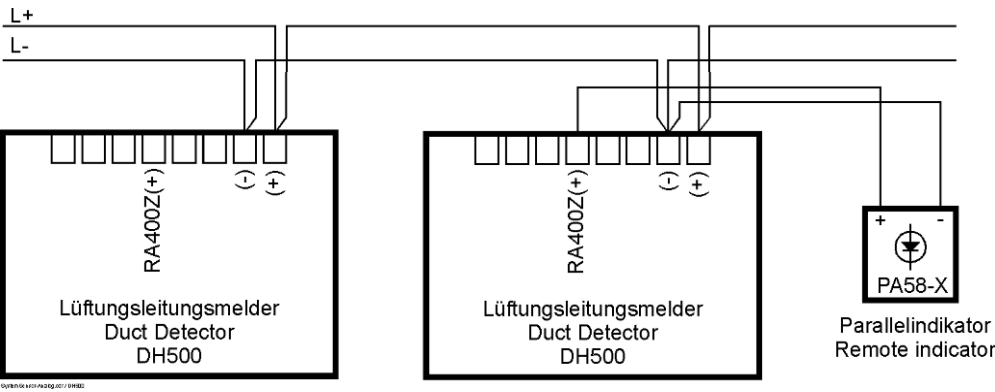
By removing the detector from the base, the loop line will be opened!



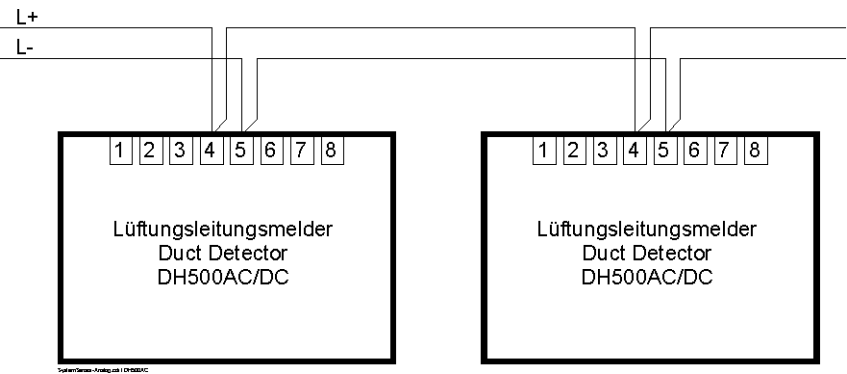
The following detectors can be used:

Description	Type
Optical Smoke Detector	ND22051E
Optical Smoke Detector	ND22051EI
Optical Smoke Detector	ND2251EM
Optical Laser Smoke Detector	7251
Optical Laser Smoke Detector	72051EI

3.8.8.2 DH500



3.8.8.3 DH500AC/DC



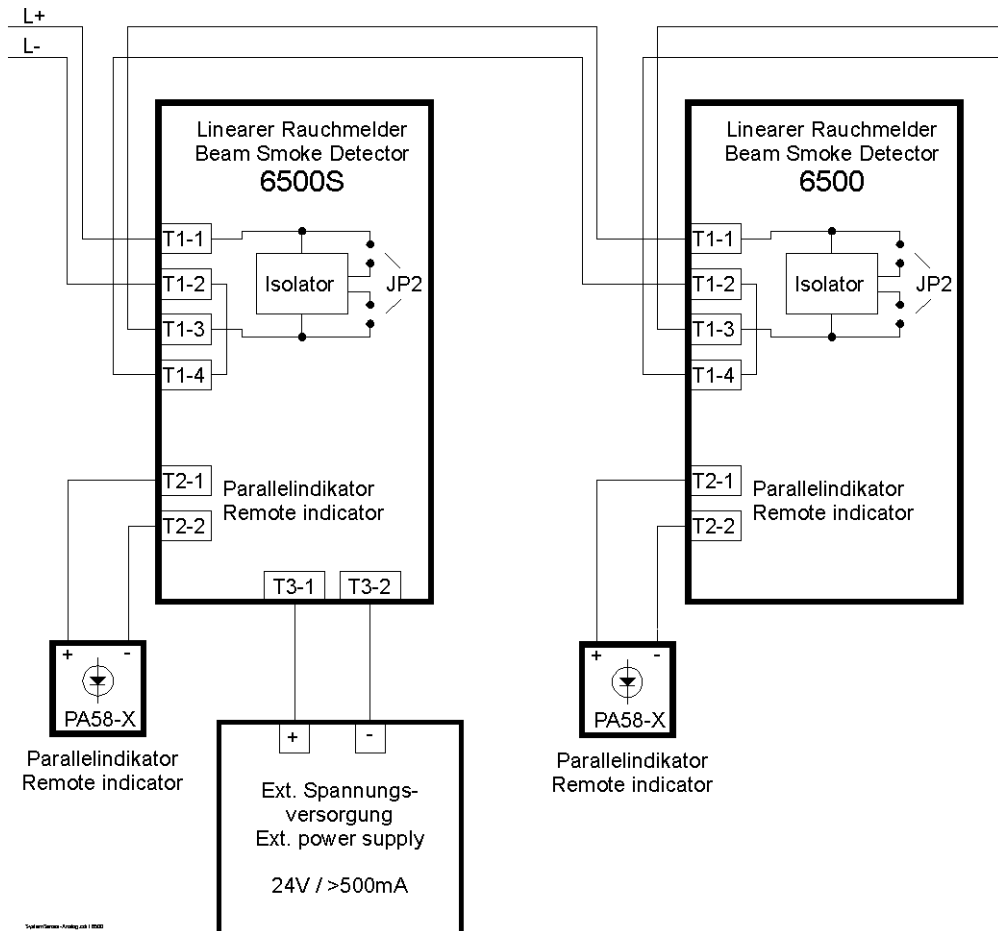
3.8.9 Beam Smoke Detector 6500

The Beam Smoke Detector 6500 has a higher power consumption than other automatic detectors (e.g., optical smoke detectors).

We recommend the use of the loop calculator tool FireSysCALC_XXXX.ods, which can be downloaded from the LST website.

For detailed information about connection, setting of address, and commissioning, see the documentation of the detector.

Detectors with the designation 6500S-06 or 6500-06 can also be operated in the address range 1-159.



The number of Beam Smoke Detectors 6500 which may be inserted between two isolator modules can be found in the tables in Chapter 3.4: "Use of isolators" from page 199 onwards.

To bypass the isolator you can set jumper JP2.

If the detector is contaminated, a technical message will be displayed on the fire detection control panel. After the process of cleaning the detector it can take up to 6 hours, until the message disappears (correction of the internal drift compensation). This process can be shortened by a power reset (40 seconds without supply) of the detector.

The detector 6500S has a self test function. It is activated by an external key switch, the RTS151KEY. The wiring of the RTS151KEY can be found in the documentation of the detector. For the activation of the detector, the key must be set to the TEST position. Make sure to put the zone into the test condition first. Otherwise a fire alarm will be activated.

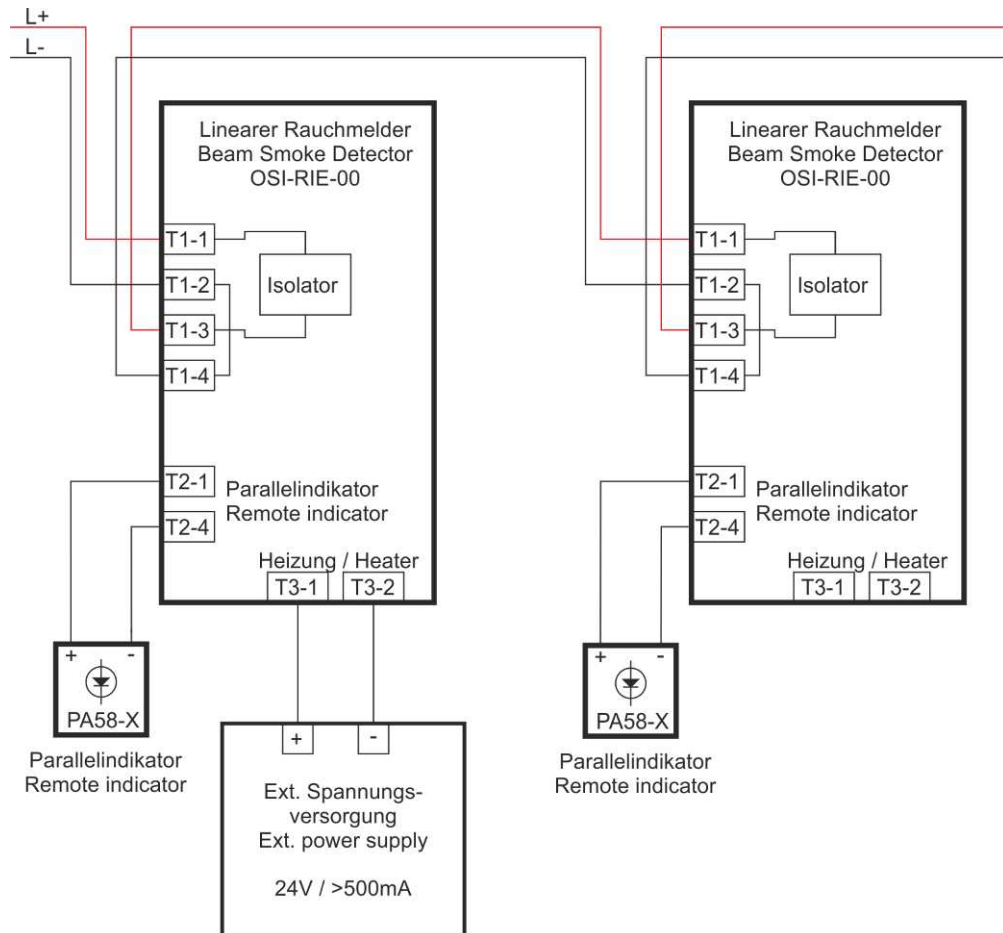
The detector is reset by turning the key to the RESET position. Afterwards remove the key in the centre position. If a fire alarm has been indicated on the system, now it can be terminated with a Panel reset.

3.8.10 Beam Smoke Detector OSI-RIE-00

The Beam Smoke Detector OSI-RIE-00 has a higher current consumption than other automatic detectors (e.g., optical smoke detectors).

We recommend using the loop calculator spreadsheet FireSysCALC_XXXX.ods, which is available in the download area of the LST website.

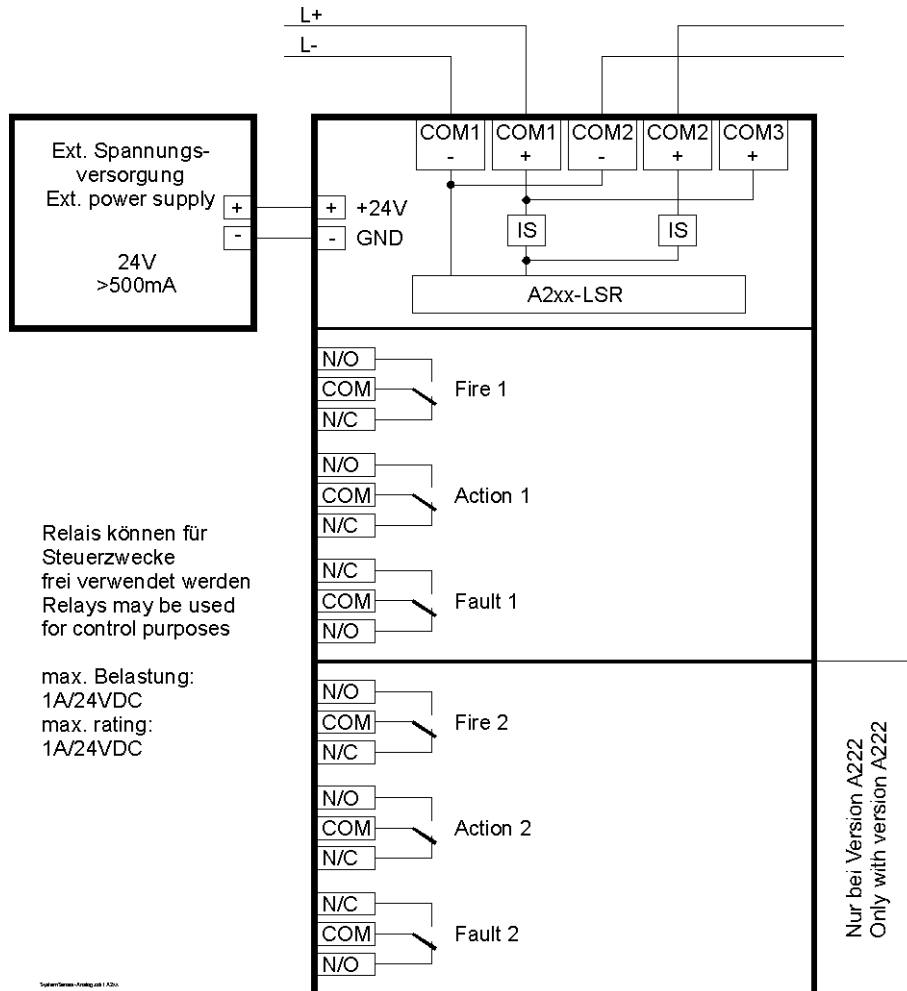
For further instructions about the connection, address setting and commissioning, please refer to the documentation enclosed with the detector.



Extern power supply required in case detector heater is used.
Externe Spannungsversorgung zwingend notwendig für die Melderheizung.

If the built-in detector heater is used, an external power unit is needed. The detector heater is activated by attaching jumpers to the terminal board of the detector.

3.8.11 Aspirating smoke detectors A211E-LSR and A222E-LSR



The aspirating smoke detector A211E-LSR has only one relay each for Alarm, Action and Fault. Furthermore, only one detector base is installed.



The Fire relays will only be operational if they have been parameterised on the fire detection control panel. For detailed information, please refer to the last chapter of this User Manual. The Action and Fault relays are activated automatically.

The set address of the first detector will be automatically used as module address. The status messages of the aspirating smoke detector (e.g., disturbance of air flow) will be indicated via this module address.



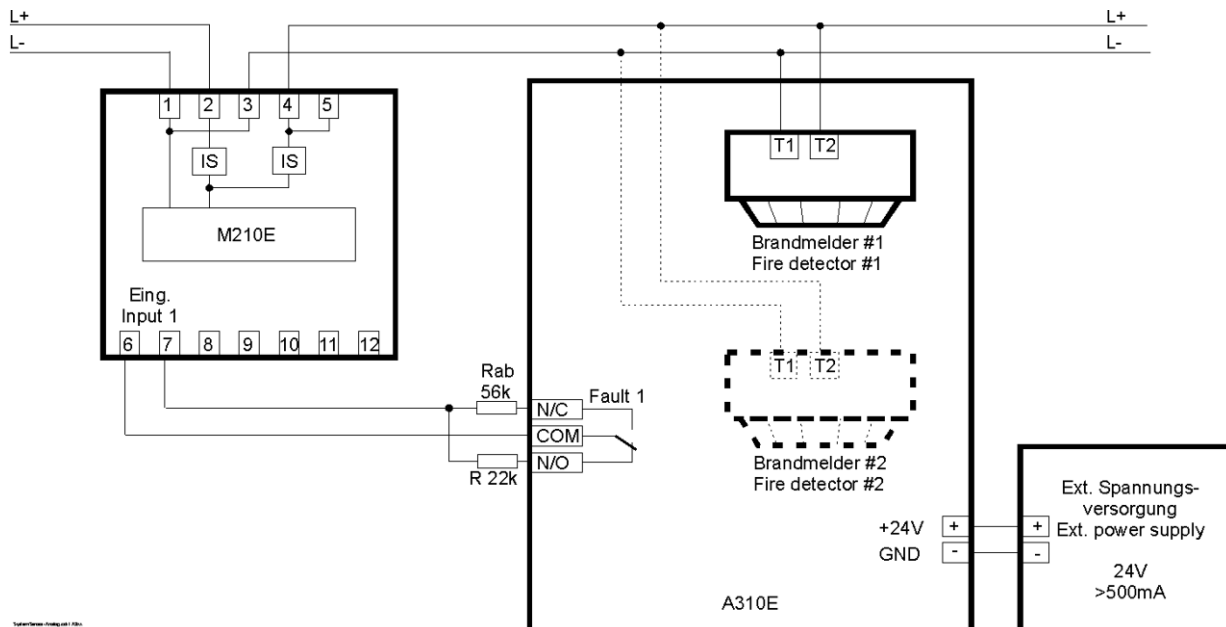
If the aspirating smoke detector is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.8.12 Aspirating smoke detectors A310E and A320E



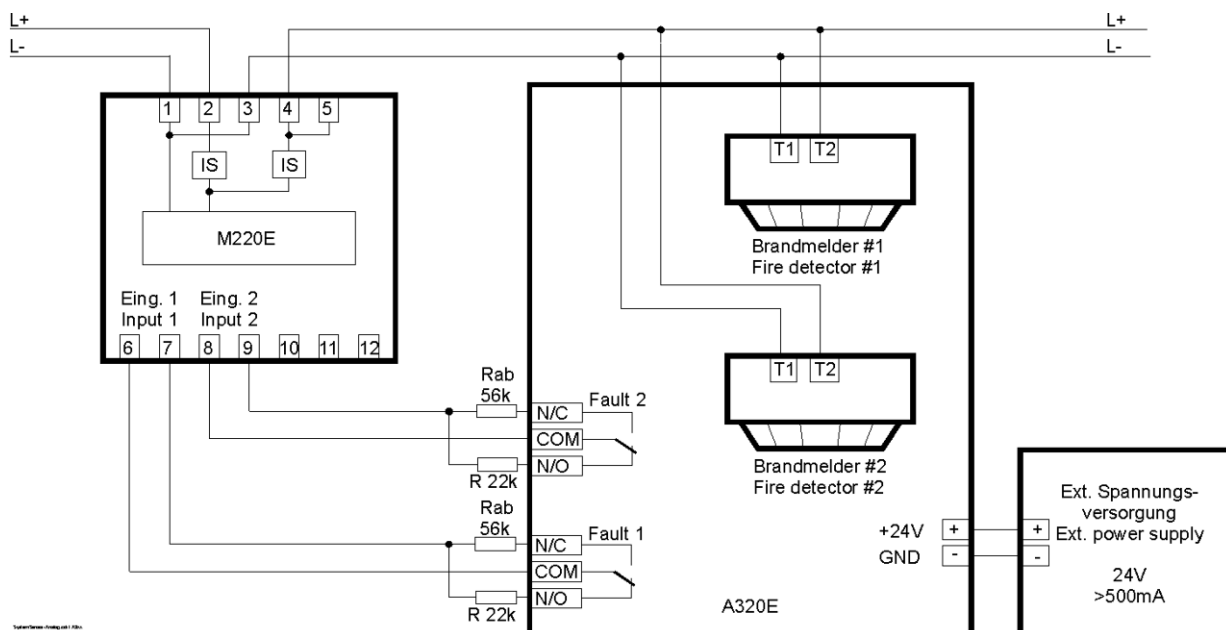
If the aspirating smoke detector is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.8.12.1 Connection of A310E



The optional second detector base can be used for alarm verification. Configuration has to be done at the BC216.

3.8.12.2 Connection of A320E

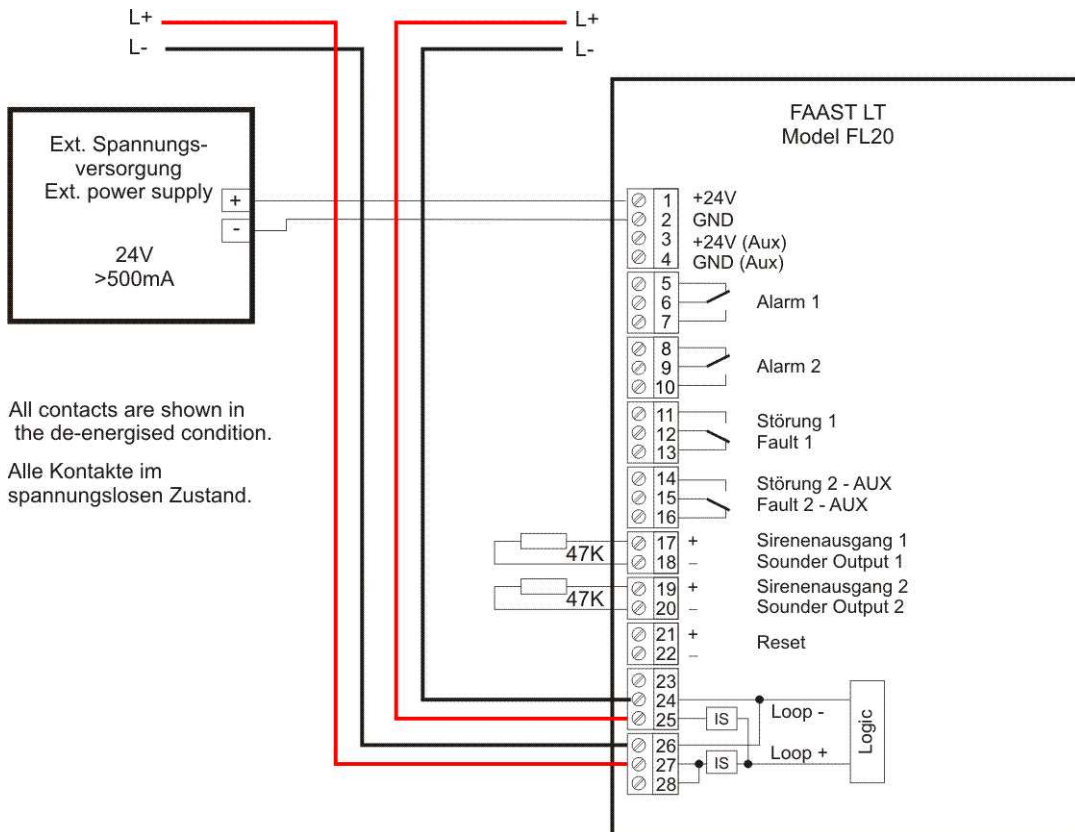


3.8.13 Aspirating smoke detector FFAST LT – Model FL20xx

3.8.13.1 General

The address of the optical laser smoke detectors is set on the detectors themselves. The address of the control unit is set by means of rotary switches which are located on the inside of the door of the smoke aspiration system. The installed Optical Laser Smoke Detectors 7251 or F-SEN-SSE are powered via the loop.

3.8.13.2 Connection



If the smoke aspiration system is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.



The **Optical Laser Smoke Detector F-SEN-SSE** (Art. No. 241124) serves as a replacement for the laser smoke sensor that is installed in an aspirating smoke detector Series FFAST LT. The detector is electrically and functionally identical with the Optical Laser Smoke Detector 72051EI, but for reasons of space it is integrated in a flatter housing. The Optical Laser Smoke Detector F-SEN-SSE is intended exclusively for installation in an aspirating smoke detector. An Optical Laser Smoke Detector F-SEN-SSE of an aspirating smoke detector can be replaced without difficulty with a detector of the same type.



If an Optical Laser Smoke Detector 7251 of an aspirating smoke detector FFAST LT is replaced with a detector F-SEN-SSE, the **firmware of the aspirating smoke detector must also be updated**. For this purpose, we will provide you with the manufacturer's instructions, if necessary.

3.8.13.3 Parameterisation of the BC600

The FFAST LT FL20xx aspirating smoke detector can only be used with Fire Detection Control Panels Series BC600.

The laser detectors that are used in the FFAST FL20xx have to be parameterised separately from the special module FL20xx and are not assigned automatically by PARSOFT because they have their own addresses.

The two modules (special module FL20xx) are output modules through which faults are signalled to the control panel. They occupy one address in the address range of the modules (with 2 sub addresses). If the output is activated (through parameterisation of a corresponding combination), the alarm relay and the "Alarm" LED are activated.

In the course of the AUTO-setup, the fire detection control panel detects the following elements:

- ◆ Special detector 7251 (laser detector, Series 200)
- ◆ Special detector 72051EI (laser detector) ¹⁾
- ◆ Special module FL20xx (module smoke asp. sys., 1 ch.)
 - ¹⁾ if the Optical Laser Smoke Detector F-SEN-SSE is used, which is electrically and functionally identical to the Optical Laser Smoke Detector 72051EI

3.8.13.4 Parameterisation of the FL20xx

The aspirating smoke detector FL20xx must be parameterised by means of the PC software PipeIQLT. The factory setting in the menu "Configuration" → "Advanced" → "Intelligent Loop" → "Alarm mode" → "By Module" must not be changed.

3.9 Intrinsically safe detection circuits for hazardous areas

3.9.1 Automatic detectors

3.9.1.1 General

The Optical Smoke Detector 22051EISE has been especially designed for intrinsically safe detection circuits, which are formed by the module IST200 and the Safety Barrier Y2 (the successor to the Safety Barrier Y72221).

The Protocol Interface IST200 serves as a protocol translator and is connected to a loop. Up to 15 detectors 22051EISE can be connected to the output of the IST200.

Every detector 22051EISE occupies one detector address. If two or more detectors have been set to the same address, this will not be recognised by the control panel.

The line between the Protocol Interface IST200 and the last detector must not exceed the following values – this corresponds to a length of approx. 500 metres:

- ◆ Line resistance: max. 20 Ohm per wire
- ◆ Line capacitance: max. 80nF

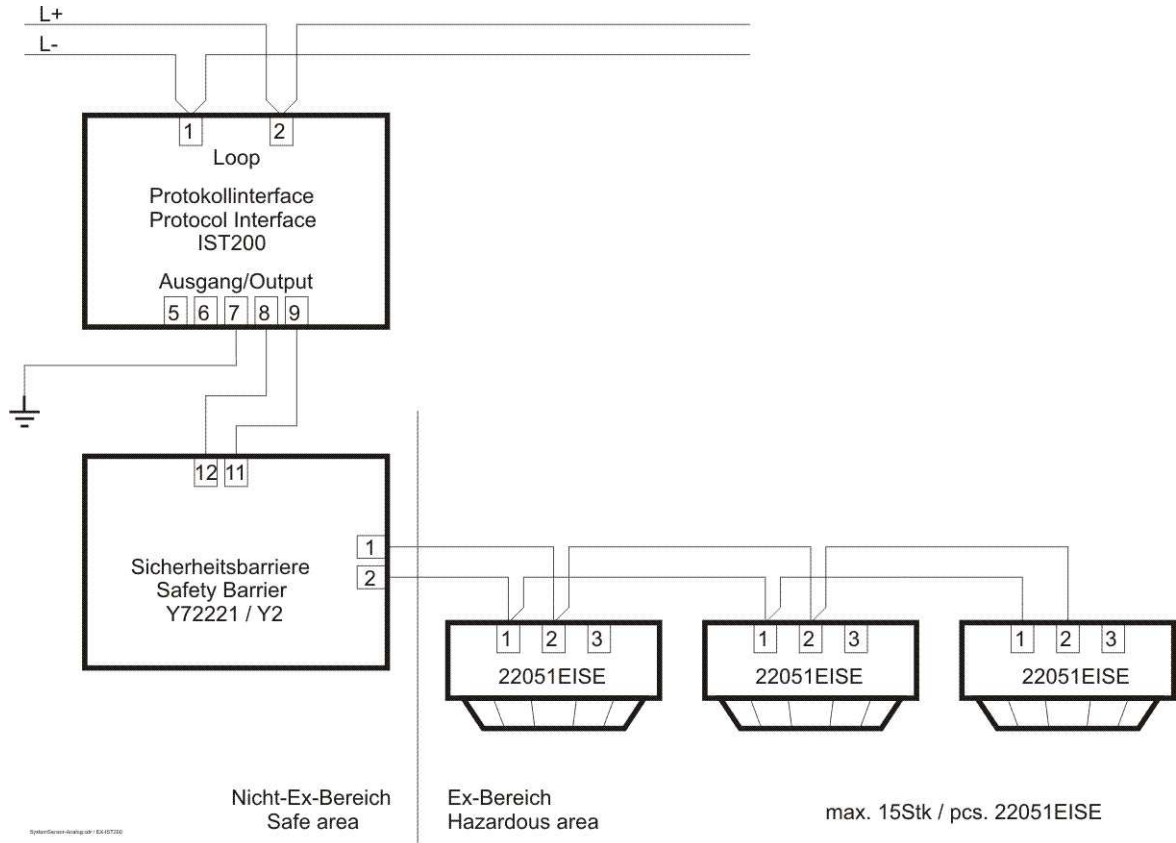
The firmware of the Loop Interface LIF64-1 must be version V1.01 or higher.

3.9.1.2 Isolator

The module IST200 has a built-in isolator module on the output side. Therefore a short circuit in the hazardous area does not affect the ADM loop.

You are only allowed to connect **one** Protocol Interface IST200 between two isolator modules on the loop – see the tables in Chapter 3.4: "Use of isolators" from page 199 onwards.

3.9.1.3 Connection



The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.

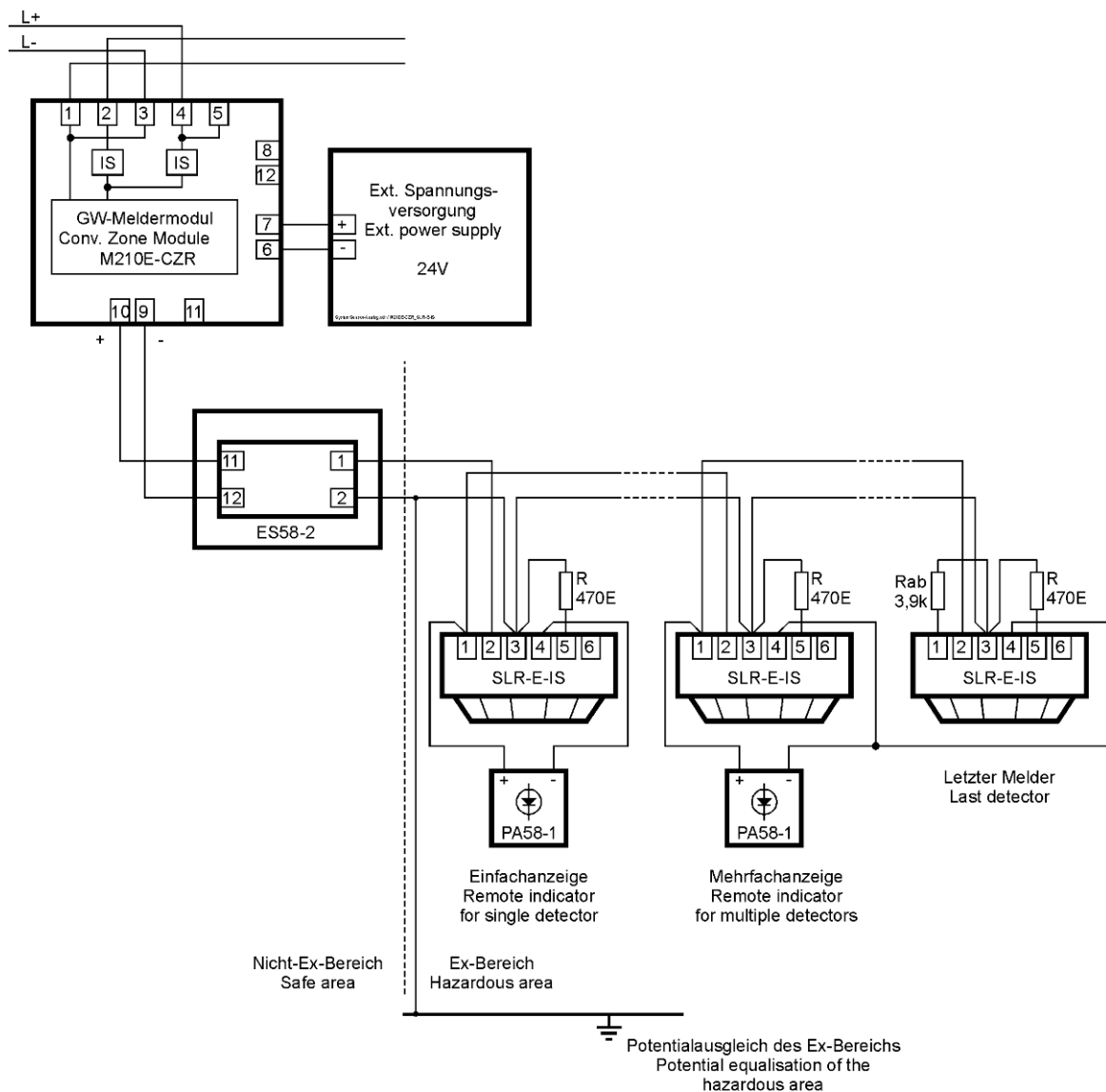
3.9.2 Automatic detectors and manual call points with the Conventional Zone Module M210E-CZR

If safety barriers are used, the earth fault detection is not possible because of the galvanic isolation between hazardous area and safe area.

The safety barrier must be installed outside the hazardous area.

3.9.2.1 Optical Smoke Detector SLR-E-IS

Up to 20 smoke detectors SLR-E-IS can be connected to a conventional zone module.



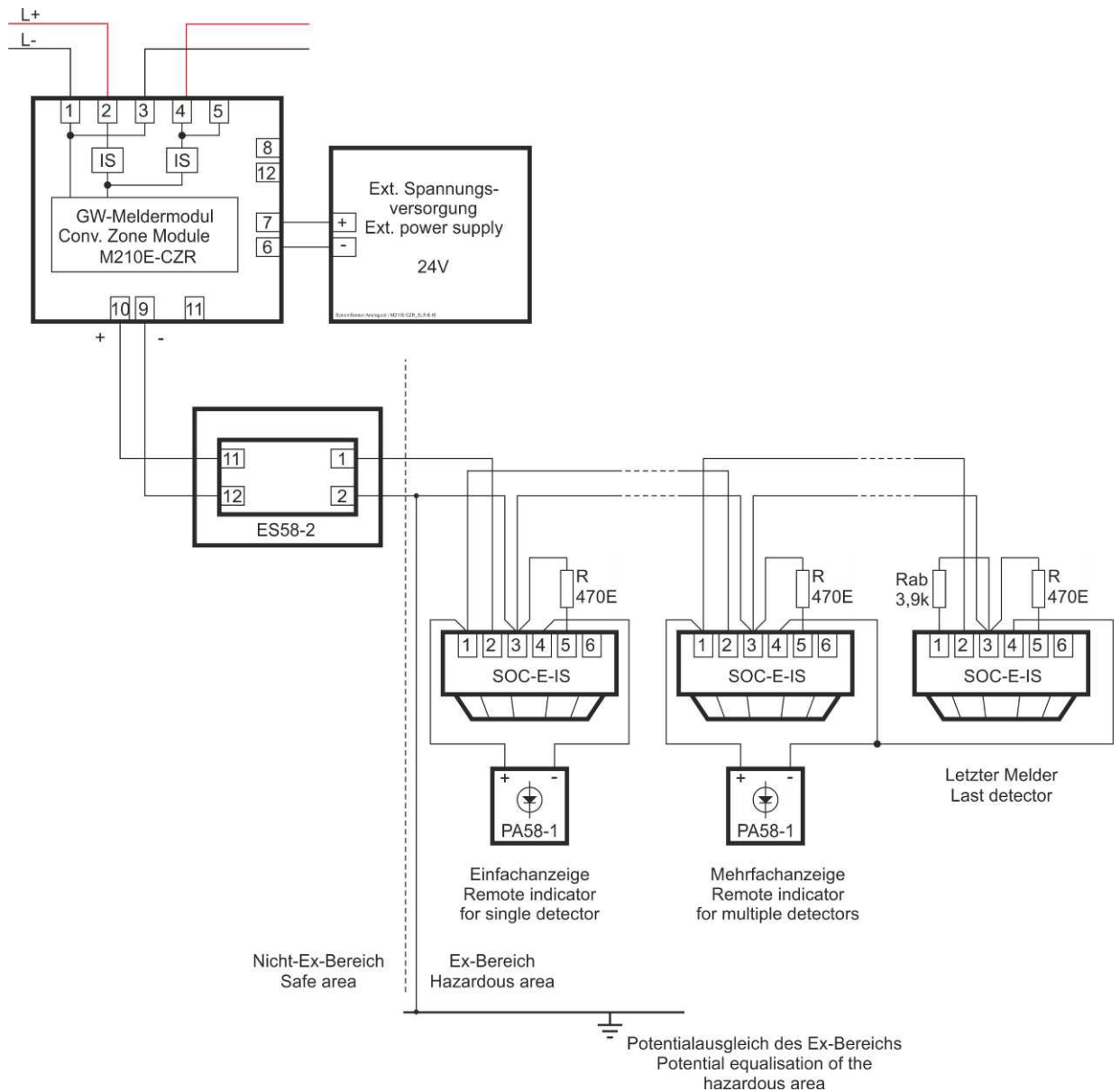
The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.



A short circuit at the output of the ES58-2 (terminal 1 / 2) will be evaluated as alarm.

3.9.2.2 Optical Smoke Detector SOC-E-IS

Up to 8 Optical Smoke Detectors SOC-E-IS can be connected to a conventional zone module.



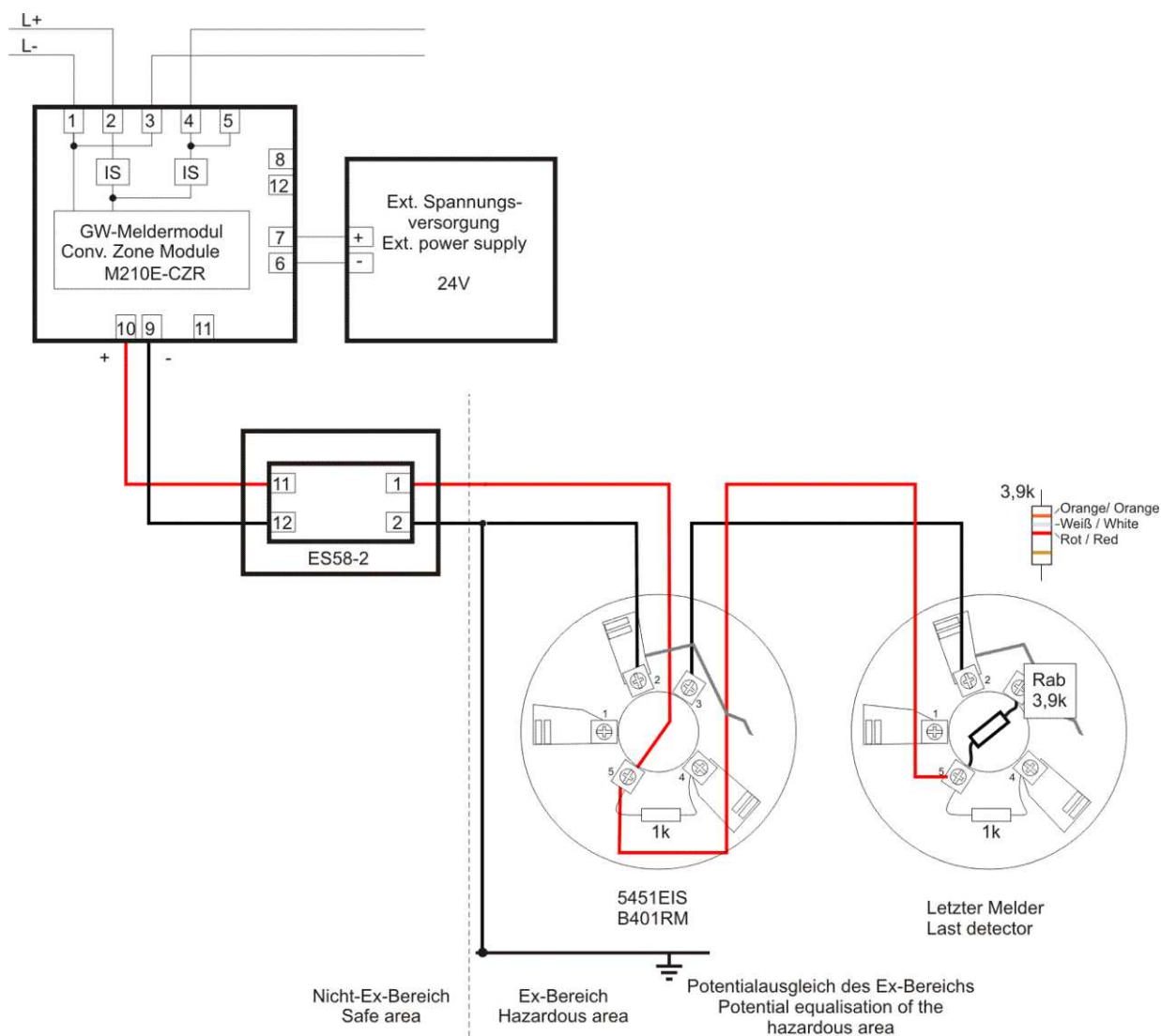
The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.



A short circuit at the output of the ES58-2 (terminals 1 / 2) will be evaluated as alarm.

3.9.2.3 Thermal detector 5451EIS

Up to 20 detectors can be connected to a conventional zone module.



The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.



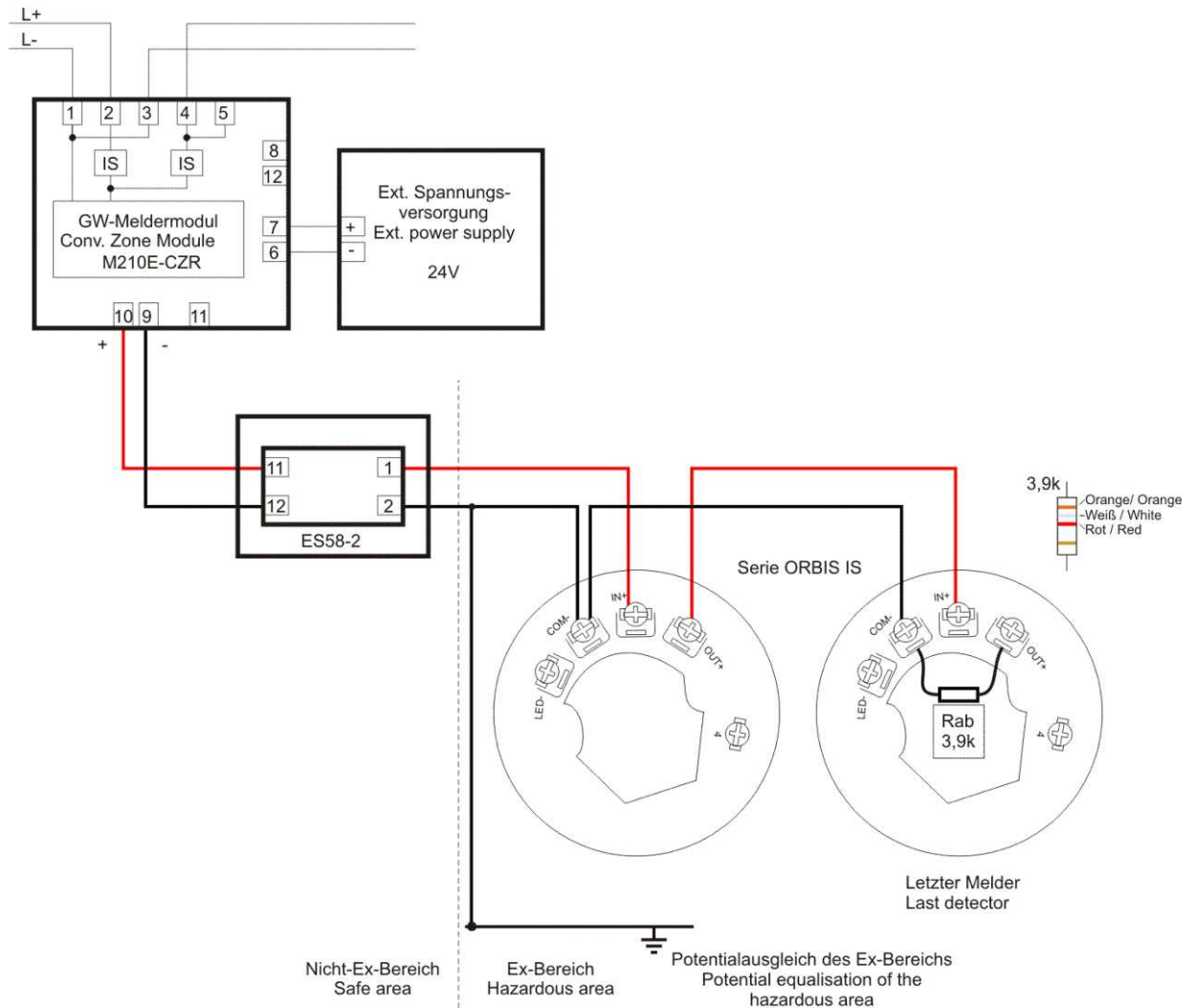
A short circuit at the output of the ES58-2 (terminal 1 / 2) will be evaluated as alarm.

3.9.2.4 Automatic detectors Series Orbis I.S.

The connection shown below applies to the following detectors:

- ◆ Optical Smoke Detector OP-52027
- ◆ Optical-Thermal Detector OH-53027
- ◆ Thermal Detector HT-51145 (A1R)
- ◆ Thermal Detector HT-51157 (A1S)
- ◆ Thermal Detector HT-51147 (A2S)
- ◆ Thermal Detector HT-51149 (BR)
- ◆ Thermal Detector HT-51151 (BS)
- ◆ Thermal Detector HT-51153 (CR)
- ◆ Thermal Detector HT-51155 (CS)

In the hazardous area, up to 28 detectors may be connected. For the connection of the ORBIS I.S. detectors, the Detector Base MB-50018 is needed.



The cabling in the hazardous area has to comply with the local regulations, guidelines and requirements.

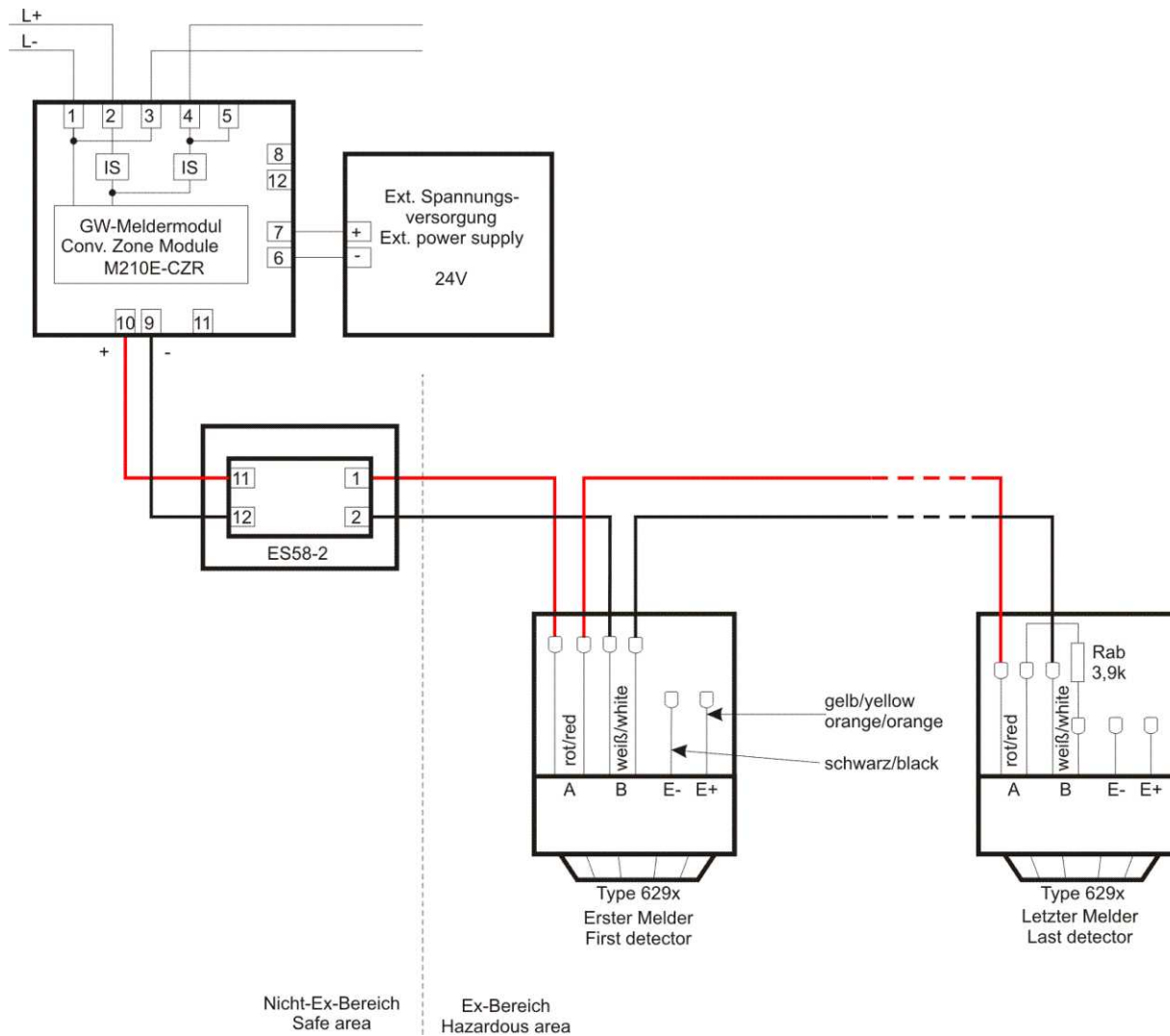
3.9.2.5 Thermal Detectors 6295 and 6296

Notes

Up to 32 detectors 629x may be connected to a conventional zone module.

Type	EN 54-5 Class
6295	57°C – A2S
6296	72°C – B2

Connection



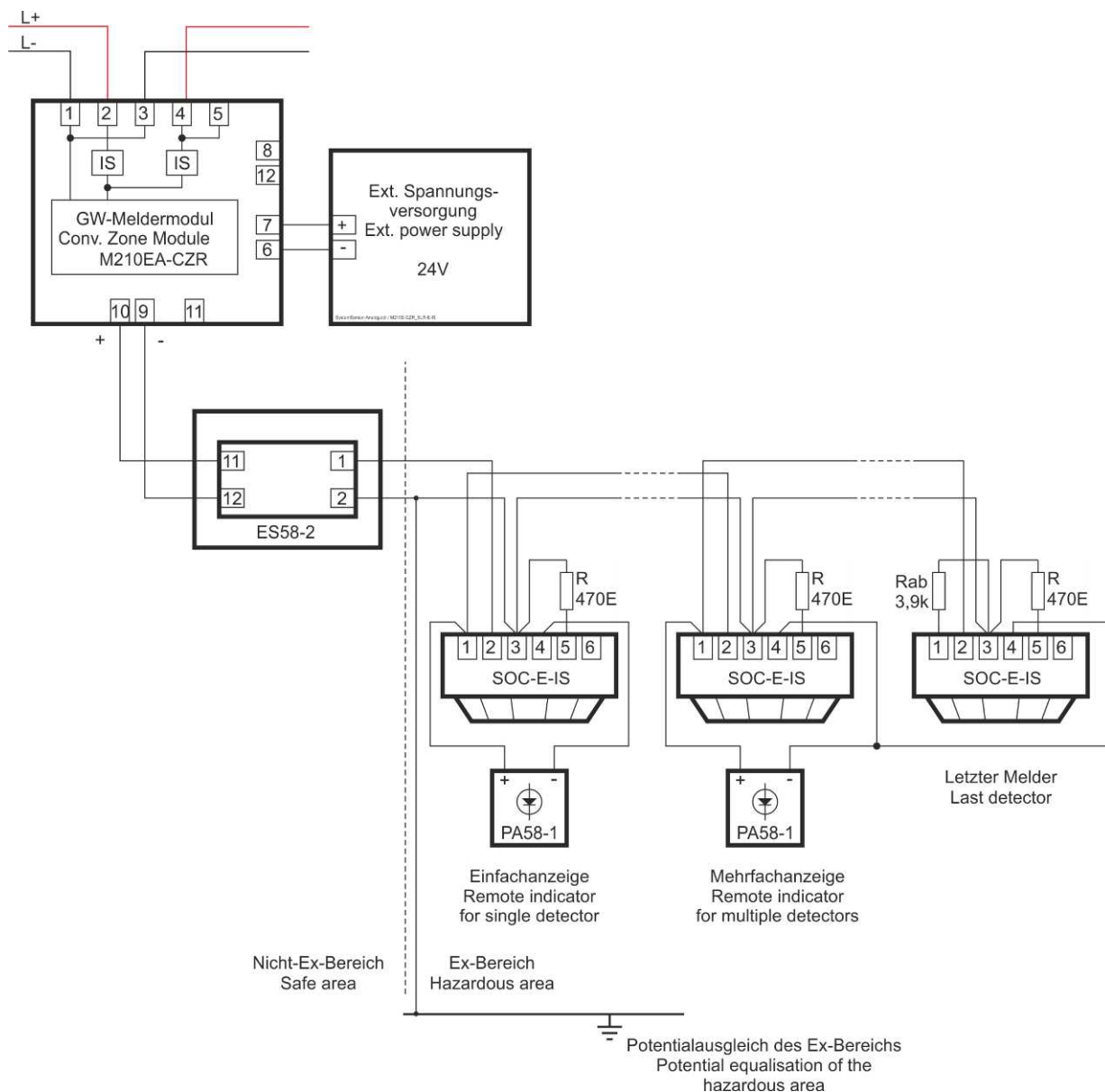
The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.



Make sure that the temperature resistance of the connection cable is sufficient.

3.9.3.2 Optical Smoke Detector SOC-E-IS

Up to 8 Optical Smoke Detectors SOC-E-IS can be connected to a conventional zone module.



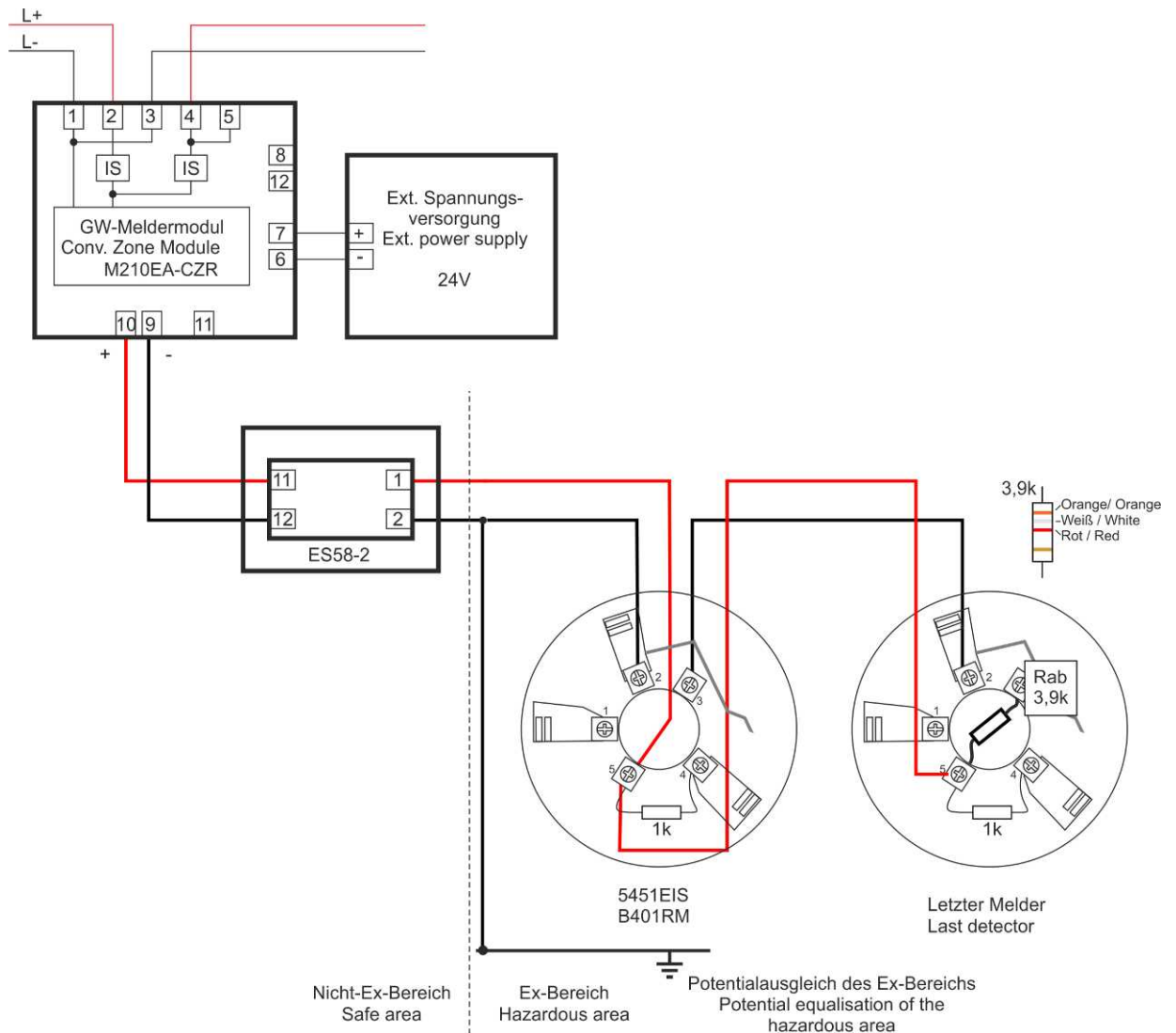
The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.



A short circuit at the output of the ES58-2 (terminals 1 / 2) will be evaluated as alarm.

3.9.3.3 Thermal detector 5451EIS

Up to 20 detectors can be connected to a conventional zone module.



The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.



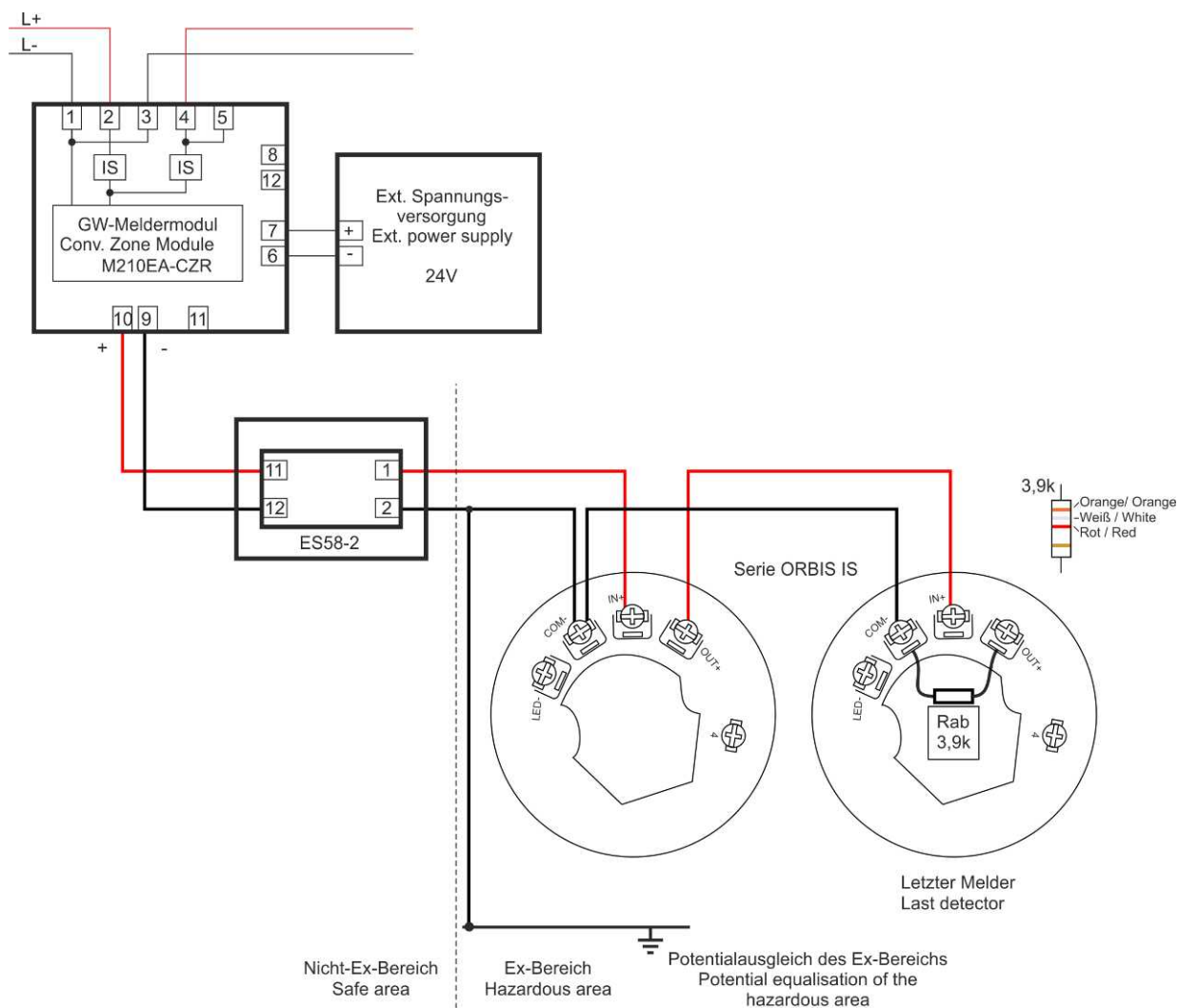
A short circuit at the output of the ES58-2 (terminals 1 / 2) will be evaluated as alarm.

3.9.3.4 Automatic detectors Series Orbis I.S.

The connection below applies to the following detectors:

- ◆ Optical Smoke Detector OP-52027
- ◆ Optical-Thermal Detector OH-53027
- ◆ Thermal Detector HT-51145 (A1R)
- ◆ Thermal Detector HT-51157 (A1S)
- ◆ Thermal Detector HT-51147 (A2S)
- ◆ Thermal Detector HT-51149 (BR)
- ◆ Thermal Detector HT-51151 (BS)
- ◆ Thermal Detector HT-51153 (CR)
- ◆ Thermal Detector HT-51155 (CS)

In the hazardous area, up to 28 detectors may be connected. For the connection of the ORBIS I.S. detectors, the Detector Base MB-50018 is needed.



The wiring in the hazardous area has to comply with the local regulations, guidelines and requirements.

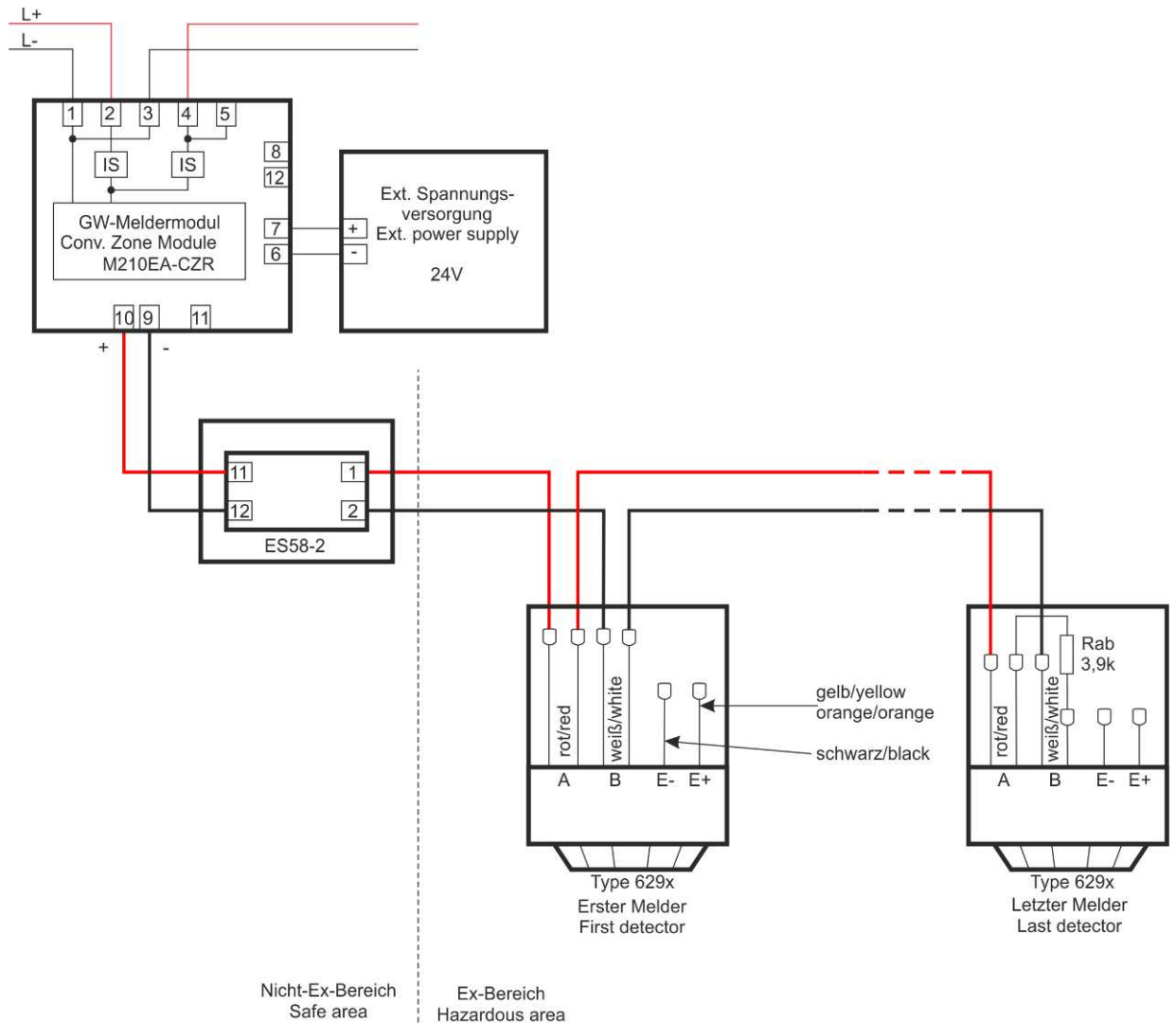
3.9.3.5 Thermal Detectors 6295 and 6296

Notes

Up to 32 detectors 629x may be connected to a conventional zone module.

Type	EN 54-5 Class
6295	57°C – A2S
6296	72°C – B2

Connection



The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.



Make sure that the connection cable is sufficiently temperature-resistant.

3.9.4 Intrinsically safe detectors for hazardous areas

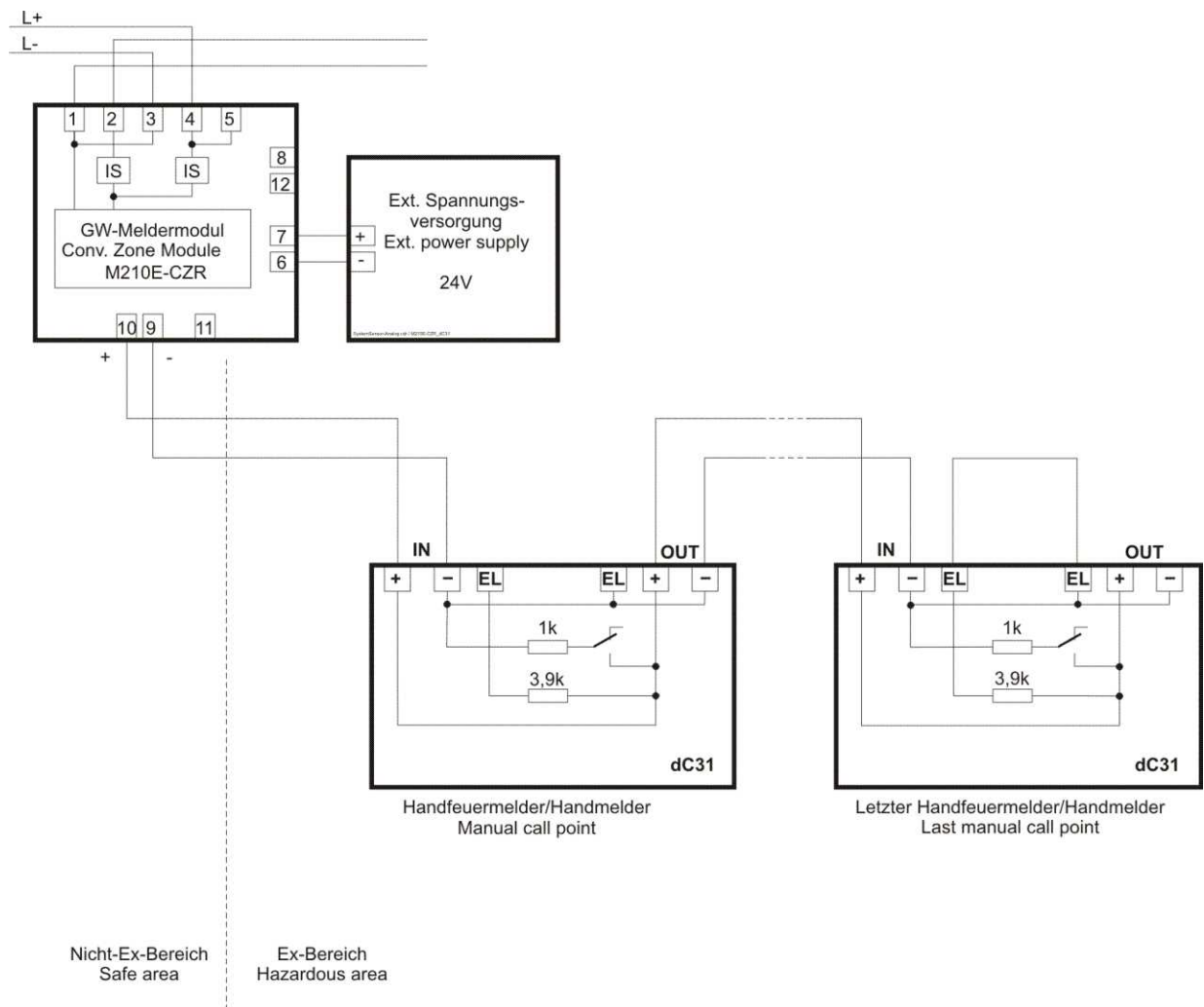
3.9.4.1 Manual call point Ex dC31

Thanks to the types of protection "increased safety", "encapsulation" and "protection by enclosures", the Manual Call Point Ex dC31 can be used without a safety barrier or zener barrier. You can connect up to 20 detectors to a line.

 When ordering this manual call point, you have to specify the resistance values (alarm and end-of-line resistor) of the detector, because they are sealed within the detector housing and cannot be changed at a later stage.

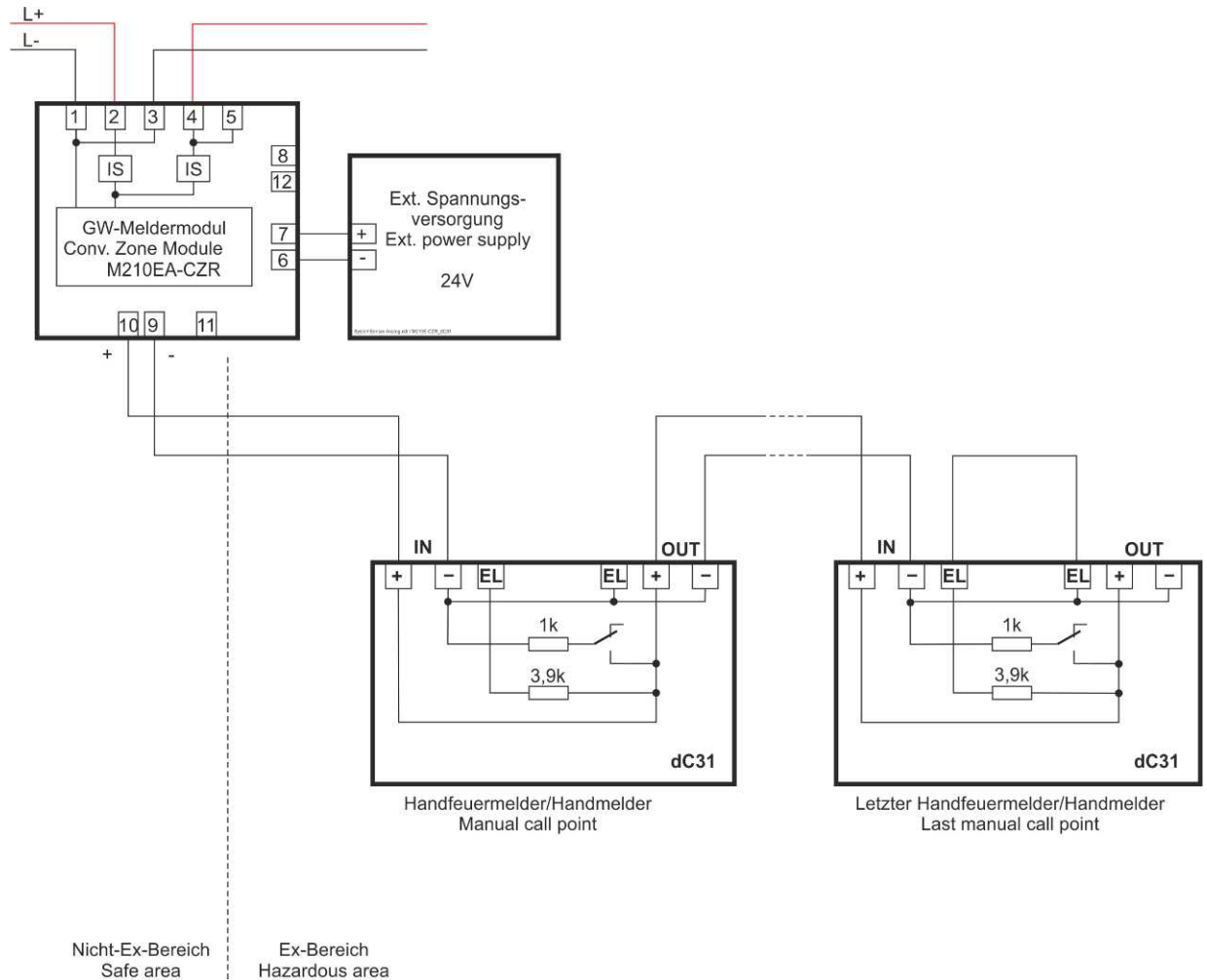
 The installation in the hazardous area has to comply with the local regulations and with EN 60079 because the energy in the supply line is not limited by barriers.

Connection with M210E-CZR:



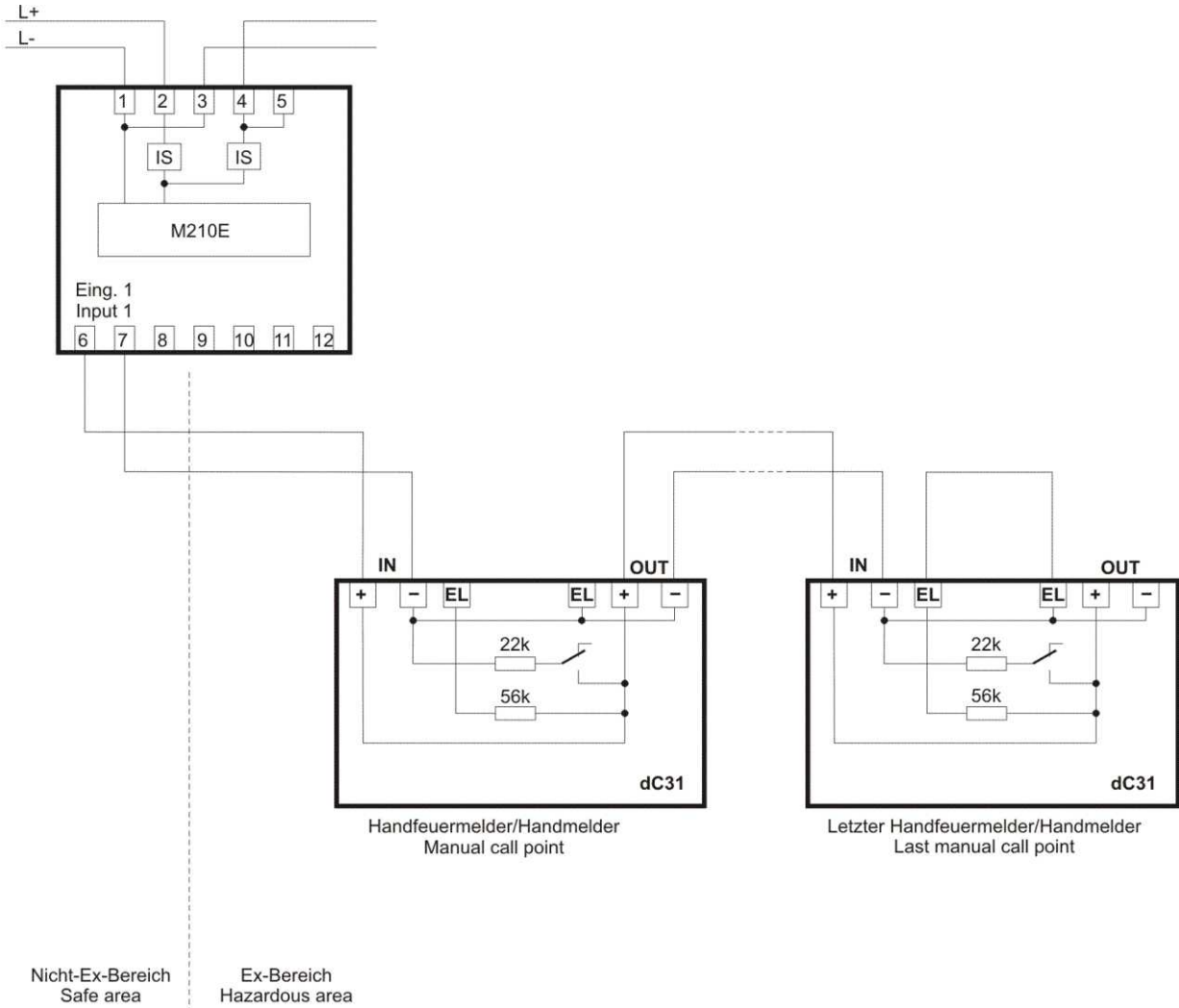
 The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.

Connection with M210EA-CZR:



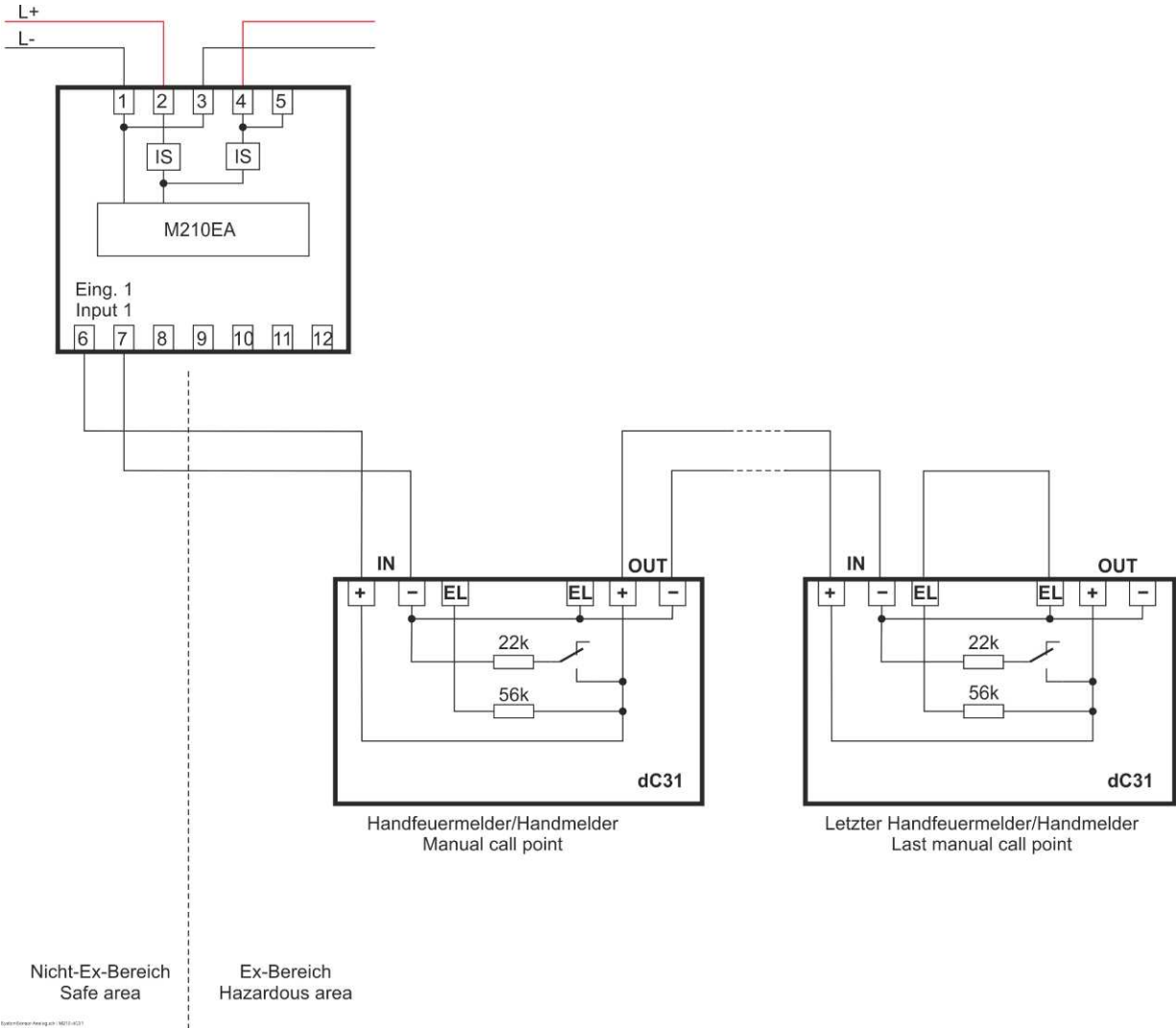
The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.

Connection with M210E:



The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.

Connection with M210EA:



The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.

3.9.4.2 Flame Detectors – Series 16000

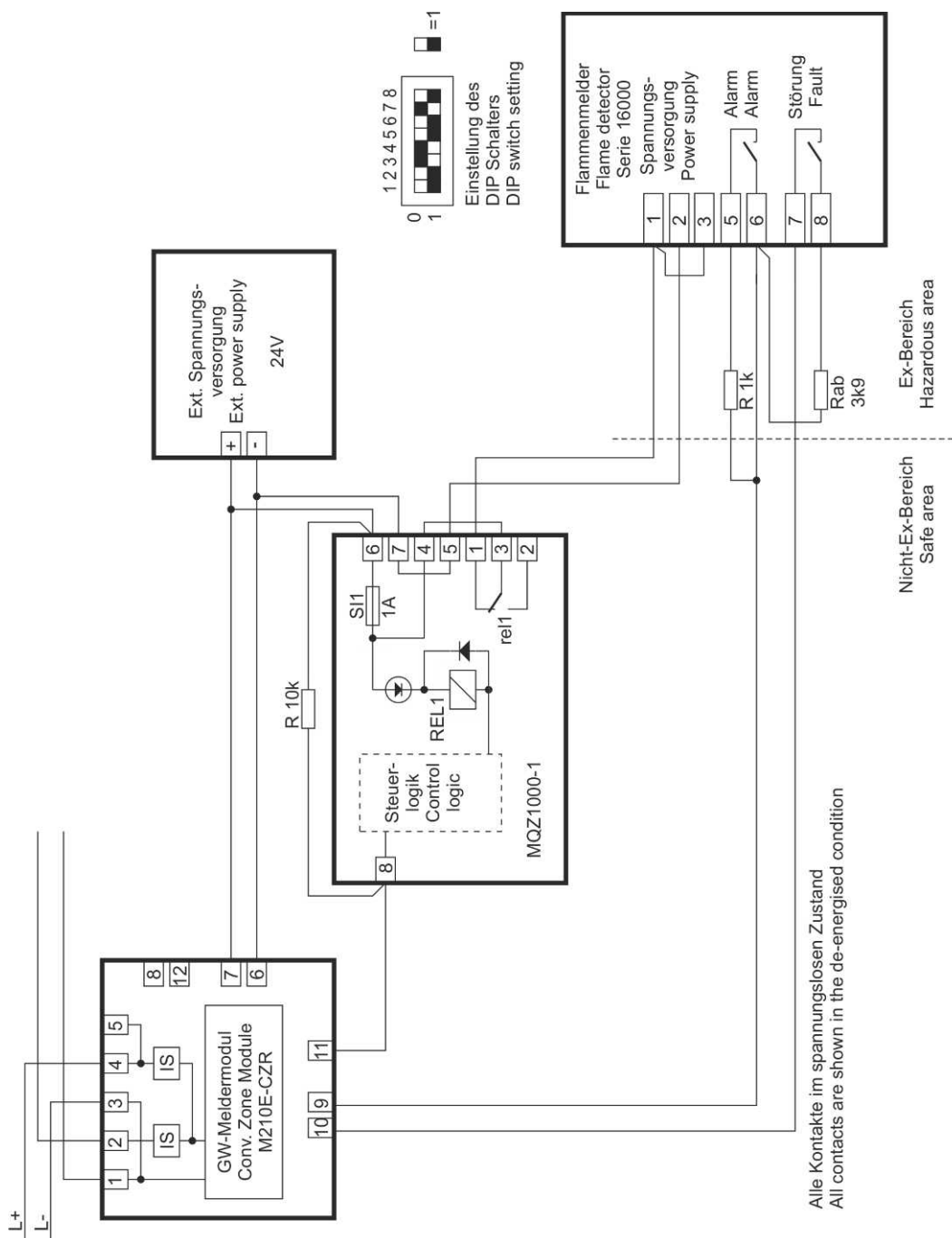
Type	EN 54-10 Class 1	SW6	SW7	Response time
16511	IR2	0	0	8s
16519	IR3	1	0	4s
16521	UV/IR2	0	1	2s
		1	1	1s

By means of the DIP switches, the detector can be adjusted to the various operating conditions. The switches 6 and 7 allow you to change the response time.

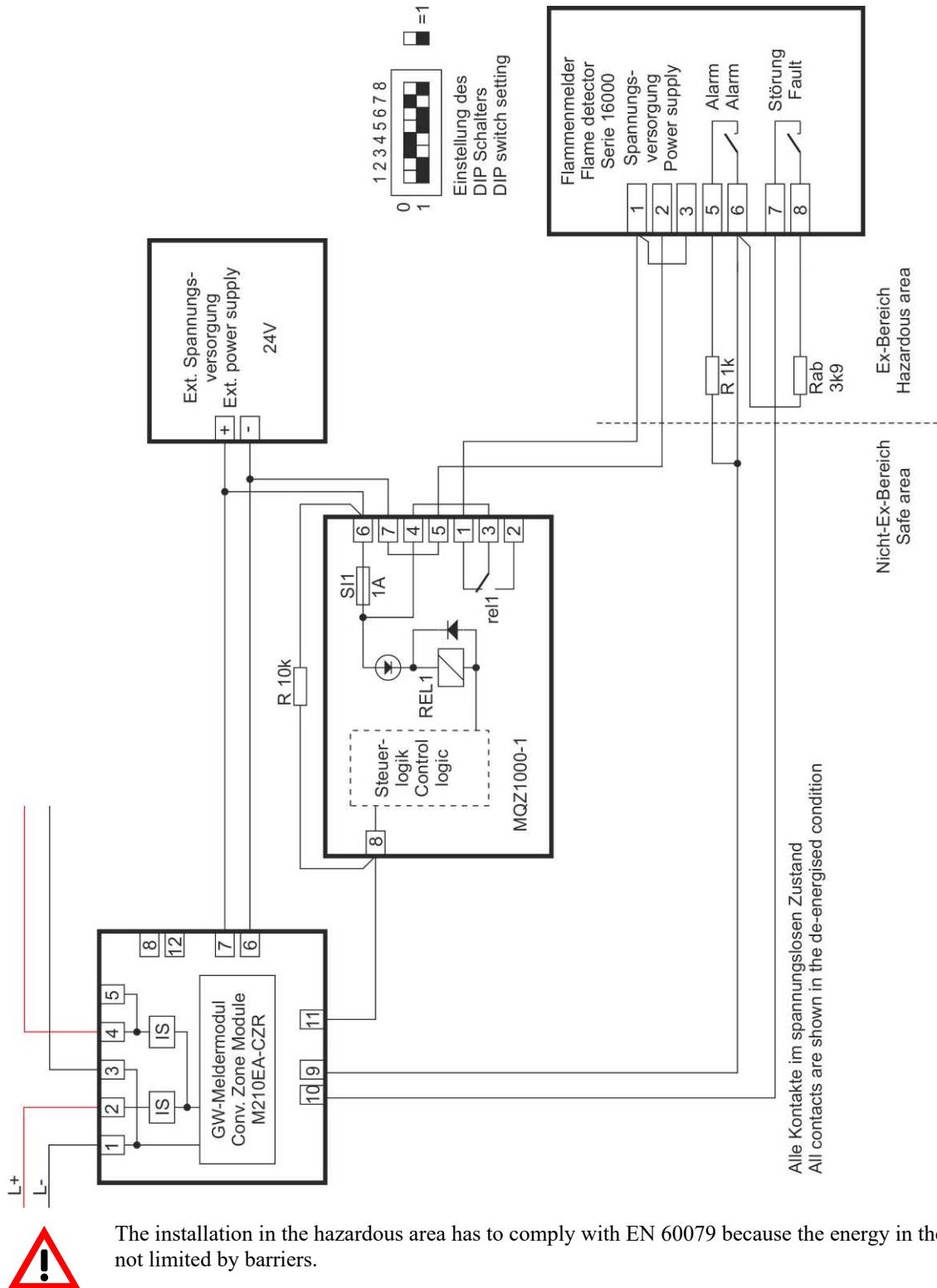


The installation in the hazardous area has to comply with the local regulations and with EN 60079 because the energy in the supply line is not limited by barriers.

Connection with M210E-CZR:



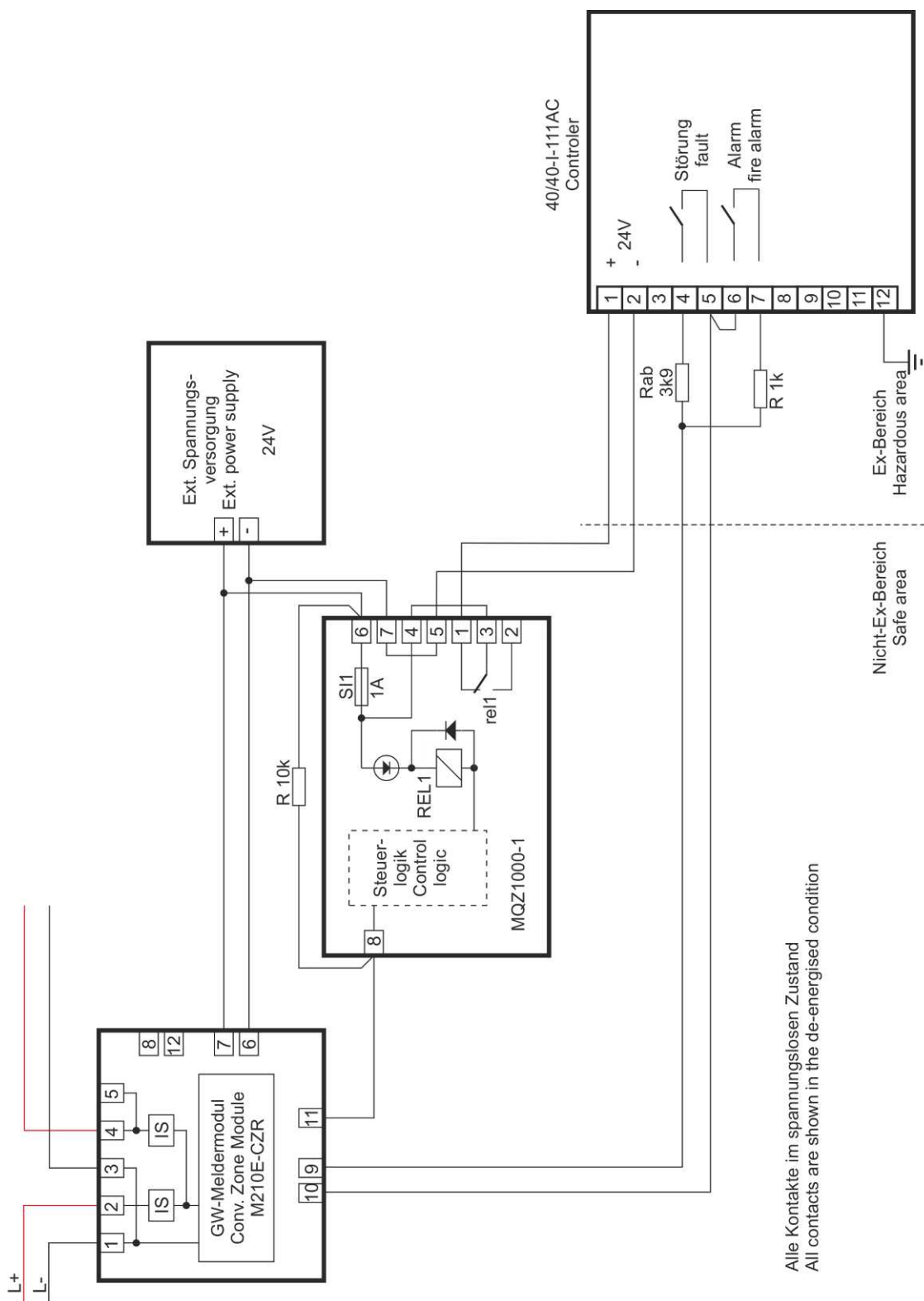
Connection with M210EA-CZR:



3.9.4.3 Flame Detector 40/40-I-111AC

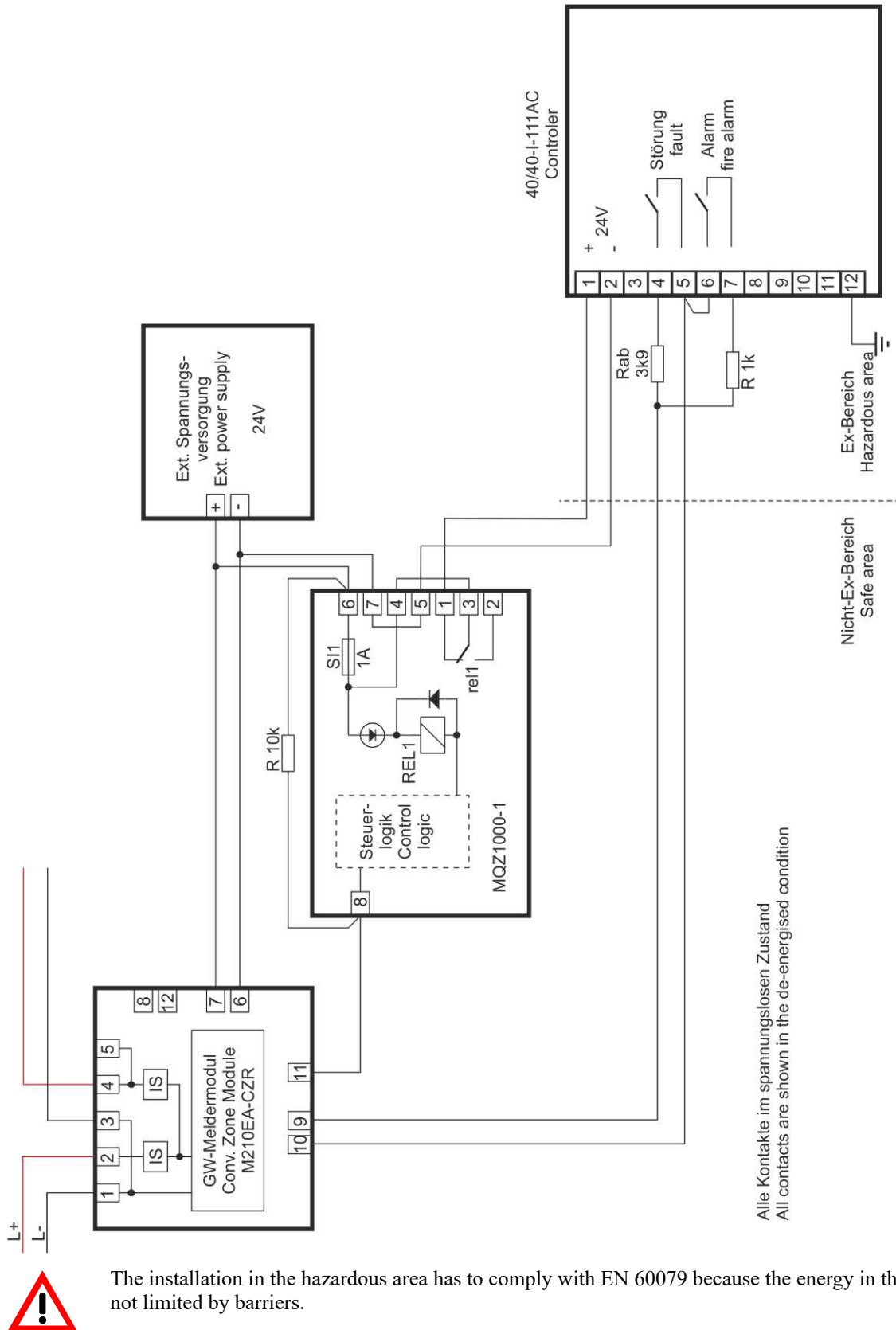
Thanks to the ignition protection class "flameproof enclosure," the flame detector can be used without a safety barrier or zener barrier.

Connection with M210E-CZR



The installation in the hazardous area has to comply with EN 60079 because the energy in the line is not limited by barriers.

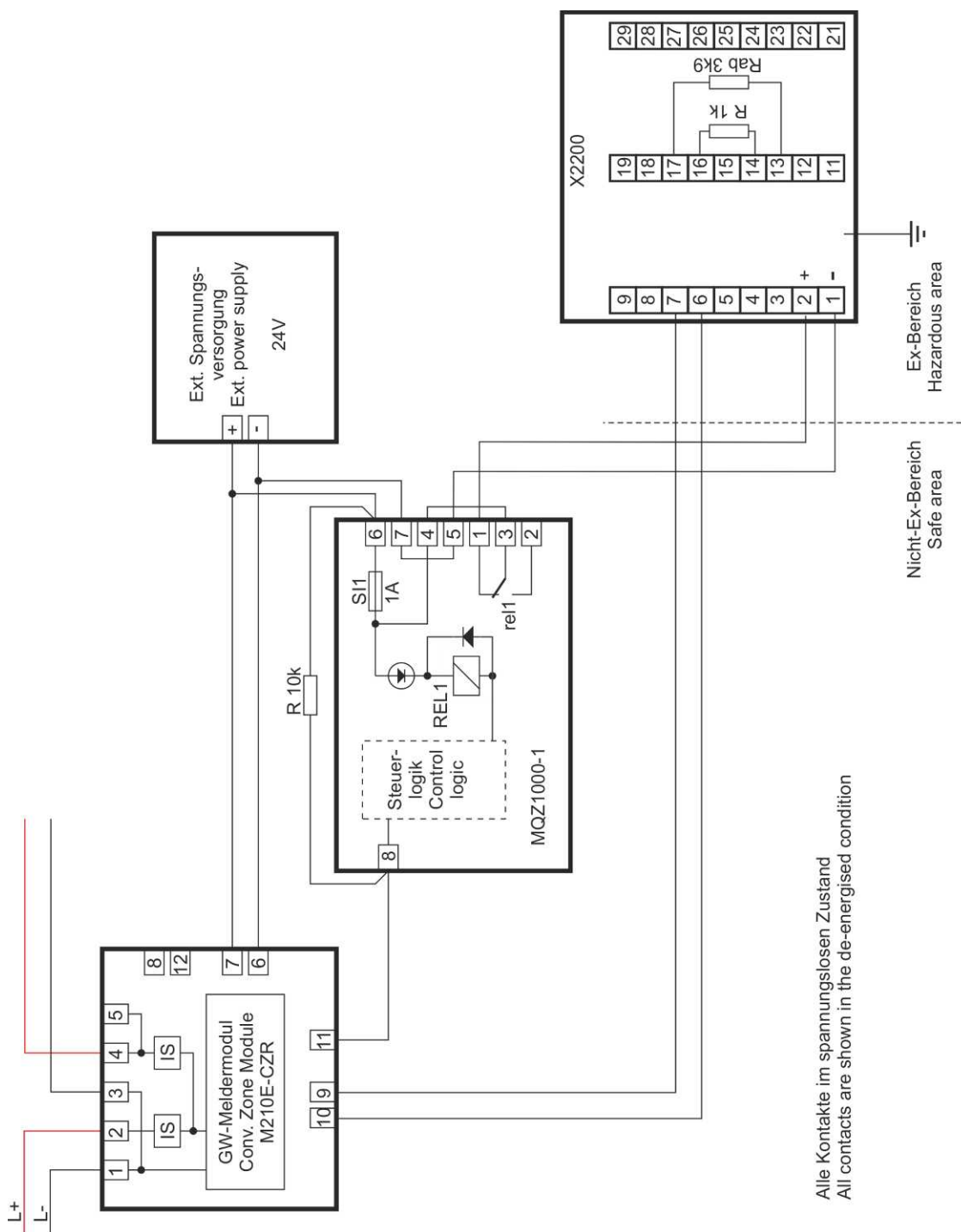
Connection with M210EA-CZR



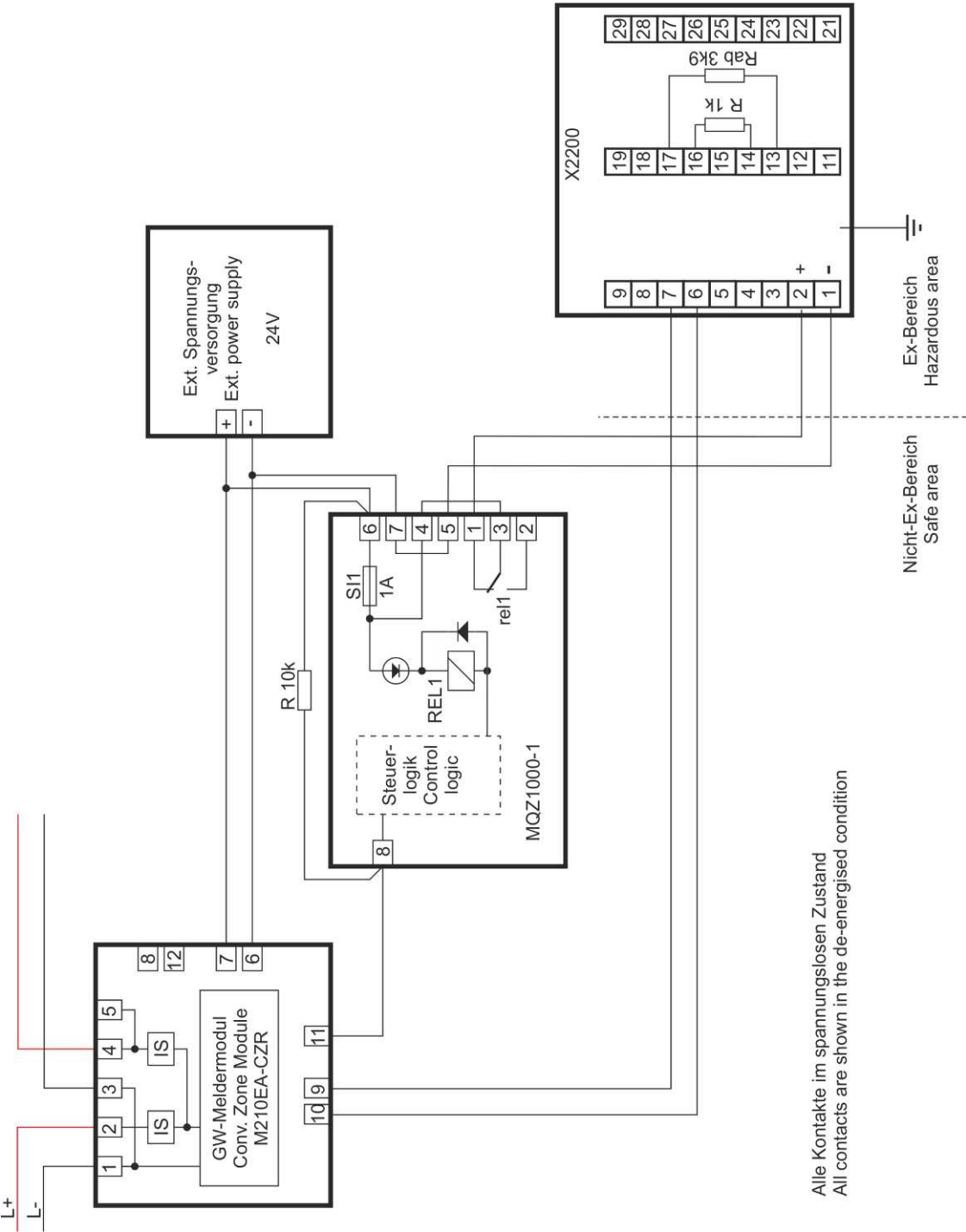
3.9.4.4 Flame Detector – X2200

Thanks to the ignition protection class "flameproof enclosure," the flame detector can be used without a safety barrier or zener barrier.

Connection with M210E-CZR



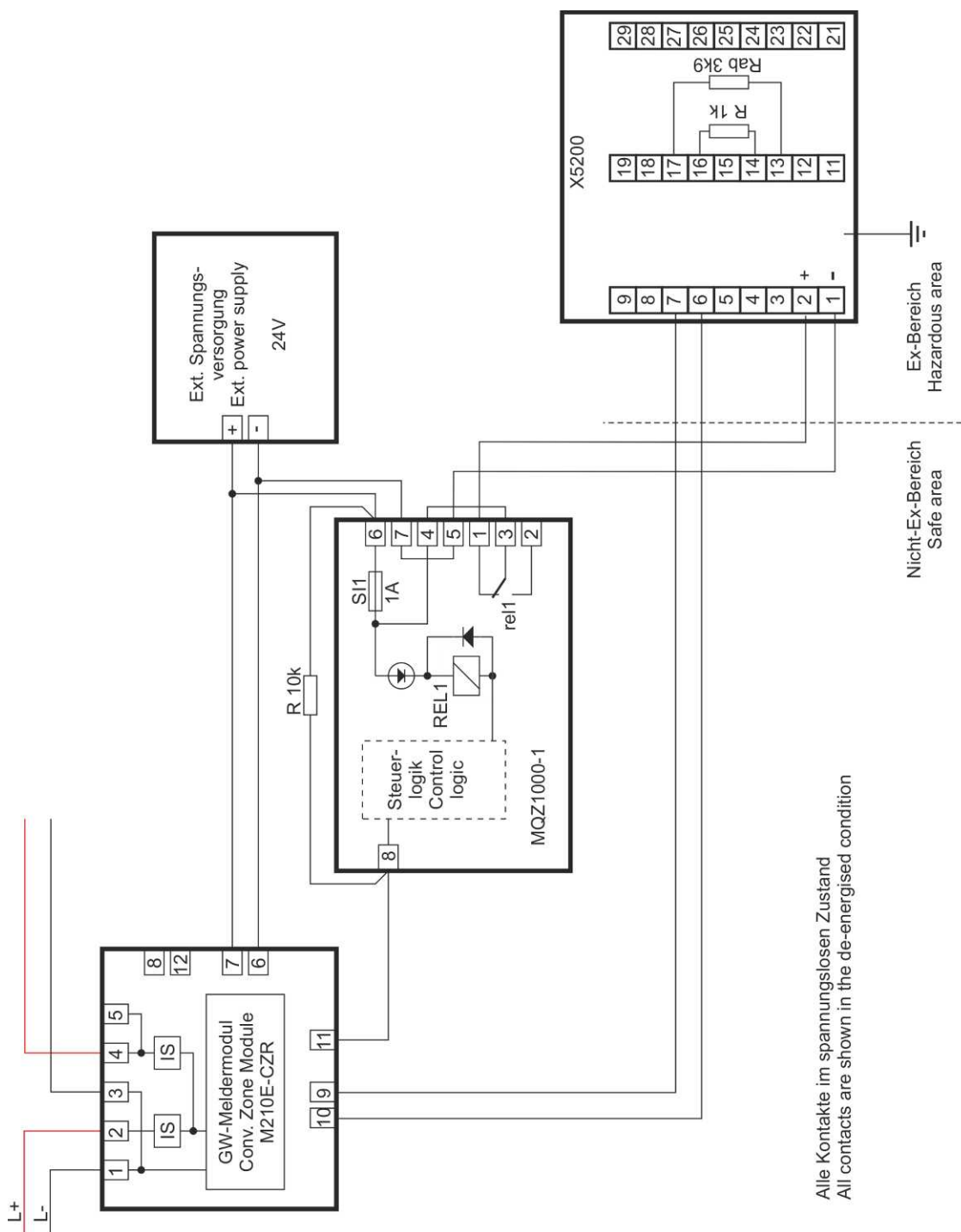
Connection with M210EA-CZR



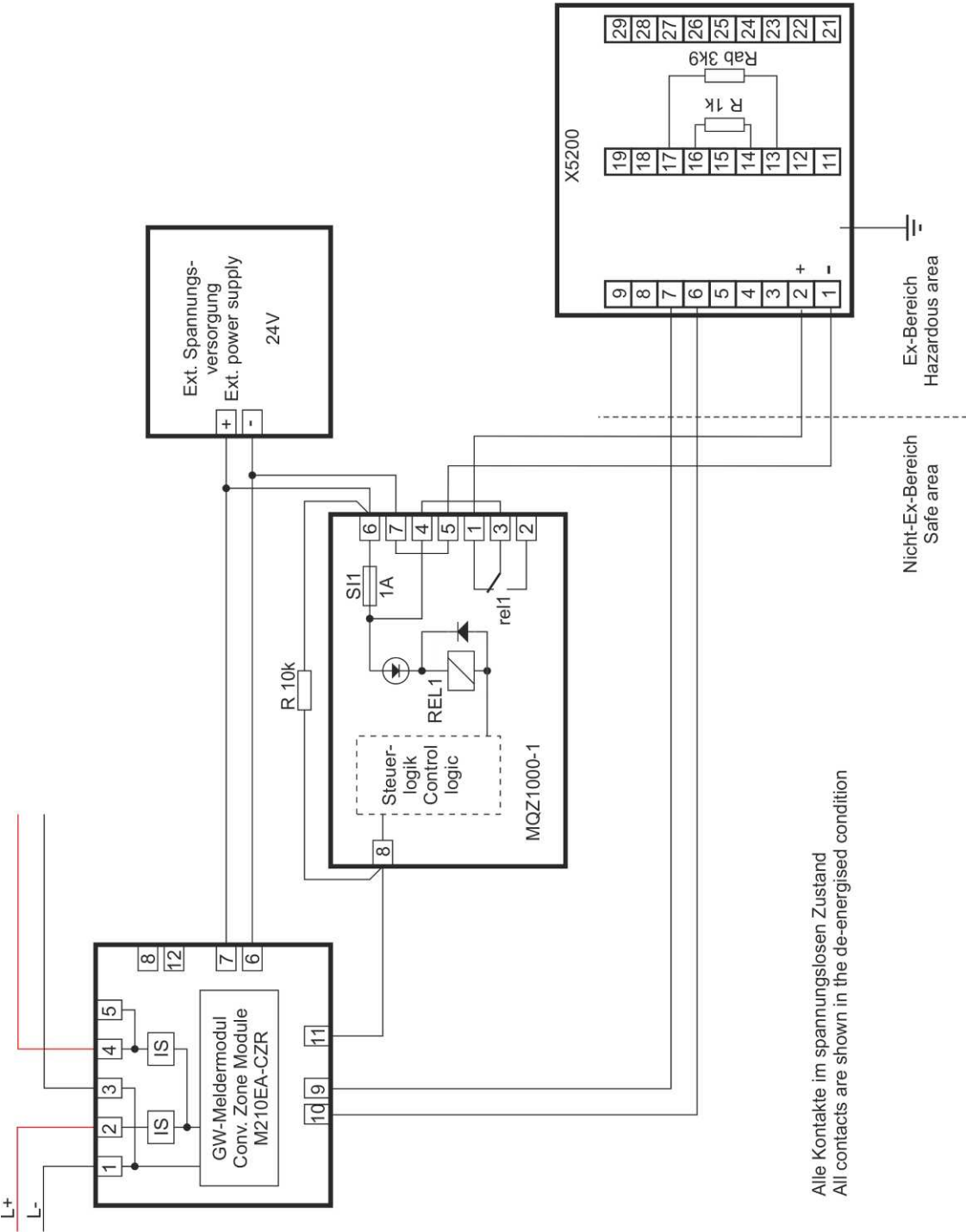
3.9.4.5 Flame Detector – X5200

Thanks to the ignition protection class "flameproof enclosure," the flame detector can be used without a safety barrier or zener barrier.

Connection with M210E-CZR



Connection with M210EA-CZR

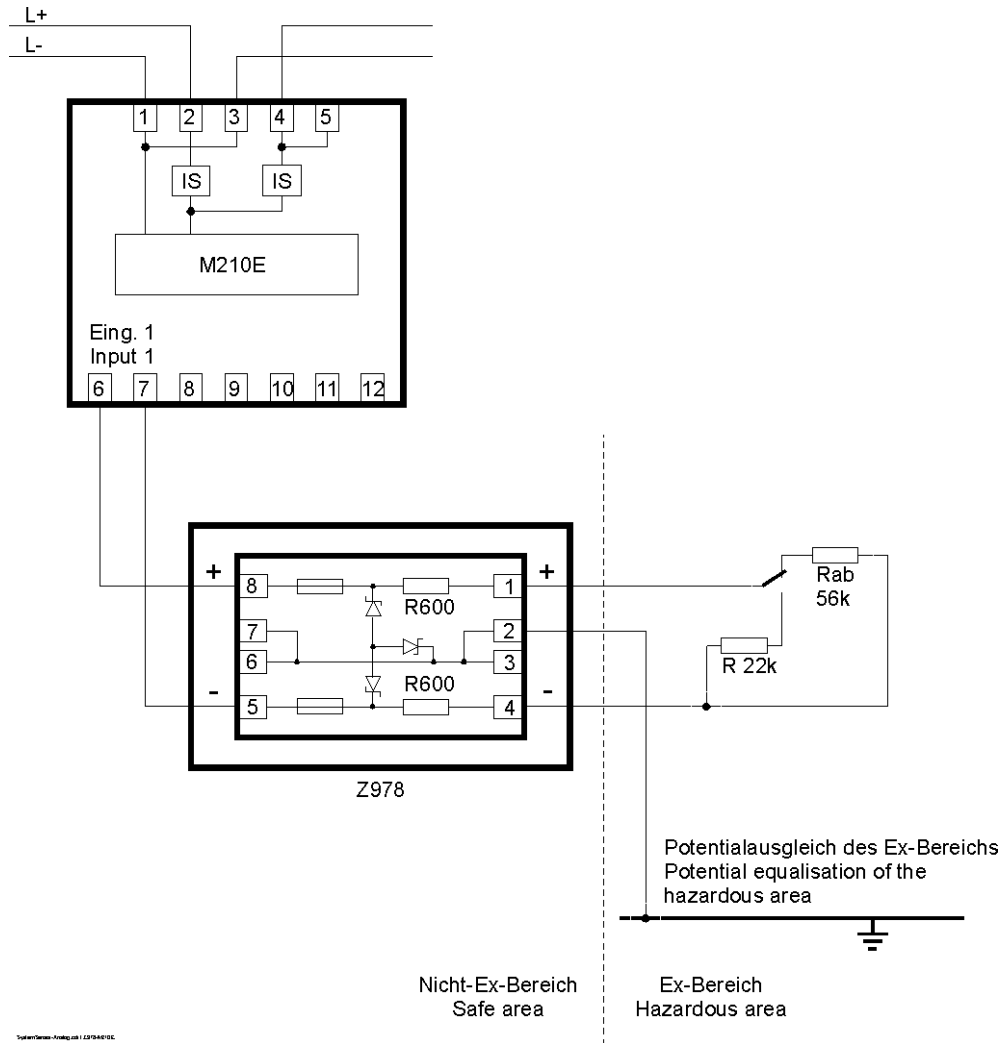


3.9.5 Detectors without energy storage – contact detectors

Fire detectors and display devices without energy storage (capacitors, inductors, power sources, etc.) can be used without restriction and without identification in accordance with Section 12 of DIN EN 50020 in intrinsically safe circuits. For this purpose the Zener Barrier Z978 is used.

3.9.5.1 Contact detectors with Monitor Module M210E and Zener Barrier Z978

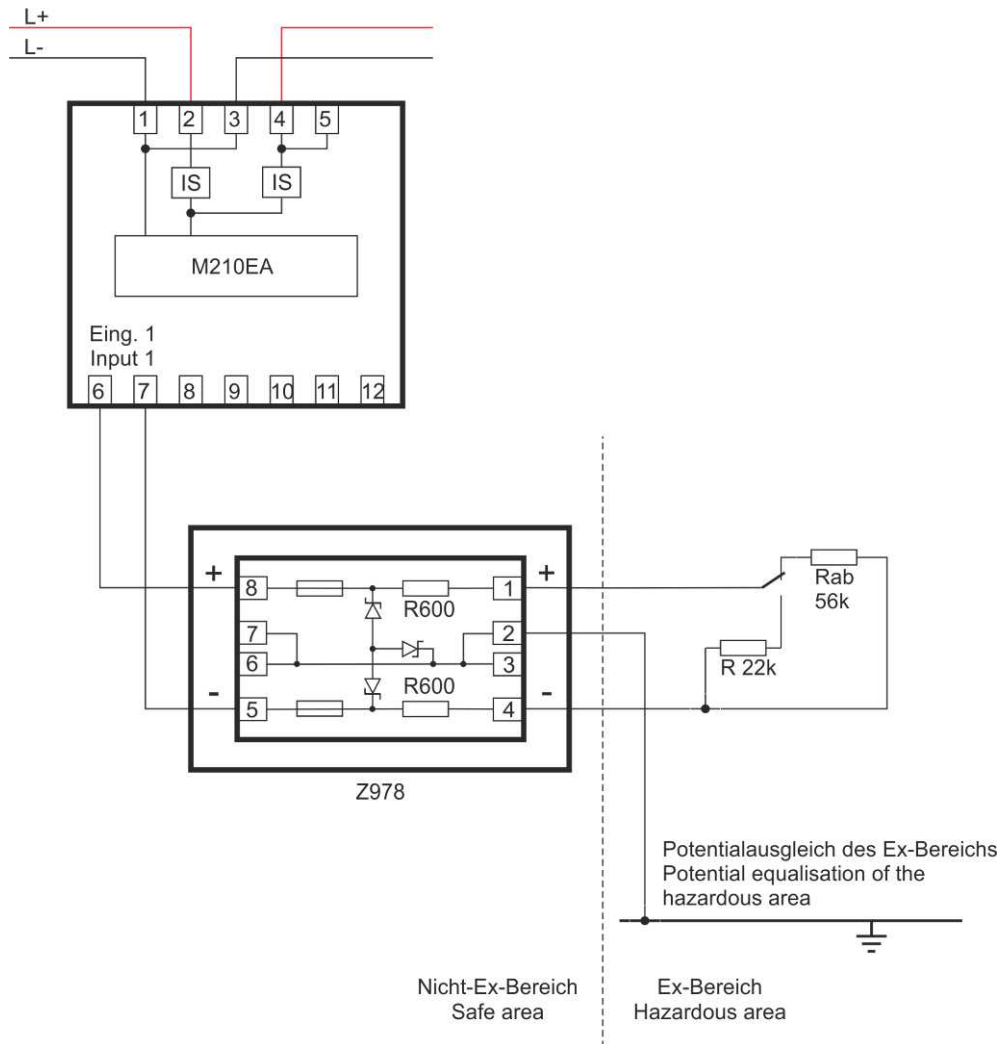
Monitor modules can be used to connect contact detectors which are located in hazardous areas. The end-of-line resistor and the alarm resistor to be used are the same as those outside the hazardous area.



The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.

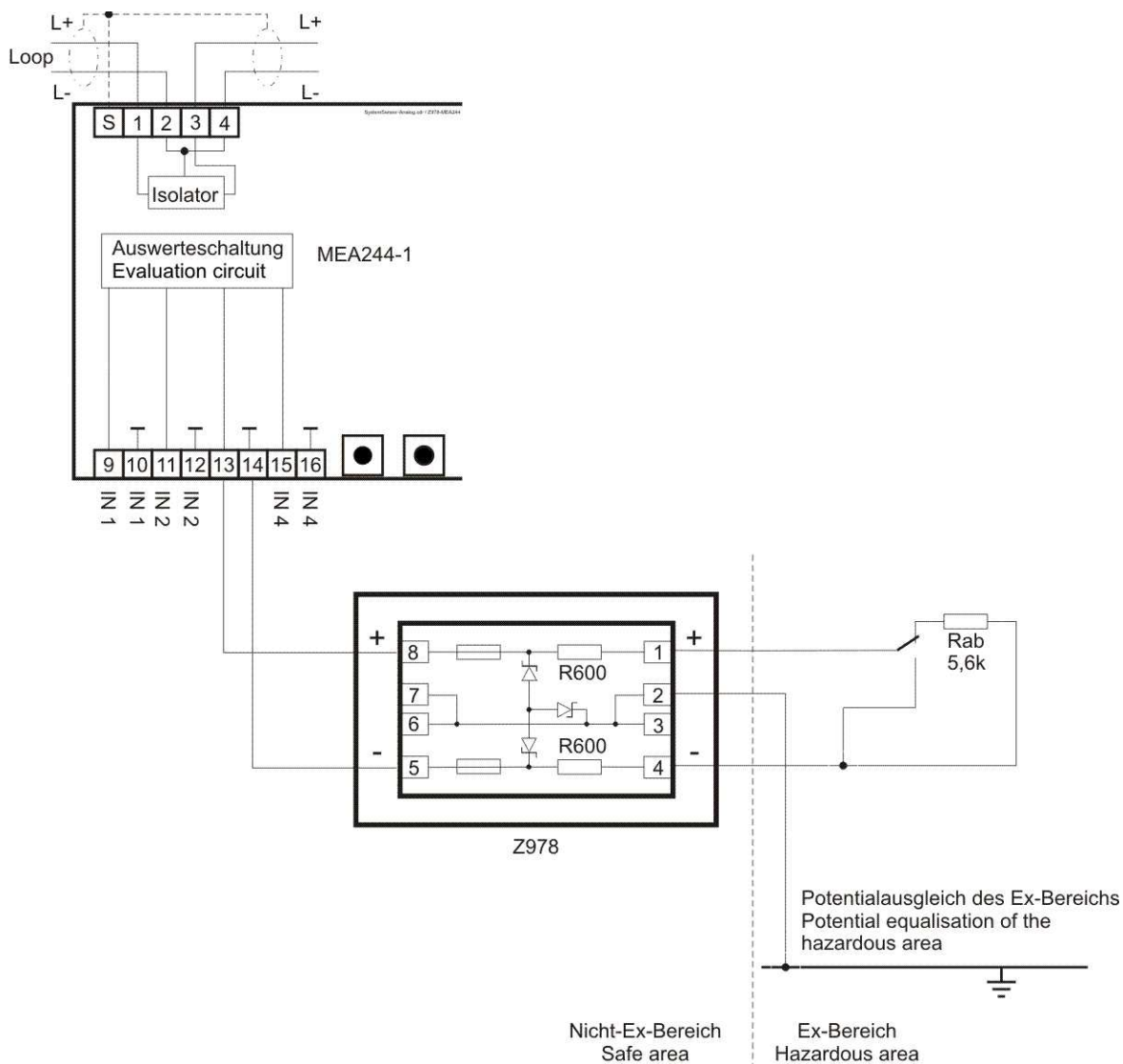
3.9.5.2 Contact detectors with monitor module M210EA and Zener Barrier Z978

Monitor modules can be used to connect contact detectors in hazardous areas. The end-of-line resistor and the alarm resistor that is to be used is the same as the one used outside the hazardous area.



3.9.5.3 Contact detectors with MEA244-1 and Zener Barrier Z978

The MEA244-1 is powered via an external power supply. The input of the module is connected to the terminals 8 and 5 of the Zener Barrier Z978. In this configuration a short circuit or a low-resistance connection at the output of the safety barrier is recognised by the MEA244-1 as an alarm.



The installation in the hazardous area has to comply with the local regulations, guidelines and requirements.

3.10 Connection of wireless detectors

Before wireless detectors can be used, you have to install an RF interface.

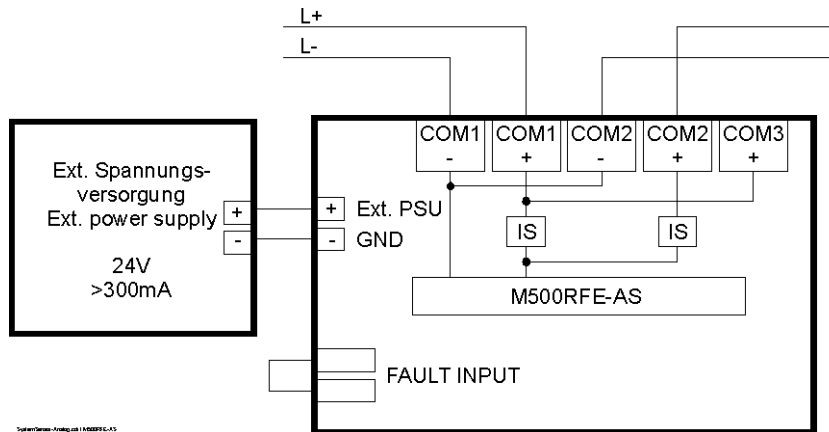
3.10.1 RF Interface M500RFE-AS

3.10.1.1 Notes

Please consult the documentation of the RF interface to receive relevant information about how to link a wireless detector to the interface.

Pay attention to the maximum supported number of detectors per RF interface.

3.10.1.2 Connection



The M500RFE-AS occupies one module address. Each wireless detector and each wireless manual call point has to be assigned a unique detector or module address.

3.10.2 RF Interface M200G-RF

3.10.2.1 Notes

Please note the maximum number of detectors that is supported per RF interface.

Condition of the element LED in the activation condition: The LED should always be set to "illuminated".

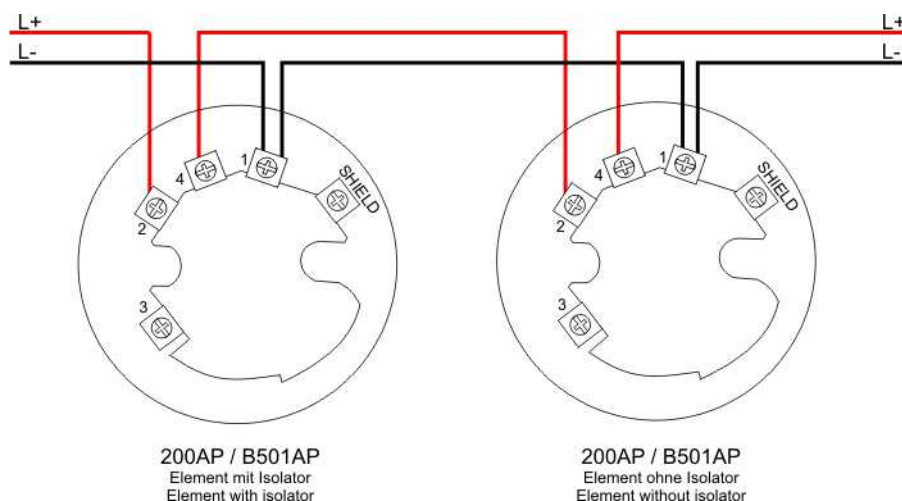
While the RF system is starting up (which can take up to 300s), the analogue value of the M200G-RF is approx. 66. During this phase it is not possible to activate an alarm, and faults are not output either.

3.10.2.2 Address setting

On the RF interface, the intended address must be set by means of the two rotary switches (ones and tens digit). For further information in this regard, see from page 206 onwards in Chapter 3.6: "Address programming".

3.10.2.3 Connection

The M200G-RF is connected to the loop by means of a Detector Base B501AP.



If Series 200AP-RF wireless elements are connected to the BC216, no address higher than 99 may be set.

3.11 Connection of conventional detectors by means of conventional zone module

By means of conventional zone modules, various automatic conventional detectors can be connected to the Fire Detection Control Panel Series BC216 and Series BC600.

These conventional modules include the following products: M210E-CZ, M210E-CZR, M210EA-CZ and M210EA-CZR.

The modules M210E-CZR and M210EA-CZR use a resistor as end-of-line element.

The other two modules (M210E-CZ, M210EA-CZ) use an end-of-line capacitor.

The maximum line resistance of the detection loop is 50 Ohm per wire. If a 0.5mm² wire is used, this corresponds to a distance of approx. 1400m.

The alarm condition of a conventional detector is reset by disabling the corresponding detector zone for at least 10 seconds.

If several conventional detectors have been connected to the same module, in the event of an alarm the fire detection control panel will indicate the same element number for all of them.

The maximum detector current is 2.5mA.



Basically, all modules mentioned above can be used for the connection of conventional detectors. Outside of the hazardous area, the M210E-CZ and the M210EA-CZ are to be used preferably, due to the lower current consumption.



The M210E-CZ and the M210EA-CZ **must not be used in hazardous areas!** For this application the M210E-CZR or the M210EA-CZR (end-of-line resistor) is to be used.

3.11.1 Address setting

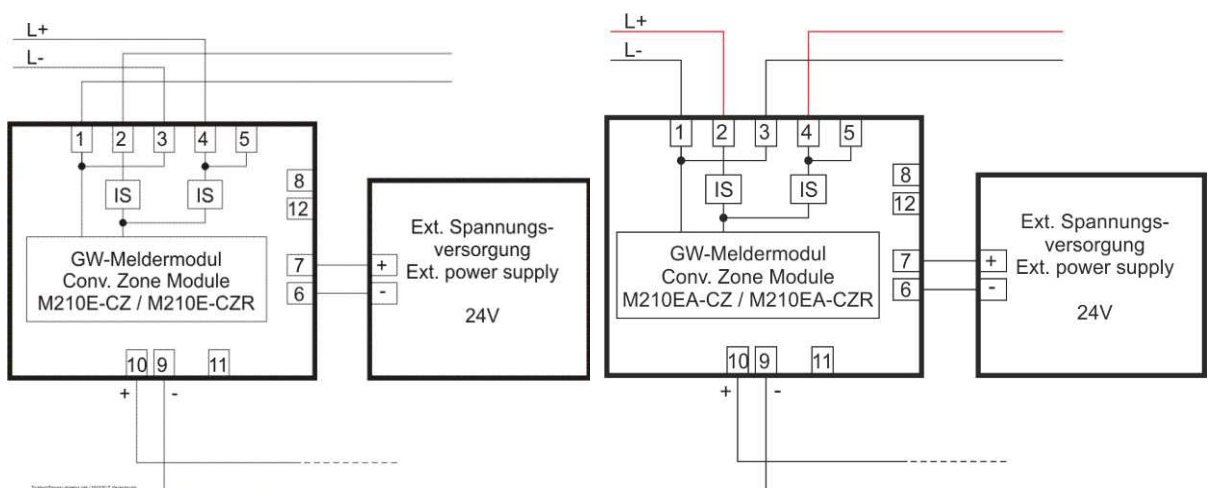
Detailed information can be found in Chapter 3.6.2: "Detectors and modules" from page 210 onwards.

The module occupies one address on the loop.

3.11.2 Power supply

The conventional zone modules need a separate power supply for the conventional line that is connected to the module. The module can be powered by the fire detection control panel, by an external power supply or via the loop line.

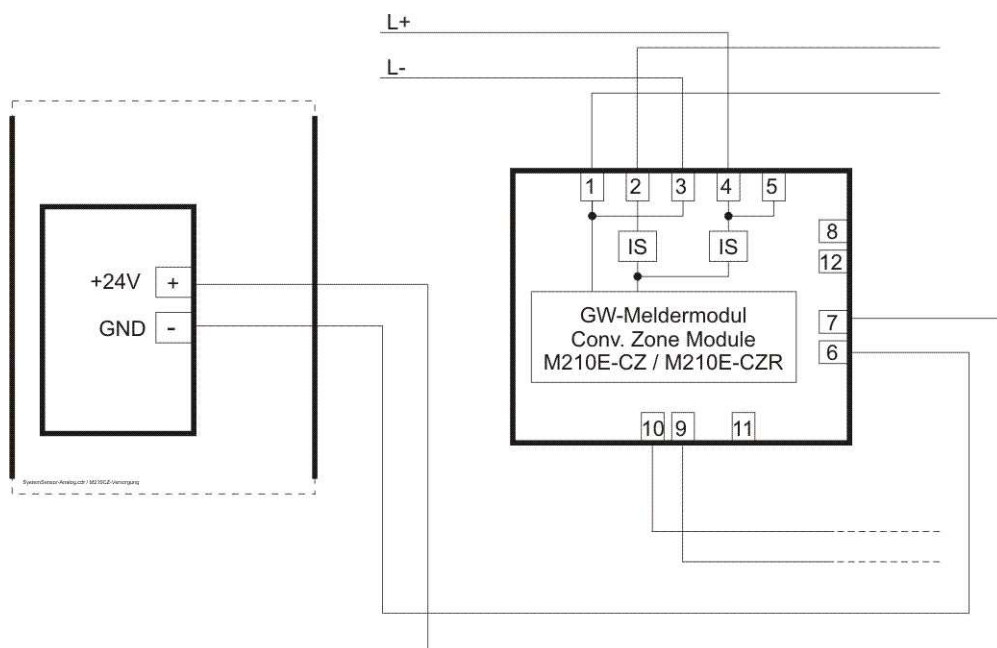
3.11.2.1 External power supply



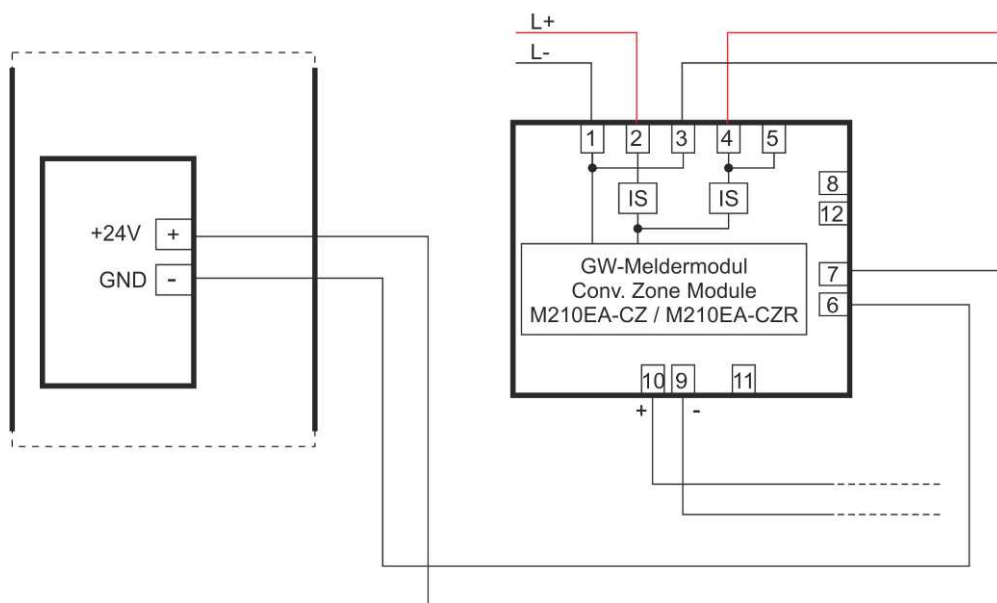
If the module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.11.2.2 Power supplied by the fire detection control panel

M210E-CZ or M210E-CZR

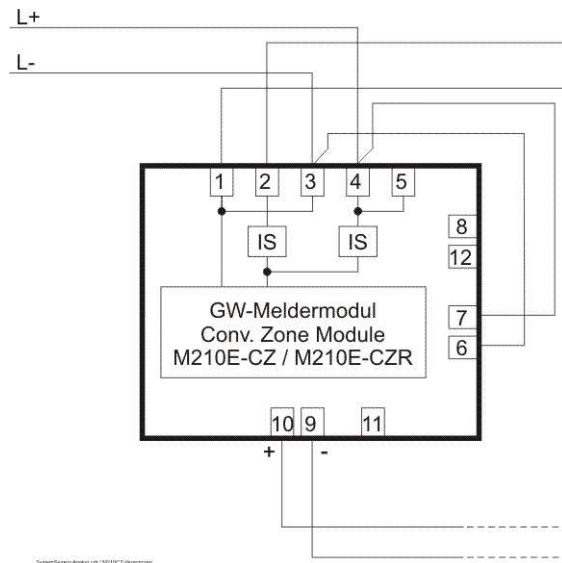


M210EA-CZ or M210EA-CZR

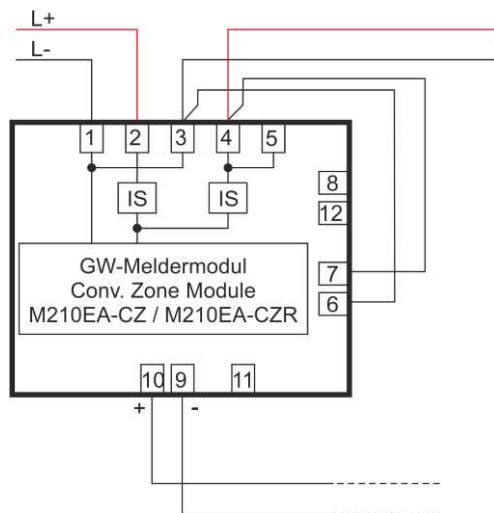


3.11.2.3 Power supplied by the loop

M210E-CZ or M210E-CZR



M210EA-CZ or M210EACZR



In this case, the current demand of the loop can be ascertained by means of the loop calculator tool FireSysCALC_xxxx.ods for System Sensor detectors. It is available in the download area of the LST website (registration required) under "Tools – FireSysCALC - Calculation of fire detection systems".

3.11.2.4 Resetting contact detectors by means of a conventional zone module and an MQZ1000-1

The reset output of the module (pin 11) is actuated via the fire detection control panel.

If the output is activated, the MINUS supply of the module (pin 6) will be output via this pin 11. This activates a connected MQZ1000-1.

The reset output will become active under the following conditions:

- ◆ Input of the module is deactivated
- ◆ When the FDCP is reset
- ◆ After a test alarm
- ◆ Type A alarm delay (first alarm)
- ◆ Type B alarm delay (pre-alarm)

3.11.2.5 Resetting contact detectors by means of the module M221E / M221EA – without MQZ1000-1

For the reset of the contact detector, the output of the module M221E / M221EA has to be parameterised. This function is available in the Series BC600. The BC216 does not support this possibility.

In the event of activation, the relay contact of the module will interrupt the power supply or will activate the reset input of the detector.

Parameters of the output:

Signal type: **Pulsed signal with Retrigger**,

The chosen **Pulse width** must not be **longer than 8 seconds**.

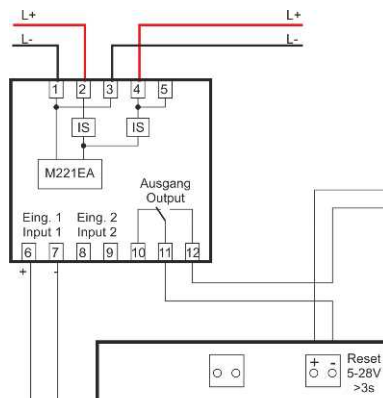
Combination with the events

- ◆ Control panel reset
- ◆ Test alarm (of the connected contact detector)
- ◆ Disablement – zone/element (of the connected contact detector)

The alarm delay according to EN 54-2 Type A or Type B cannot be used with this module.

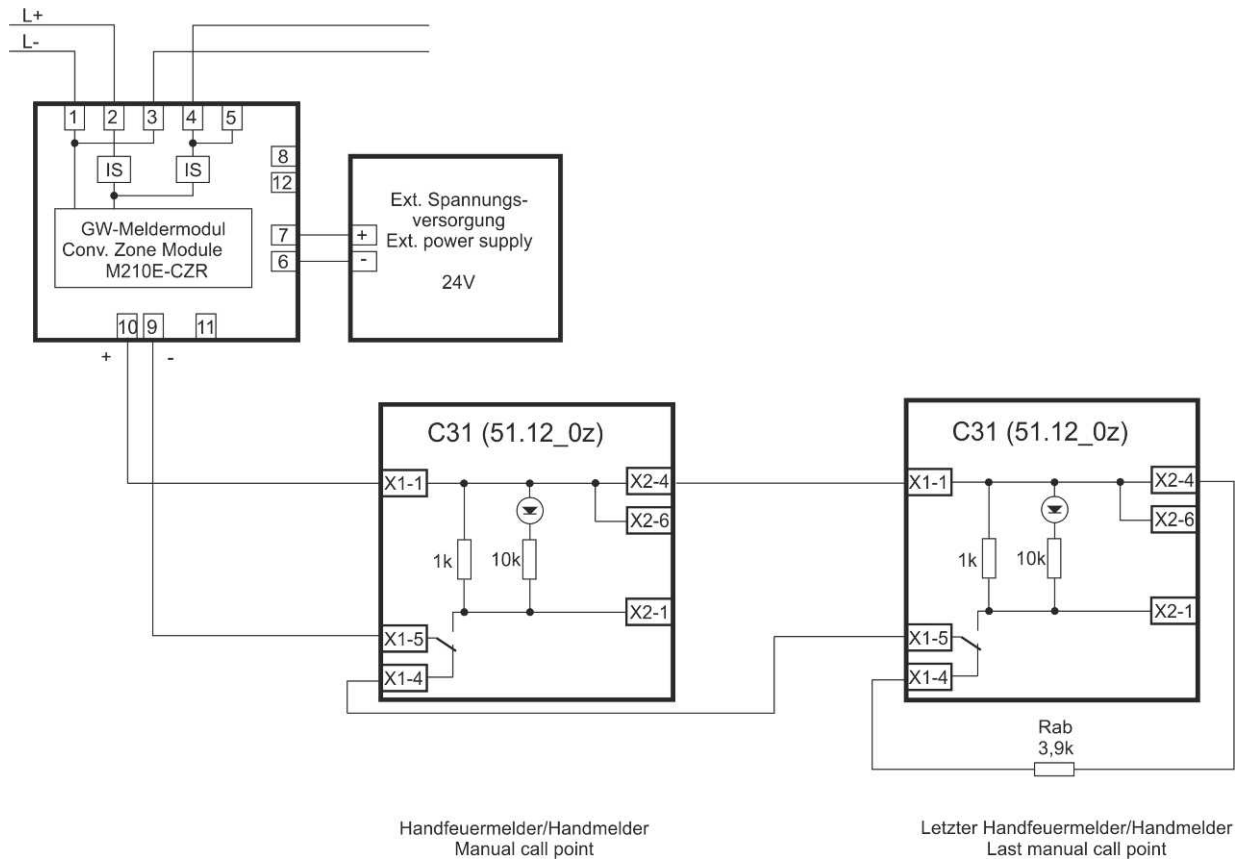
The relay contact replaces the contact of the MQZ1000-1.

Here is a symbolic connection:



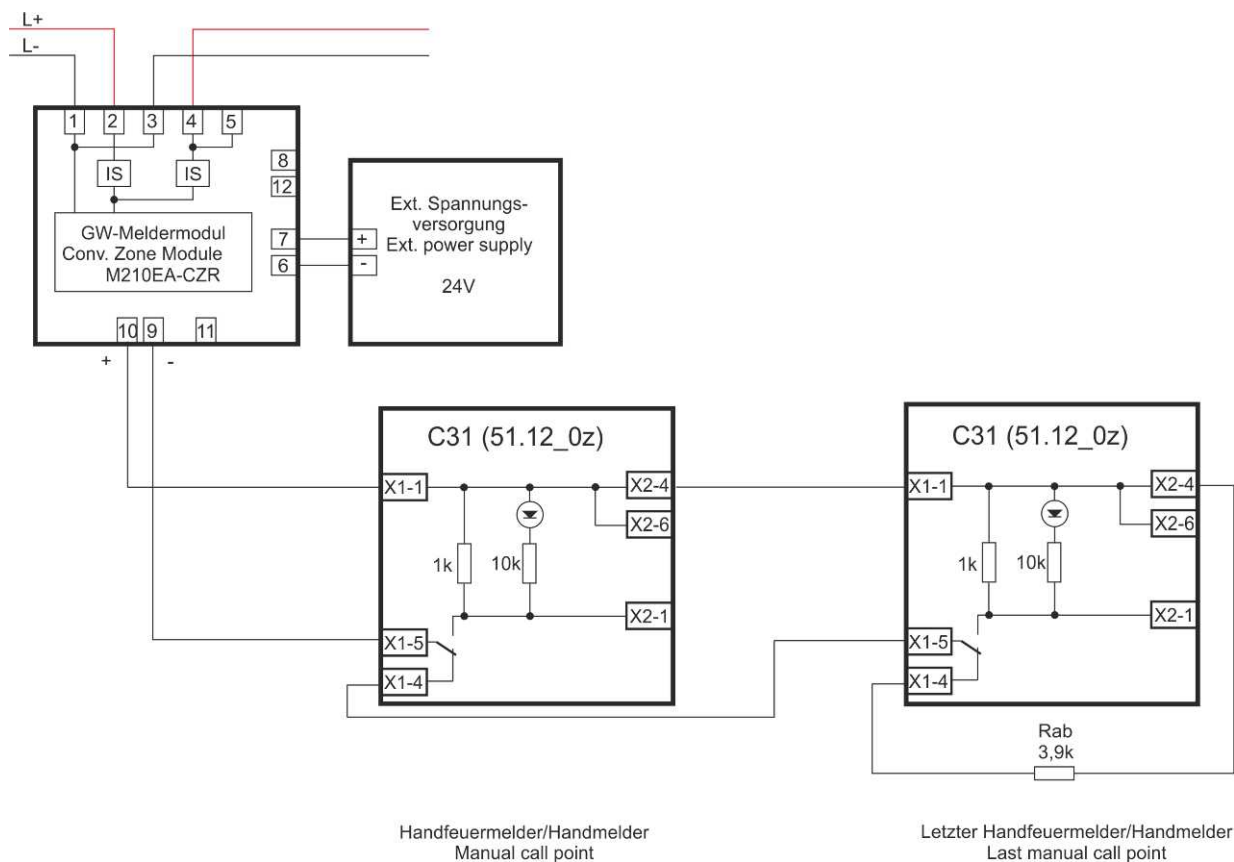
3.11.3 Manual Call Points Series C31 – M210E-CZR

This connection shows how the C31 is used on the module M210E-CZR with an end-of-line resistor and an external power supply.



3.11.4 Manual Call Points Series C31 – M210EA-CZR

This connection shows how the C31 is used on the M210EA-CZR module with an end-of-line resistor and an external power supply.



3.11.5 Detectors Series 100/400/300/ECO1000

A maximum of **20** detectors Series 100, 400, 300 or ECO1000 can be connected to a Conventional Zone Module M210E-CZ or M210EA-CZ, using the suitable detector base. (Further information can be found

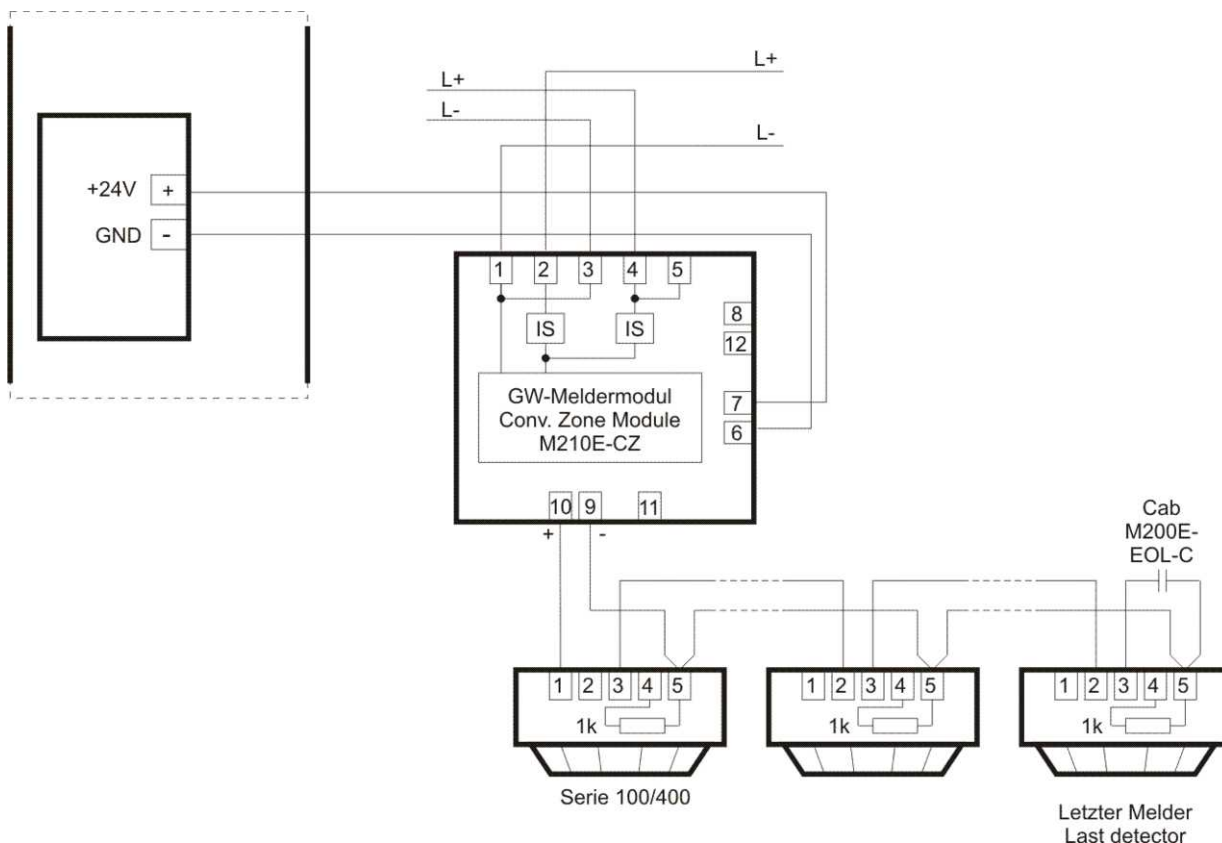
- ◆ on page 28 in Chapter 2.4.1: "Automatic detectors Series 100",
- ◆ on page 31 in Chapter 2.4.2: "Automatic detectors Series 300" and
- ◆ on page 38 in Chapter 2.4.3: "Automatic detectors Series ECO1000".)



The connection of detectors to the conventional zone module is different from the connection to a conventional line of the control panel!

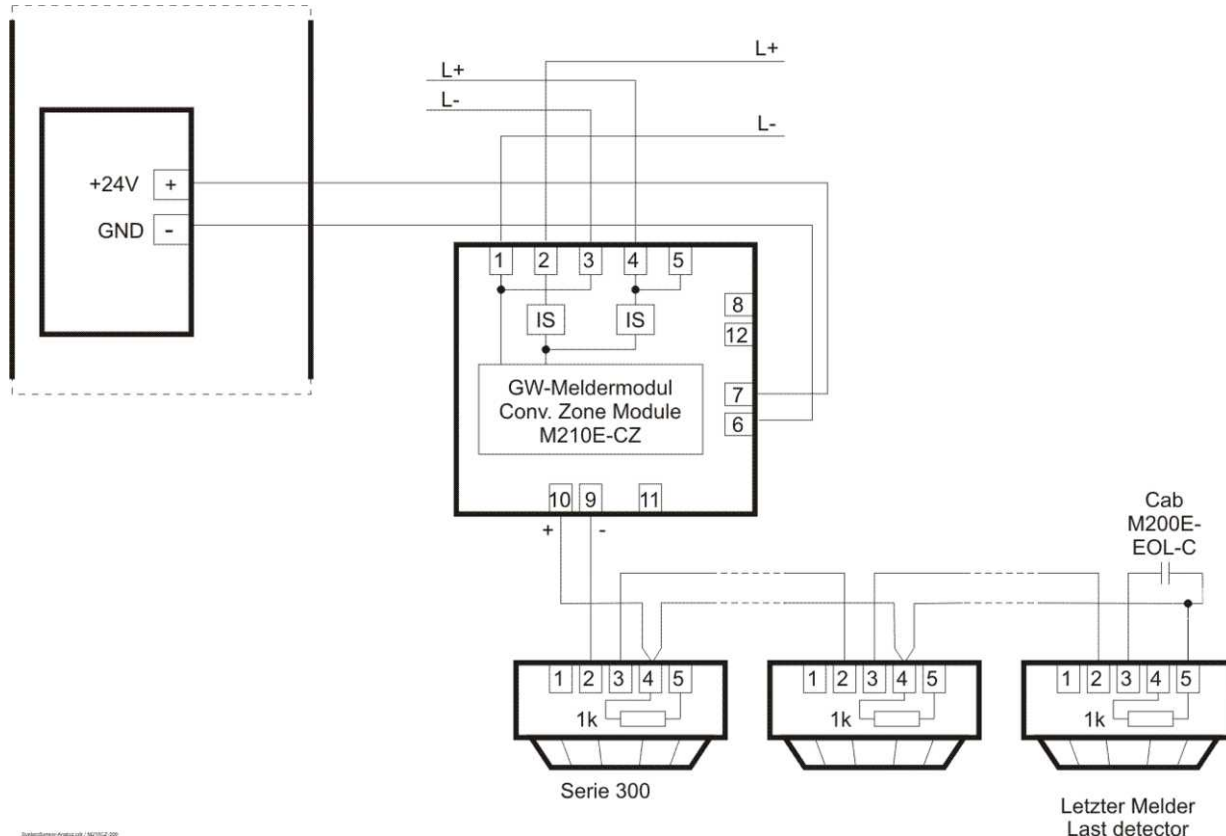
The end-of-line element that is enclosed with the conventional zone module must be installed in the last detector.

3.11.5.1 Connection Series 100/400 with power supply from the fire detection control panel - M210E-CZ

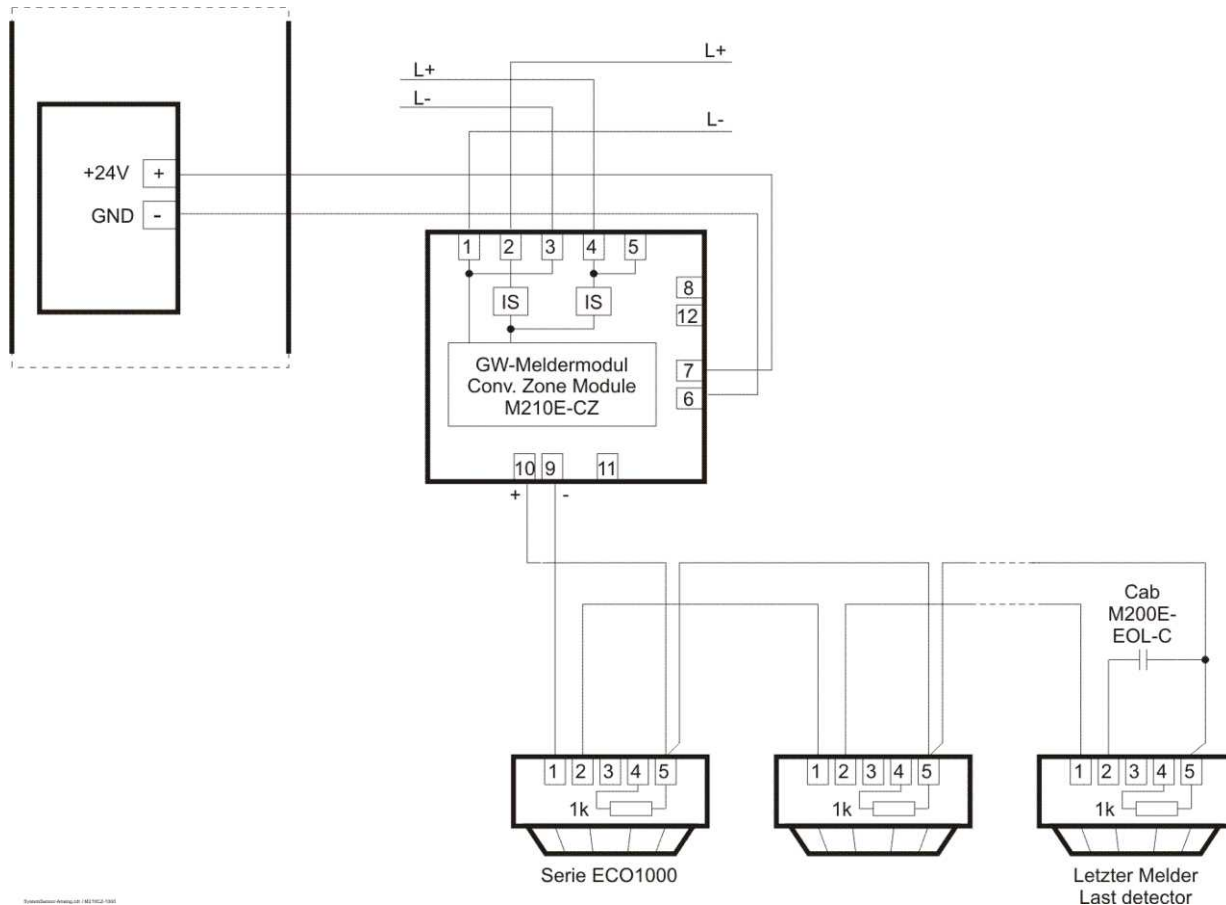


If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

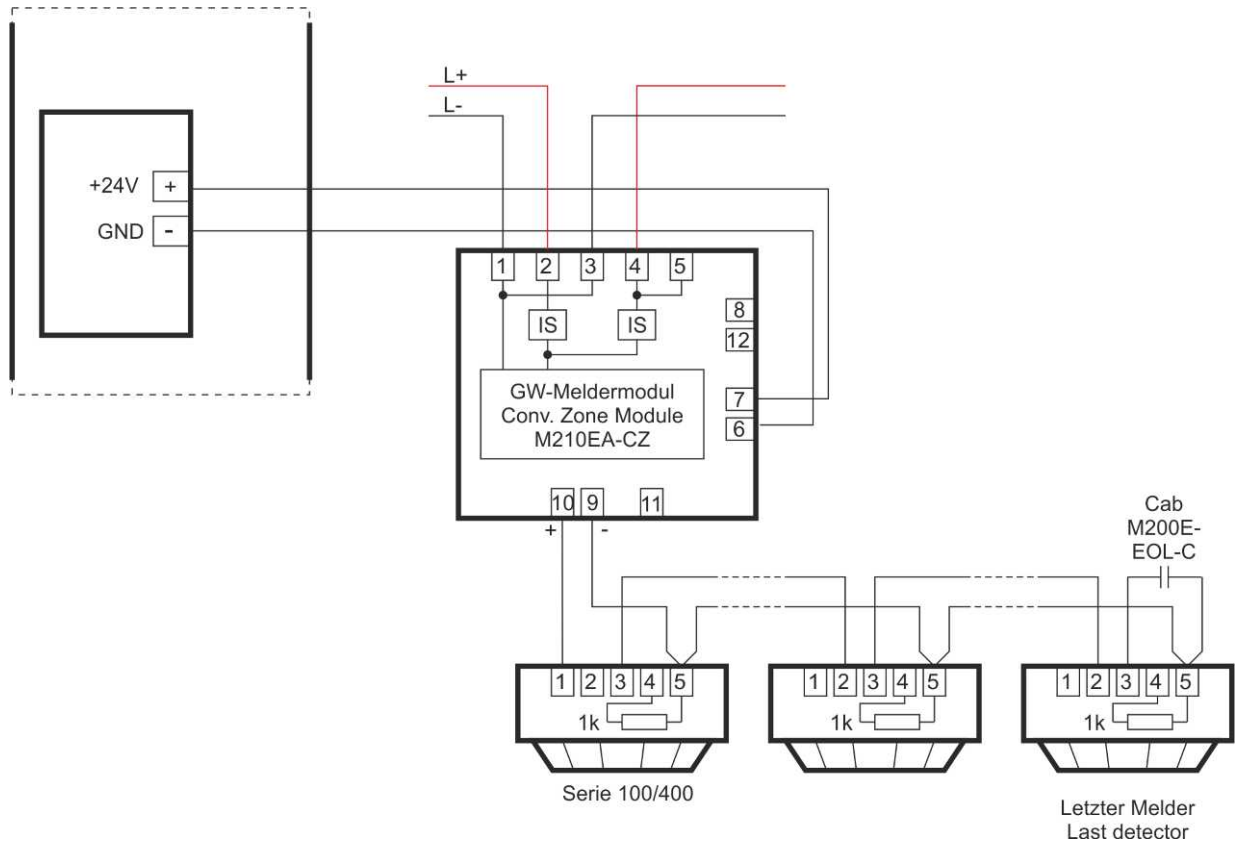
3.11.5.2 Connection Series 300 with power supply from the control panel – M210E-CZ



3.11.5.3 Connection Series ECO1000 with power supply from the control panel – M210E-CZ

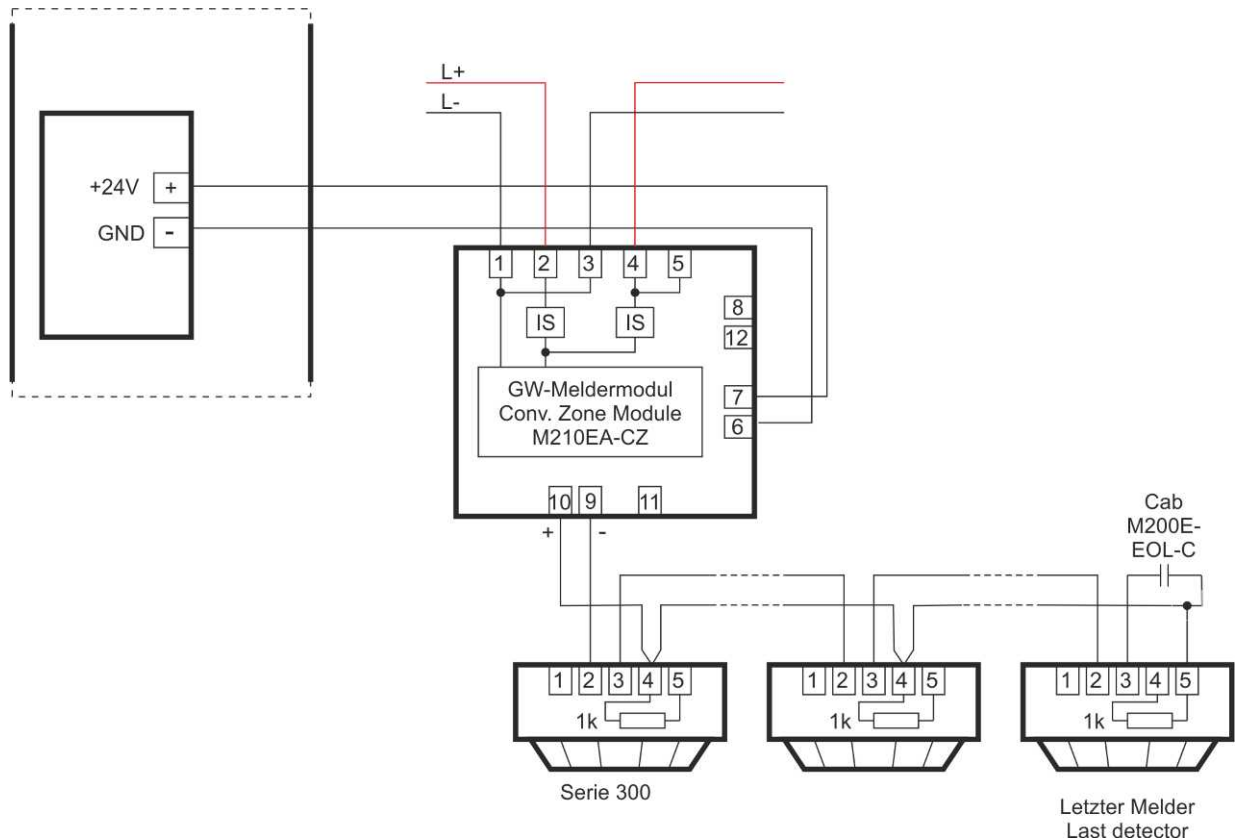


3.11.5.4 Connection Series 100/400 with power supply from the control panel – M210EA-CZ

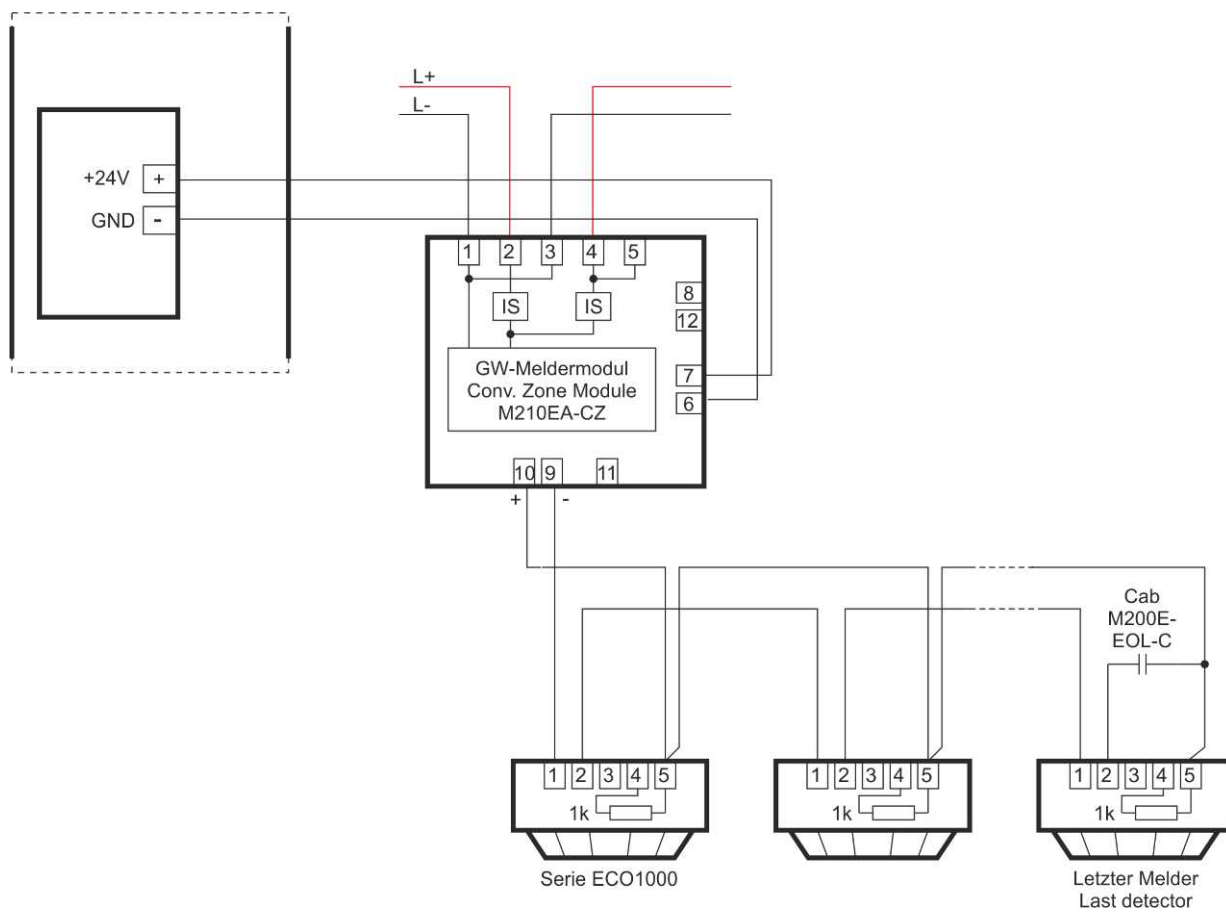


If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.5.5 Connection Series 300 with power supply from the control panel – M210EA-CZ



3.11.5.6 Connection Series ECO1000 with power supply from the control panel – M210EA-CZ

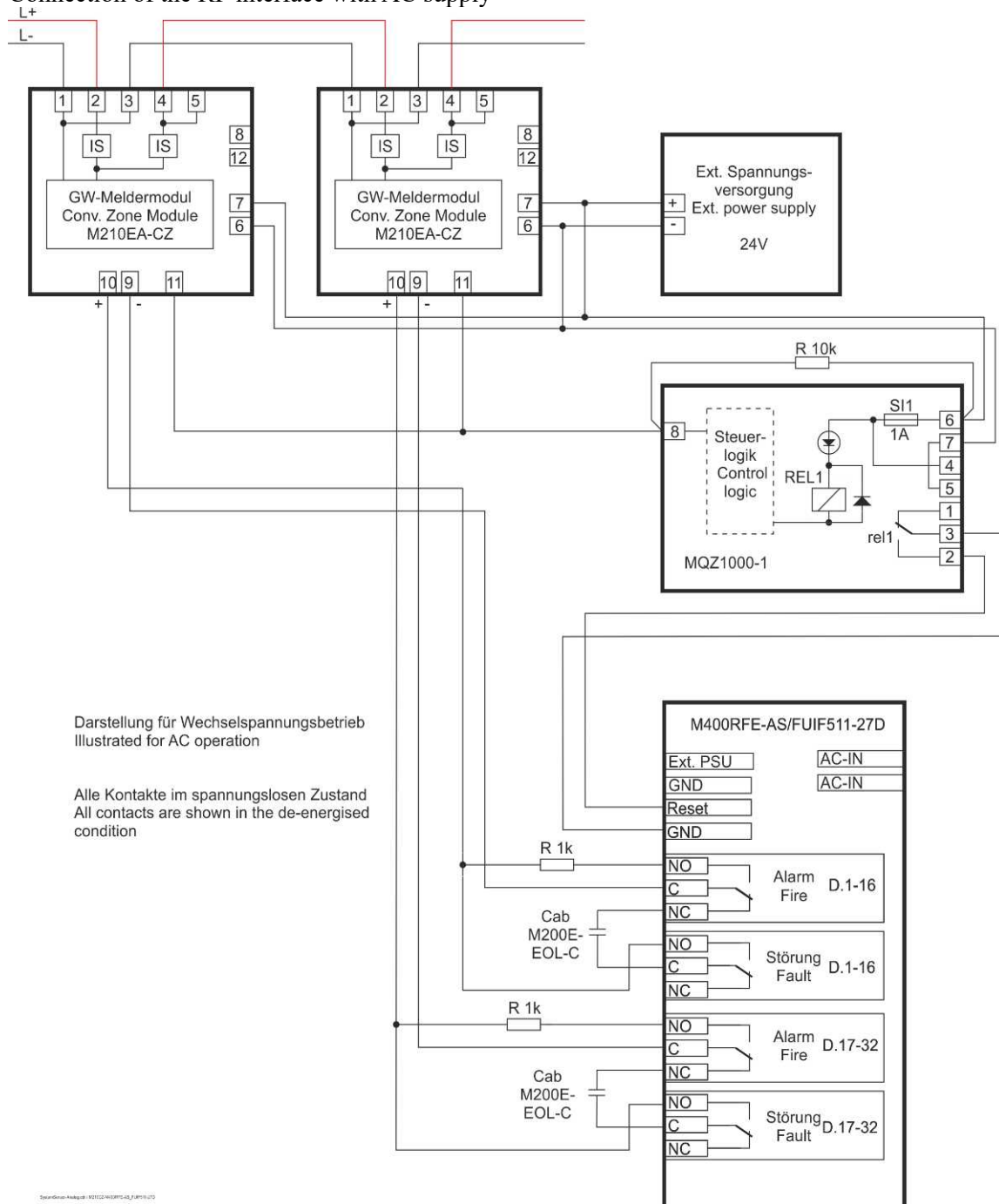


3.11.7 RF Interface – M400RFE-AS / FUIF511-27D – M210EA-CZ

3.11.7.1 Notes

For information on how to link the wireless detectors to the RF interface, please refer to the documentation of the RF interface. Please note the maximum number of detectors supported per RF interface.

3.11.7.2 Connection of the RF interface with AC supply



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.



For the operation with the Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used, and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the RF interface will be deactivated if one of the two modules is disabled!

3.11.8 RF Interfaces FI700/RF/CWE + FI720/RF/CWE – M210E-CZ and M210E

In order to be able to use wireless detectors Series FI700/RF or FI720/RF, you first have to install an RF interface. See the User Manual "Wireless fire detection systems FI700/RF and FI720/RF".

If you want to extend the range of the RF system, you can use the RF Expander FI700/RF/WE or FI720/RF/WE.

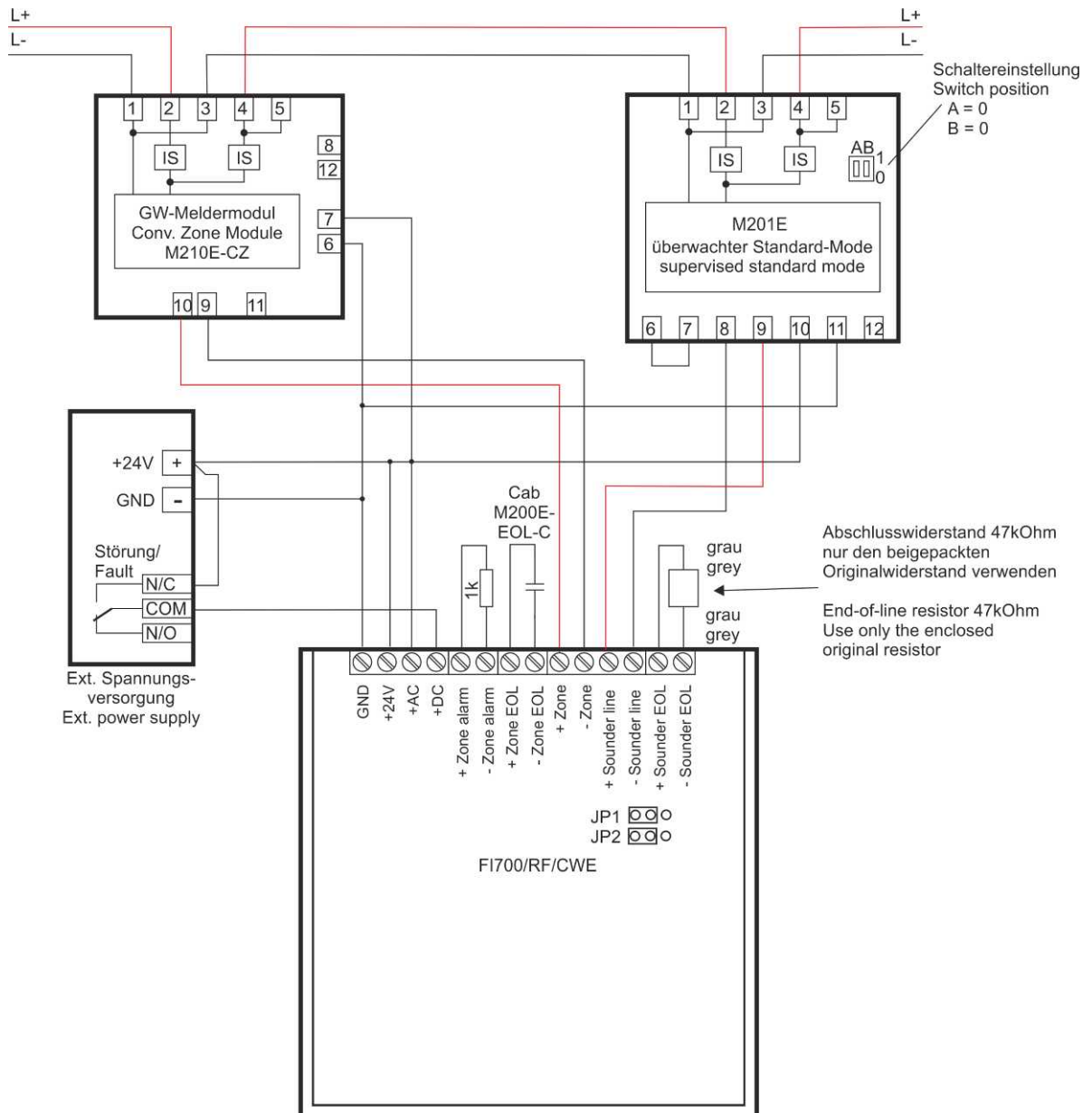
3.11.8.1 Notes

Please consult the documentation of the RF interface to receive relevant information about how to link the wireless detectors to the RF interface.

Note the maximum supported number of 32 detectors per RF interface.

3.11.8.2 Connection

The following connection applies to the RF Interfaces FI700/RF/CWE and FI720/RF/CWE.



If the expander is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.11.9 RF Interfaces FI700/RF/CWE + FI720/RF/CWE – M210EA-CZ and M210EA

In order to be able to use wireless detectors Series FI700/RF or FI720/RF, you first have to install an RF interface.

If you want to extend the range of the RF system, you can use the RF Expander FI700/RF/WE or FI720/RF/WE respectively.

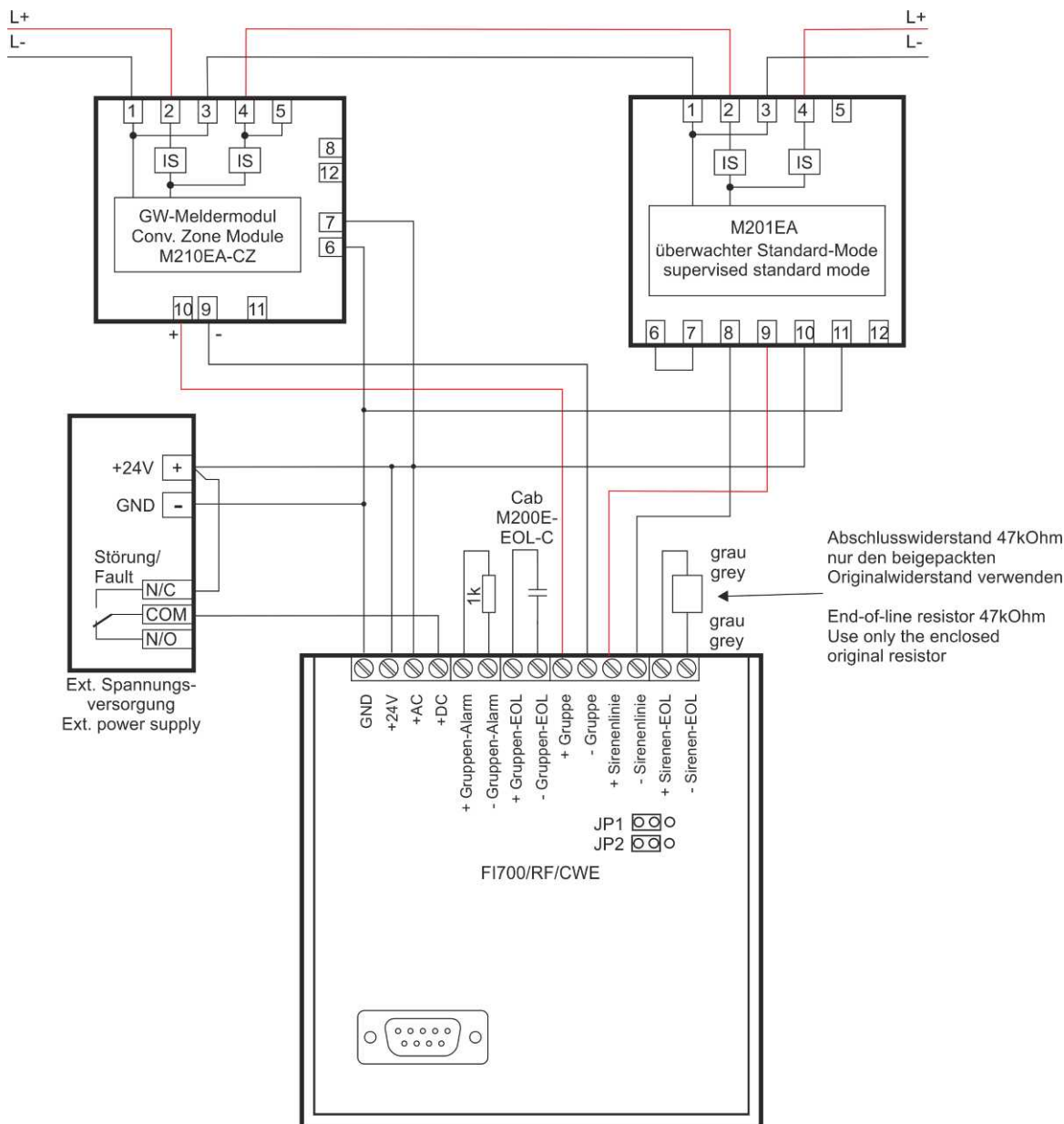
3.11.9.1 Notes

For information on how to link the wireless detectors to the RF interface, please refer to the documentation of the RF interface.

Please note that a maximum of 32 detectors are supported per RF interface.

3.11.9.2 Connection

The following connection applies to the RF Interfaces FI700/RF/CWE and FI720/RF/CWE.



If the expander is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.10 RF Interface FI750/RF/CWE – M210EA-CZ and M210EA

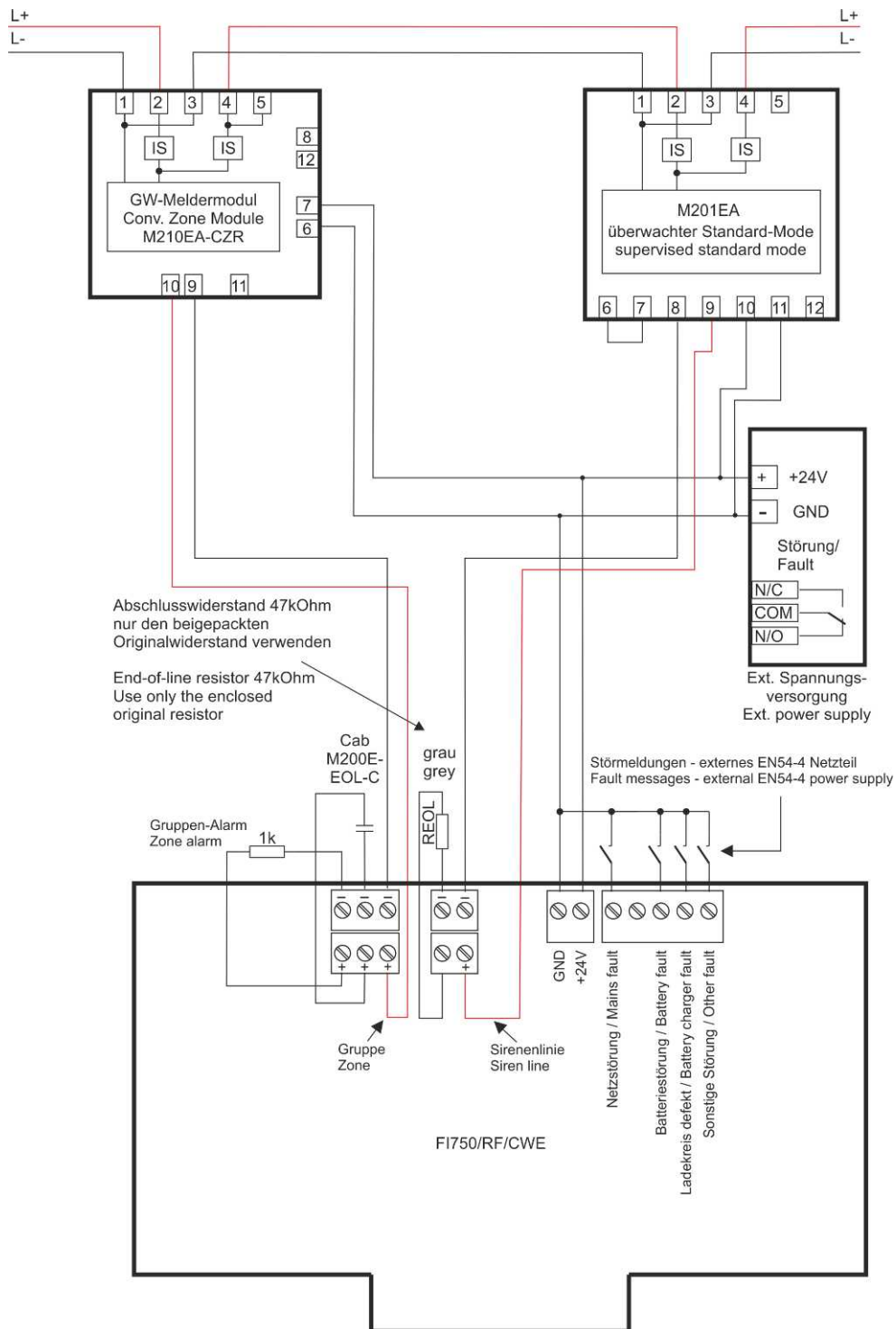
In order to be able to use wireless detectors Series FI750/RF, you first have to install an RF interface.

If you want to extend the range of the RF system, you can use the RF Expander FI750/RF/WE.

3.11.10.1 Notes

For information on how to link the wireless detectors to the RF interface, please refer to the documentation of the RF interface. Please note that a maximum of 32 detectors are supported per RF interface.

3.11.10.2 Connection



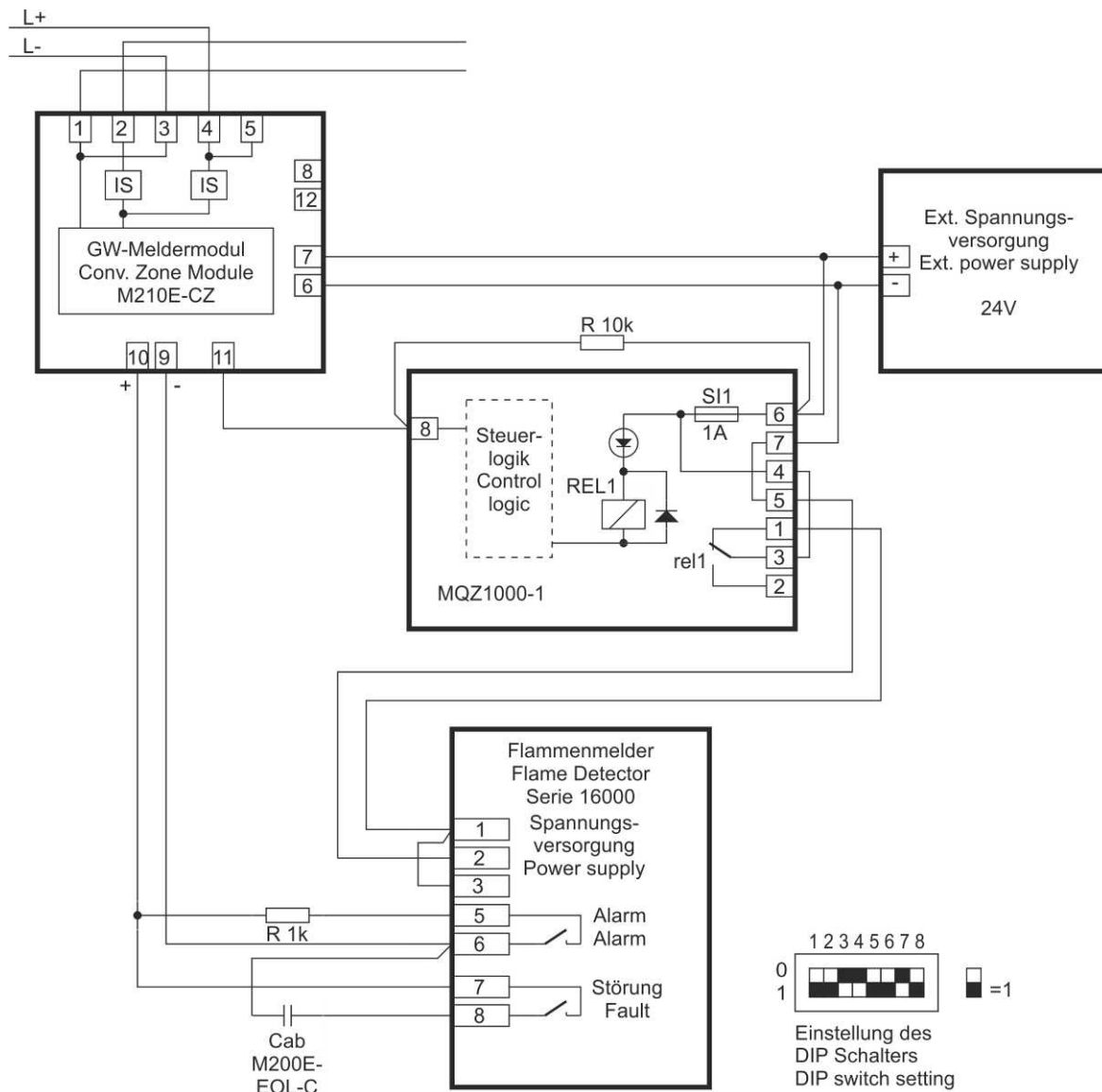
3.11.11 Flame Detectors Series 16000 – M210E-CZ

3.11.11.1 Note

By means of the DIP switches, the detector can be adjusted to the various operating conditions. The switches 6 and 7 allow you to change the response time.

Type	EN 54-10 Class 1	SW6	SW7	Response time
16581	IR2	0	0	8s
16589	IR3	1	0	4s
16591	UV/IR2	0	1	2s
		1	1	1s

3.11.11.2 Connection



3.11.12 Flame Detectors Series 16000 – M210EA-CZ

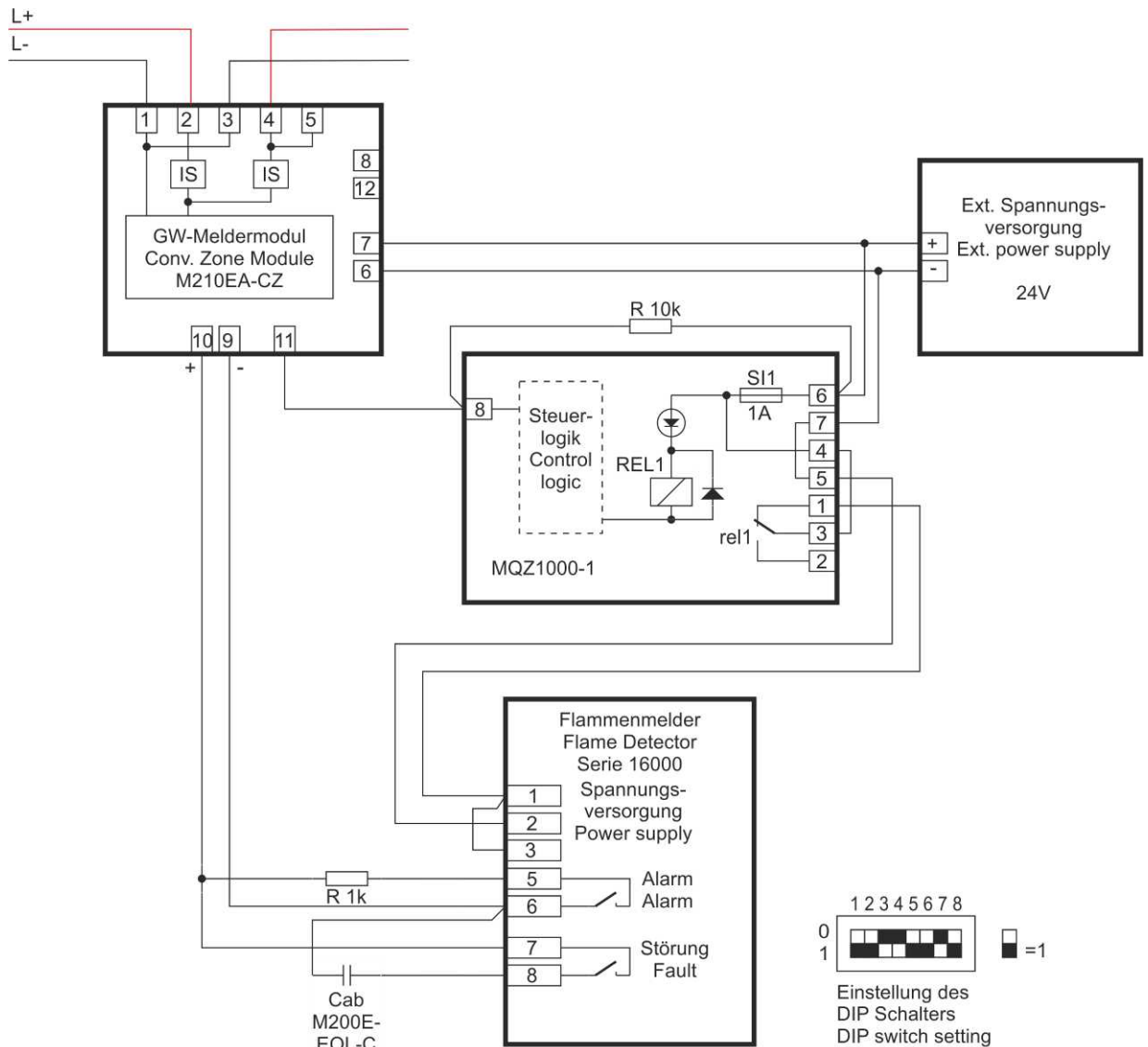
3.11.12.1 Note

By means of the DIP switches, the detector can be adjusted to the various operating conditions. The switches 6 and 7 allow you to change the response time.

Type	EN 54-10 Class 1
16581	IR2
16589	IR3
16591	UV/IR2

SW6	SW7	Response time
0	0	8s
1	0	4s
0	1	2s
1	1	1s

3.11.12.2 Connection

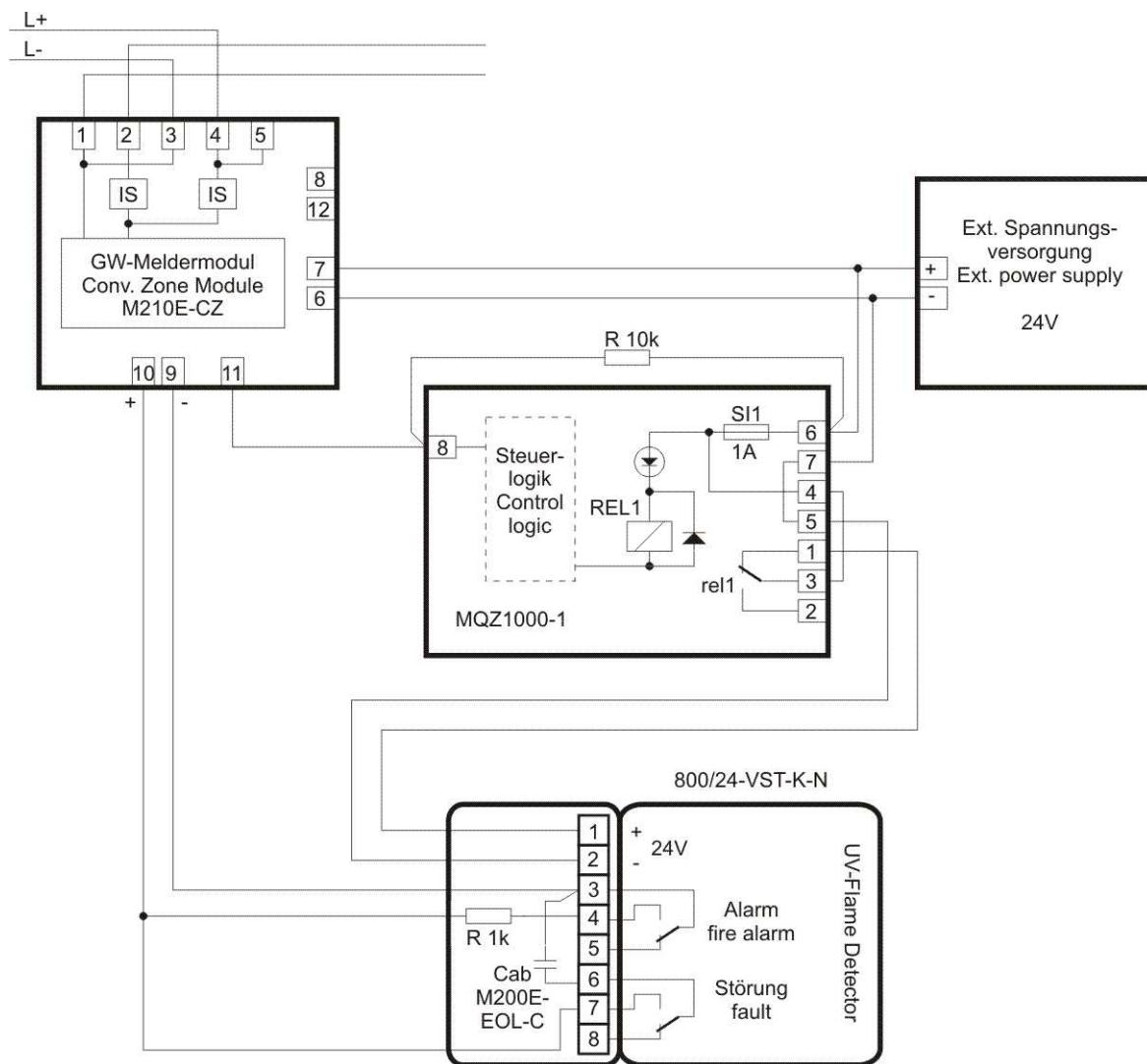


Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.13 Flame Detector 800/24-VST-K-N – M210E-CZ

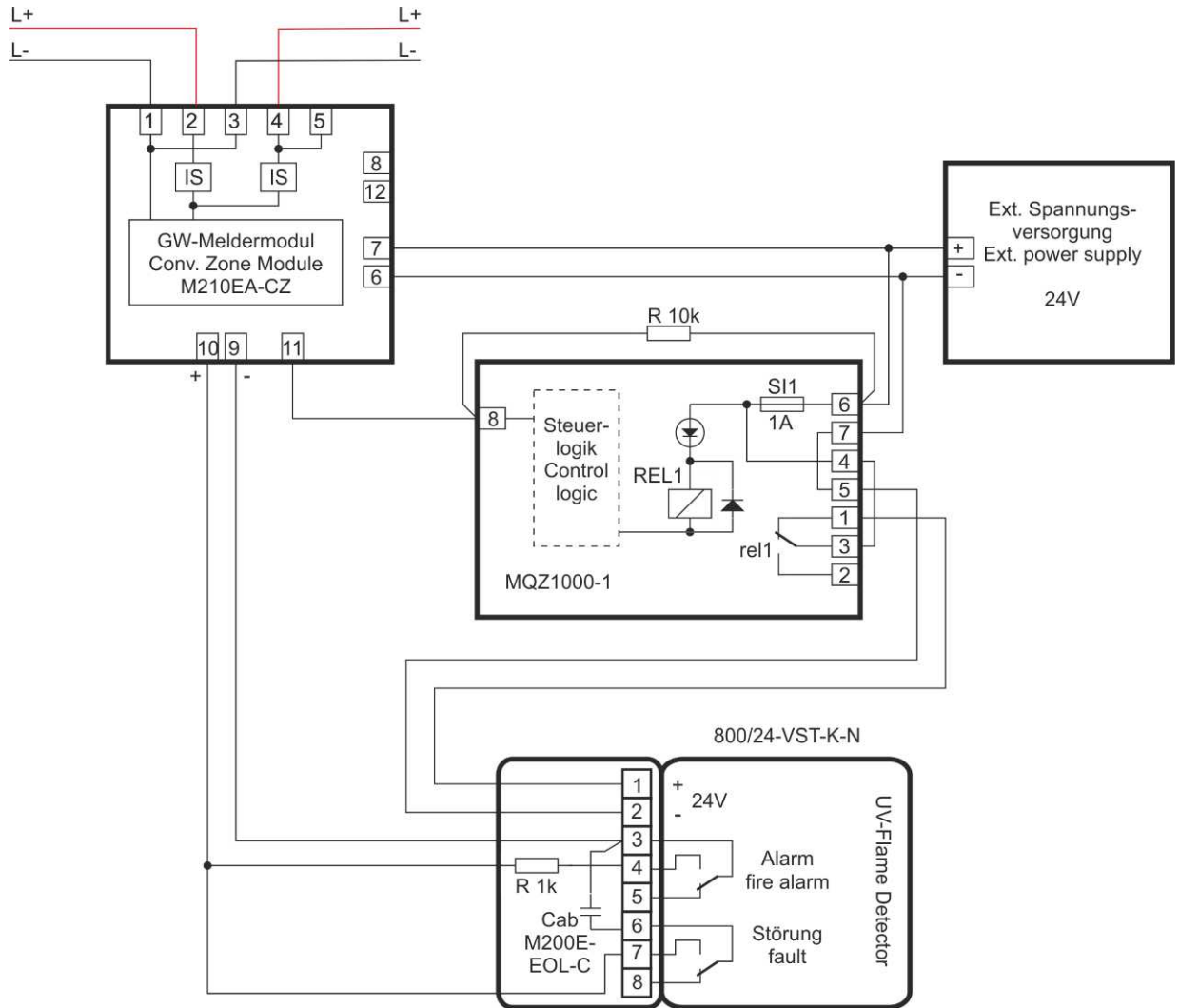


Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.14 Flame Detector 800/24-VST-K-N – M210EA-CZ

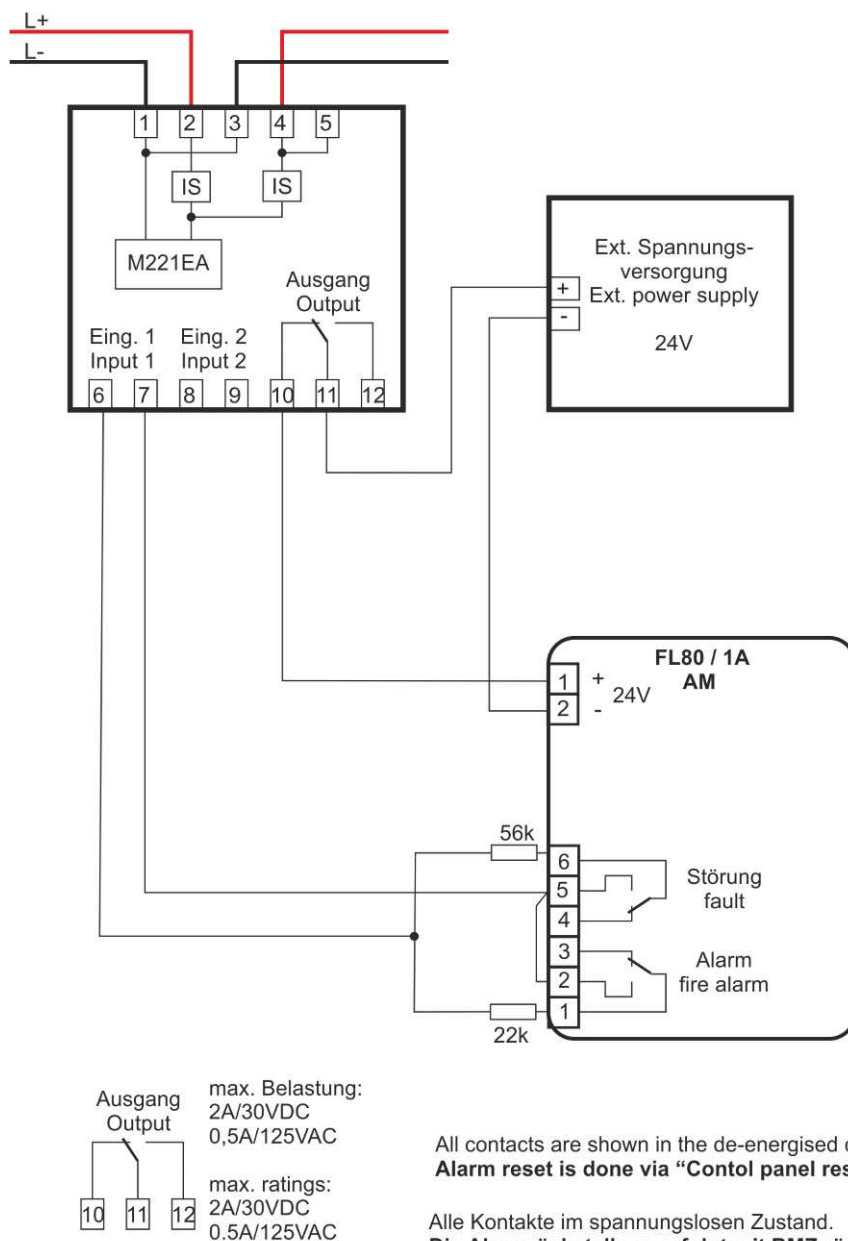


Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

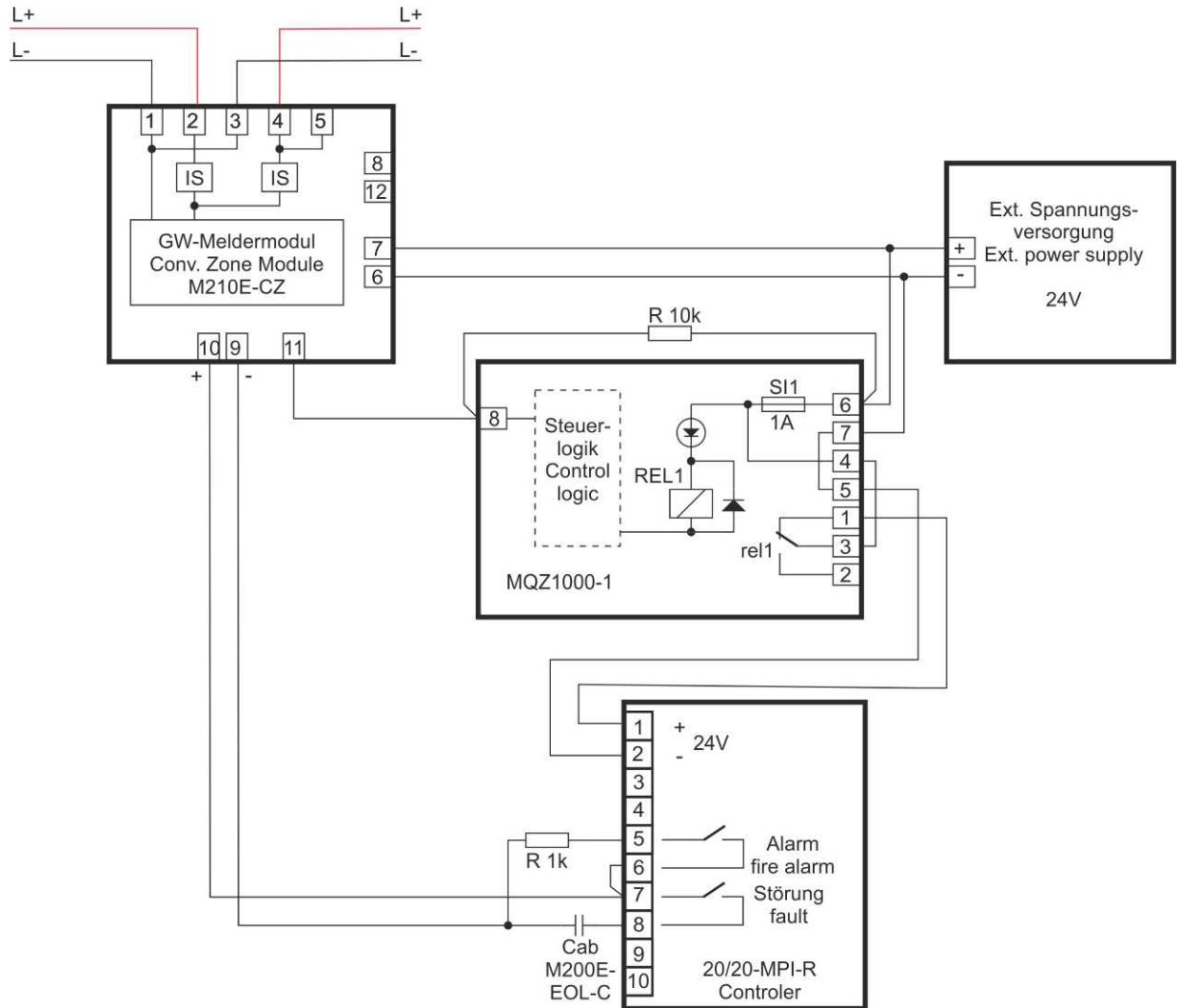
3.11.15 Flame Detector FL80 / 1A Version AM – M221EA



An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

3.11.16 Flame Detector 20/20-MPI-R – M210E-CZ

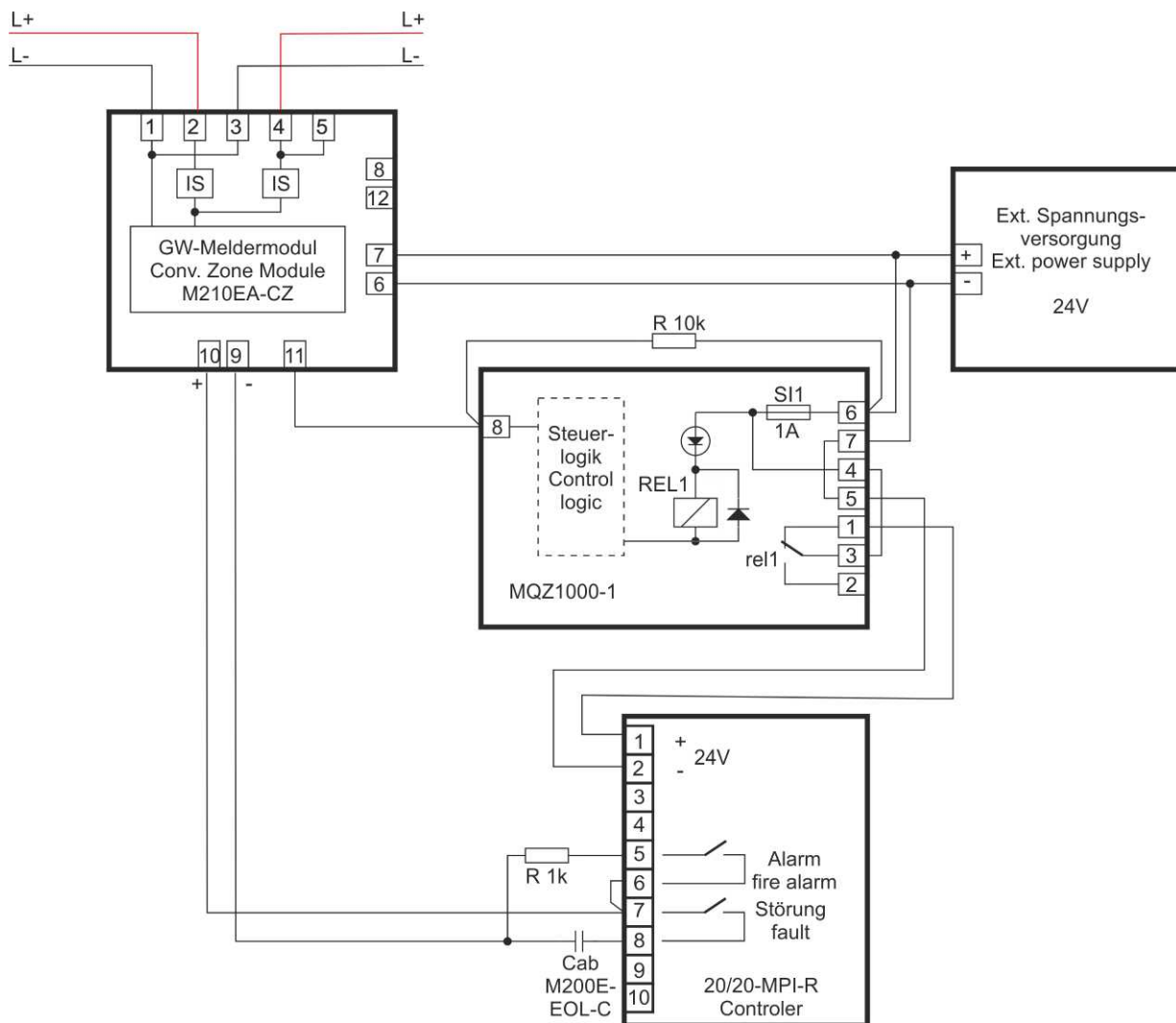


If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.



An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

3.11.17 Flame Detector 20/20-MPI-R – M210EA-CZ

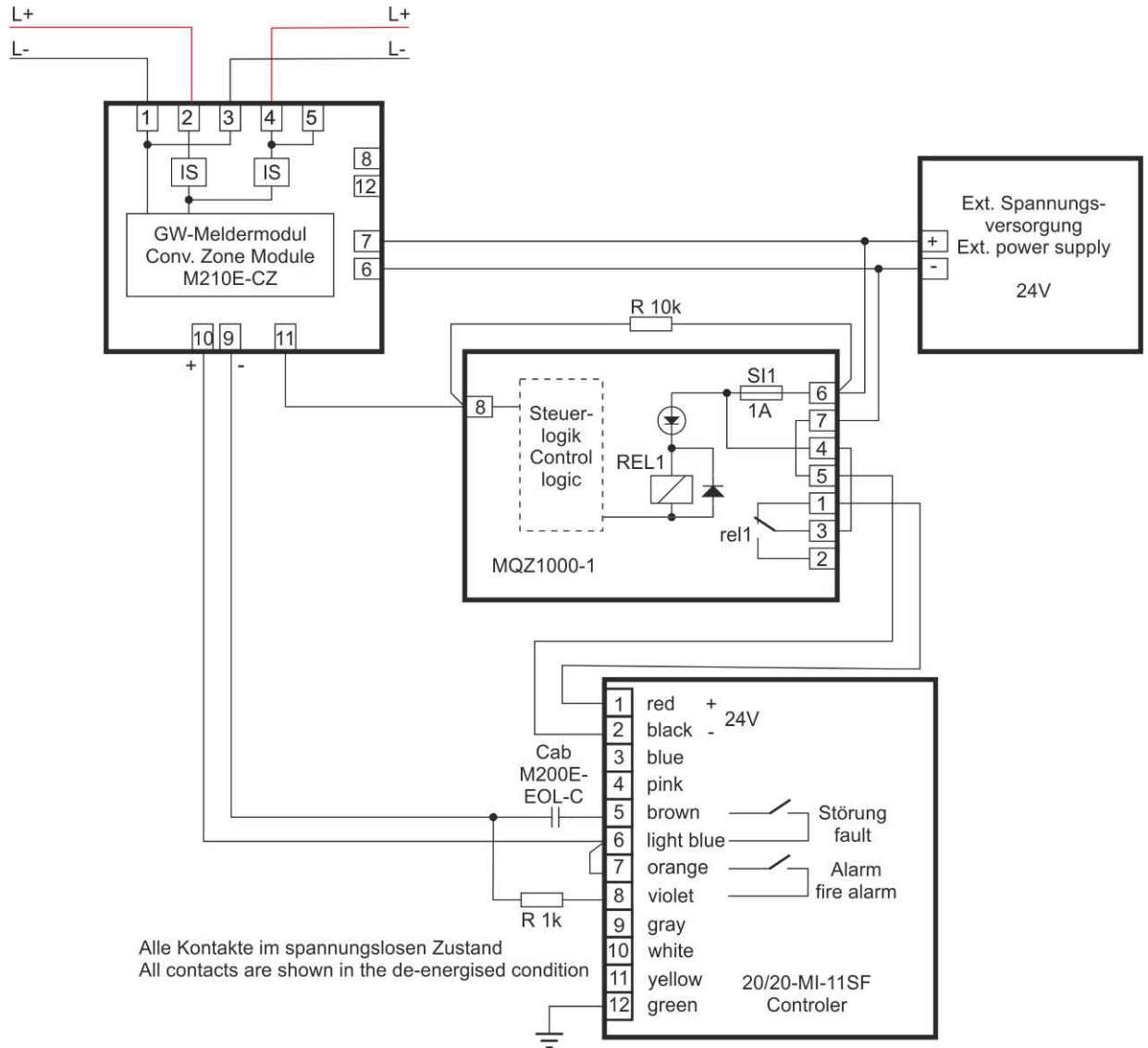


If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.



An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

3.11.18 Flame Detector 20/20-MI-11SF – M210E-CZ

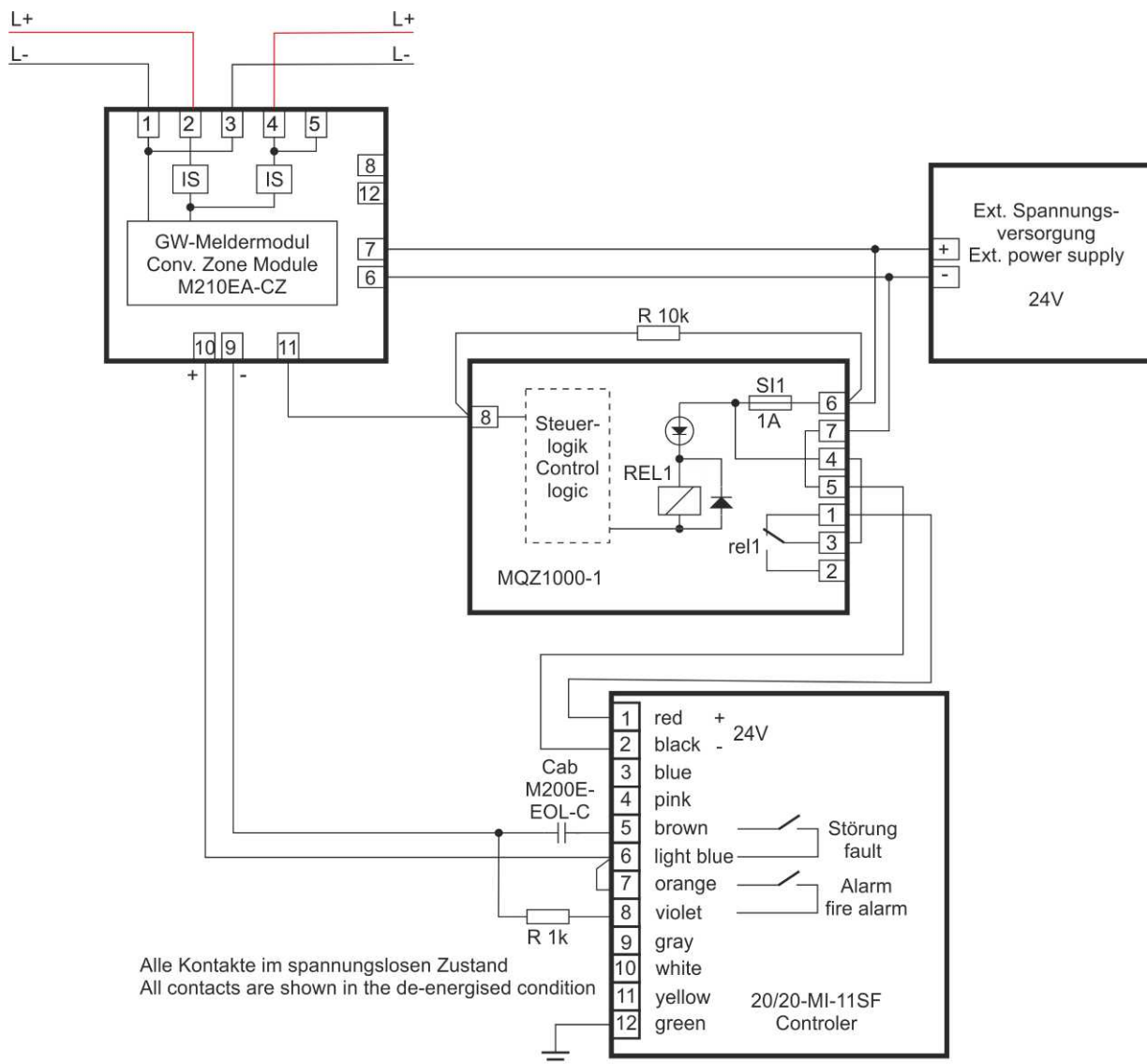


If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.



An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

3.11.19 Flame Detector 20/20-MI-11SF – M210EA-CZ

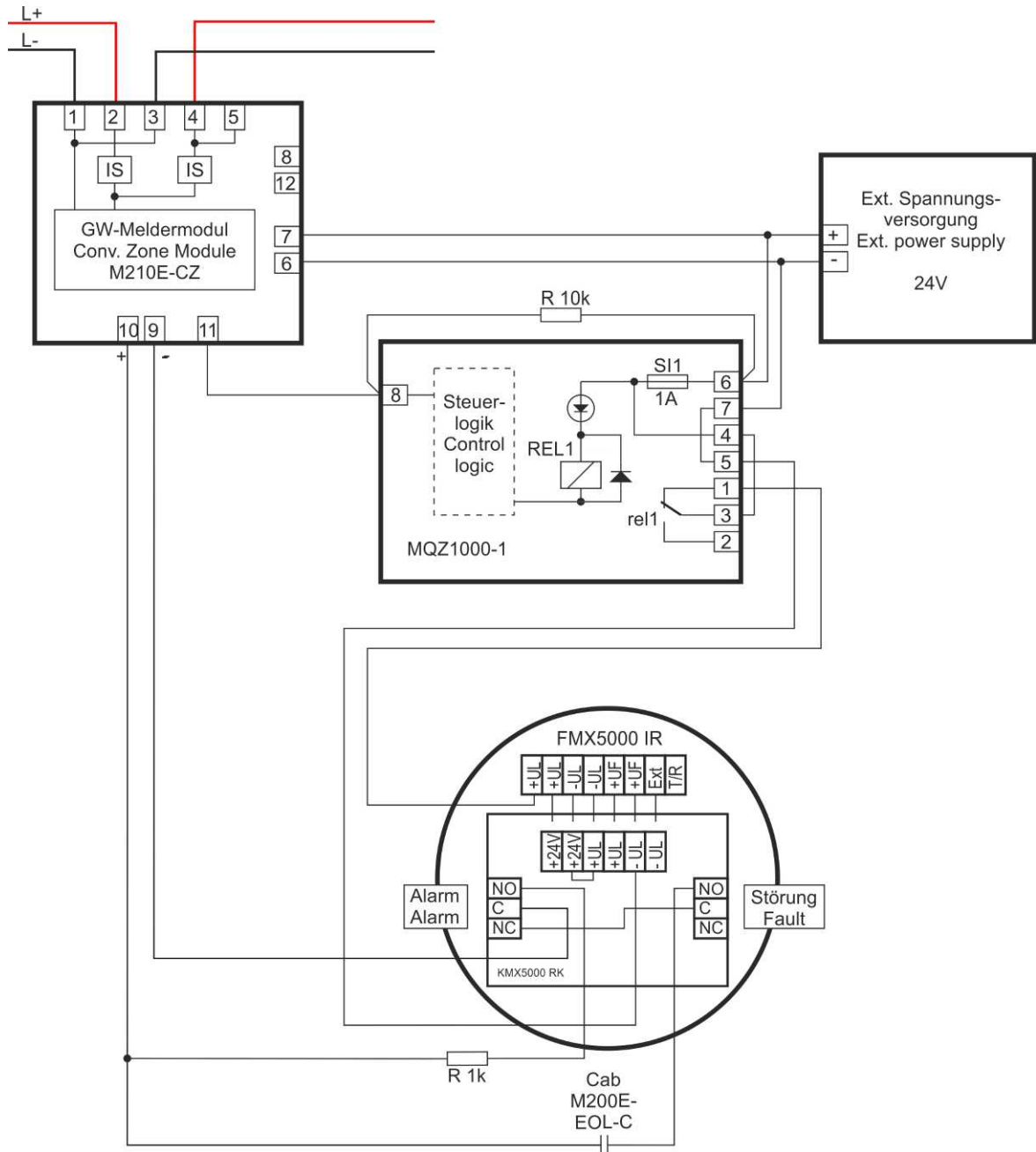


If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.



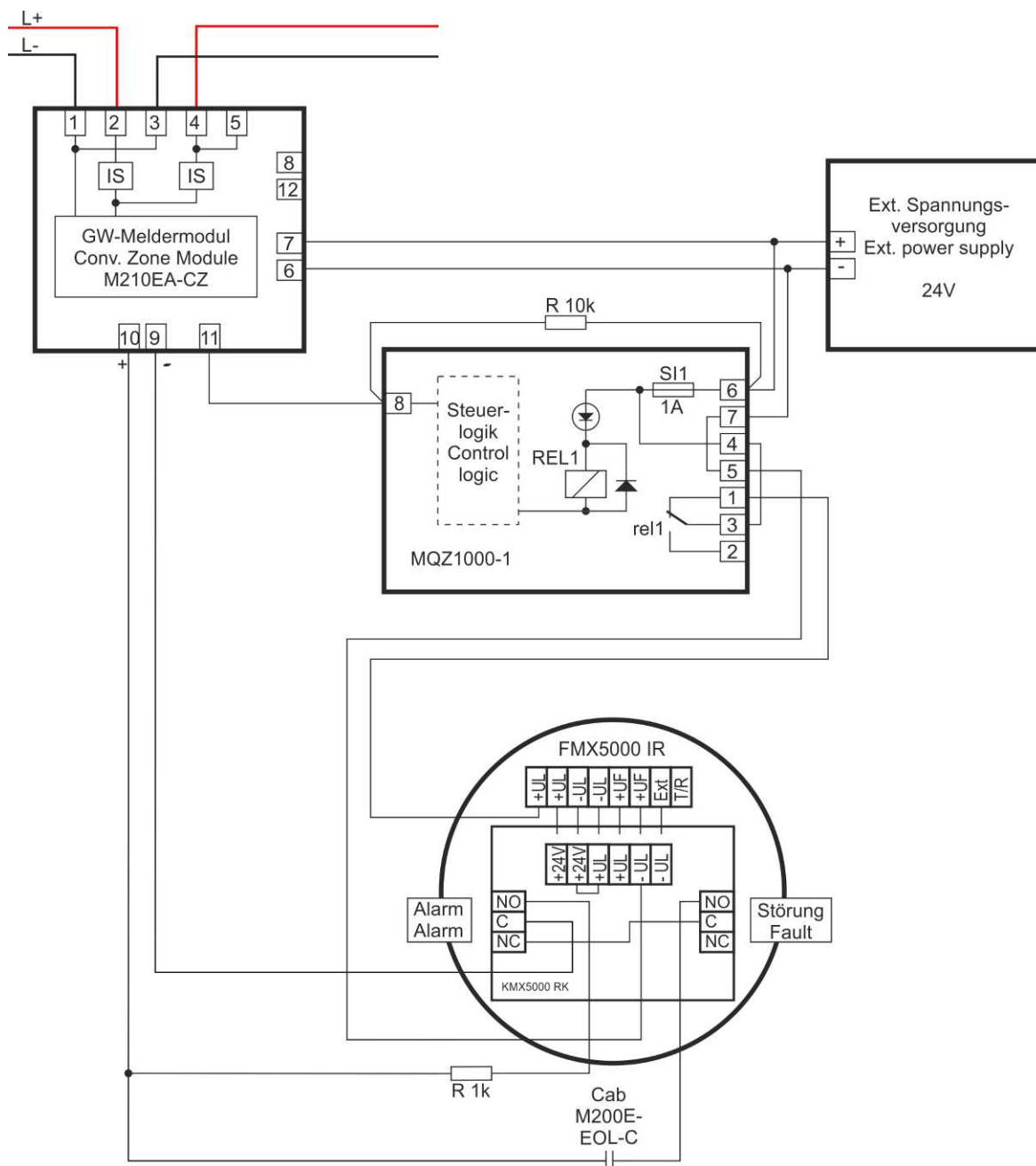
An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

3.11.20 Flame Detector FMX5000 IR – M210E-CZ



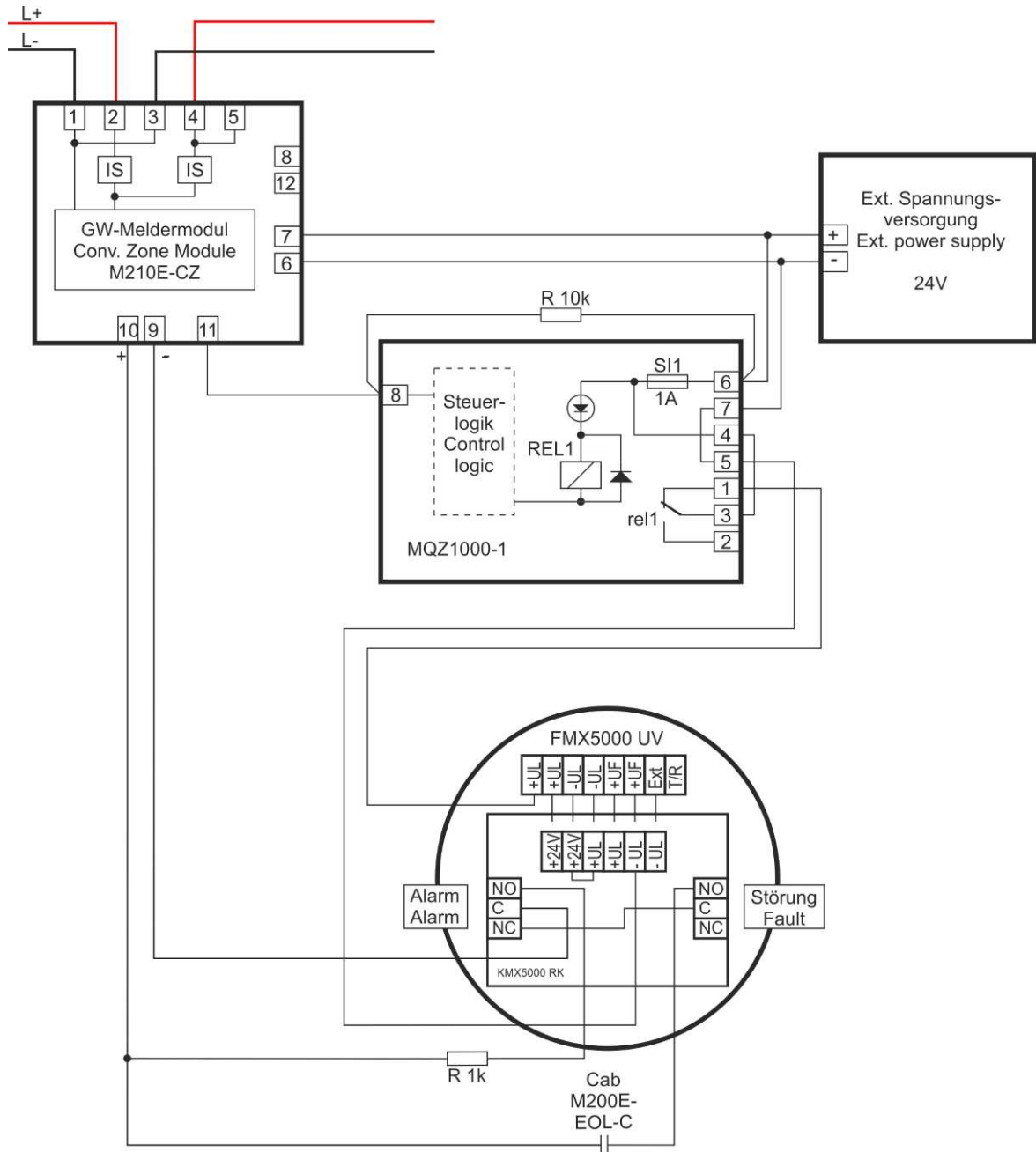
If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.21 Flame Detector FMX5000 IR – M210EA-CZ



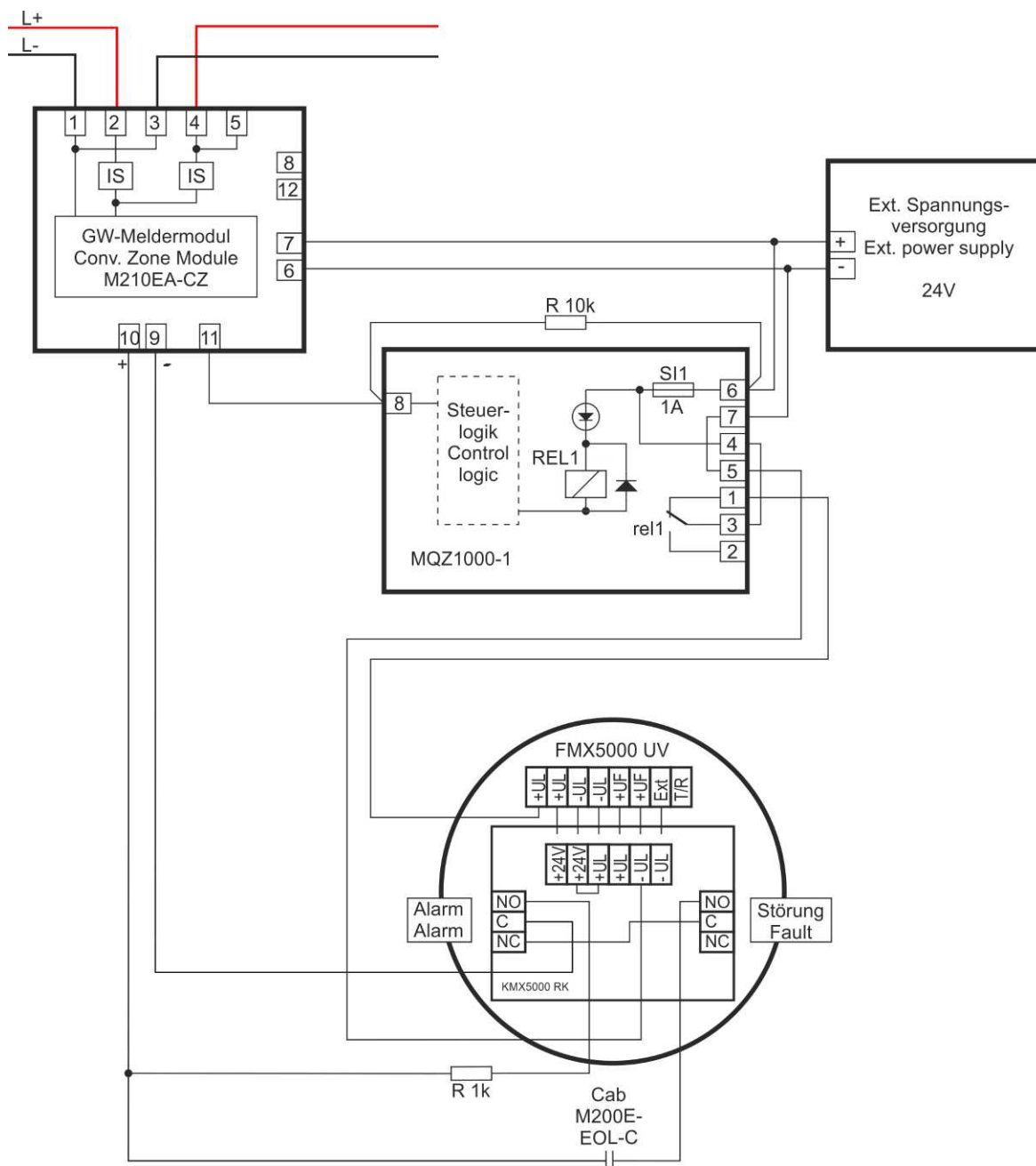
If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.22 Flame Detector FMX5000 UV – M210E-CZ



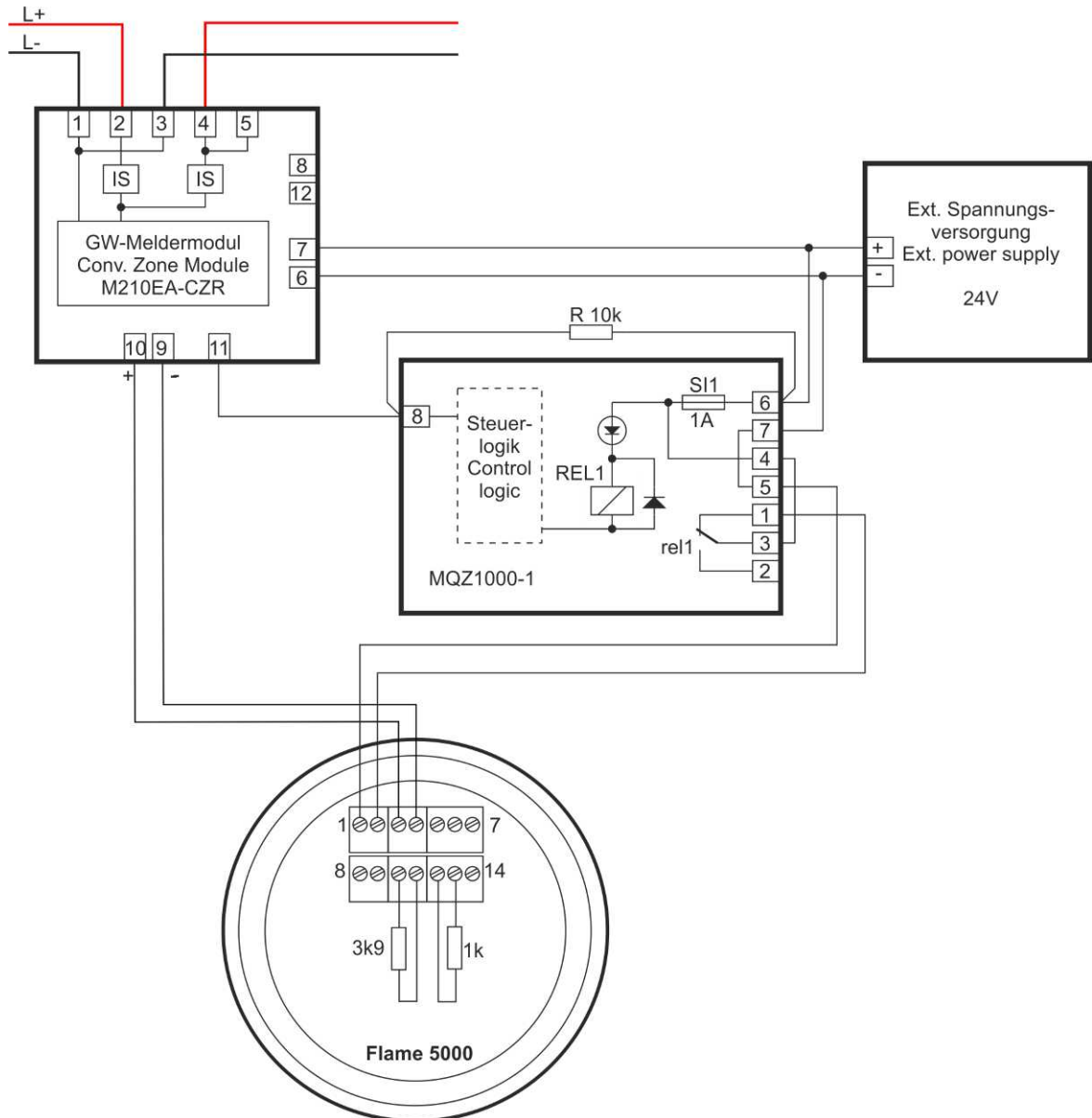
If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.23 Flame Detector FMX5000 UV – M210EA-CZ



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.24 Flame detector with colour video monitoring Flame 5000 – M210EA-CZR



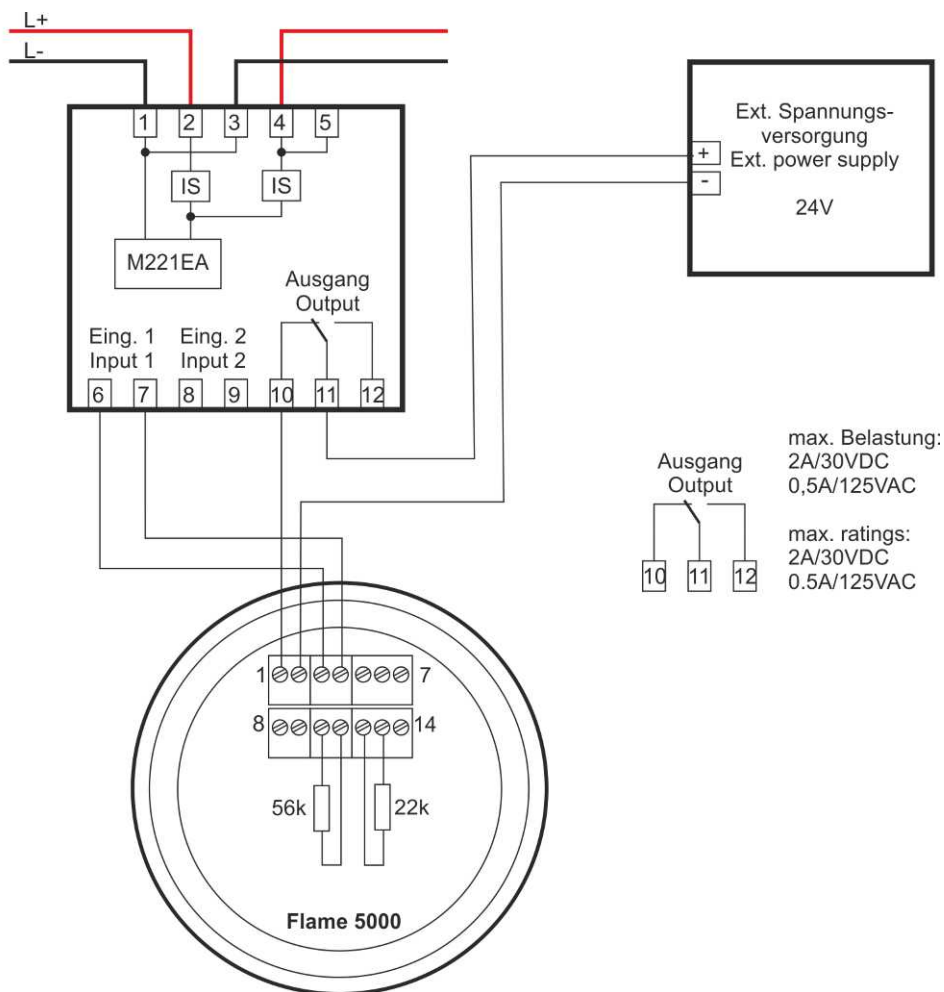
All contacts are shown in the de-energised condition.
Alarm reset is done via "Contol panel reset"

Alle Kontakte im spannungslosen Zustand.
Die Alarmerückstellung erfolgt mit BMZ rückstellen



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.25 Flame detector with colour video monitoring Flame 5000 – M221EA



All contacts are shown in the de-energised condition.
Alarm reset is done via "Contol panel reset"

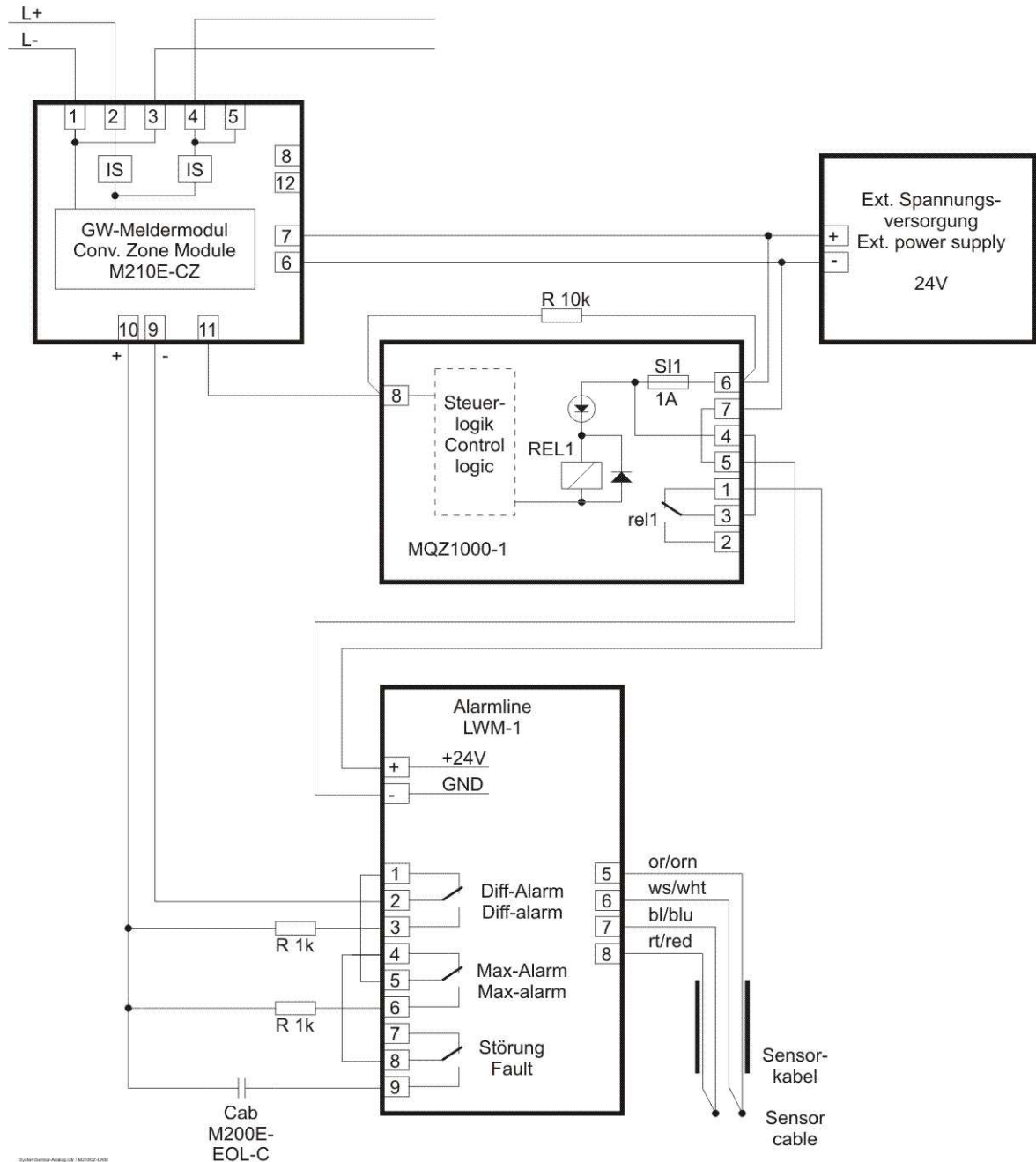
Alle Kontakte im spannungslosen Zustand.
Die Alarmerückstellung erfolgt mit BMZ rückstellen



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

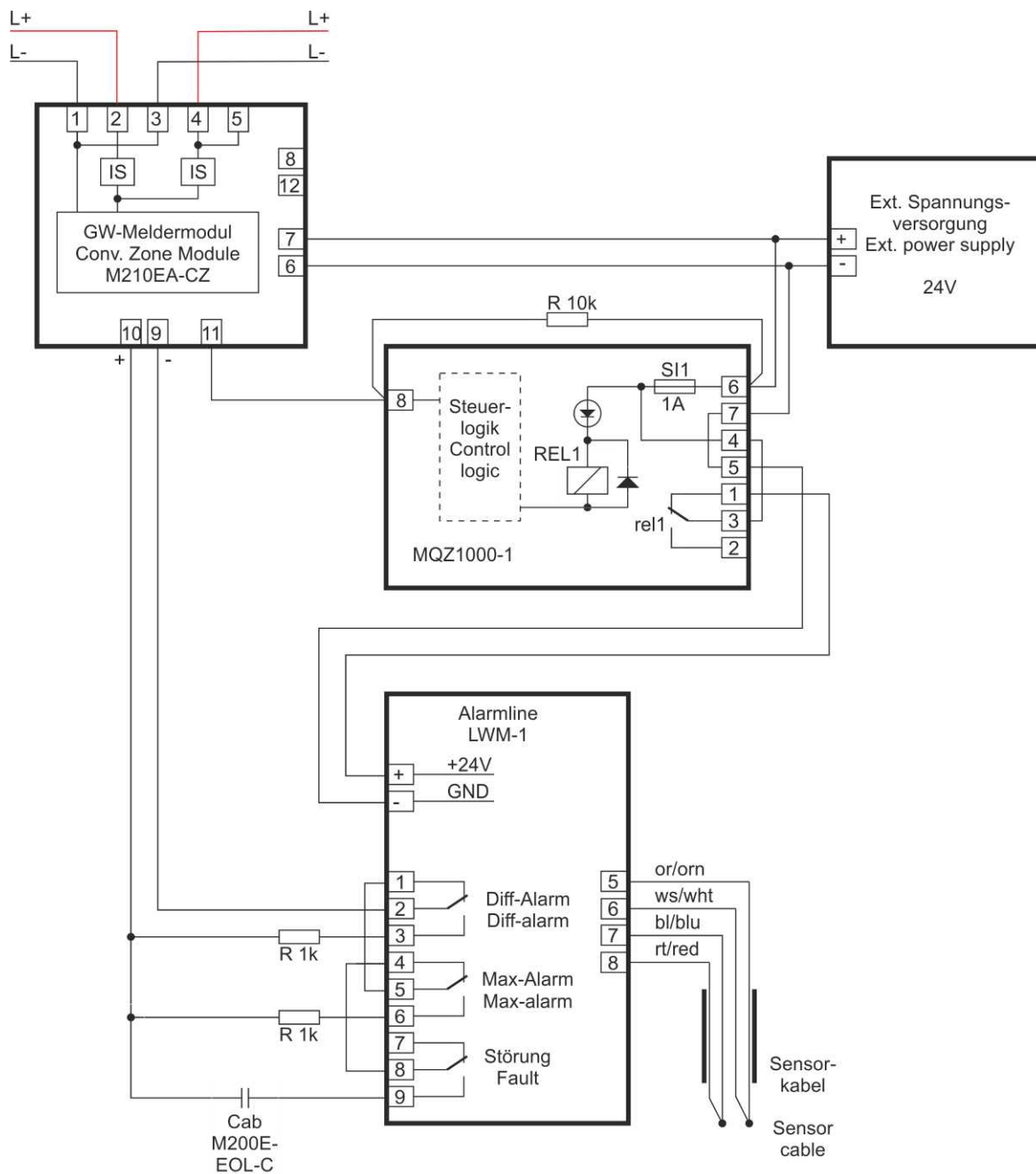
This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

3.11.26 Linear Heat Detector Unit LWM-1 – M210E-CZ



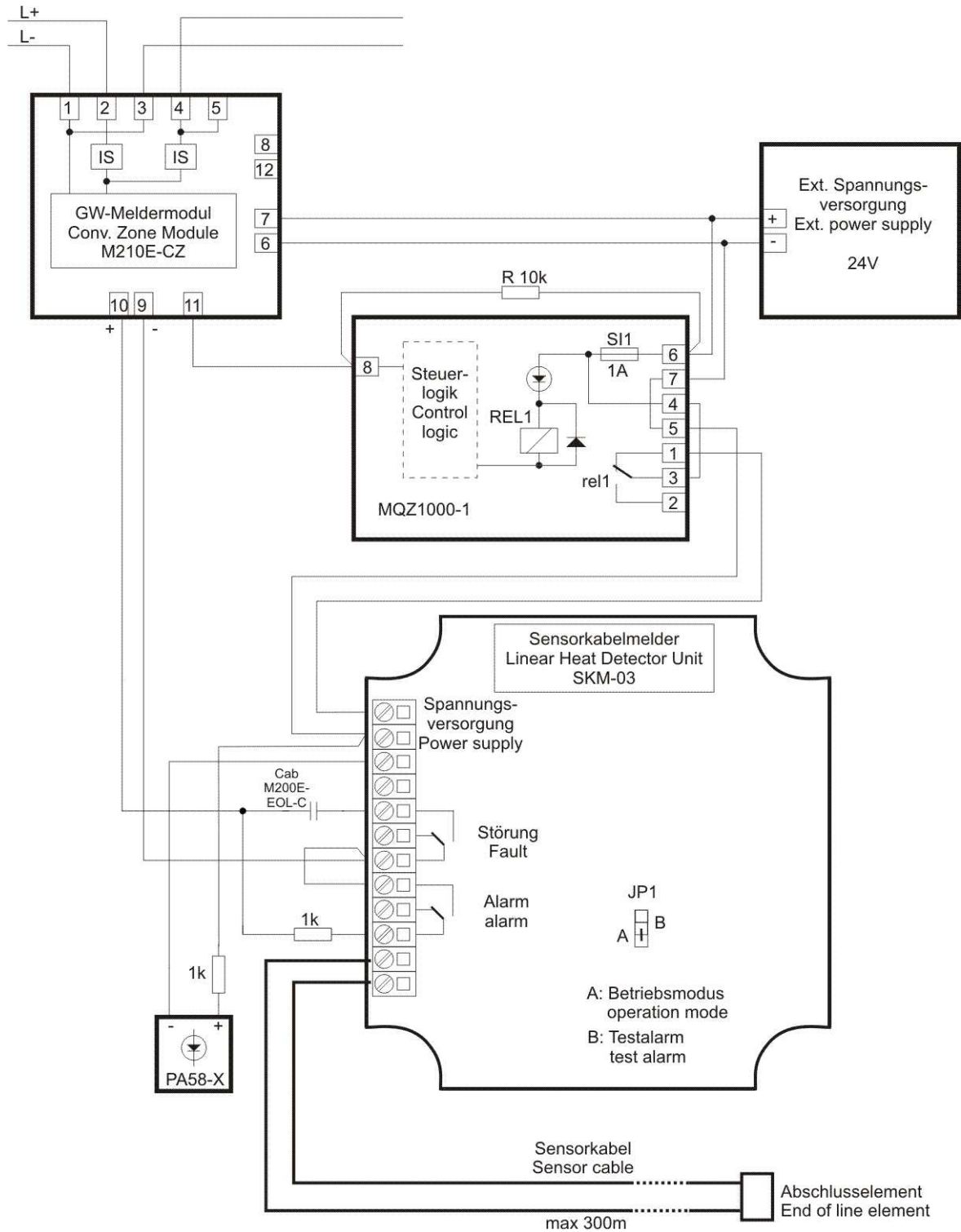
If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.11.27 Linear Heat Detector Unit LWM-1 – M210EA-CZ



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.28 Linear Heat Detector Unit SKM-03 – M210E-CZ

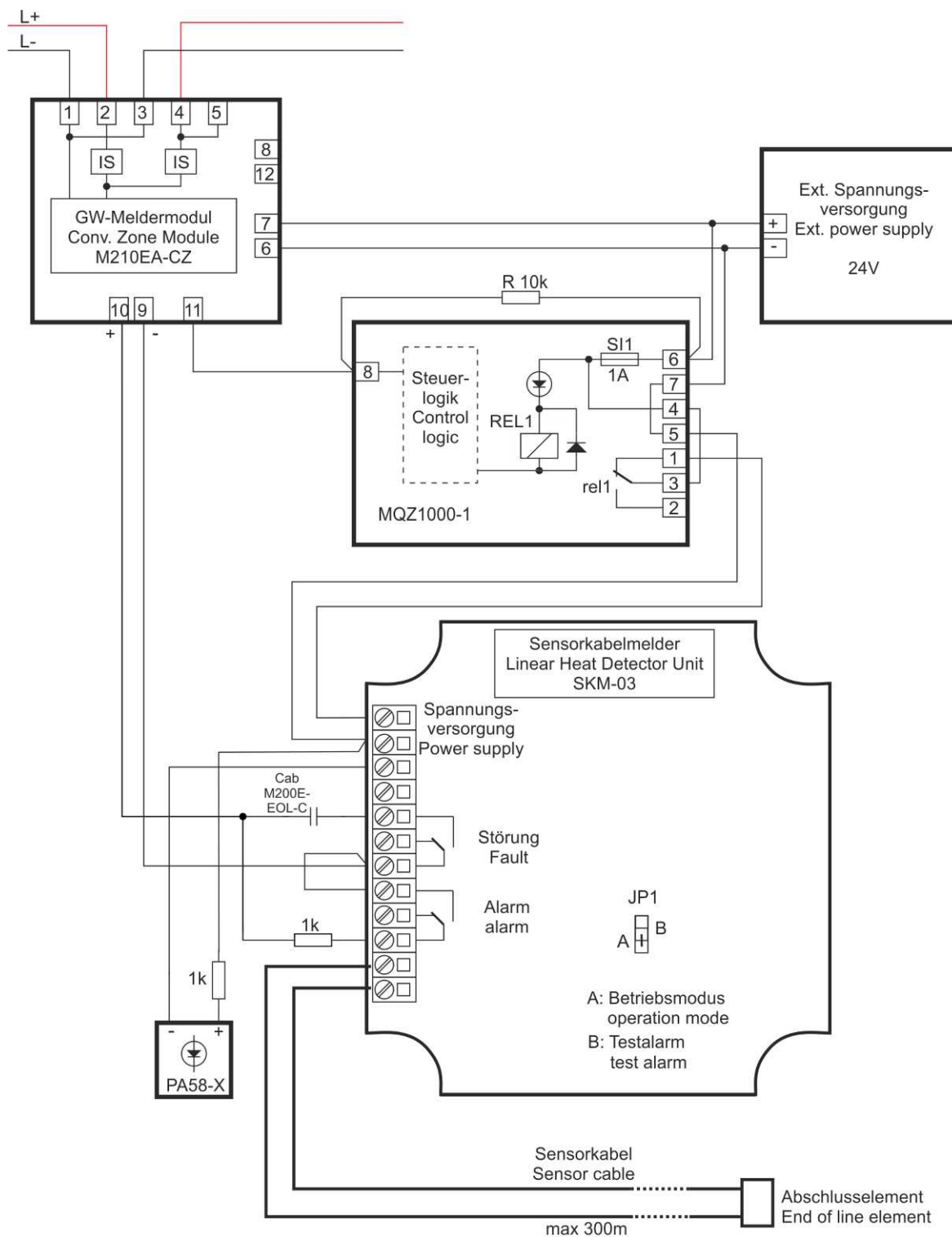


Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

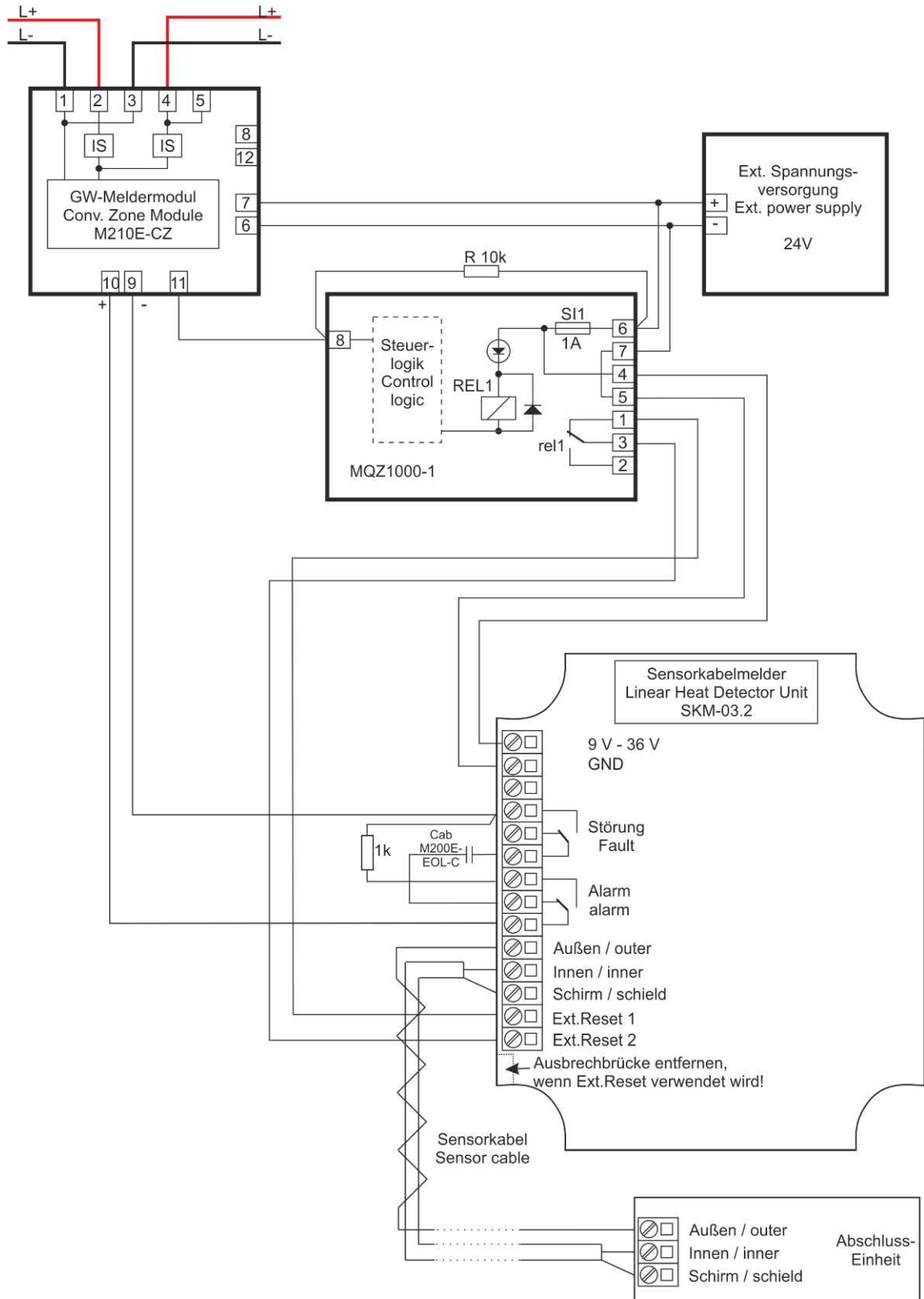


If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

3.11.29 Linear Heat Detector Unit SKM-03 – M210EA-CZ

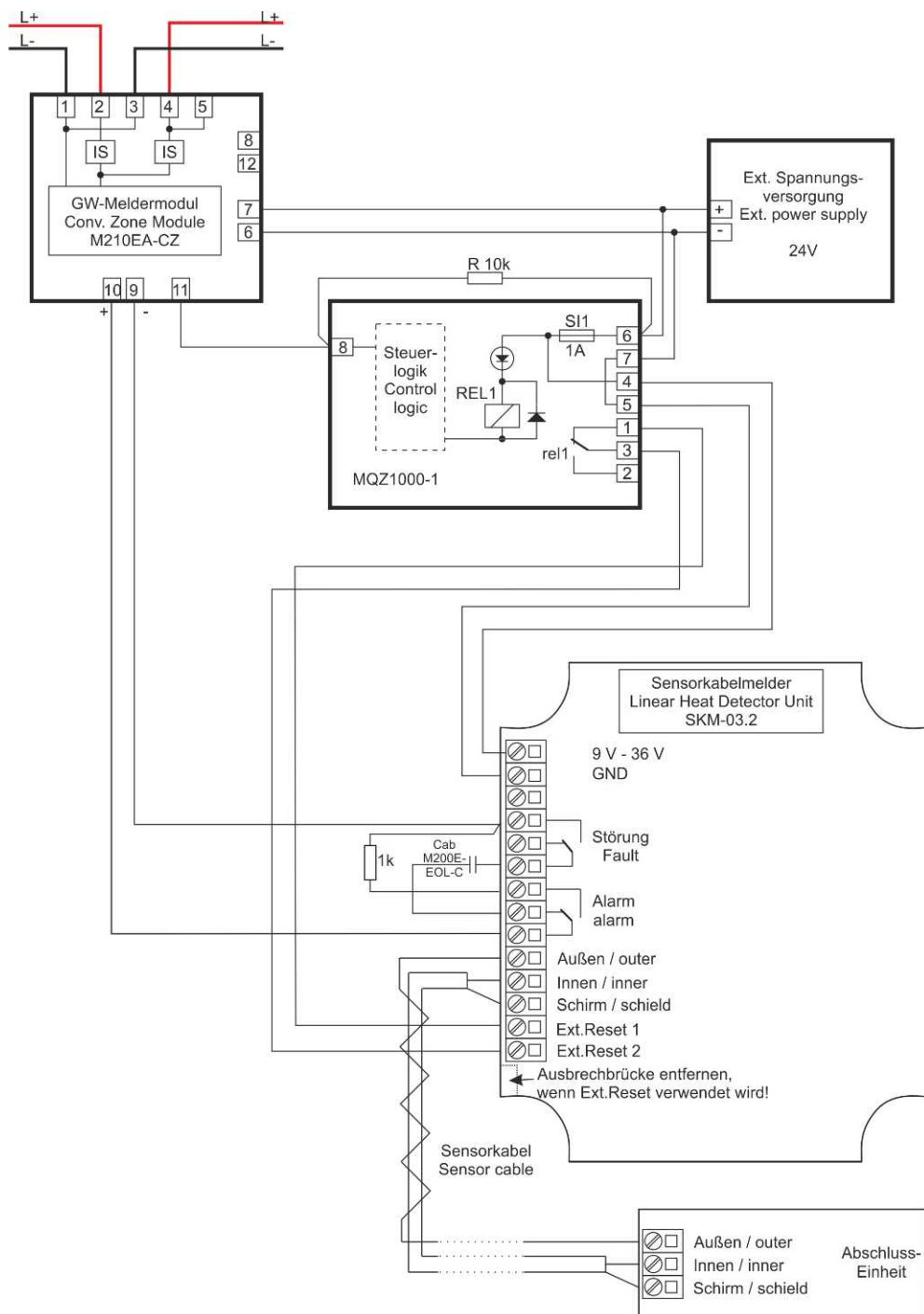


3.11.30 Linear Heat Detector Unit SKM-03.2 - M210E-CZ



If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

3.11.31 Linear Heat Detector Unit SKM-03.2 – M210EA-CZ

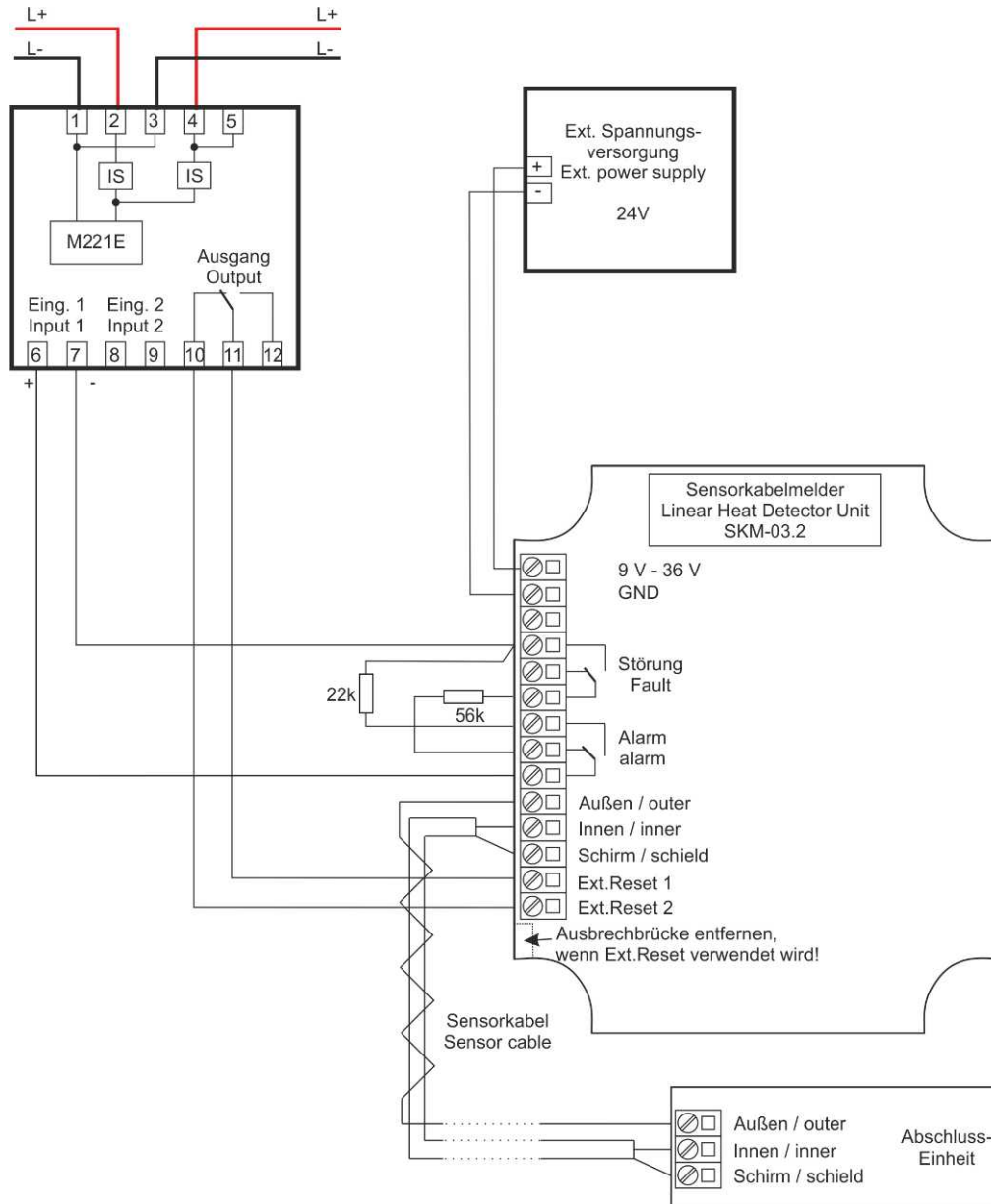


Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition



If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

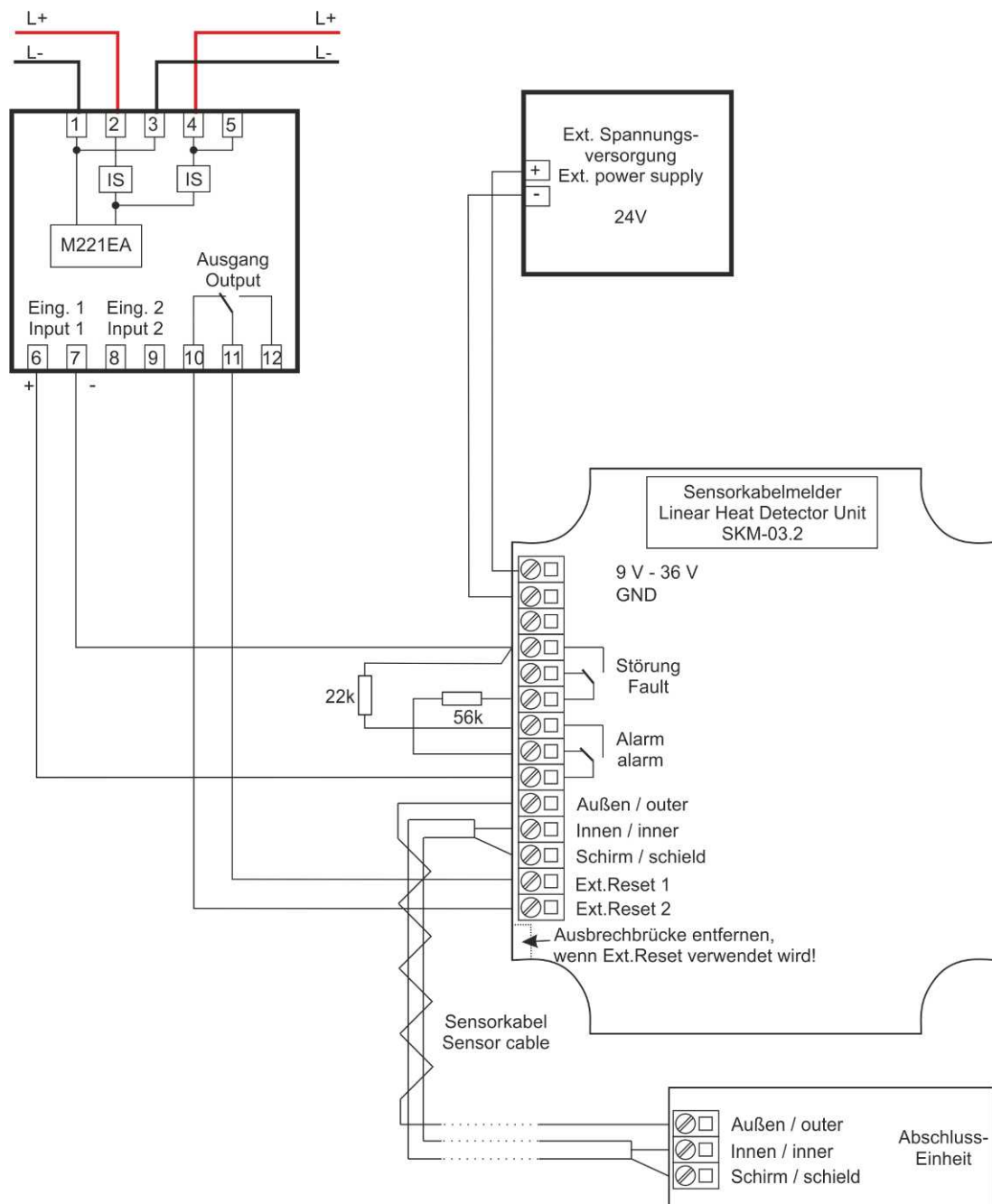
3.11.32 Linear Heat Detector Unit SKM-03.2 – M221E



If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

3.11.33 Linear Heat Detector Unit SKM-03.2 – M221EA



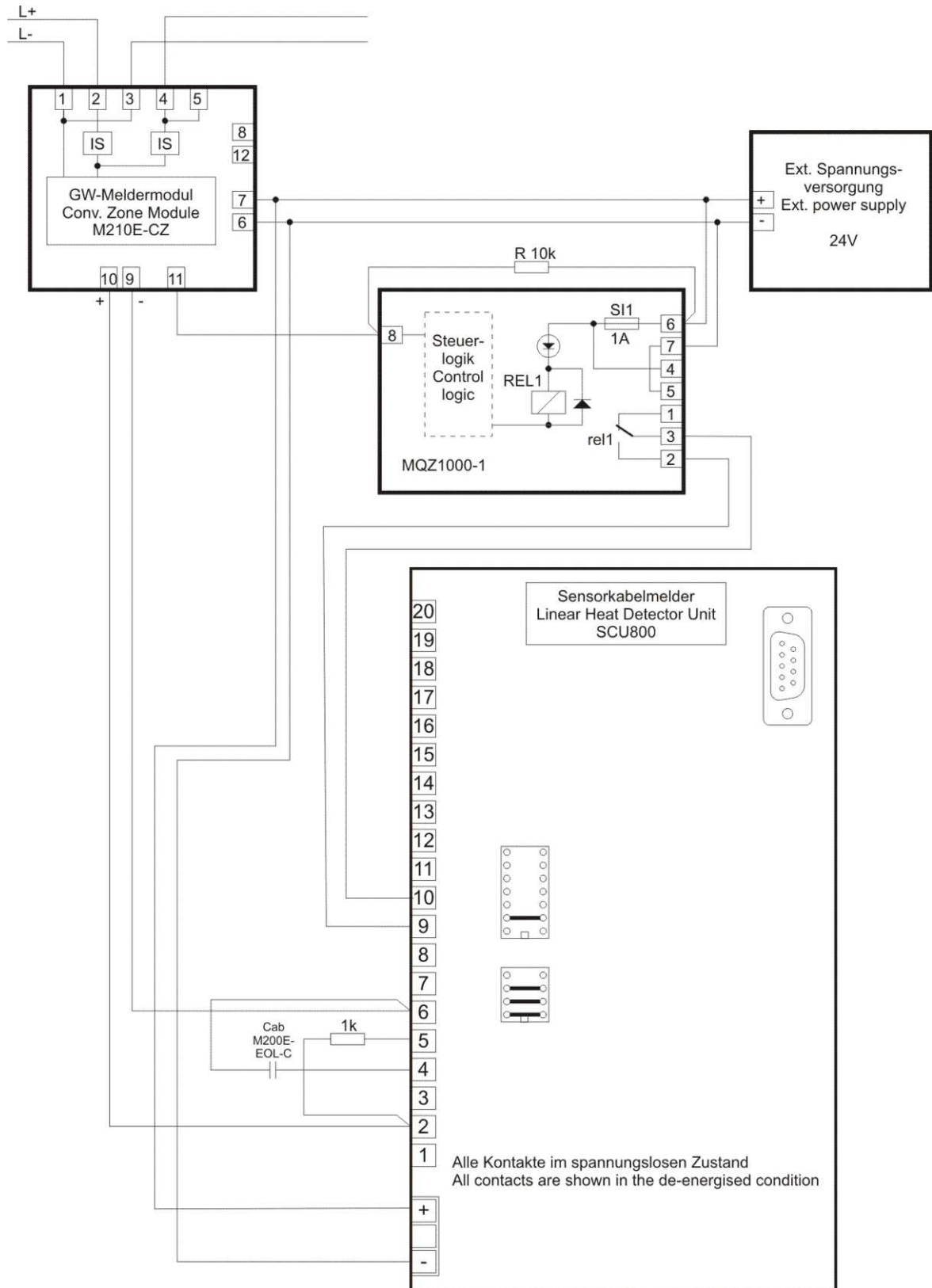
Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition



If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

3.11.34 Linear Heat Detector Unit SCU800 – M210E-CZ

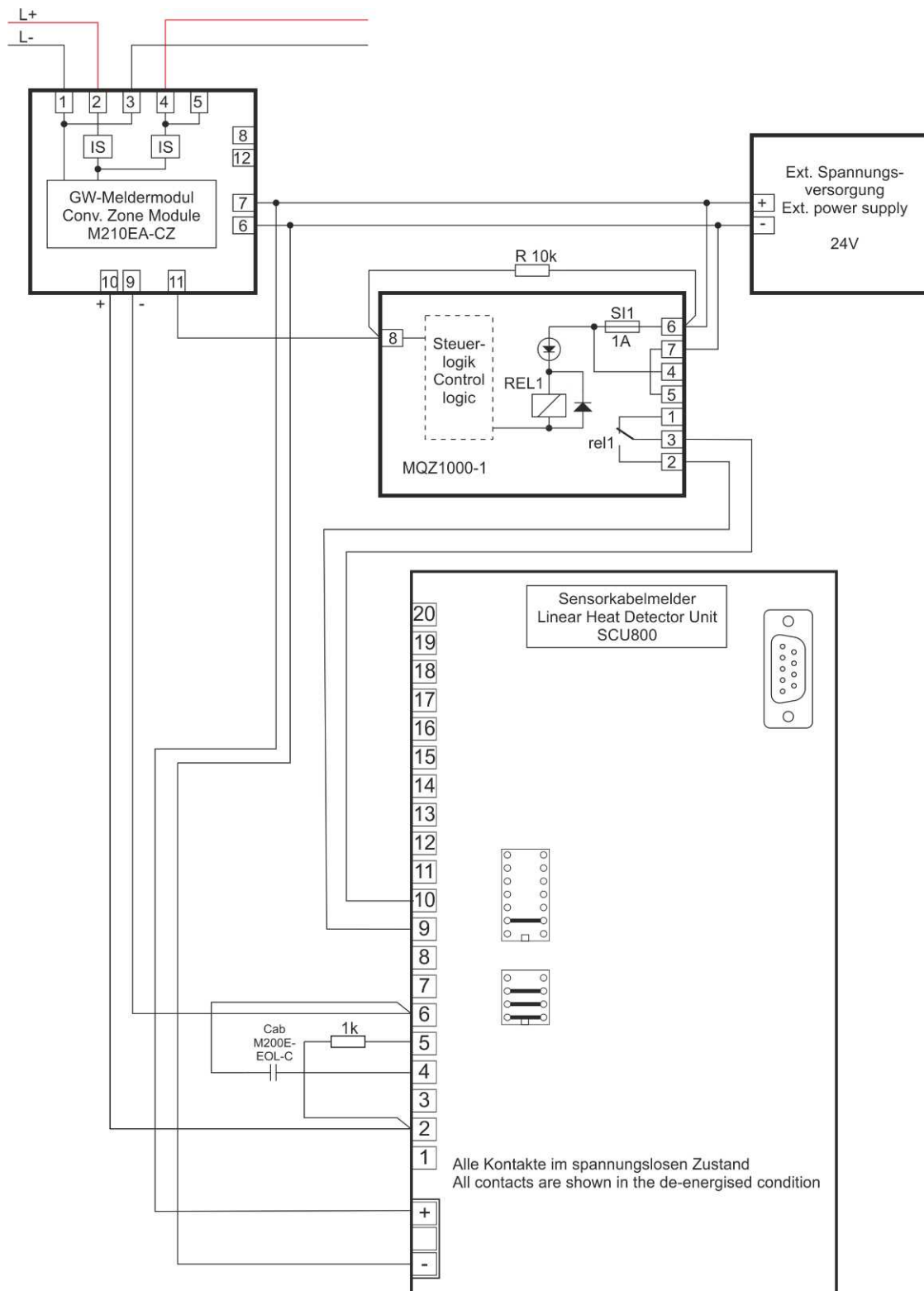


For the resetting of the SCU800, jumpers must be attached to the pin connector BR2. The product is delivered with jumpers attached between 2-3 and 4-5. The jumpers must be attached between the following pins: 1-2; 3-4; 5-6.



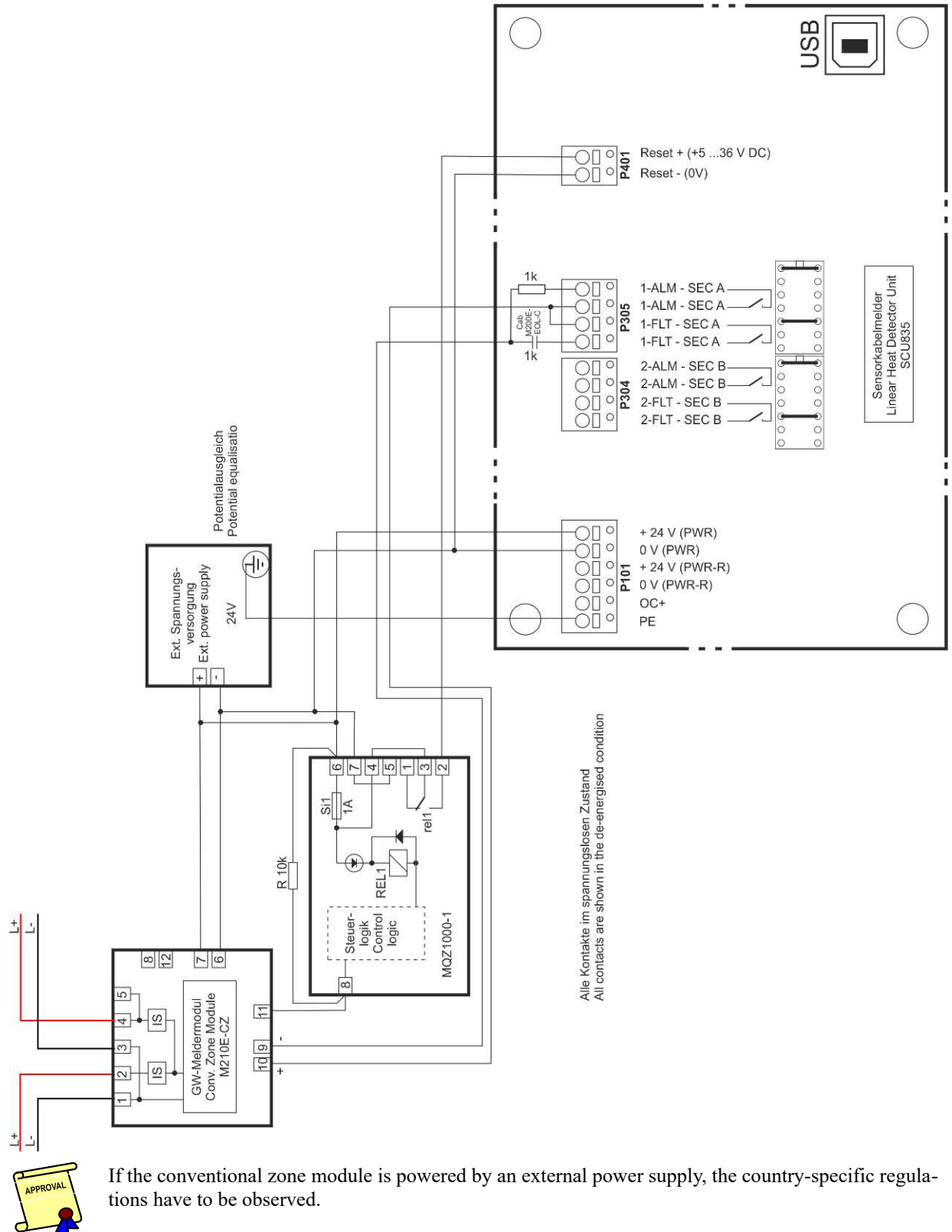
If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

3.11.35 Linear Heat Detector Unit SCU800 – M210EA-CZ

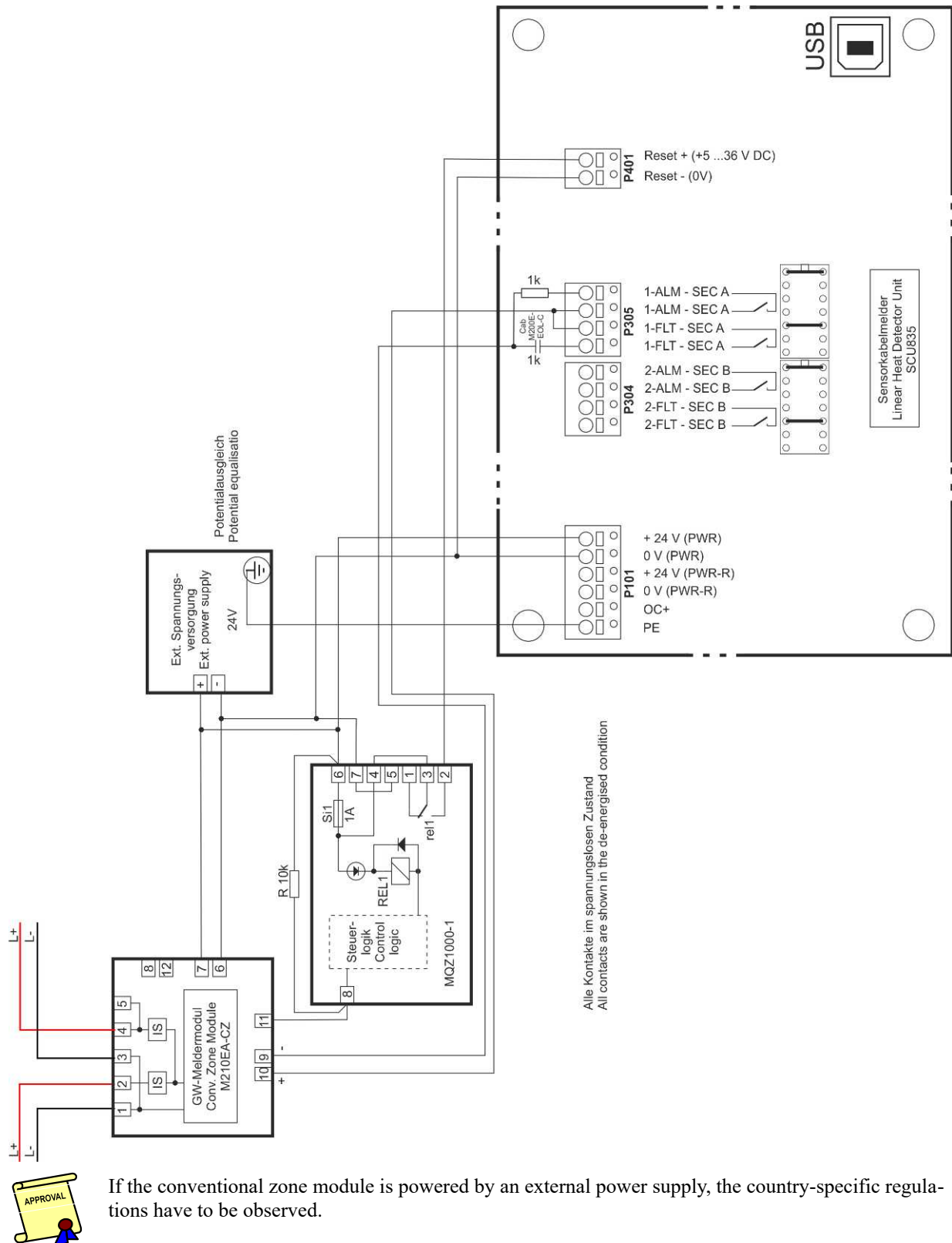


If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

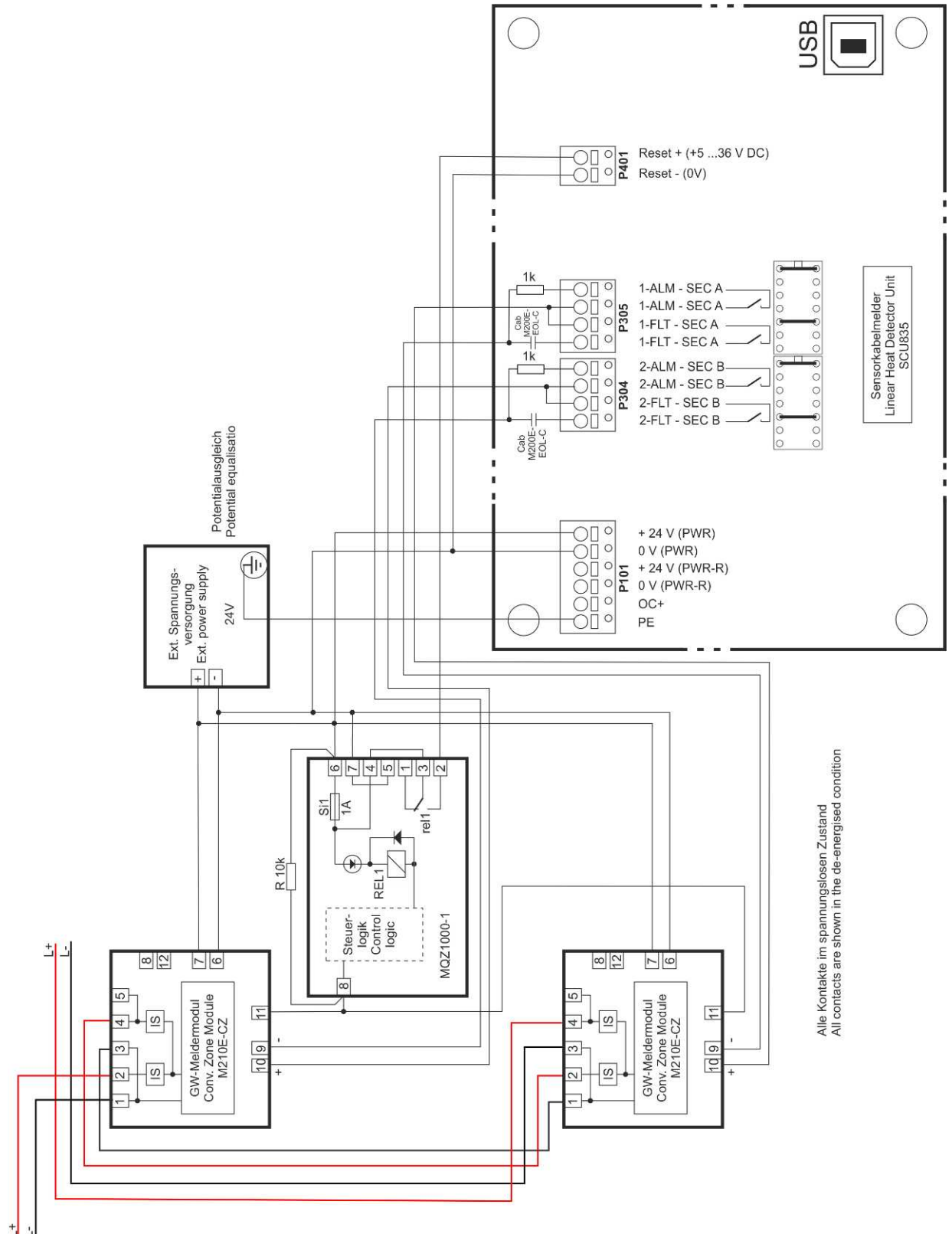
3.11.36 Linear Heat Detector Unit SCU835 – M210E-CZ



3.11.37 Linear Heat Detector Unit SCU835 – M210EA-CZ



3.11.38 Linear Heat Detector Unit SCU835 with two channels – M210E-CZ

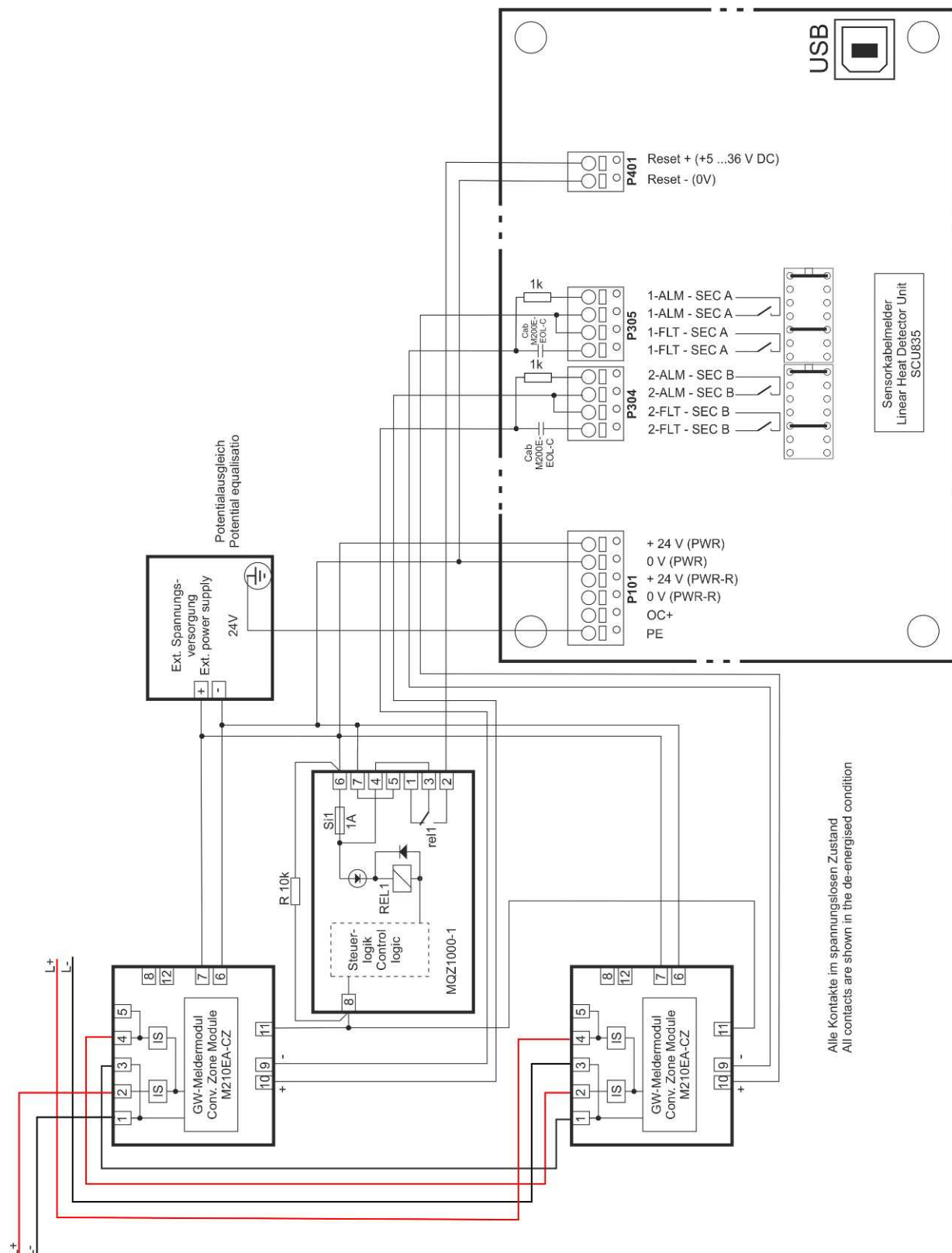


For the operation with the Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used, and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the detector will be deactivated if one of the two modules is disabled!



If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

3.11.39 Linear Heat Detector Unit SCU835 with two channels – M210EA-CZ

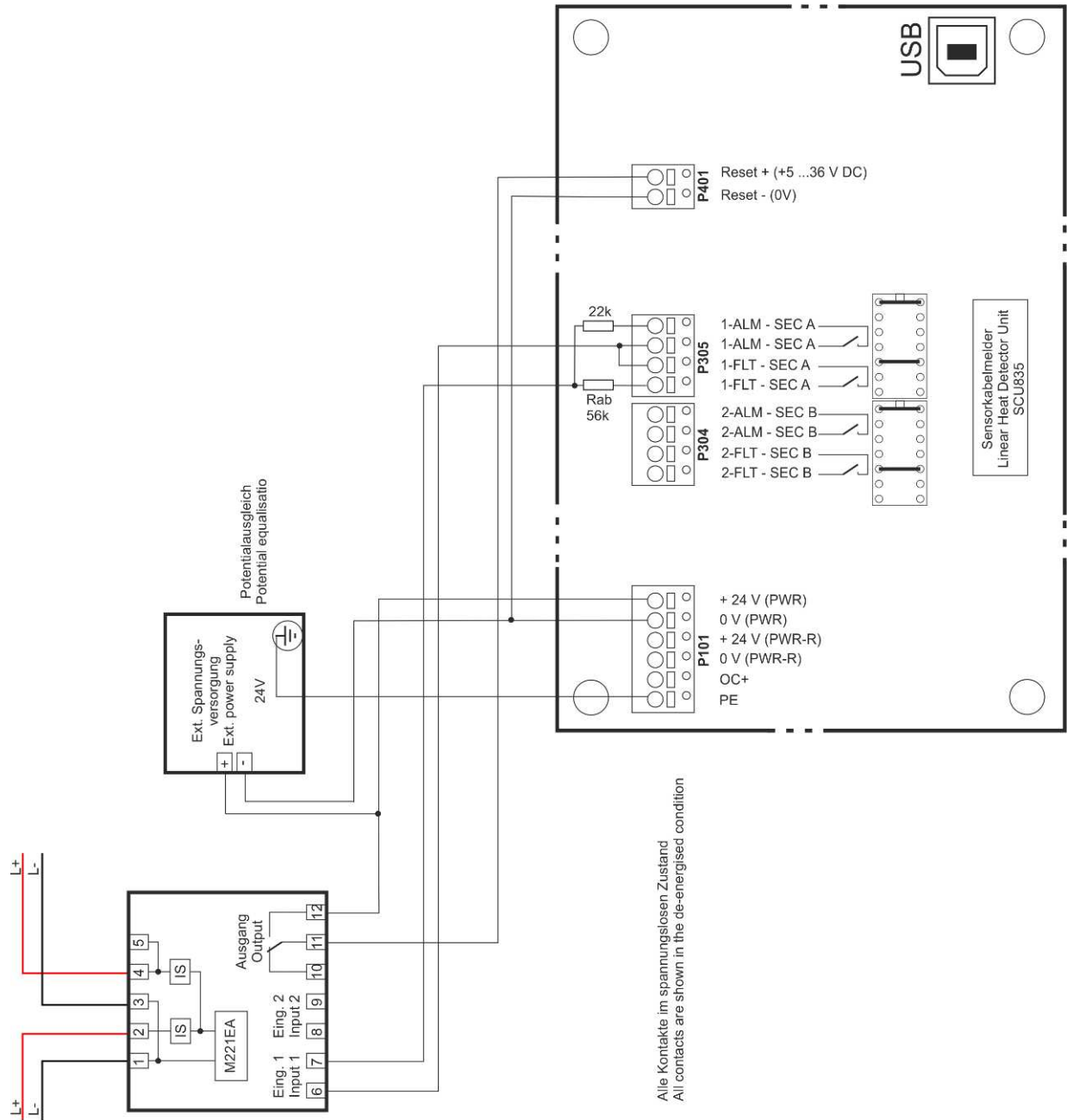


For the operation with the Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used, and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the detector will be deactivated if one of the two modules is disabled!



If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

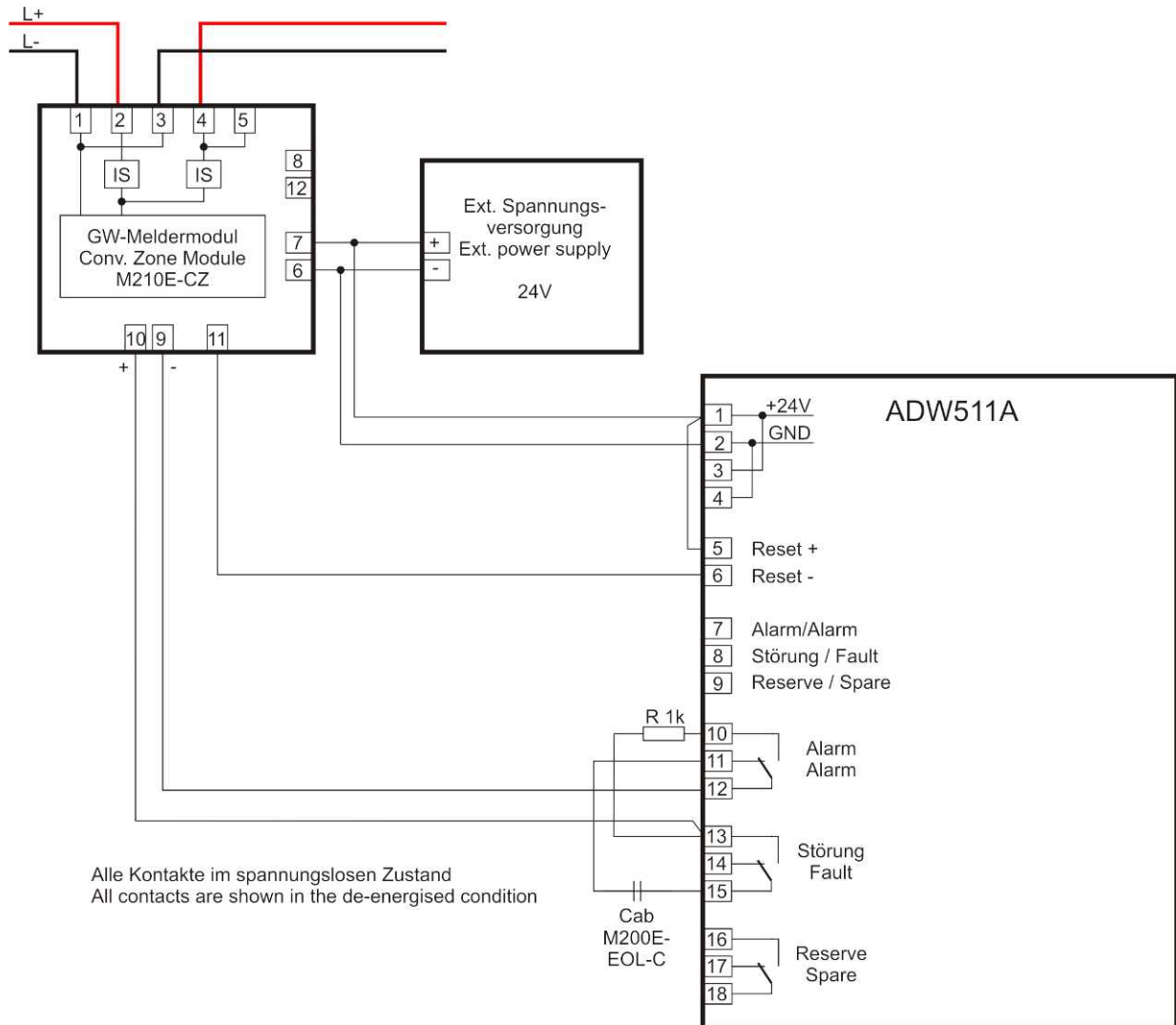
3.11.40 Linear Heat Detector Unit SCU835 – M221EA



If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

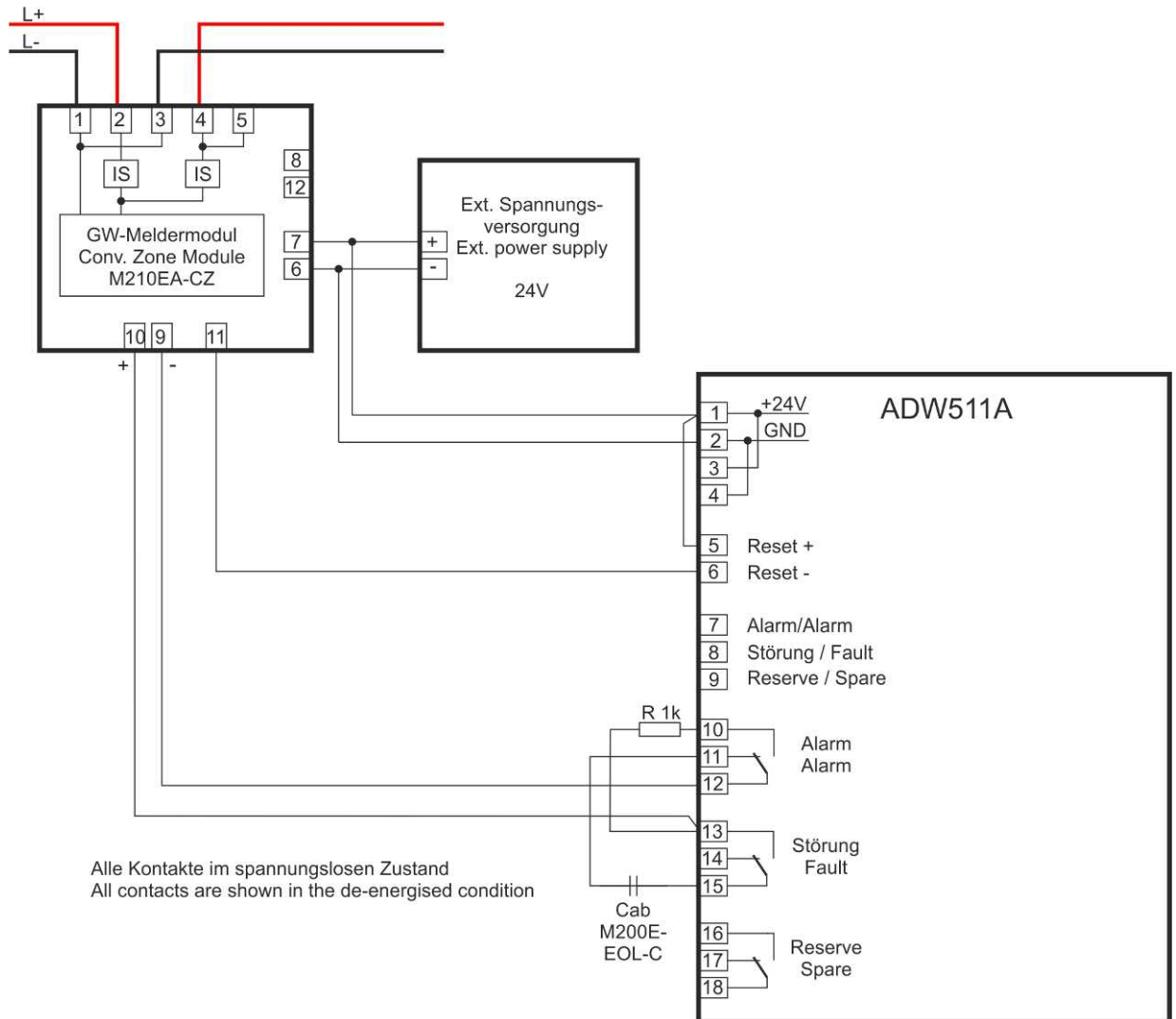
This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

3.11.41 Linear Heat Detector Unit ADW511A – M210E-CZ



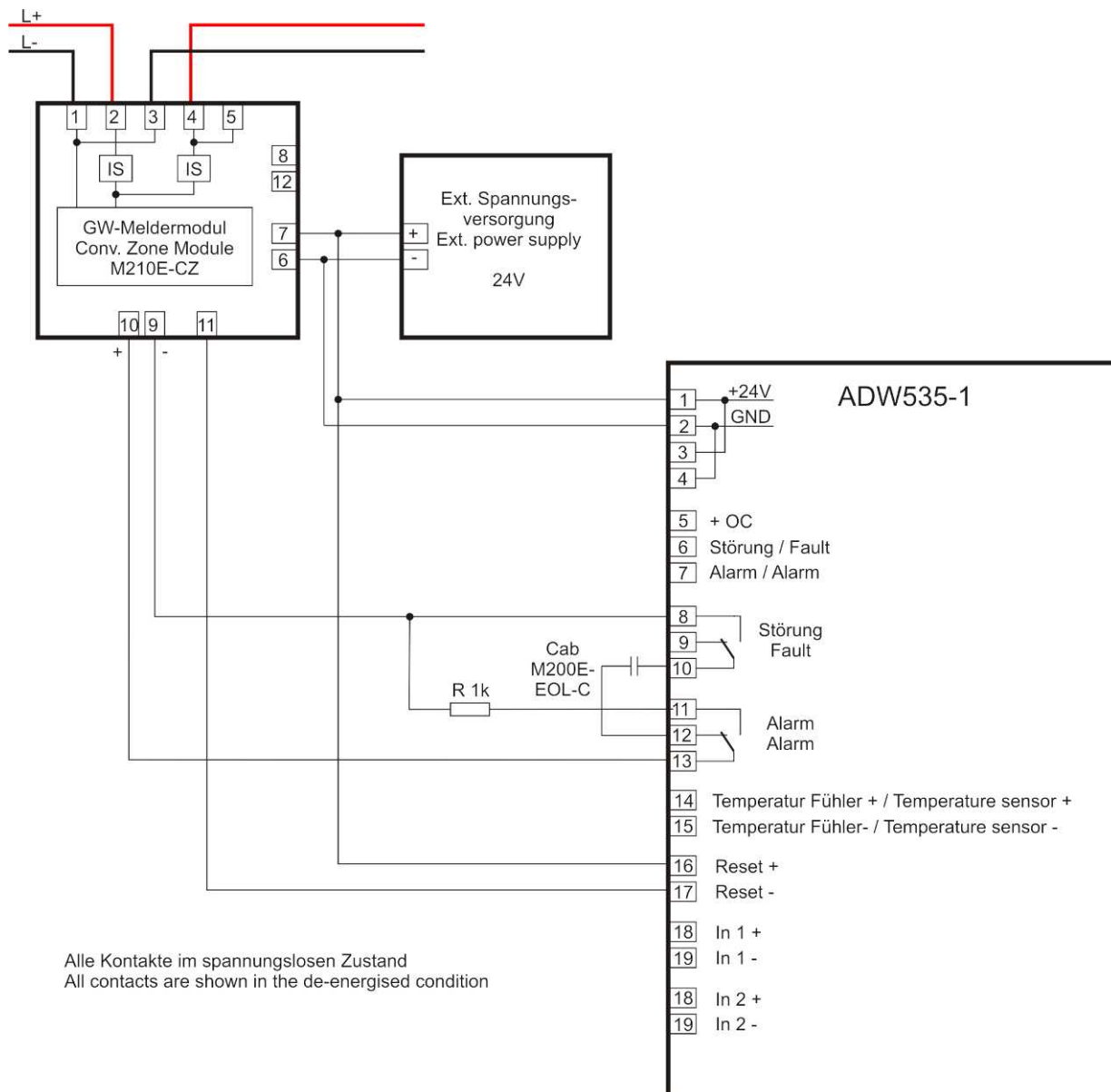
If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

3.11.42 Linear Heat Detector Unit ADW511A – M210EA-CZ



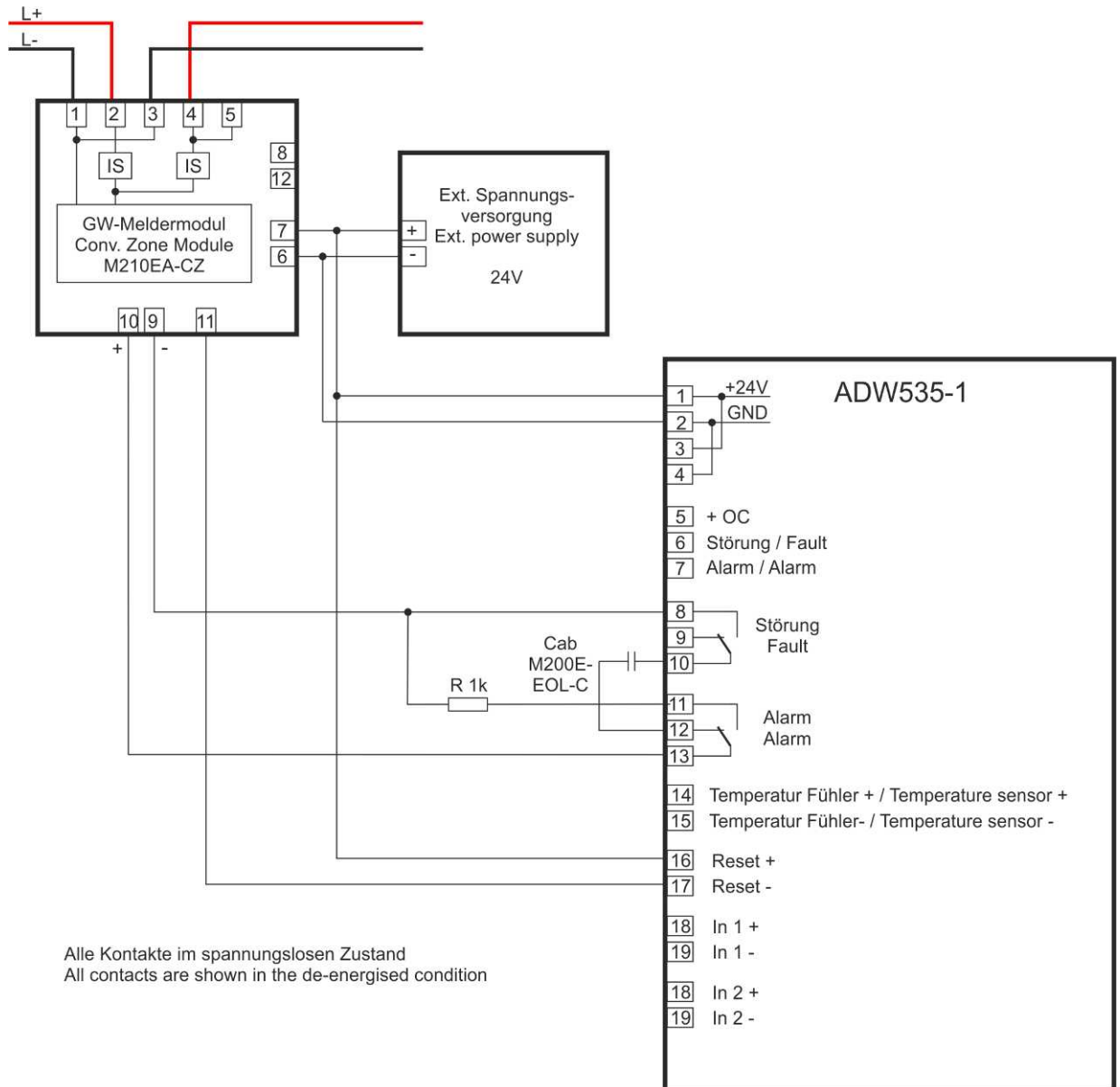
If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

3.11.43 Linear Heat Detector Unit ADW535 – M210E-CZ



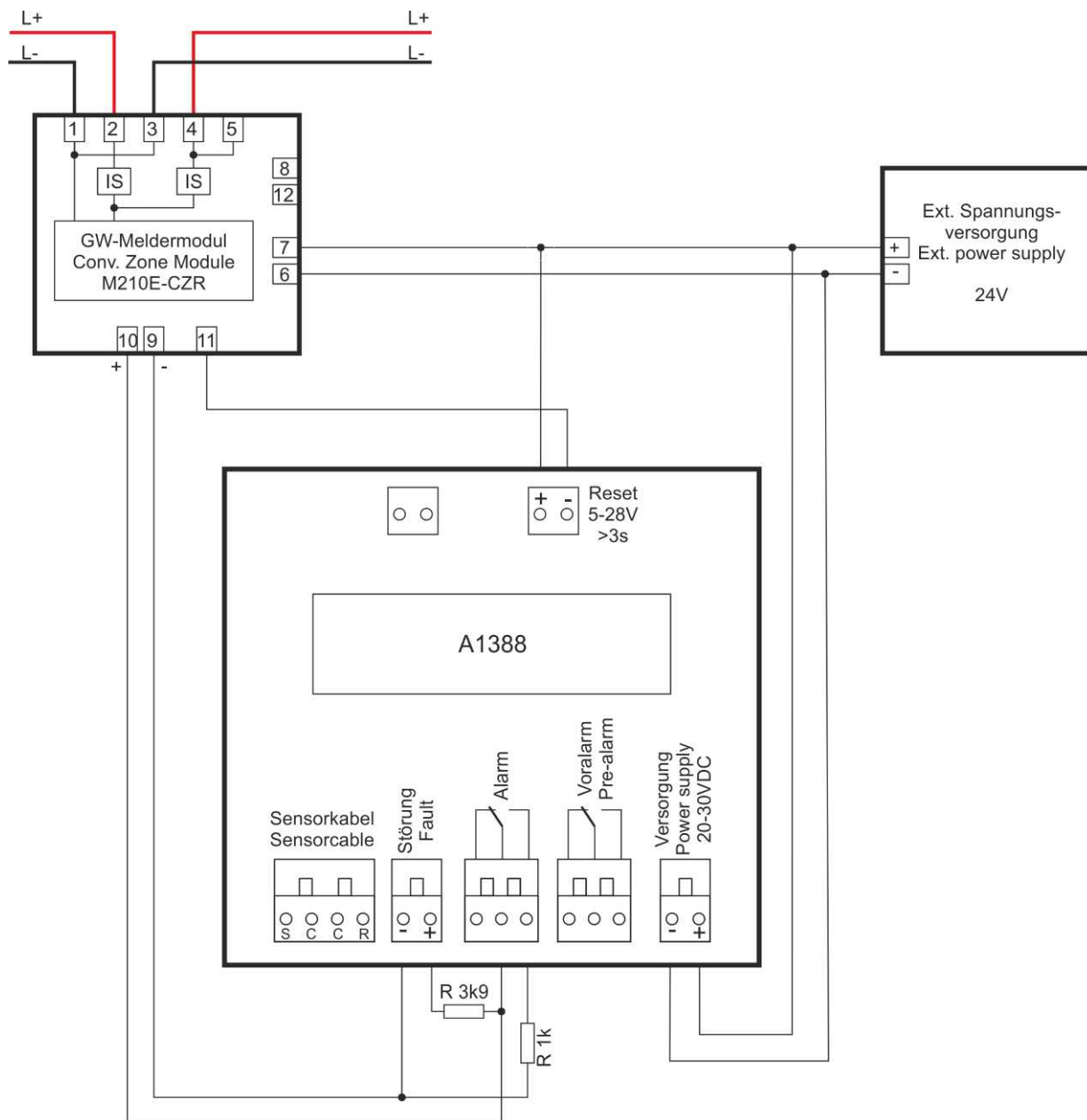
If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

3.11.44 Linear Heat Detector Unit ADW535 – M210EA-CZ



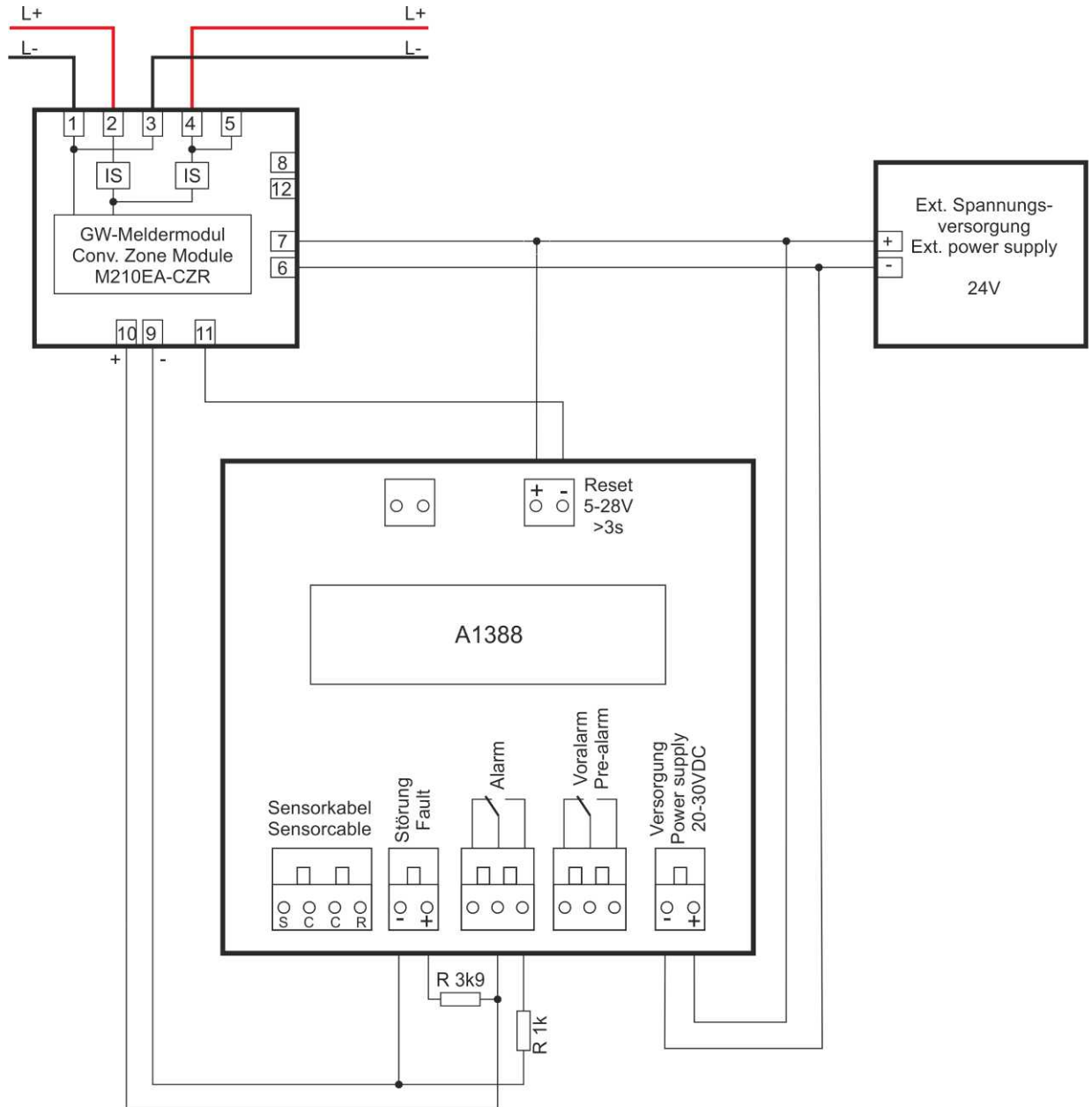
If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

3.11.45 Linear Heat Detector Unit A1388 – M210E-CZR



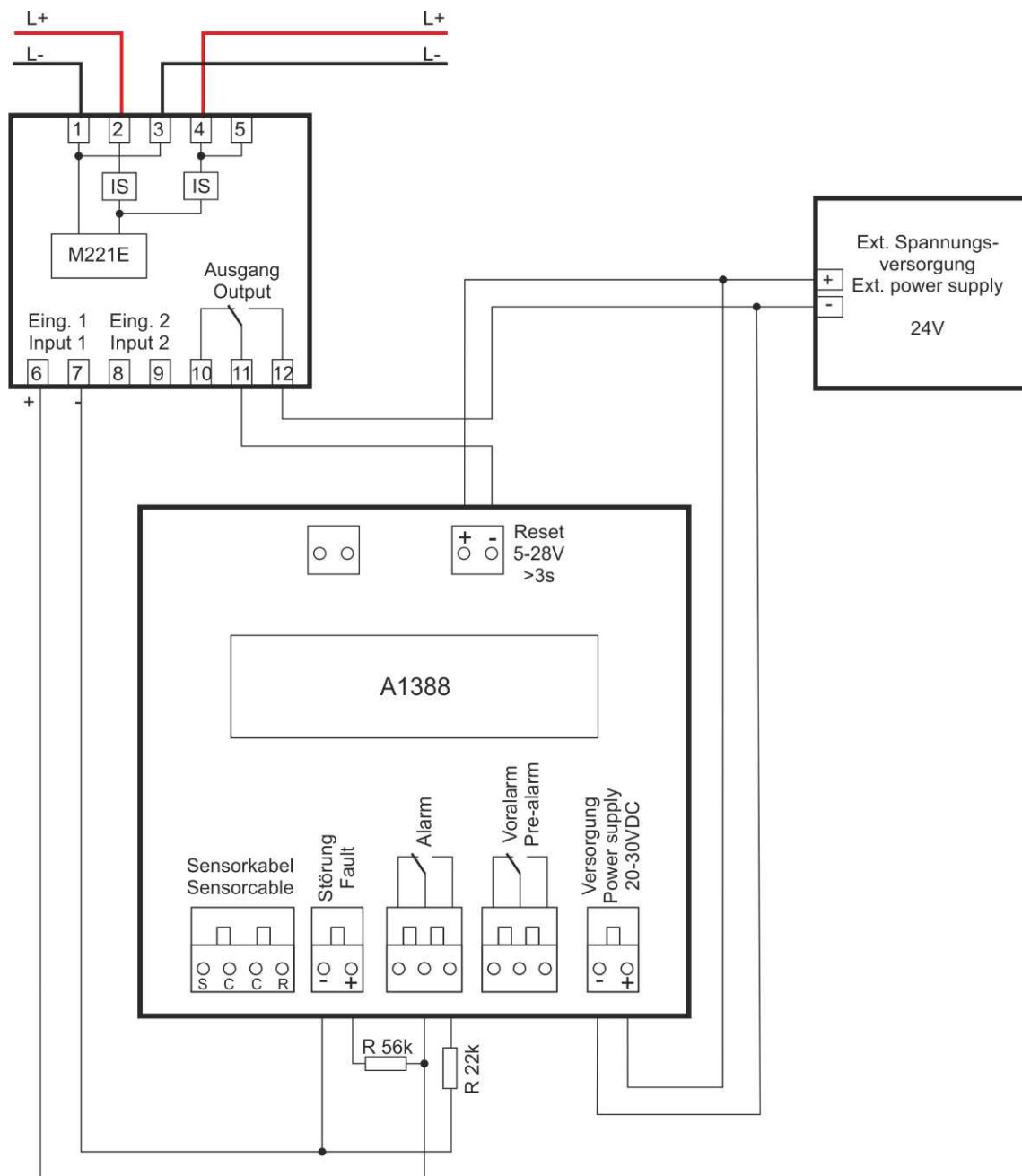
If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

3.11.46 Linear Heat Detector Unit A1388 – M210EA-CZR



If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

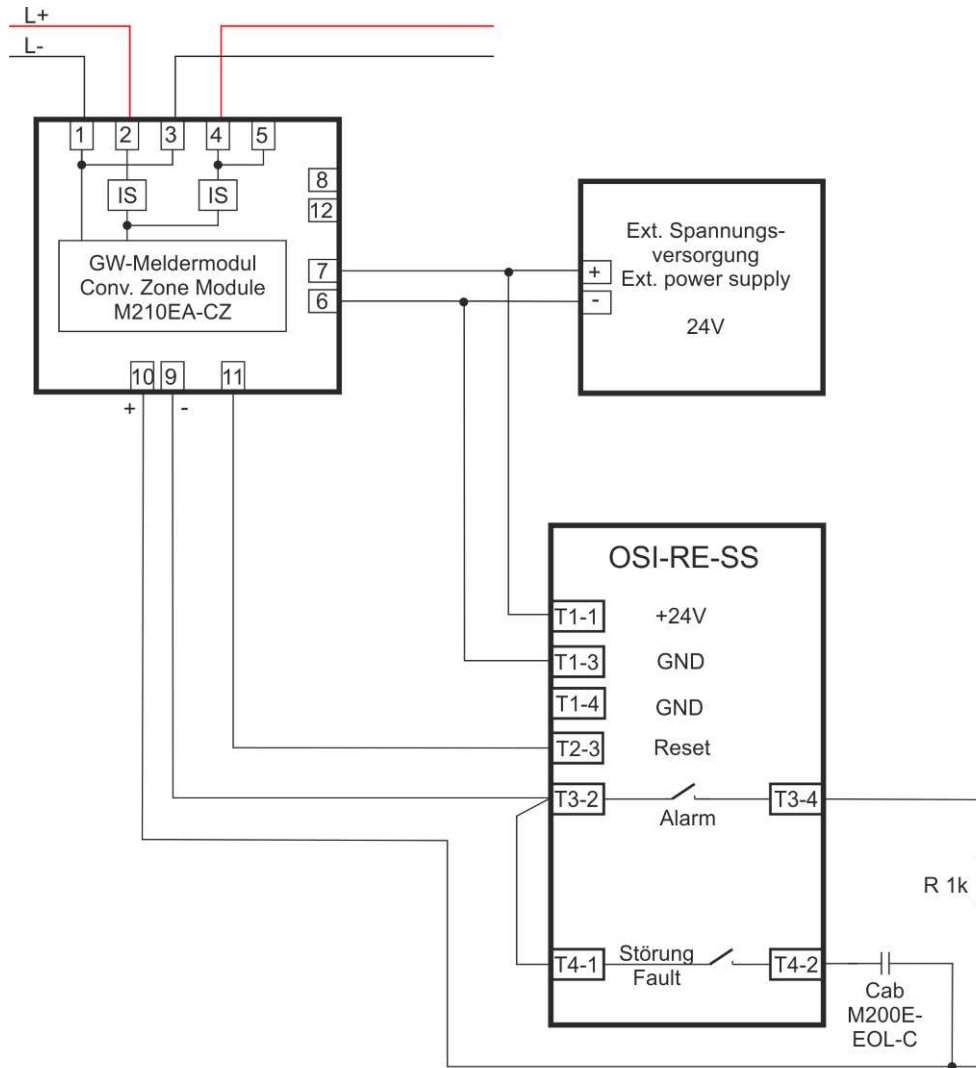
3.11.47 Linear Heat Detector Unit A1388 – M221E



If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

3.11.49 Beam Smoke Detector OSI-RE-SS – M210EA-CZ

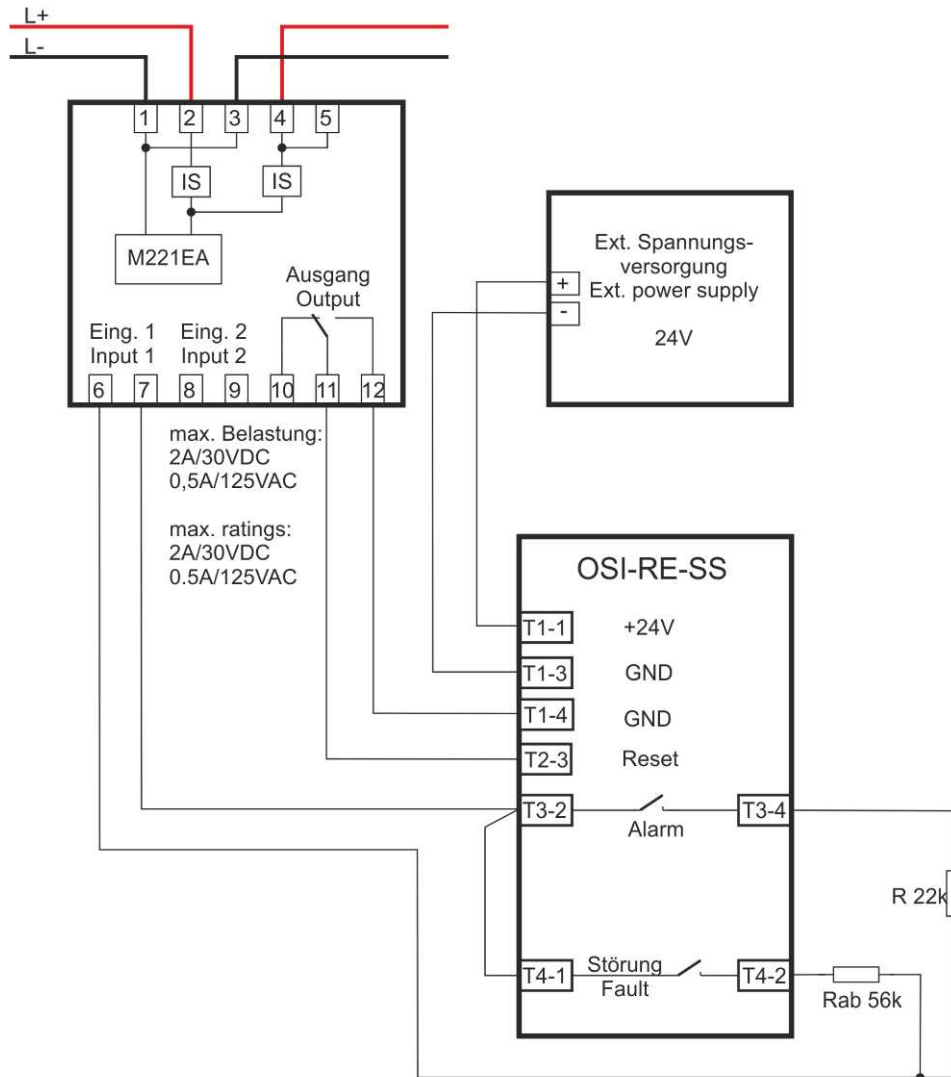


Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition



If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

3.11.50 Beam Smoke Detector OSI-RE-SS – M221EA

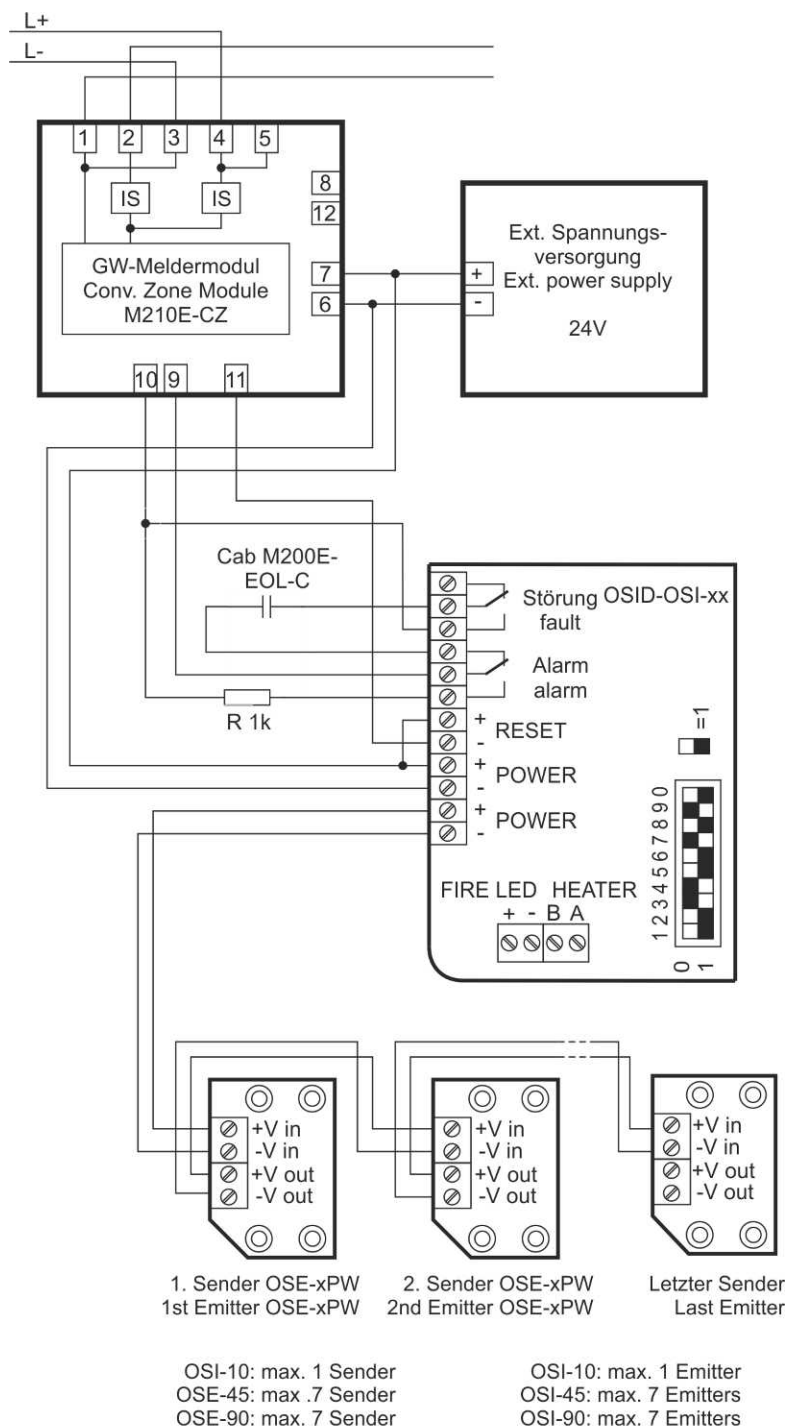


Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

For the output of the module, the signal type **Pulsed signal, retrigger func.** must be parameterised, and the output must be combined with the events **Control panel reset, Test alarm** and **Disablement zone/element** of the special detector. The pulse width must not be set to a value higher than 8 seconds. In the event of activation, the relay contact of the module will connect the reset input of the detector to the negative potential.

This option is not available on the BC216.

3.11.51 Beam Smoke Detector OSID – M210E-CZ

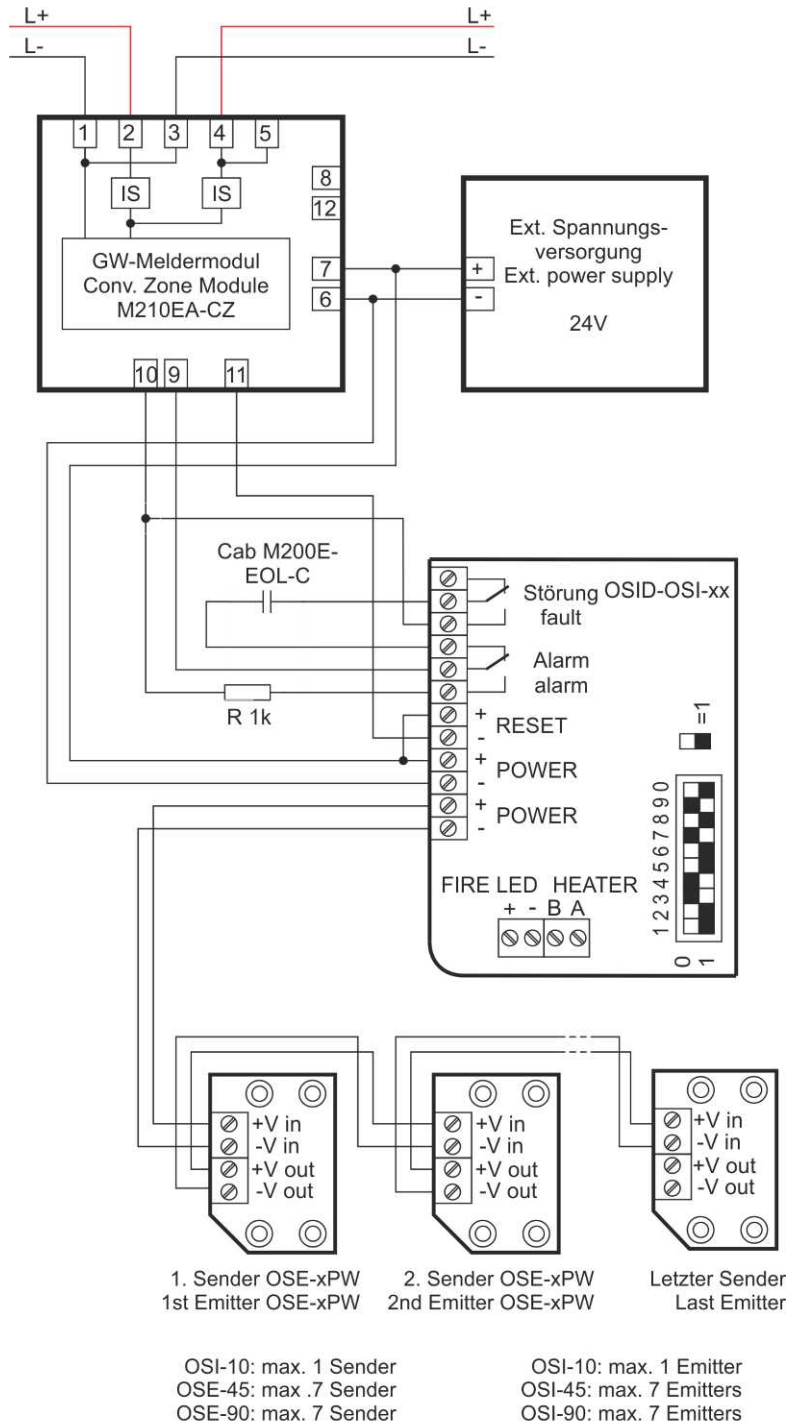


Alle Kontakte im spannungslosen Zustand.
All contacts are shown in the de-energised condition.



If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

3.11.52 Beam Smoke Detector OSID – M210EA-CZ

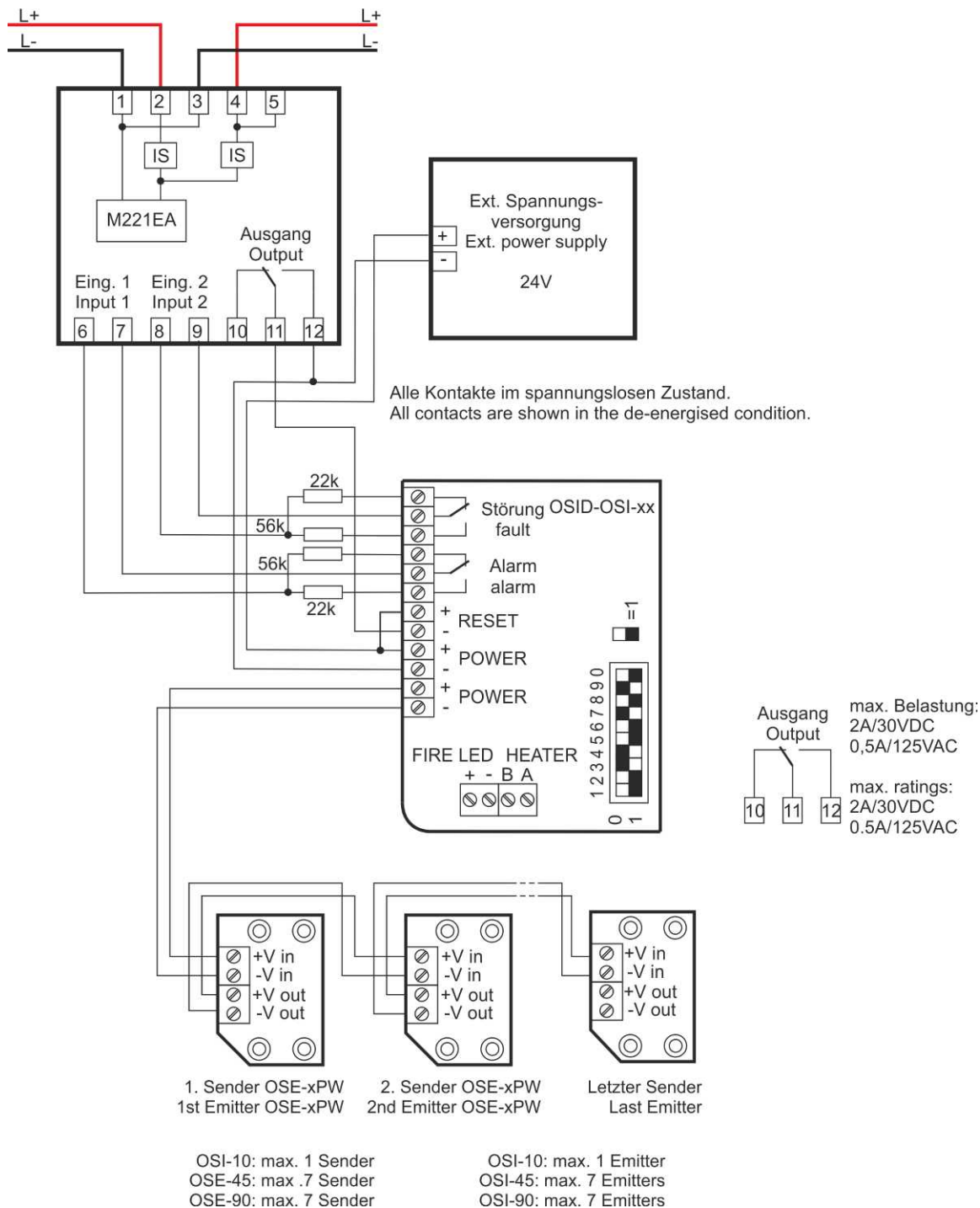


Alle Kontakte im spannungslosen Zustand.
All contacts are shown in the de-energised condition.



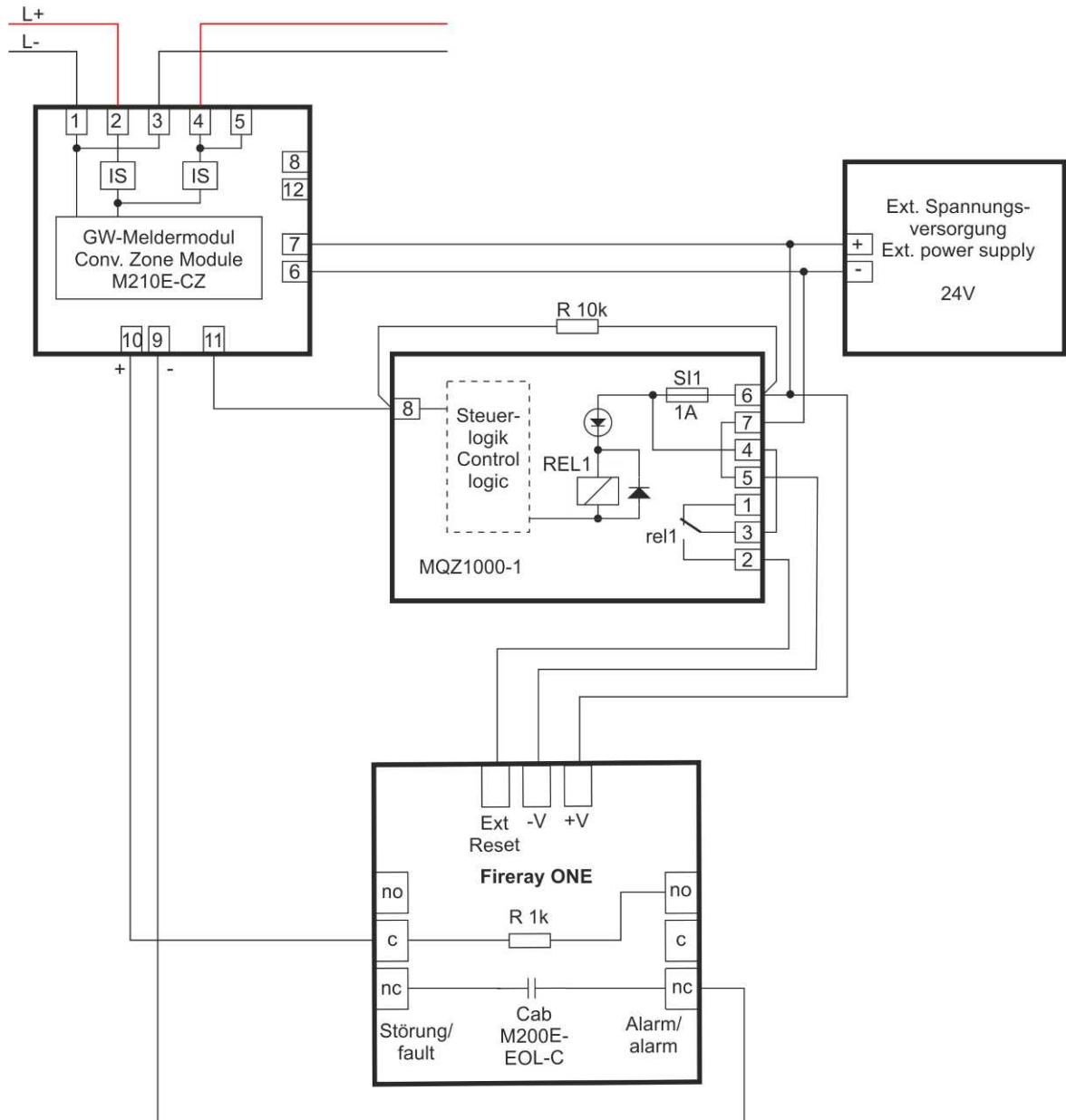
If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

3.11.53 Beam Smoke Detector OSID – M221EA



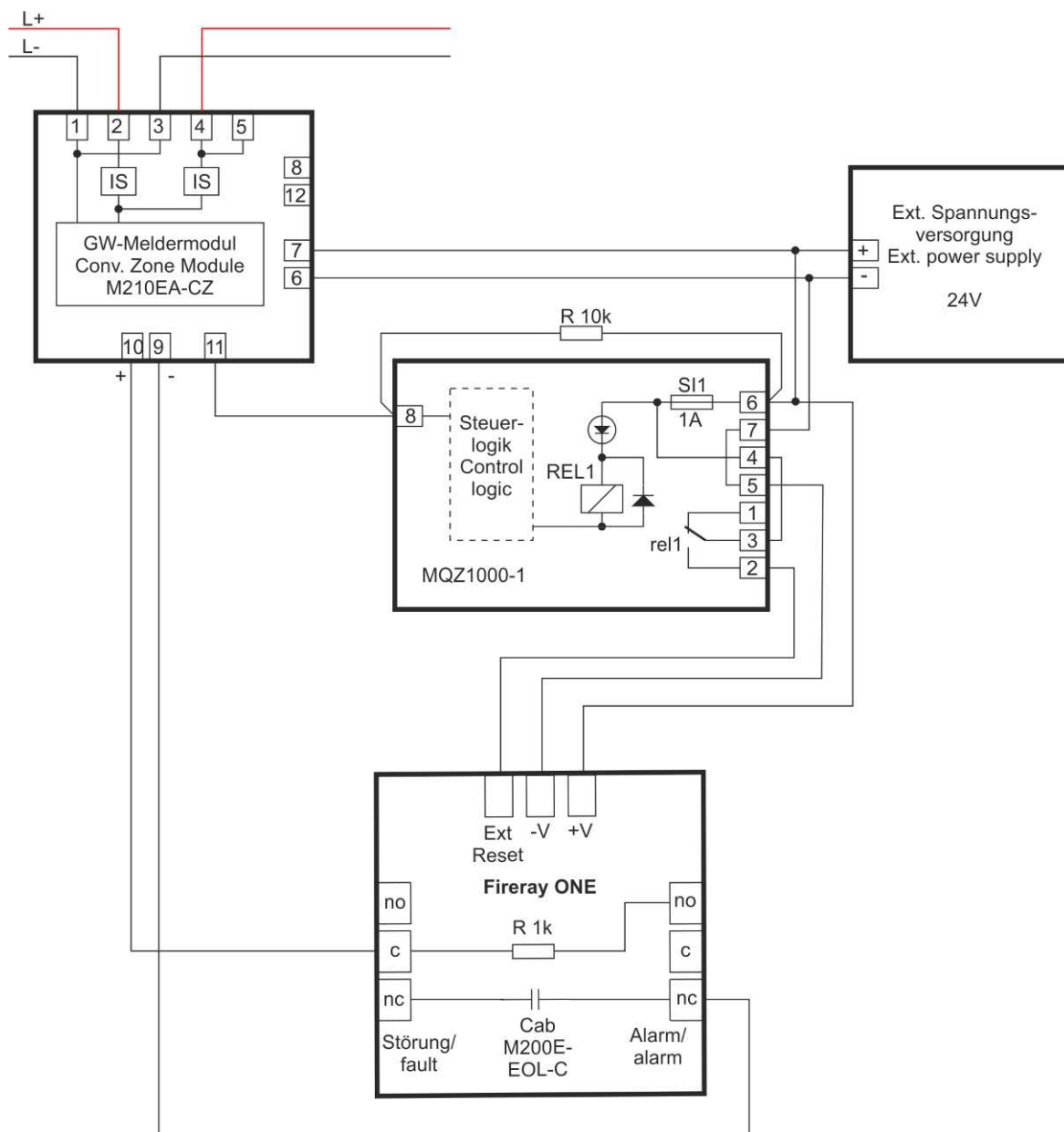
This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

3.11.54 Beam Smoke Detector Fireray ONE – M210E-CZ



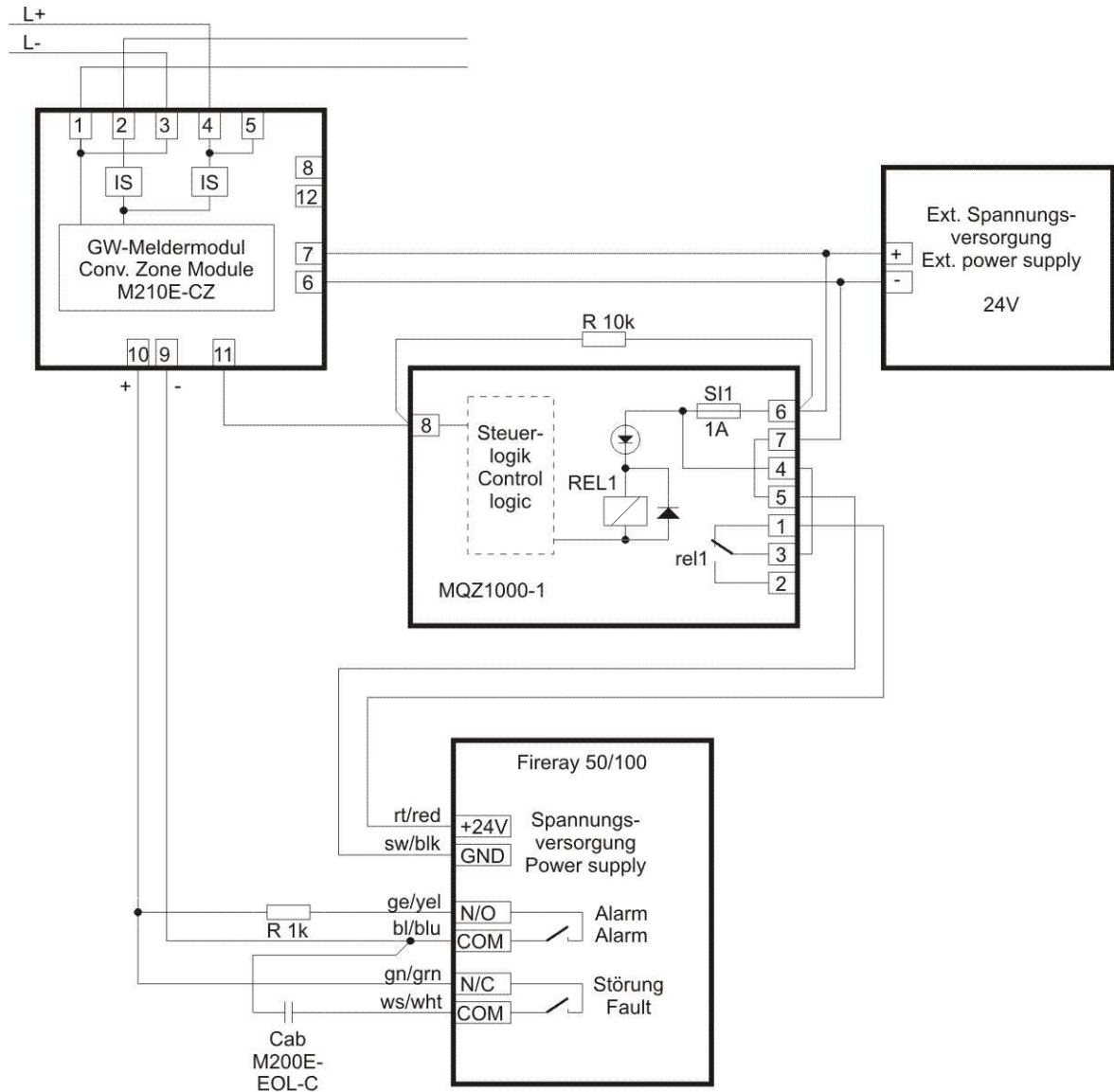
If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

3.11.55 Beam Smoke Detector Fireray ONE – M210EA-CZ



If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

3.11.56 Beam Smoke Detector FR50/100 – M210E-CZ

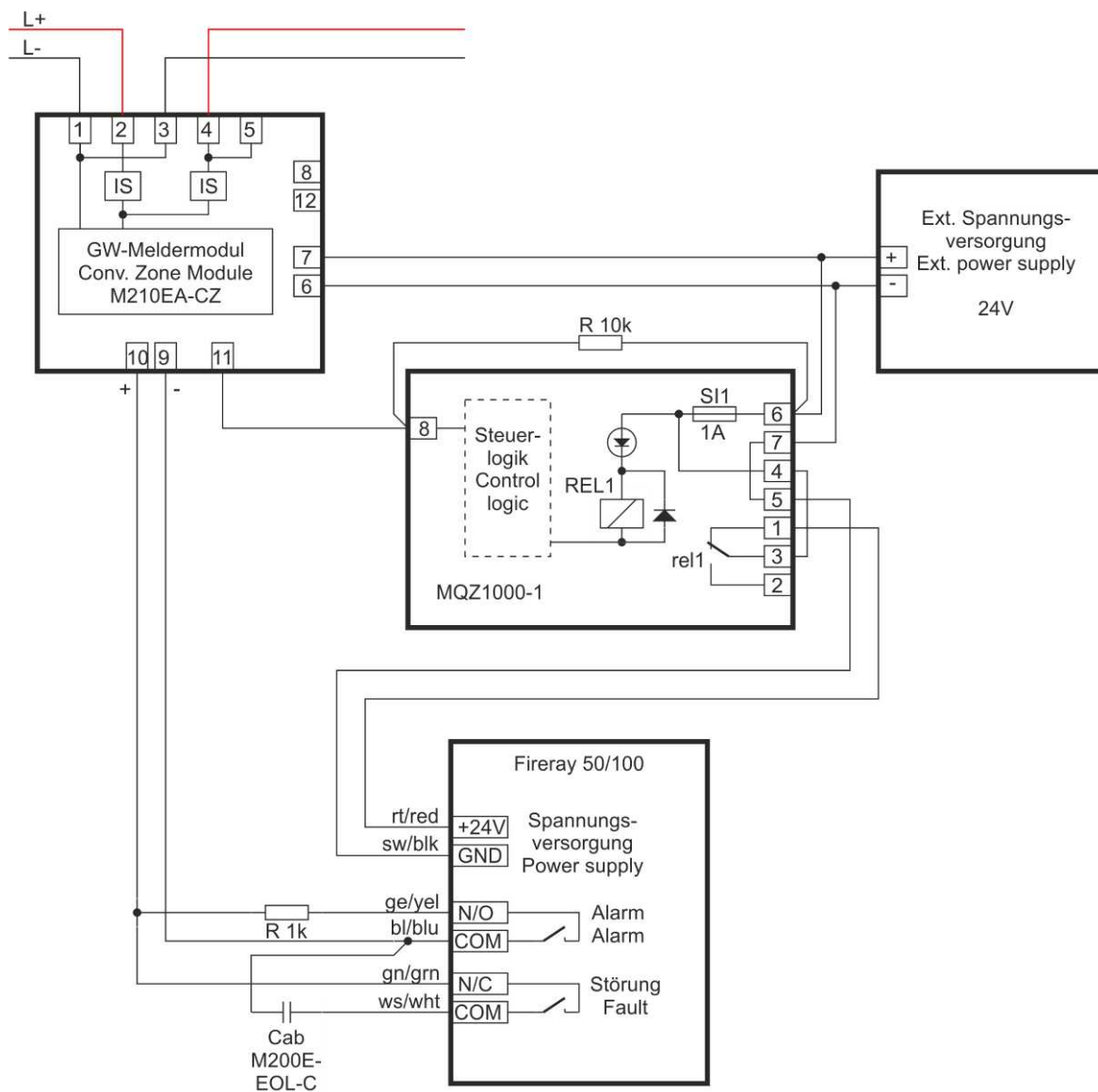


If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.



An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

3.11.57 Beam Smoke Detector FR50/100 – M210EA-CZ

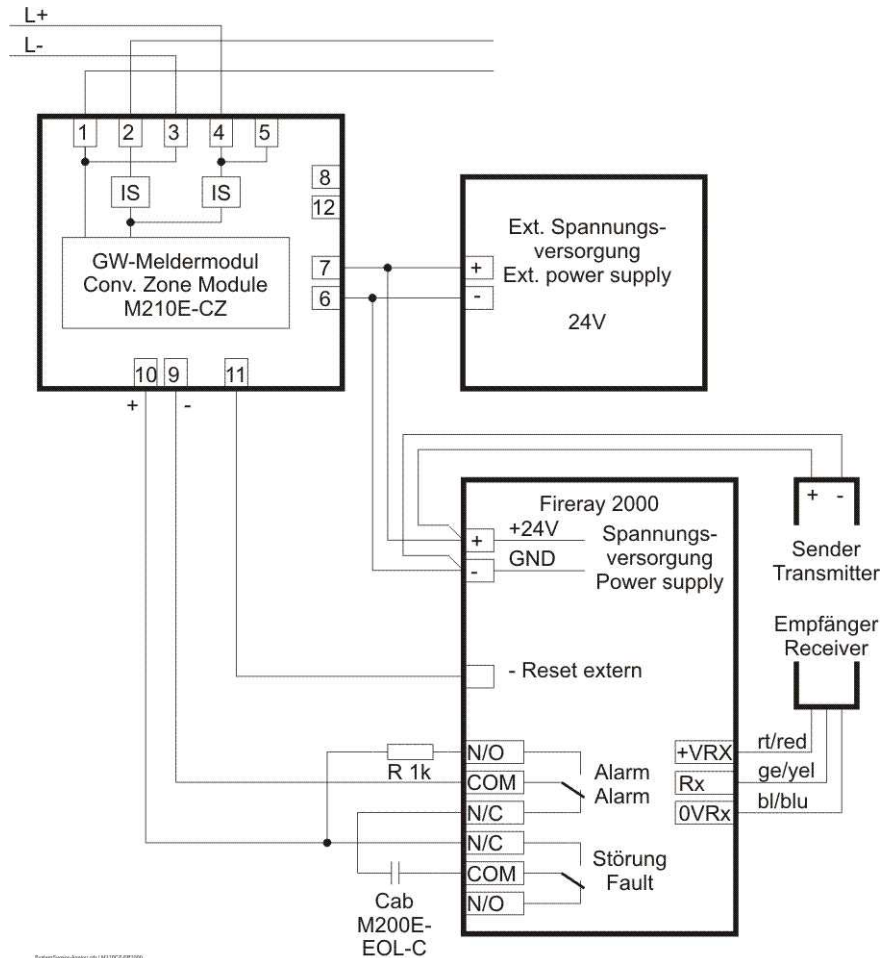


If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.



An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

3.11.58 Beam Smoke Detector FR2000 – M210E-CZ

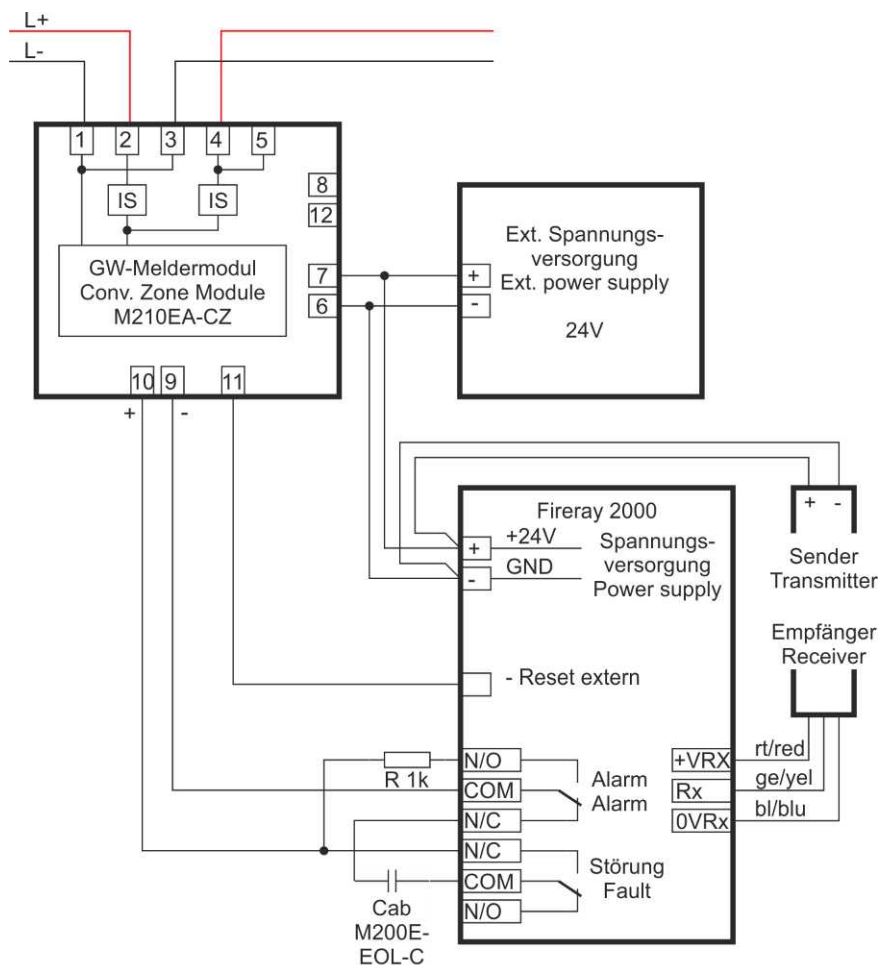


If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.



An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

3.11.59 Beam Smoke Detector FR2000 – M210EA-CZ

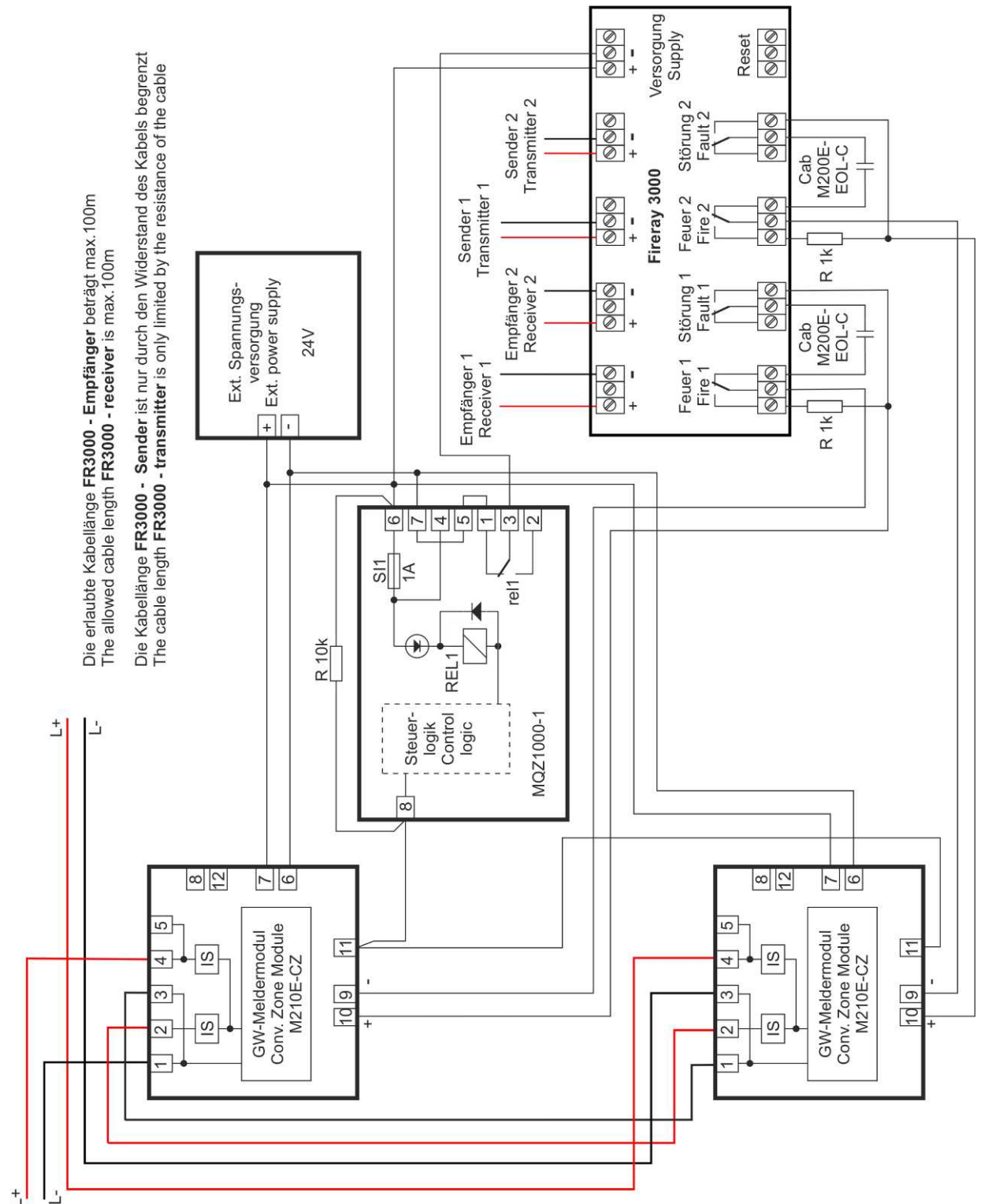


If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.



An alarm verification according to EN 54-2 Type A is not permissible (in the case of the BC600, the alarm verification is set through the properties of the zone, and in the case of the BC216 it is set through the type of zone).

3.11.60 Beam Smoke Detector FR3000 – M210E-CZ

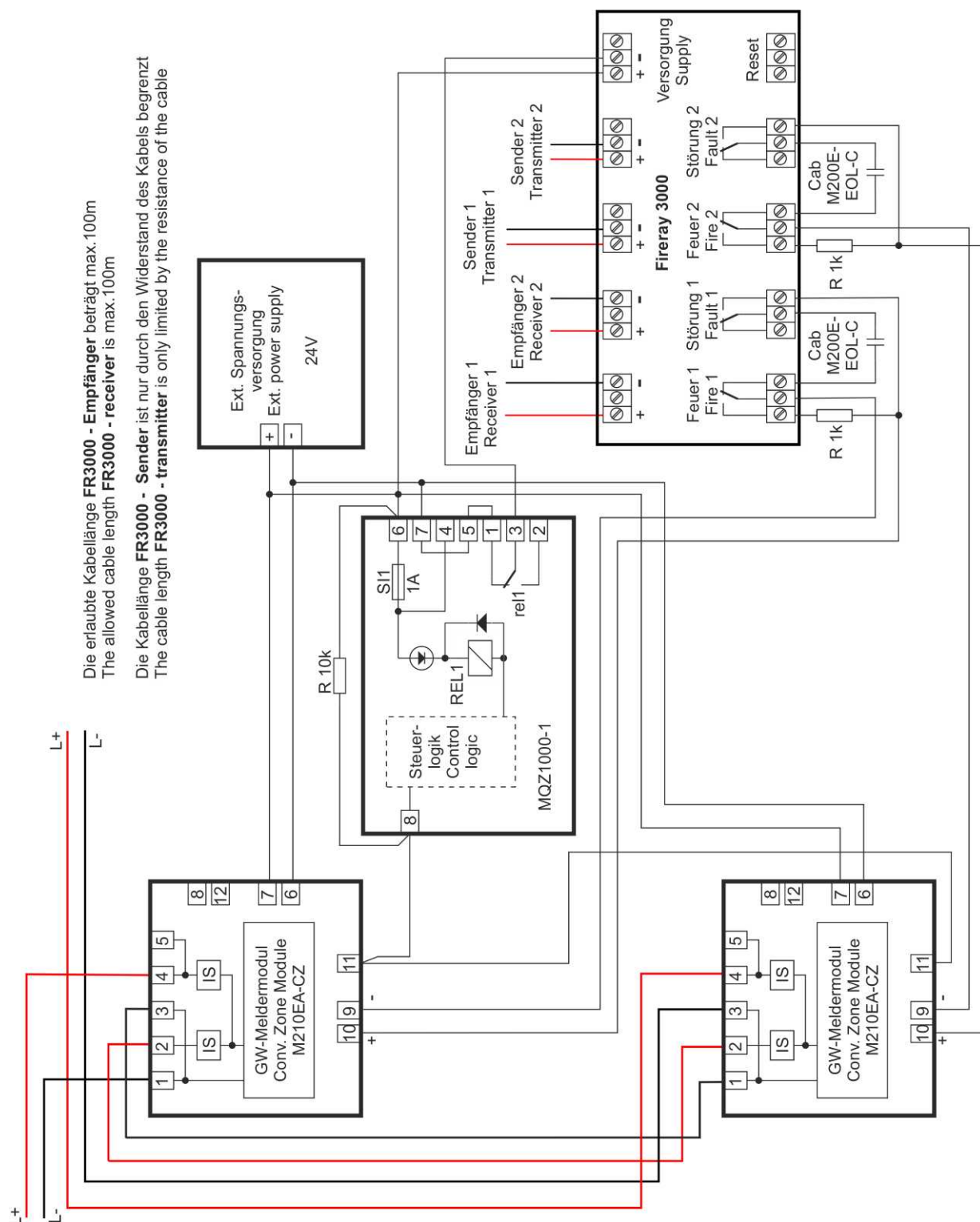


For the operation with the Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the FR3000 detector will be deactivated if one of the two modules is disabled!



If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

3.11.61 Beam Smoke Detector FR3000 – M210EA-CZ



For the operation with the Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used, and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the FR3000 detector will be deactivated if one of the two modules is disabled!



If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

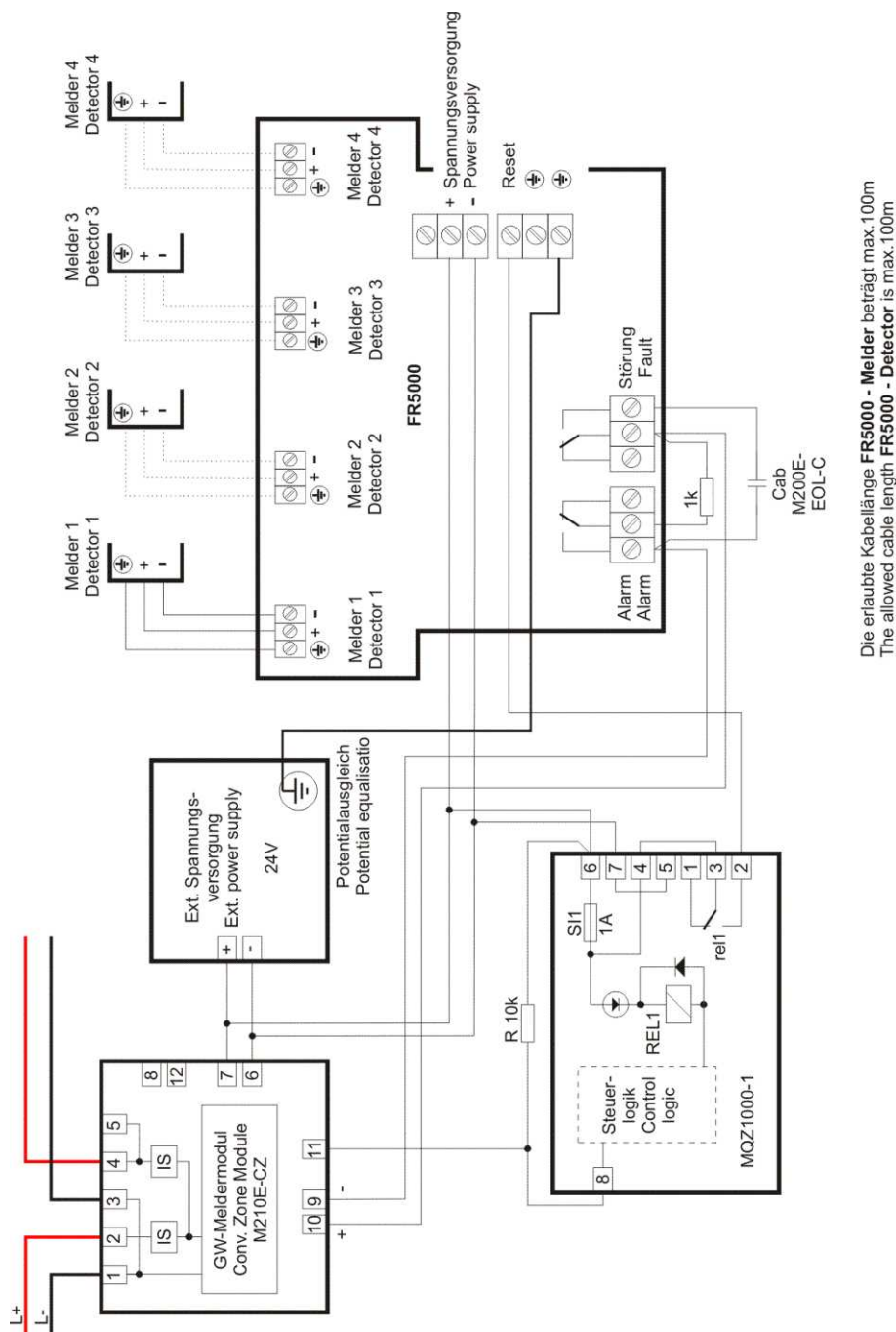
3.11.62 Beam Smoke Detector FR5000

There are two versions of the Beam Smoke Detector FR5000. The old version allows you to connect 4 detectors, and the new version has 2 detector lines with separate alarm relays.

Distinguishing features

- ◆ Packaging: on the packaging of the new version of the FR5000 there is the note "Issue-11".
- ◆ Number of LEDs: the new version has 3 LEDs, the old version has 5 LEDs.

3.11.62.1 Old version – with M210E-CZ

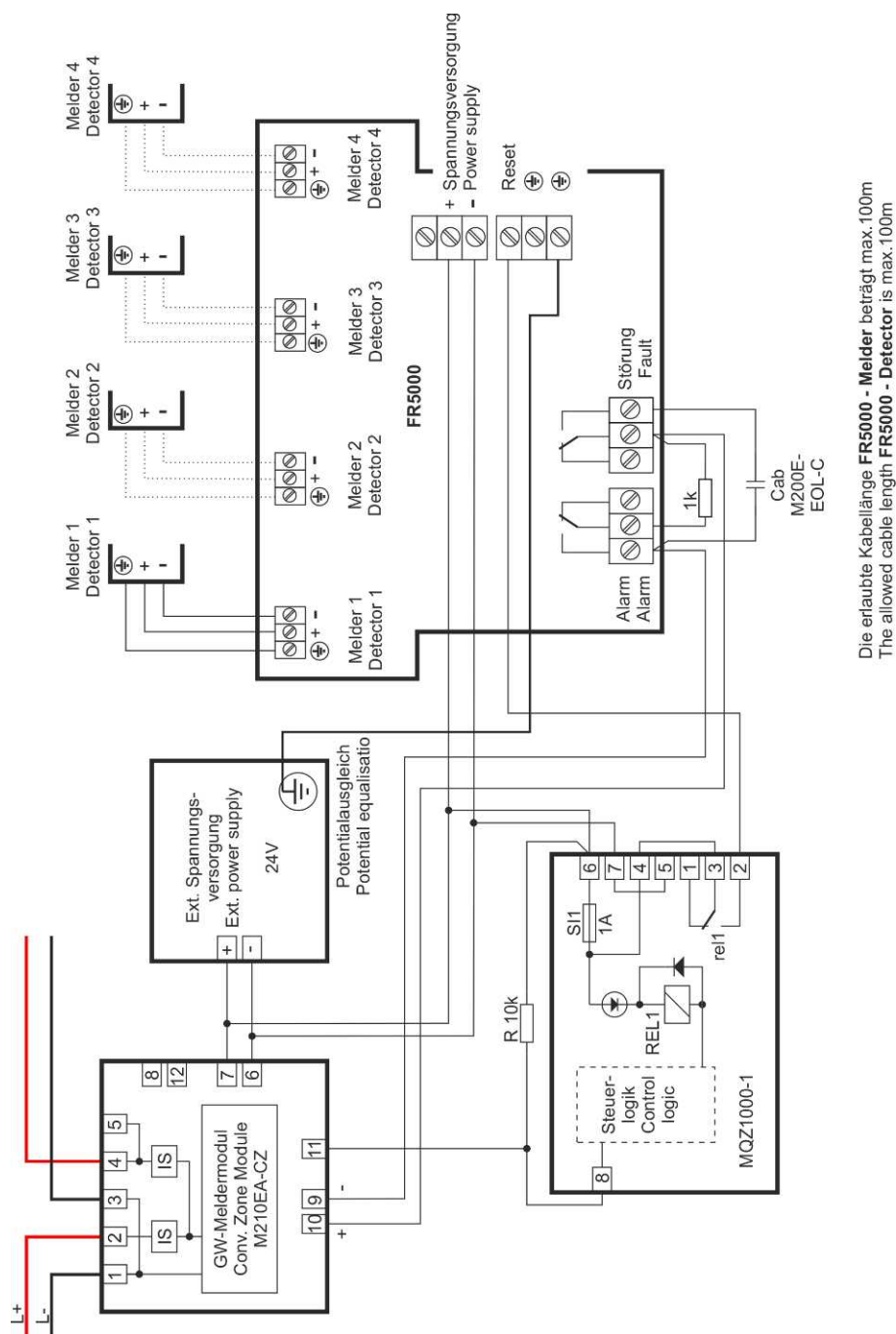


After the supply voltage is applied to the detector, the fault relay will still be de-energised for 8s. Therefore, the fire detection control panel may show a temporary fault message after enabling the conventional zone module, after panel reset or after a power-on. Please note that the detectors 1 through 4 are evaluated via one zone.



If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

3.11.62.2 Old version – with M210EA-CZ

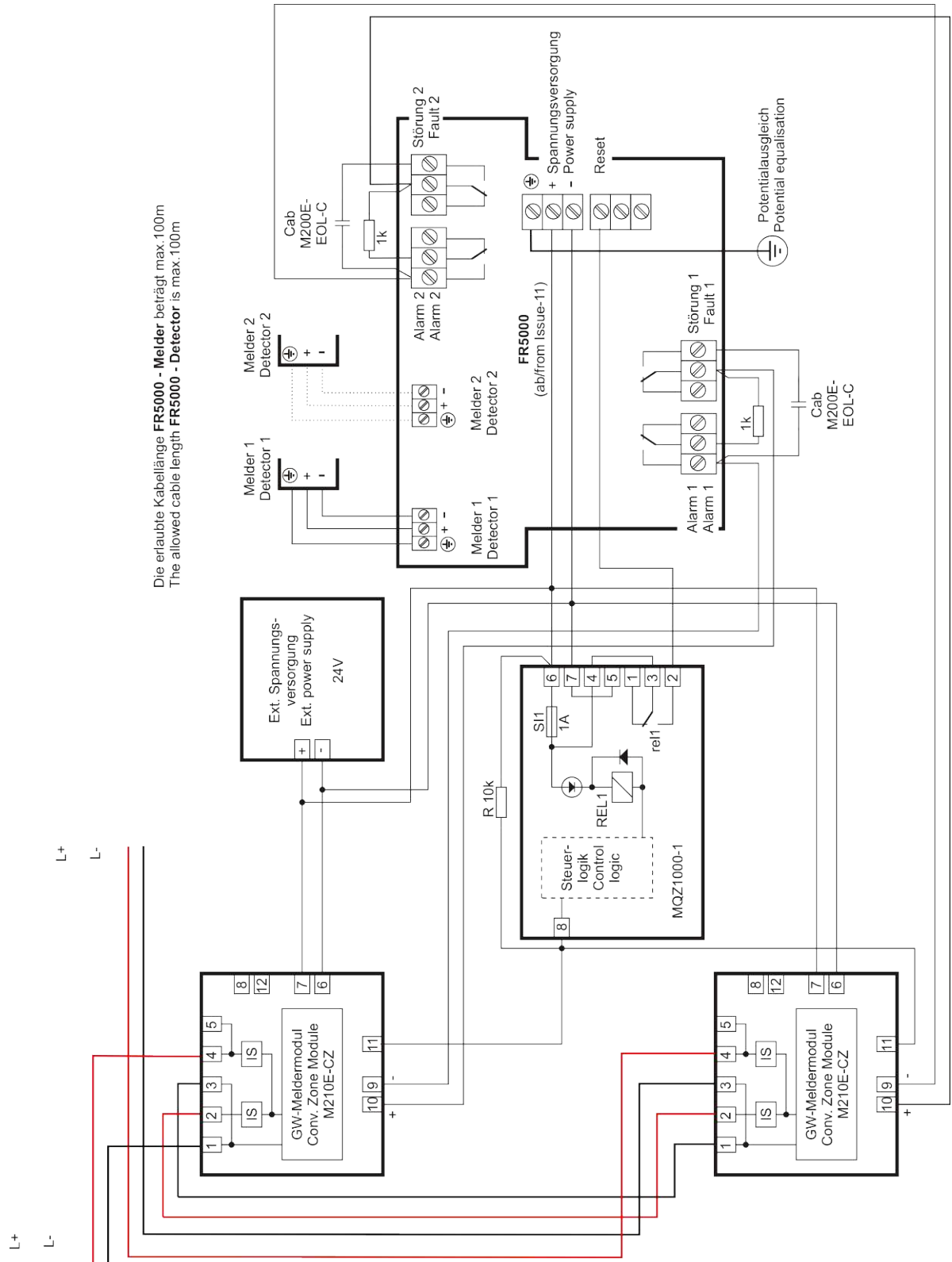


After applying the supply voltage to the detector, the fault relay will remain released for 8 seconds. Therefore, a brief fault can occur on the fire detection control panel after the enablement of the conventional zone module, after a control panel reset and after power ON. Please note that the detectors 1 through 4 are evaluated via one zone.



If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

3.11.62.3 New version – with M210E-CZ

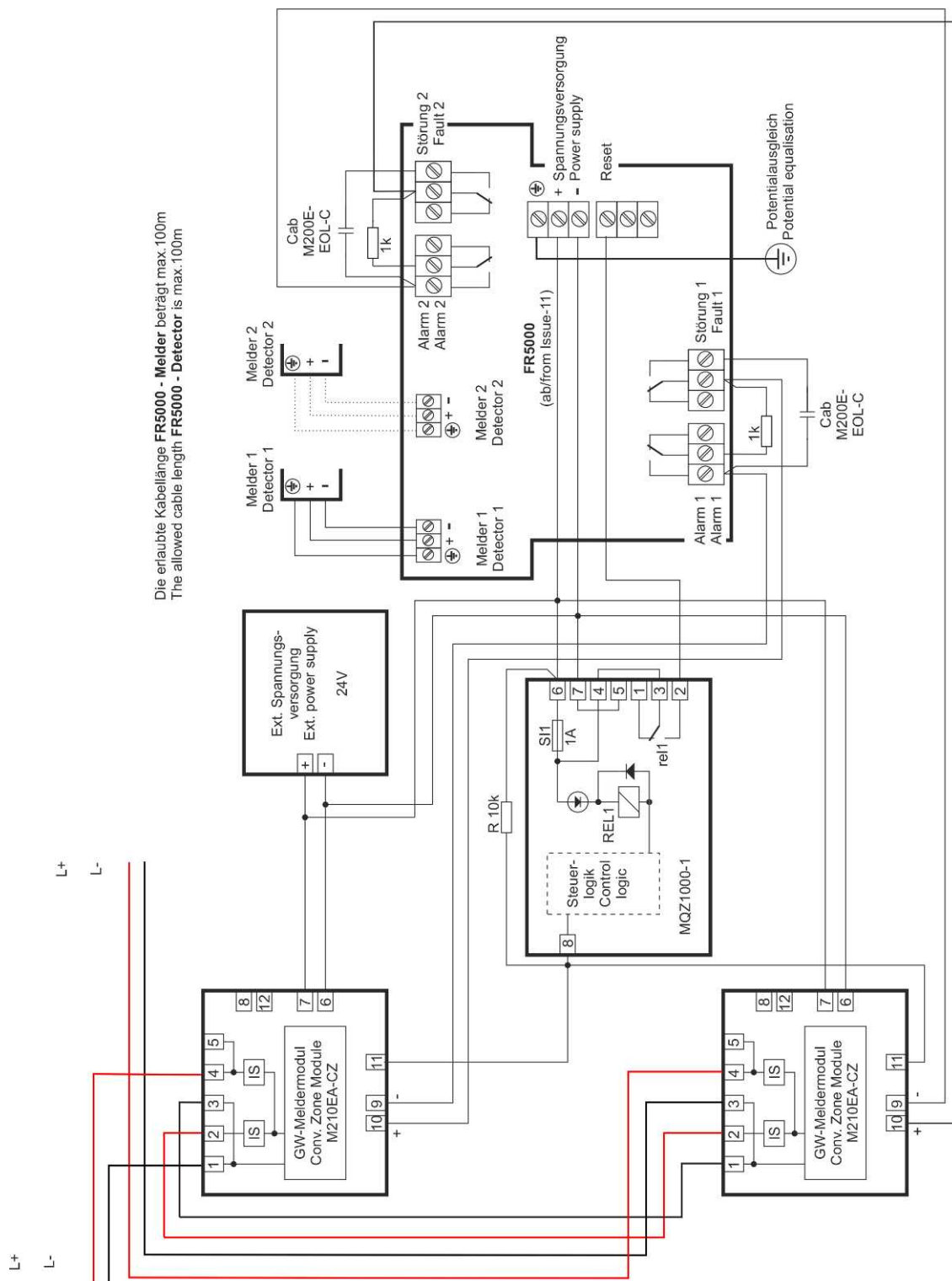


For the operation of the detector on Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the complete detector will be deactivated if one of the two modules is disabled!



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.11.62.4 New version – with M210EA-CZ

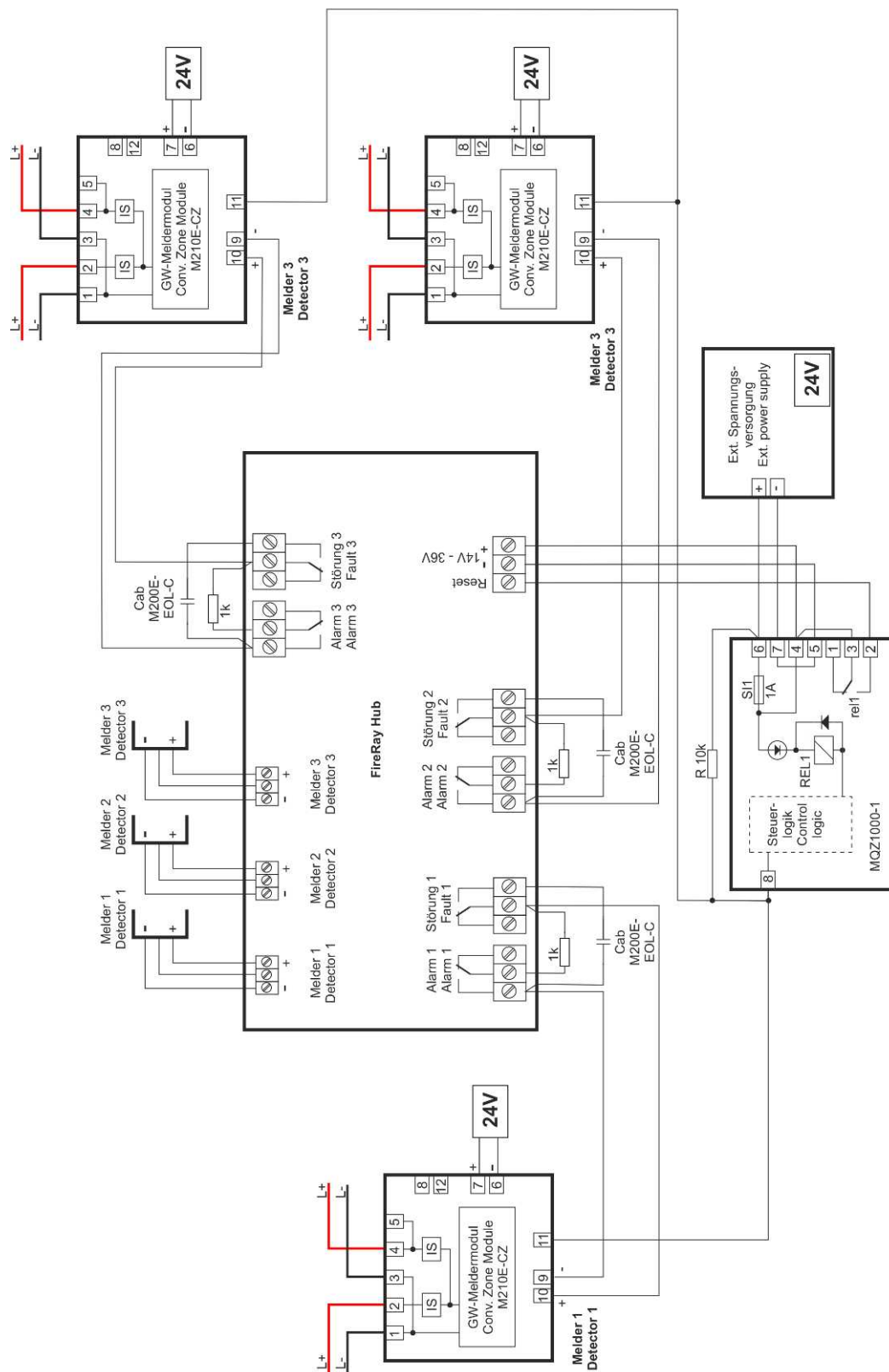


For the operation of the detector on Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used, and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the complete detector will be deactivated if one of the two modules is disabled!



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.63 Beam Smoke Detector FireRay-Hub - M210E-CZ

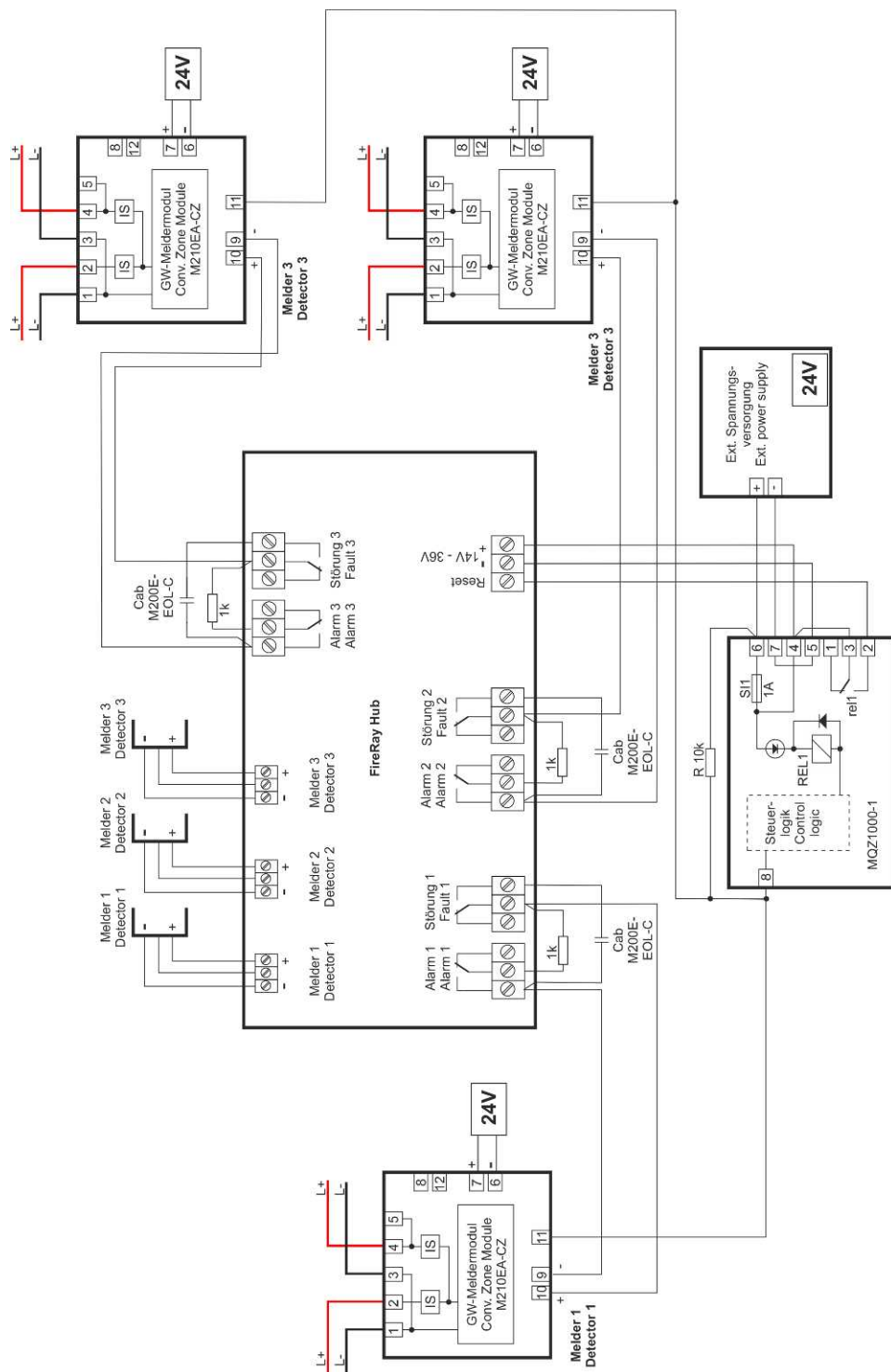


For the operation of the detector on Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used, and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the complete detector will be deactivated if one of the two modules is disabled!



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.64 Beam Smoke Detector FireRay-Hub – M210EA-CZ

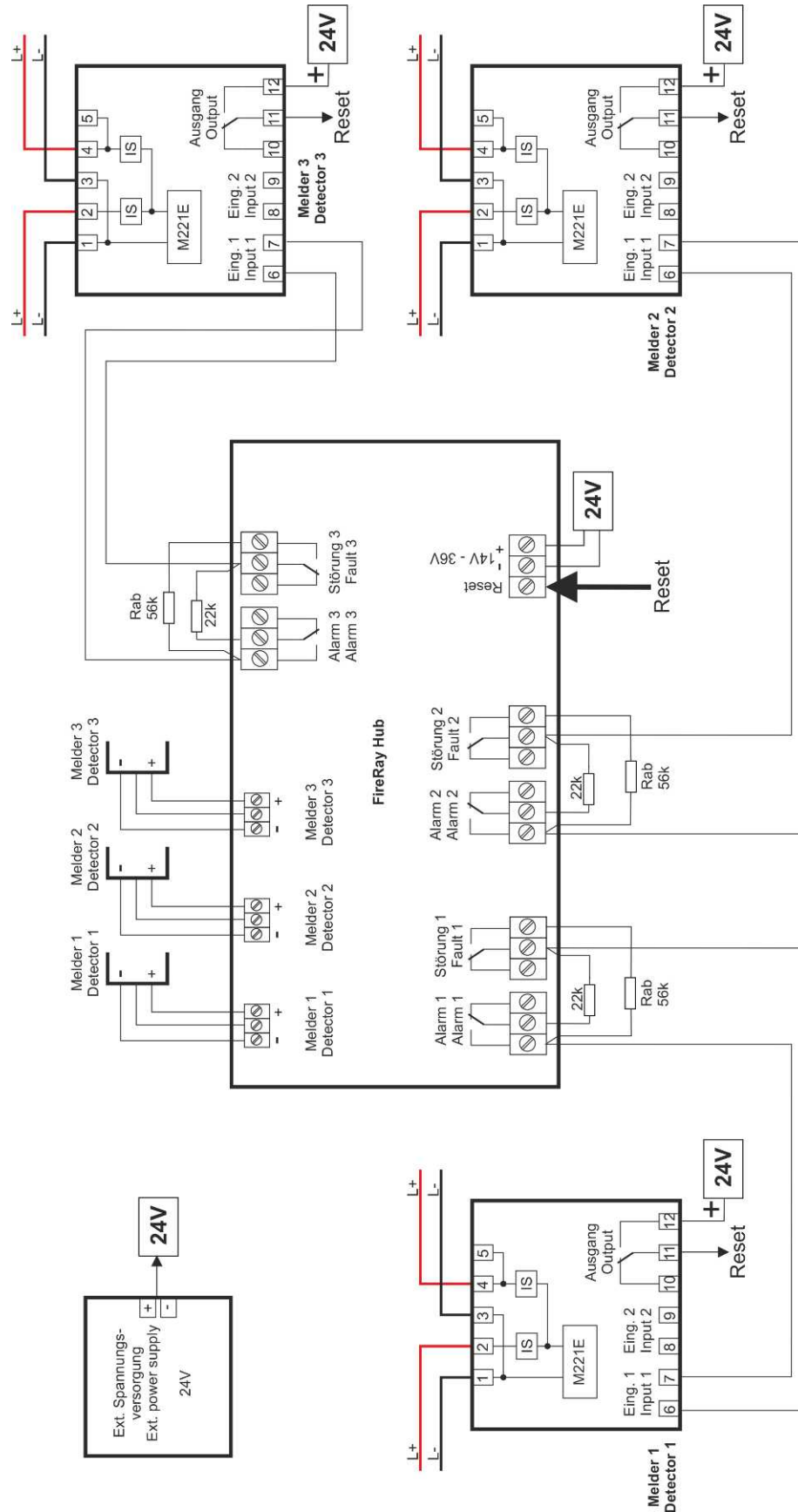


For the operation of the detector on Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used, and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the complete detector will be deactivated if one of the two modules is disabled!



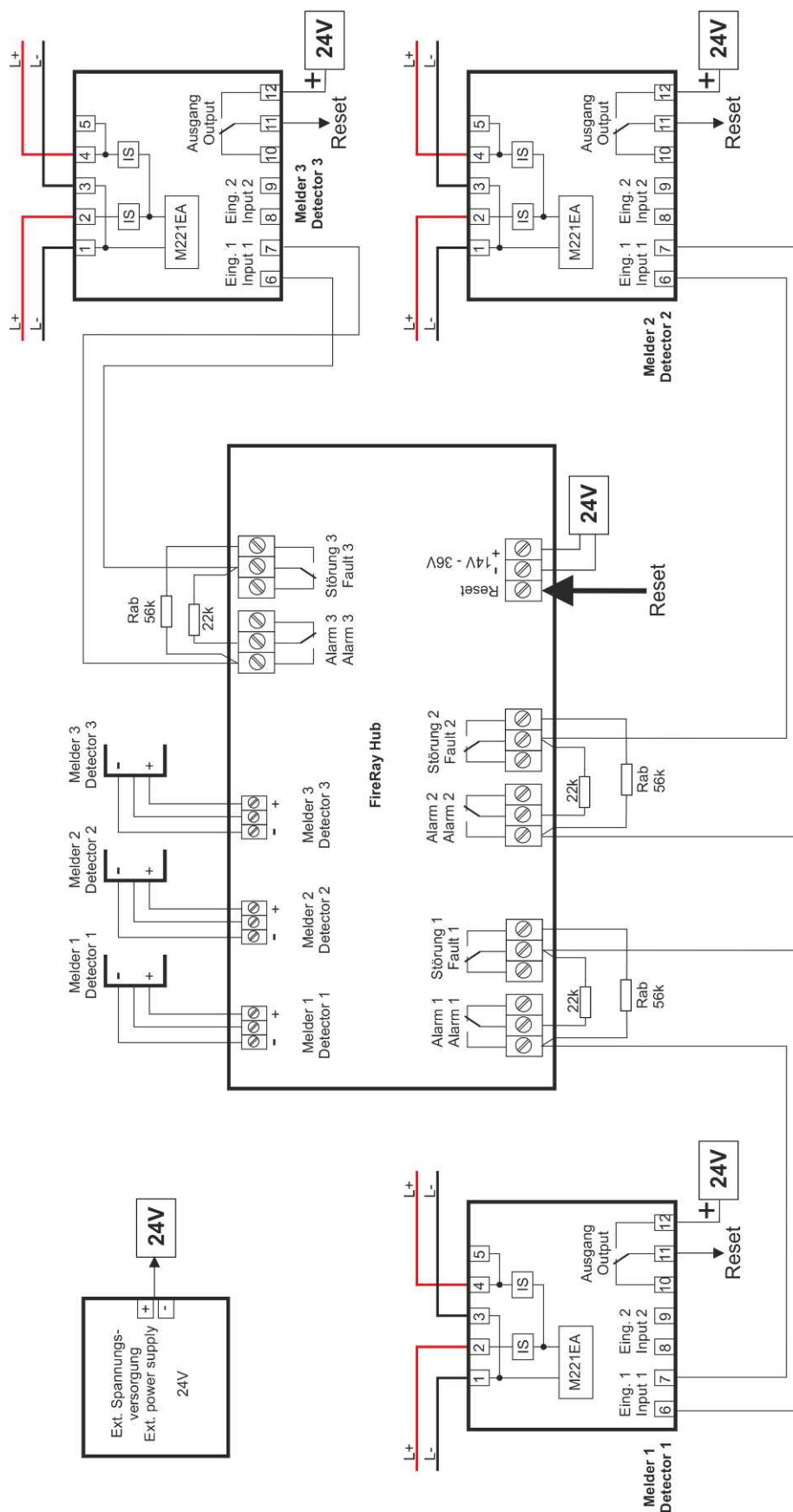
If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.65 Beam Smoke Detector FireRay-Hub – M221E



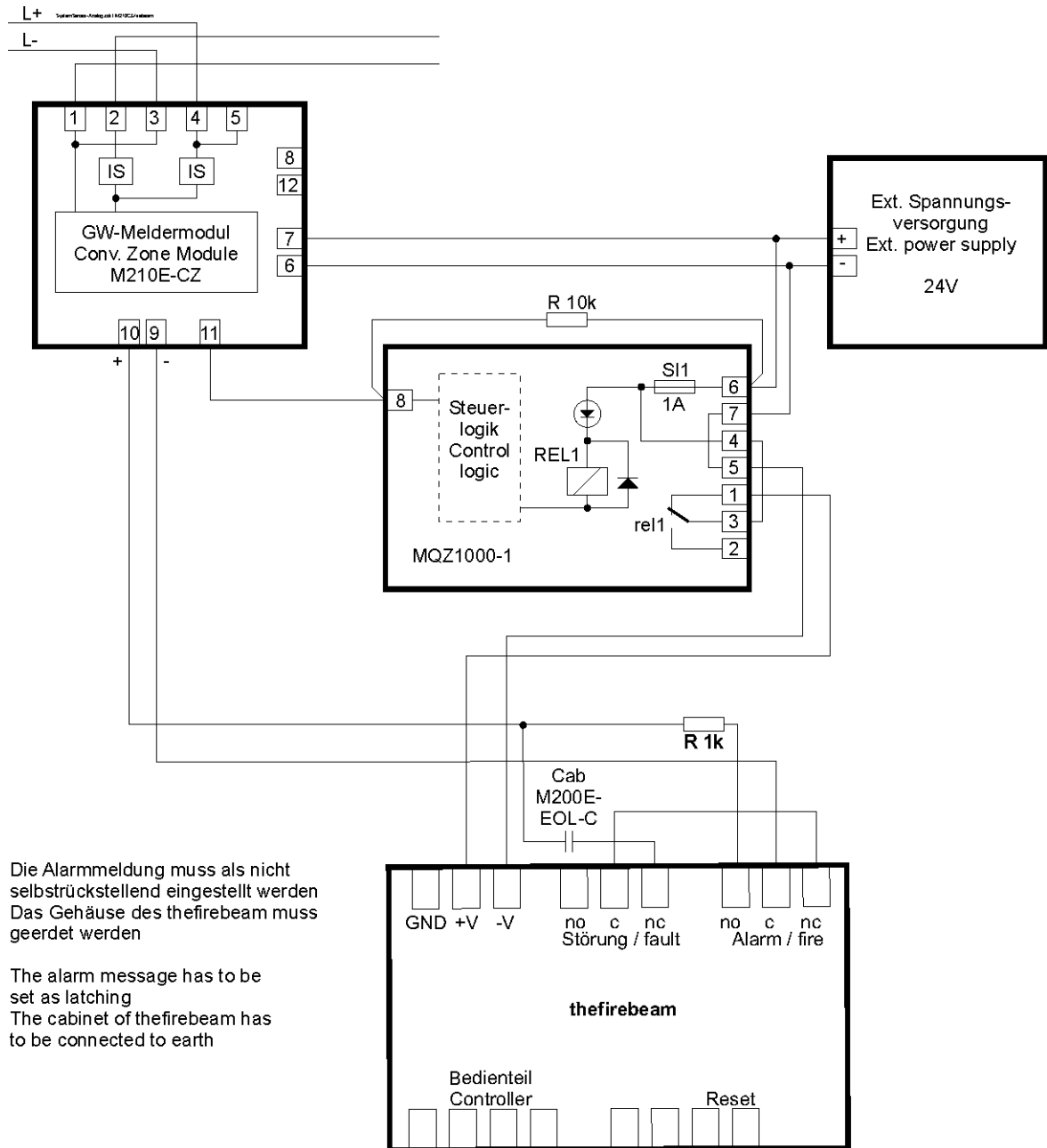
This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

3.11.66 Beam Smoke Detector FireRay-Hub – M221EA



This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

3.11.67 Beam Smoke Detector thefirebeam plus – M210E-CZ

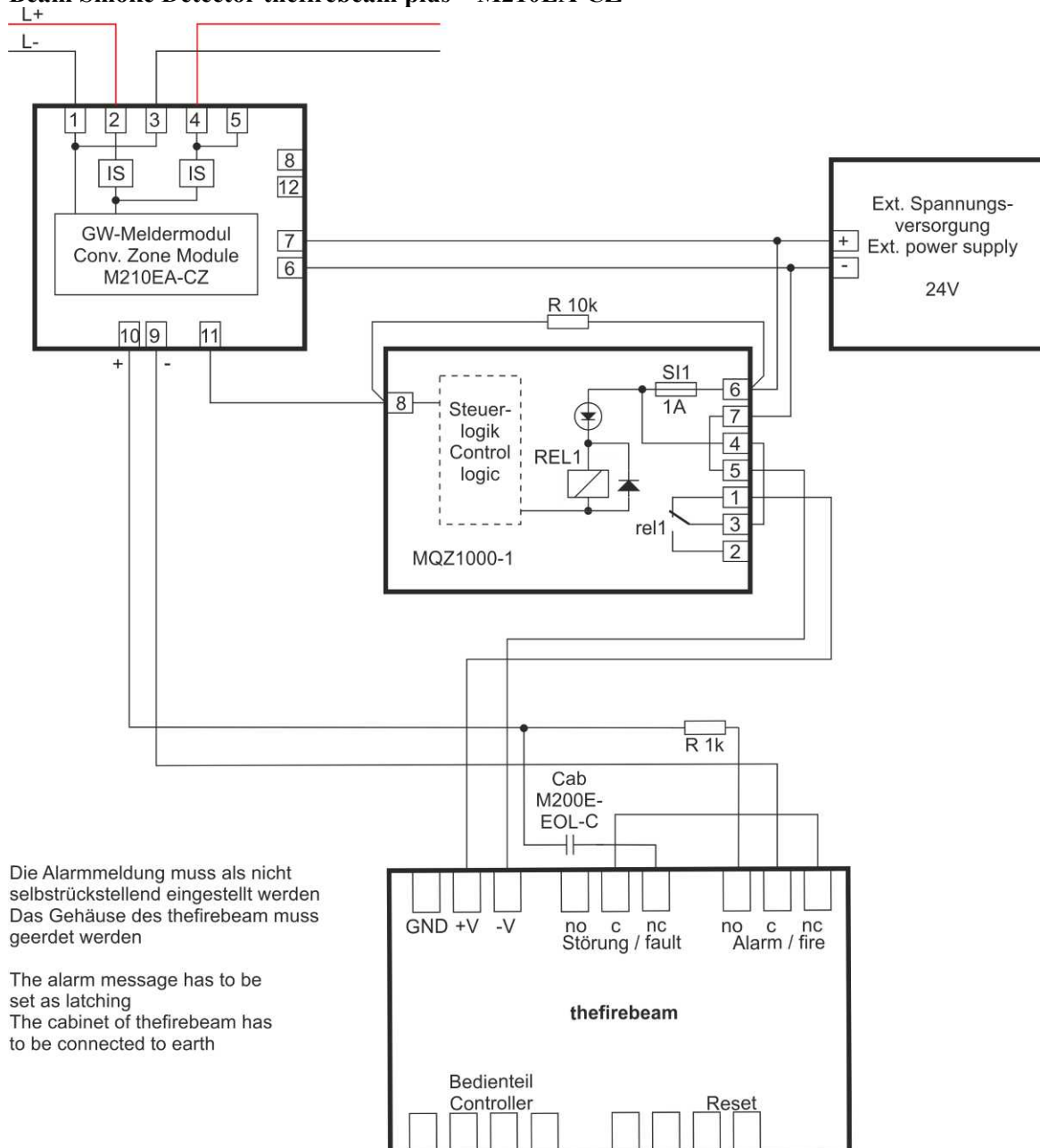


After the supply voltage is applied to the detector, the fault relay will still be de-energised for 8s. Therefore, the fire detection control panel may show a temporary fault message after enabling the conventional zone module, after panel reset or after a power-on.



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.11.68 Beam Smoke Detector thefirebeam plus – M210EA-CZ

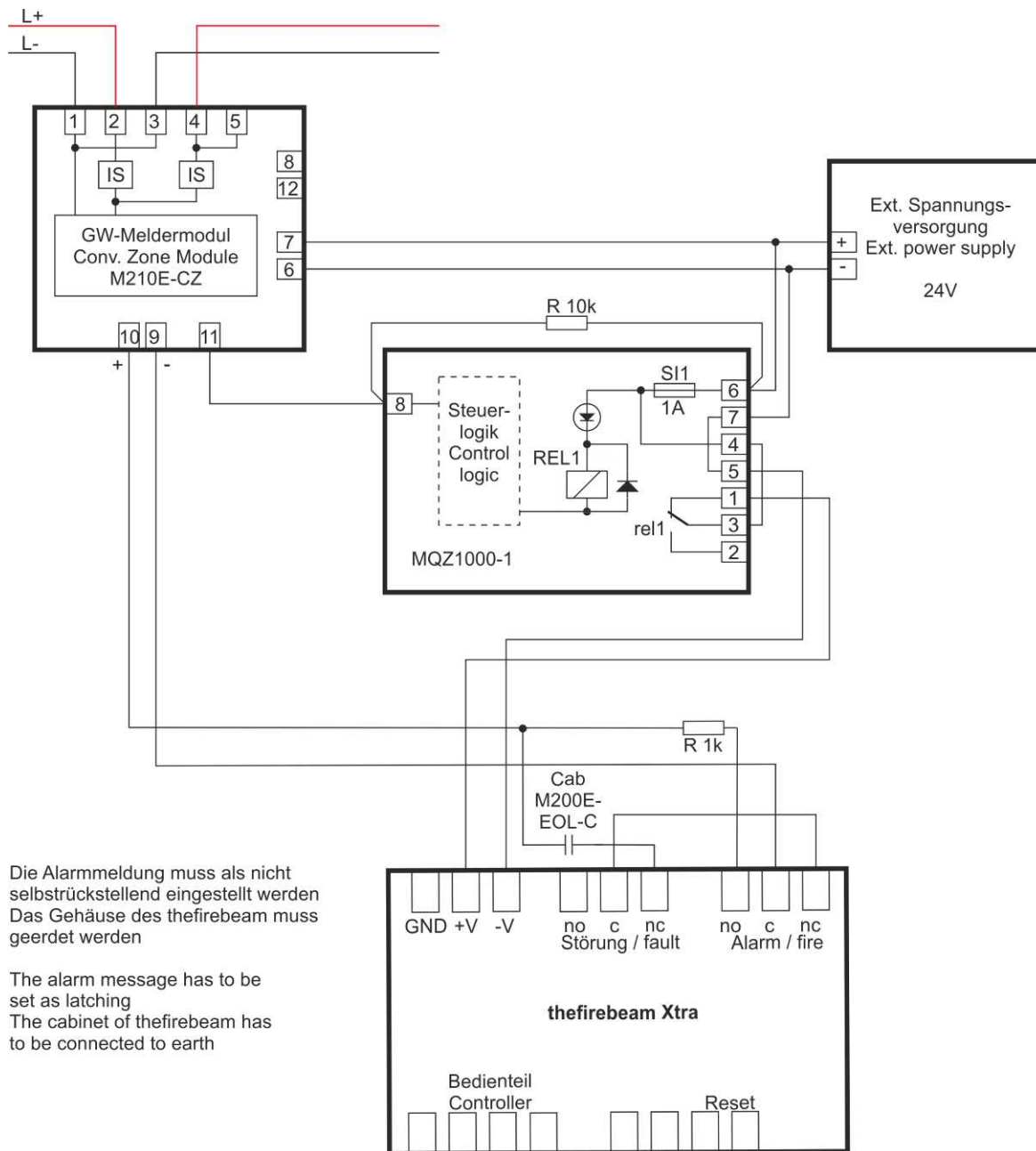


After applying the supply voltage to the detector, the fault relay will remain released for 8 seconds. Therefore, a brief fault can occur on the fire detection control panel after the enablement of the conventional zone module, after a control panel reset and after power ON.



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.69 Beam Smoke Detector thefirebeam Xtra – M210E-CZ

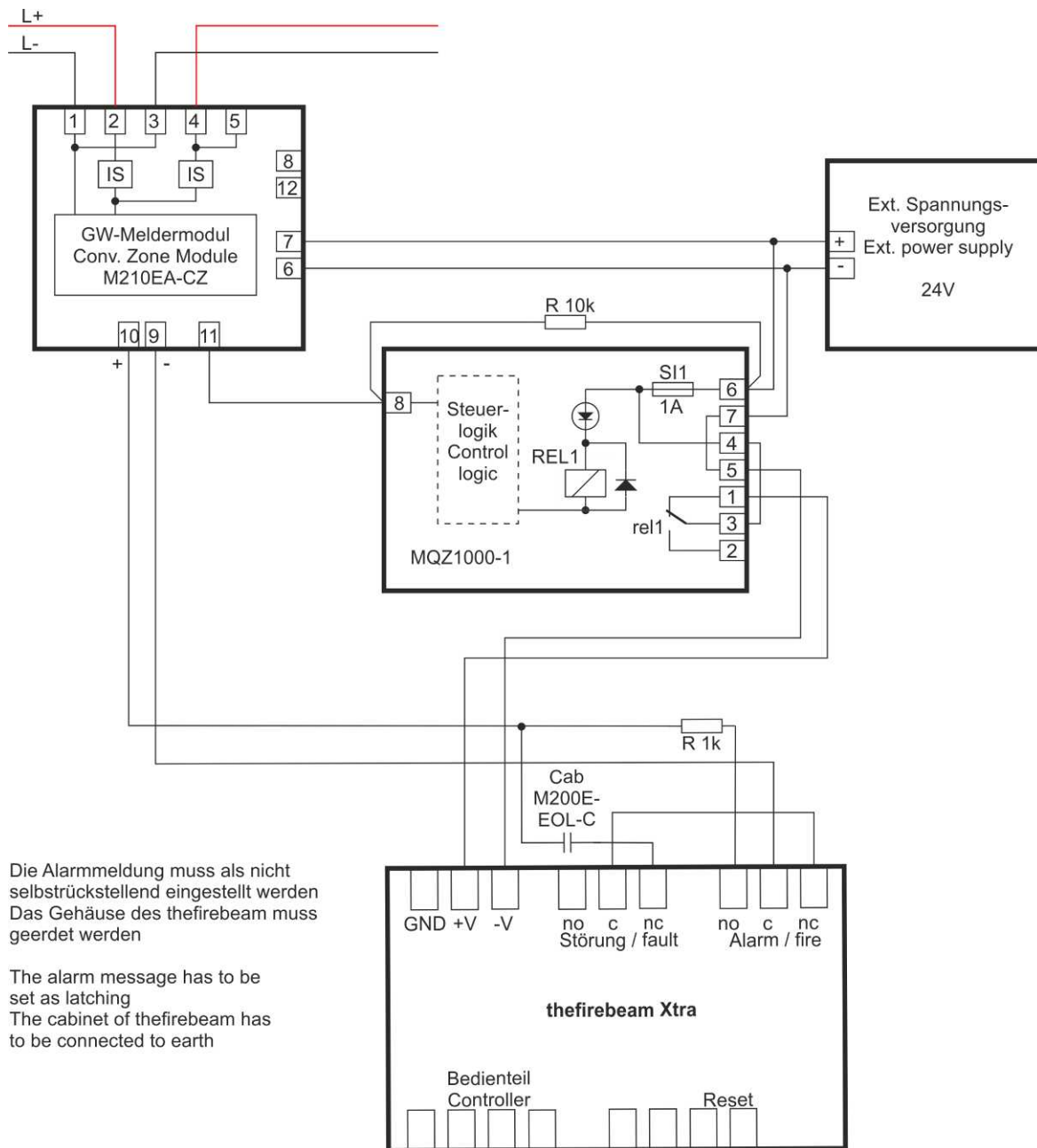


After applying the supply voltage to the detector, the fault relay will remain released for 8 seconds. Therefore, a brief fault can occur on the fire detection control panel after the enablement of the conventional zone module, after a control panel reset and after power ON.



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

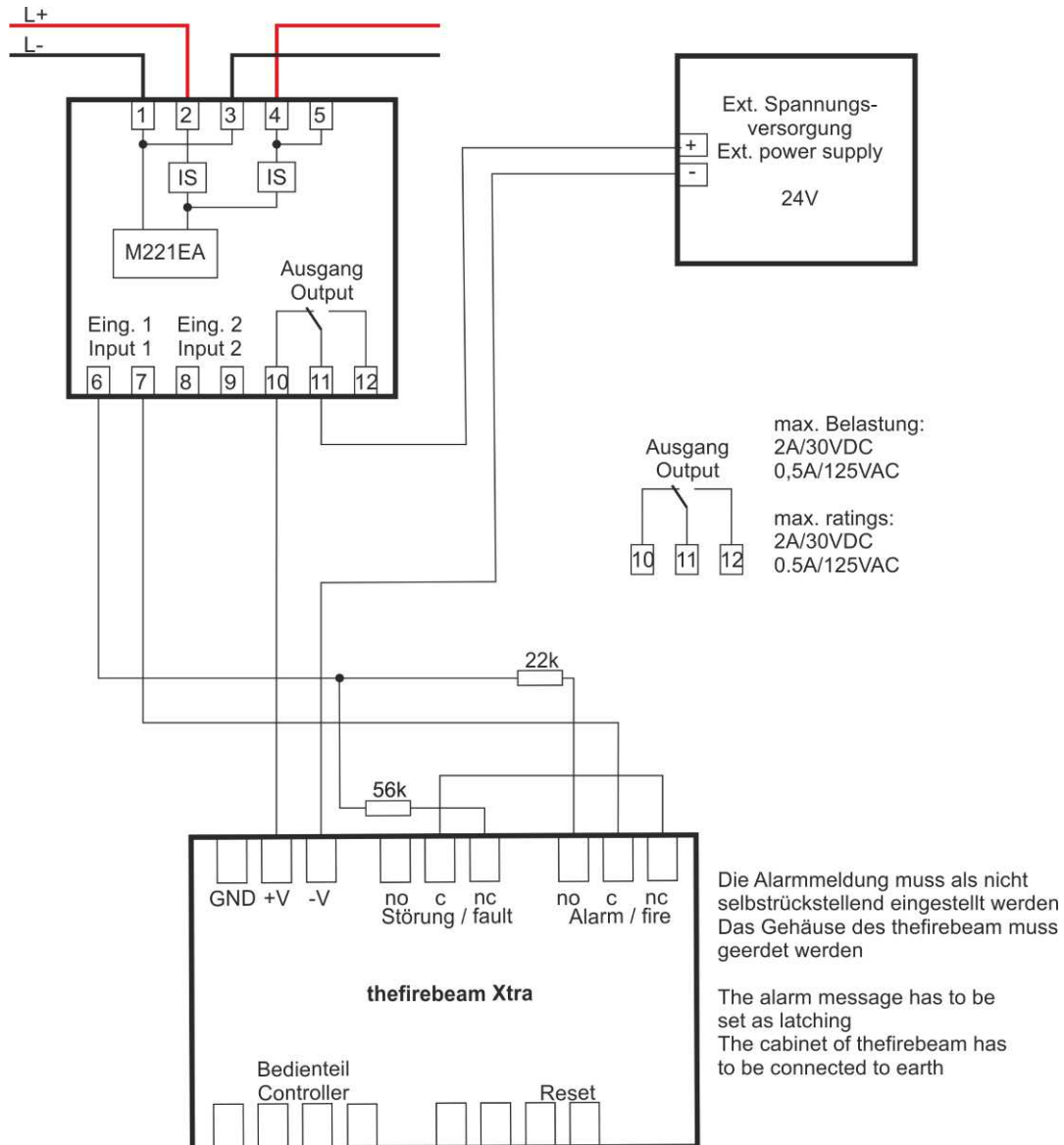
3.11.70 Beam Smoke Detector thefirebeam Xtra – M210EA-CZ



After applying the supply voltage to the detector, the fault relay will remain released for 8 seconds. Therefore, a brief fault can occur on the fire detection control panel after the enablement of the conventional zone module, after a control panel reset and after power ON.

If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

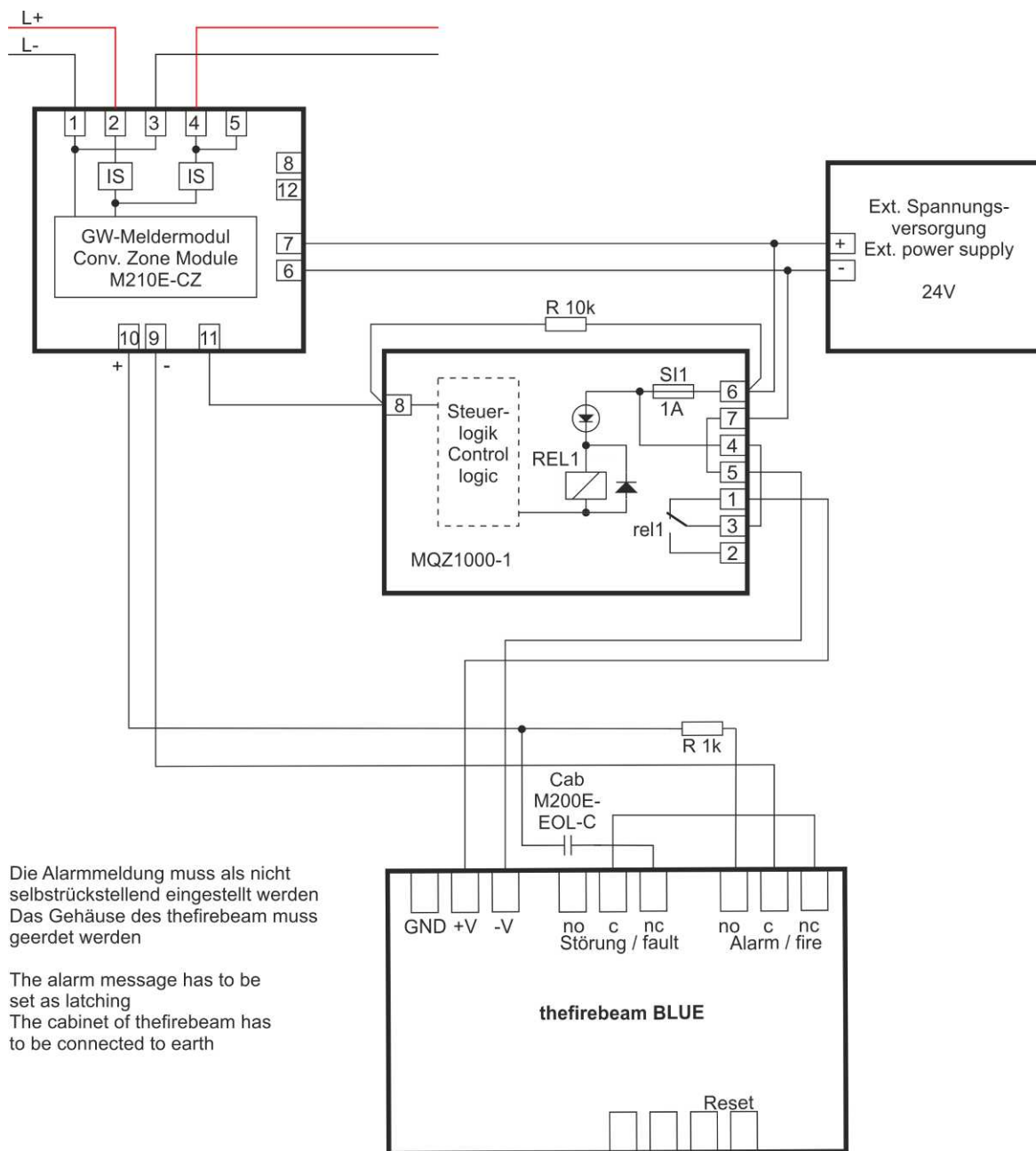
3.11.71 Beam Smoke Detector thefirebeam Xtra – M221EA



After applying the supply voltage to the detector, the fault relay will remain released for 8 seconds. Therefore, a brief fault can occur on the fire detection control panel after the enablement of the conventional zone module, after a control panel reset and after power ON.

This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

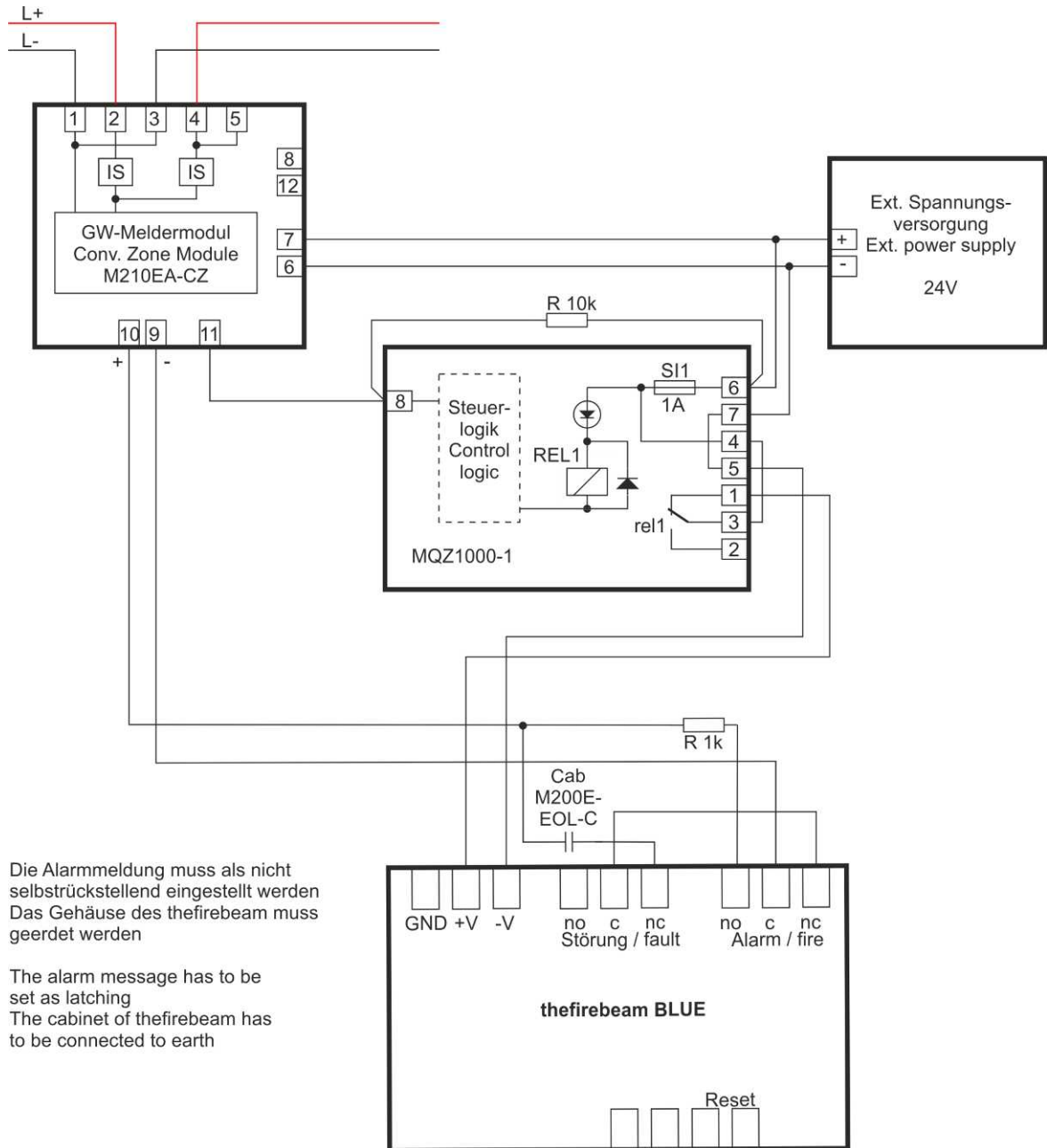
3.11.72 Beam Smoke Detector thefirebeam BLUE – M210E-CZ



After applying the supply voltage to the detector, the fault relay will remain released for 8 seconds. Therefore, a brief fault can occur on the fire detection control panel after the enablement of the conventional zone module, after a control panel reset and after power ON.

If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.73 Beam Smoke Detector thefirebeam BLUE – M210EA-CZ

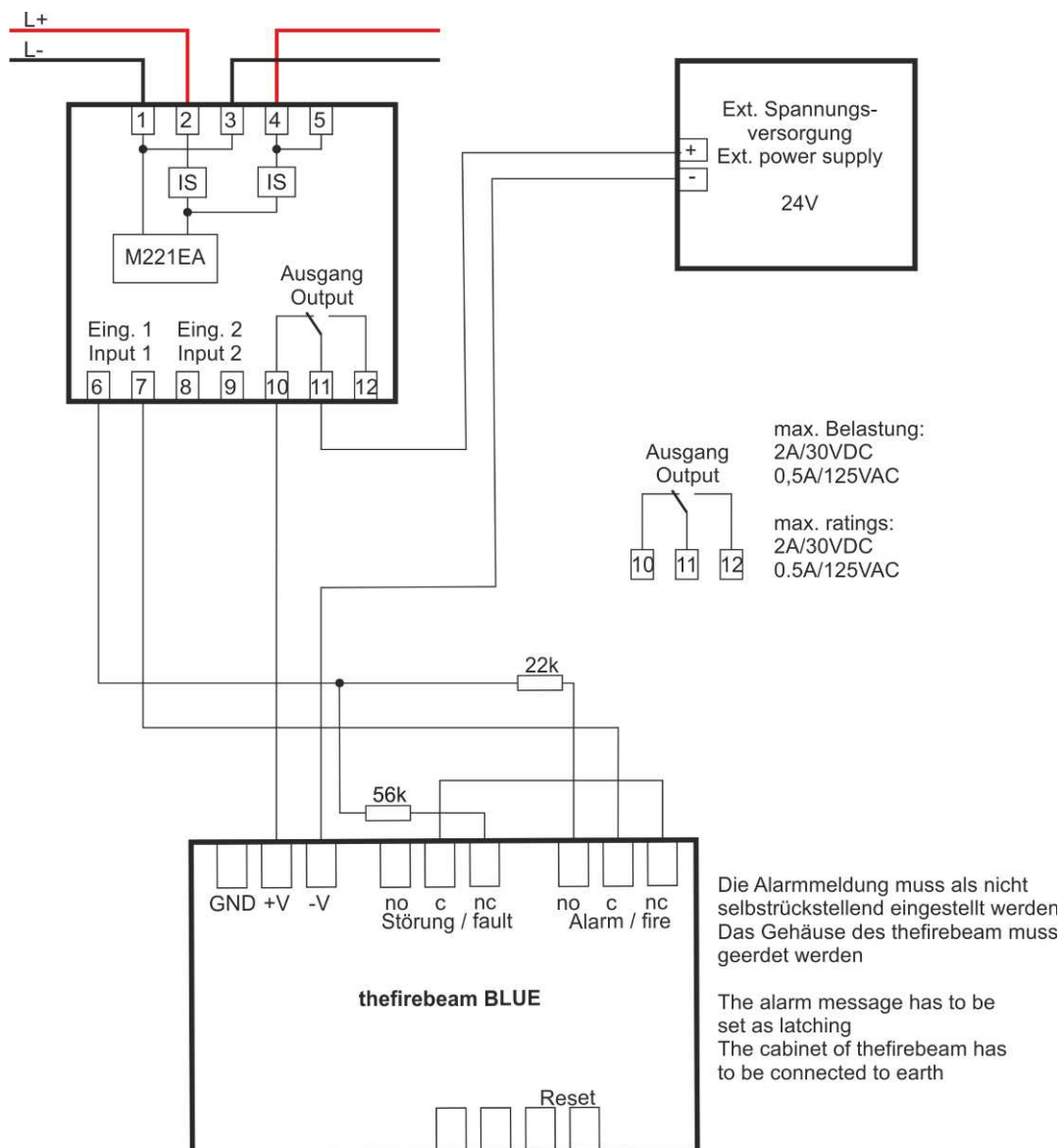


After applying the supply voltage to the detector, the fault relay will remain released for 8 seconds. Therefore, a brief fault can occur on the fire detection control panel after the enablement of the conventional zone module, after a control panel reset and after power ON.



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

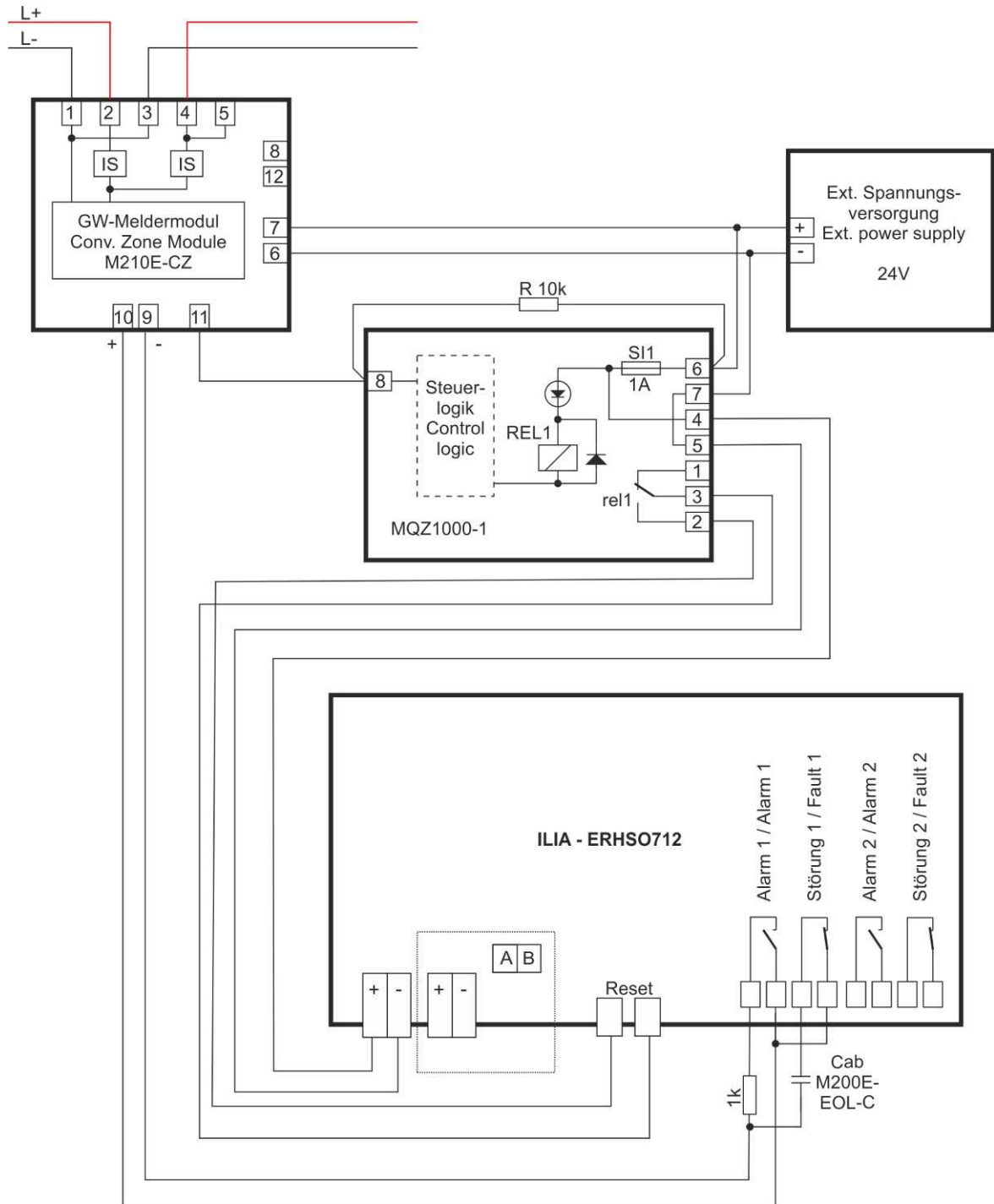
3.11.74 Beam Smoke Detector thefirebeam BLUE – M221EA



After applying the supply voltage to the detector, the fault relay will remain released for 8 seconds. Therefore, a brief fault can occur on the fire detection control panel after the enablement of the conventional zone module, after a control panel reset and after power ON.

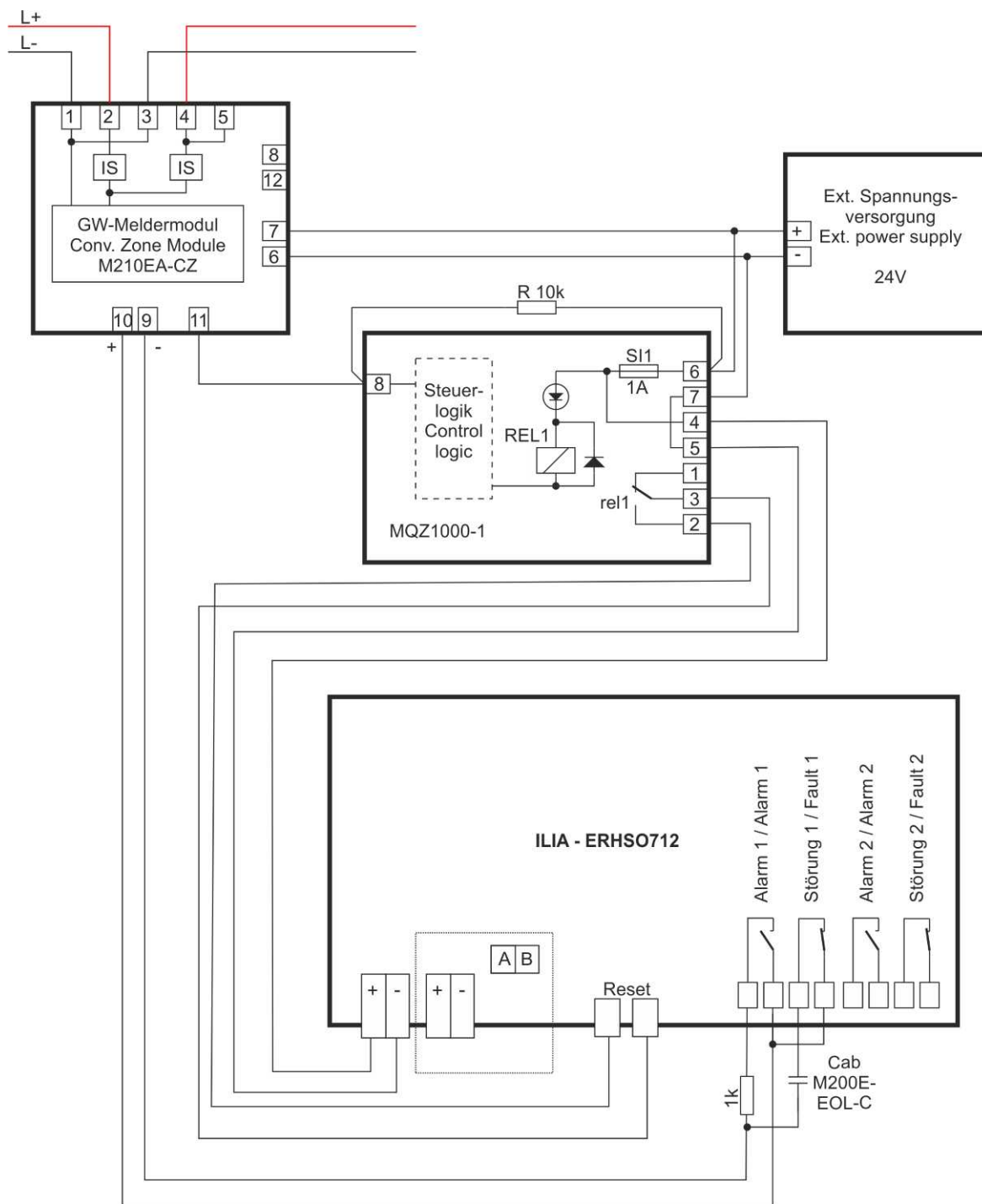
This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

3.11.75 Beam Smoke Detector ERHSO712 – M210E-CZ



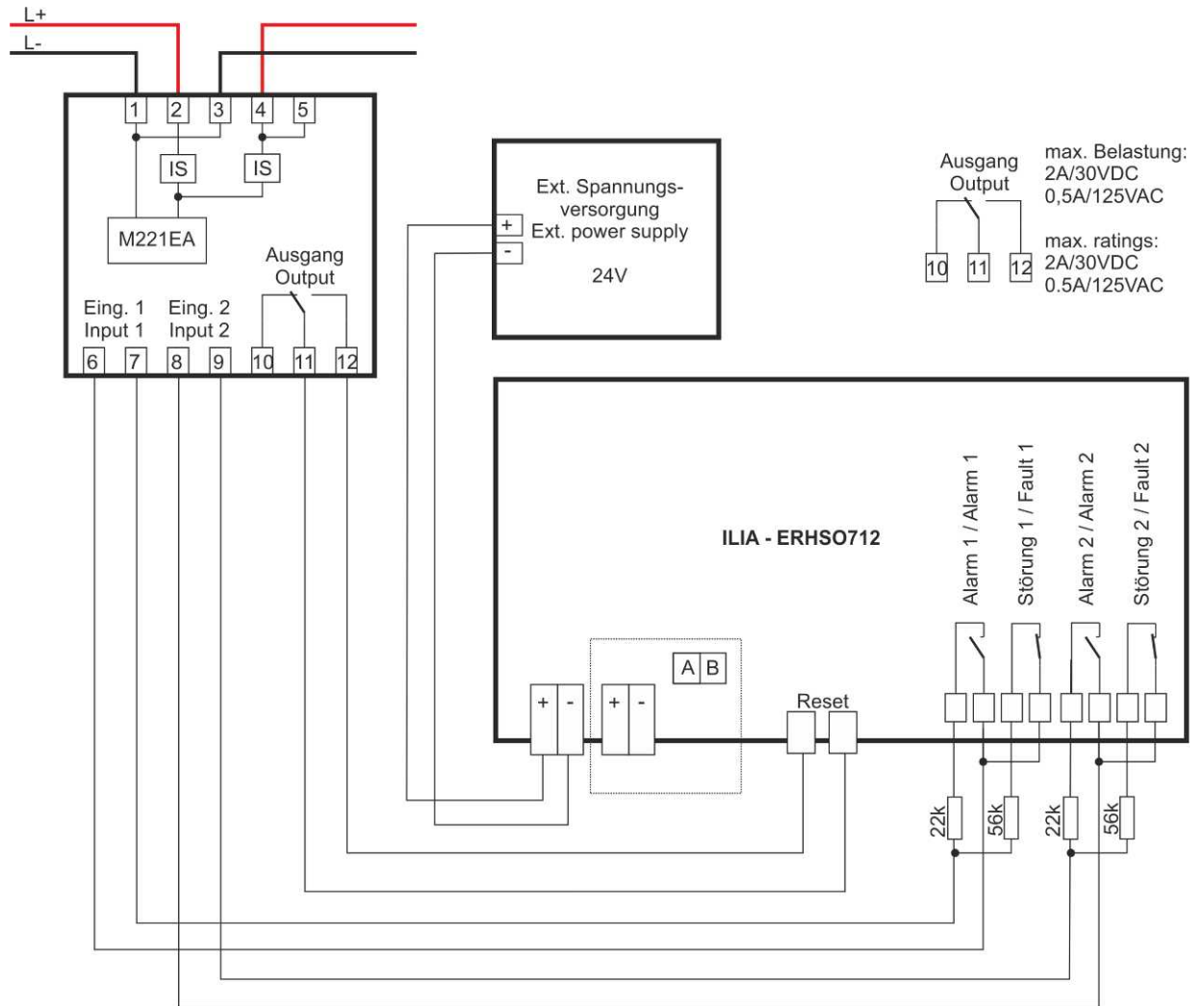
Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

3.11.76 Beam Smoke Detector ERHSO712 – M210EA-CZ



Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

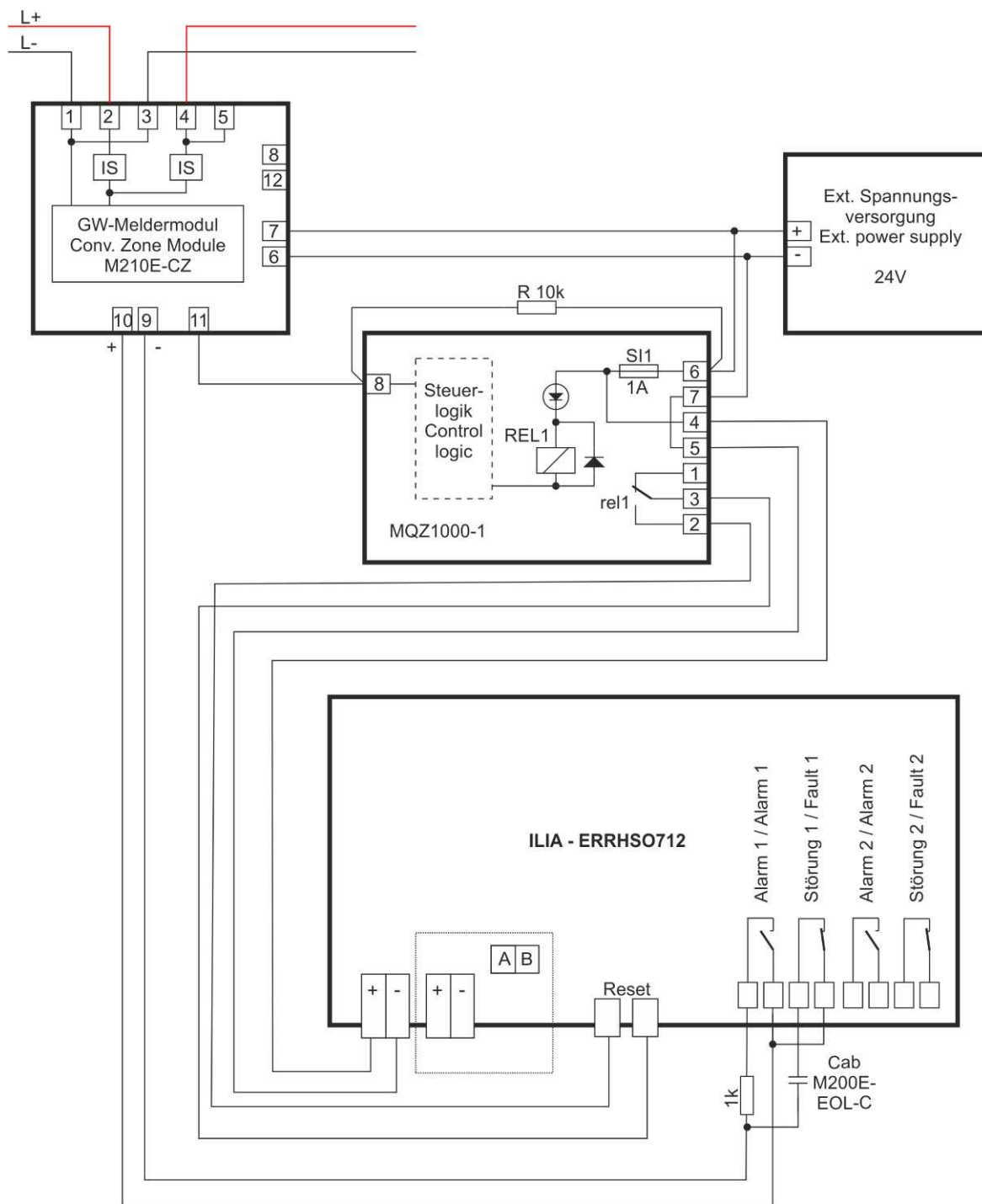
3.11.77 Beam Smoke Detector ERHSO712 – M221EA



Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

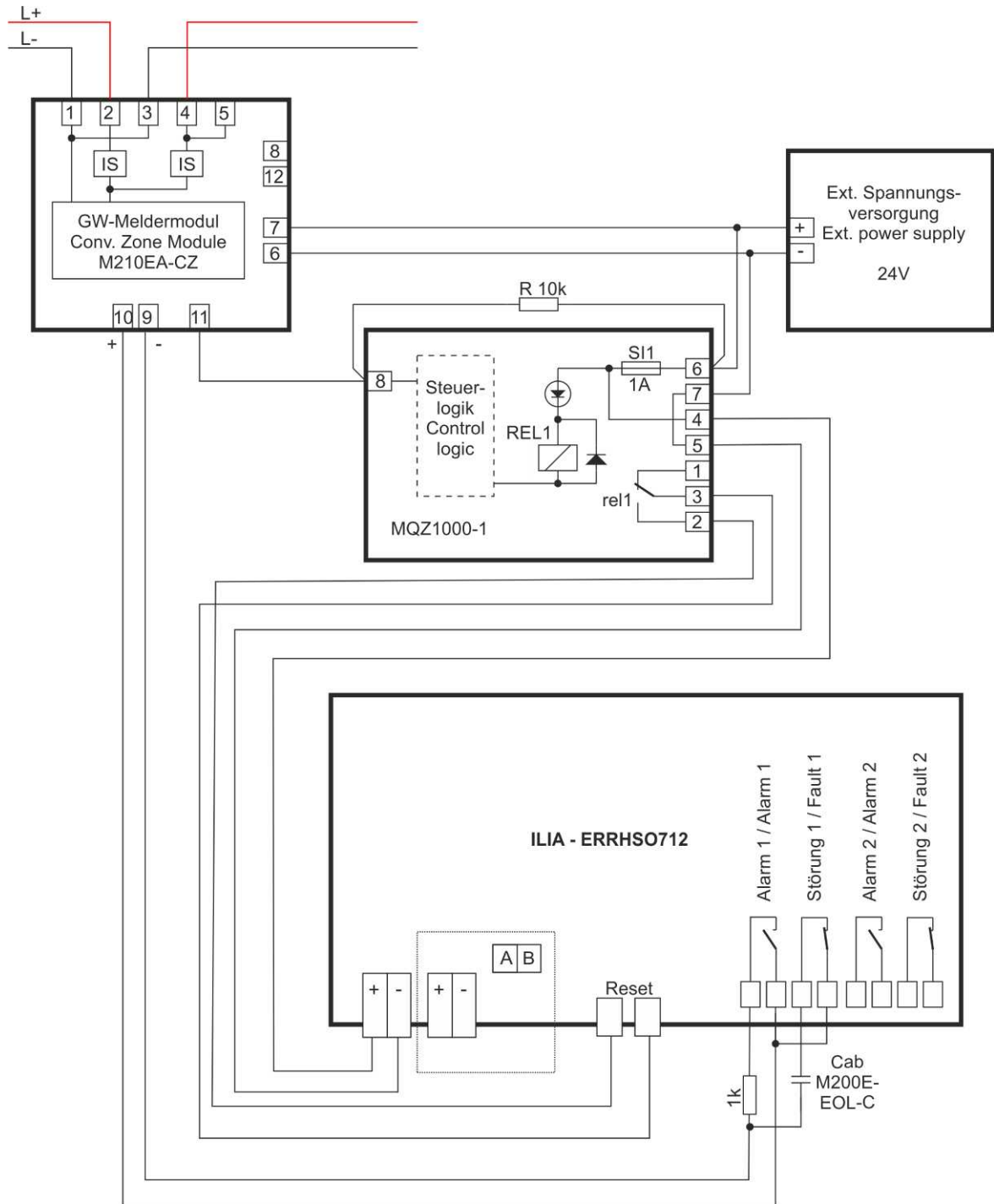
This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

3.11.78 Beam Smoke Detector ERRHSO712 – M210E-CZ

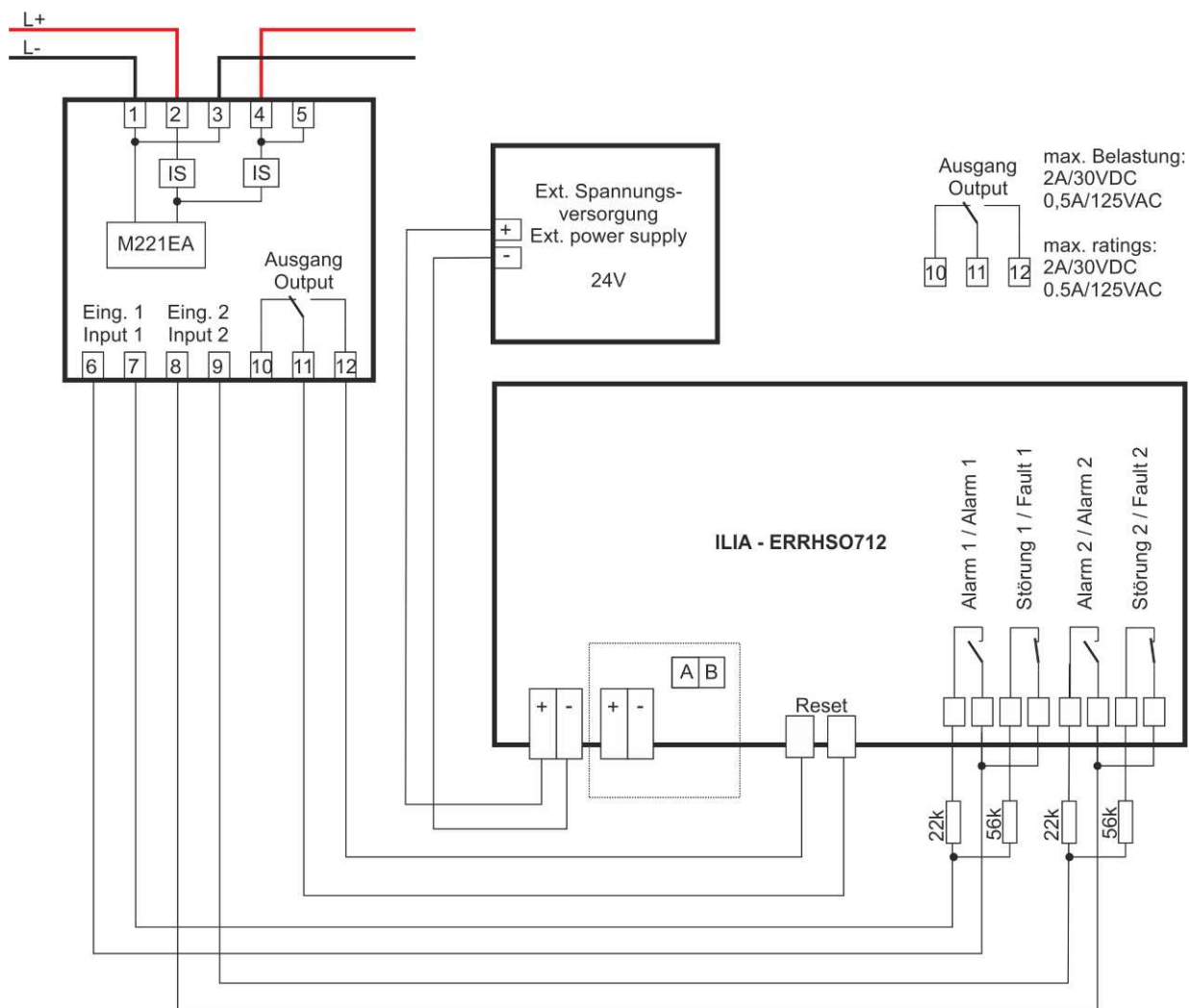


Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

3.11.79 Beam Smoke Detector ERRHSO712 – M210EA-CZ



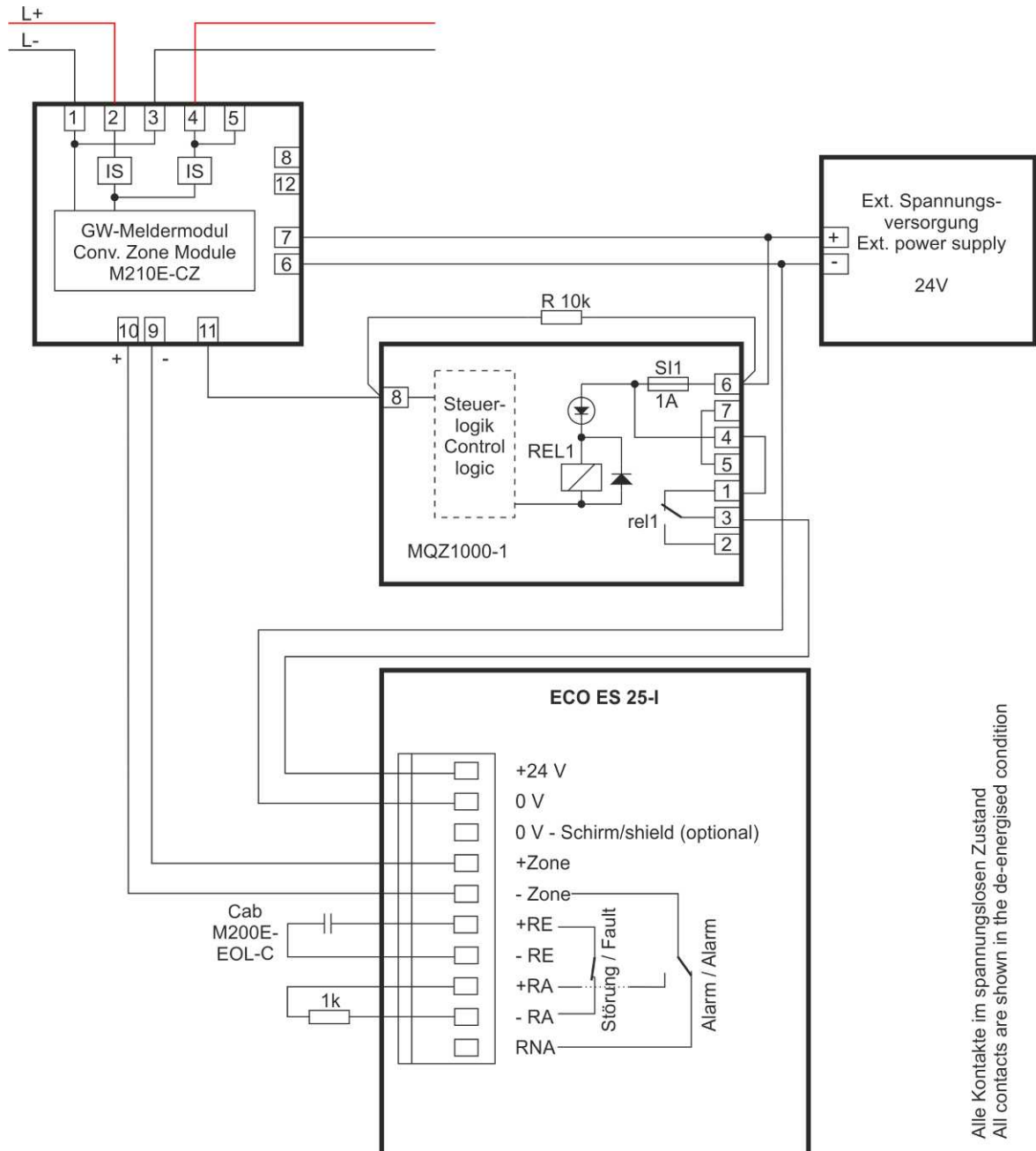
3.11.80 Beam Smoke Detector ERRHSO712 – M221EA



Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

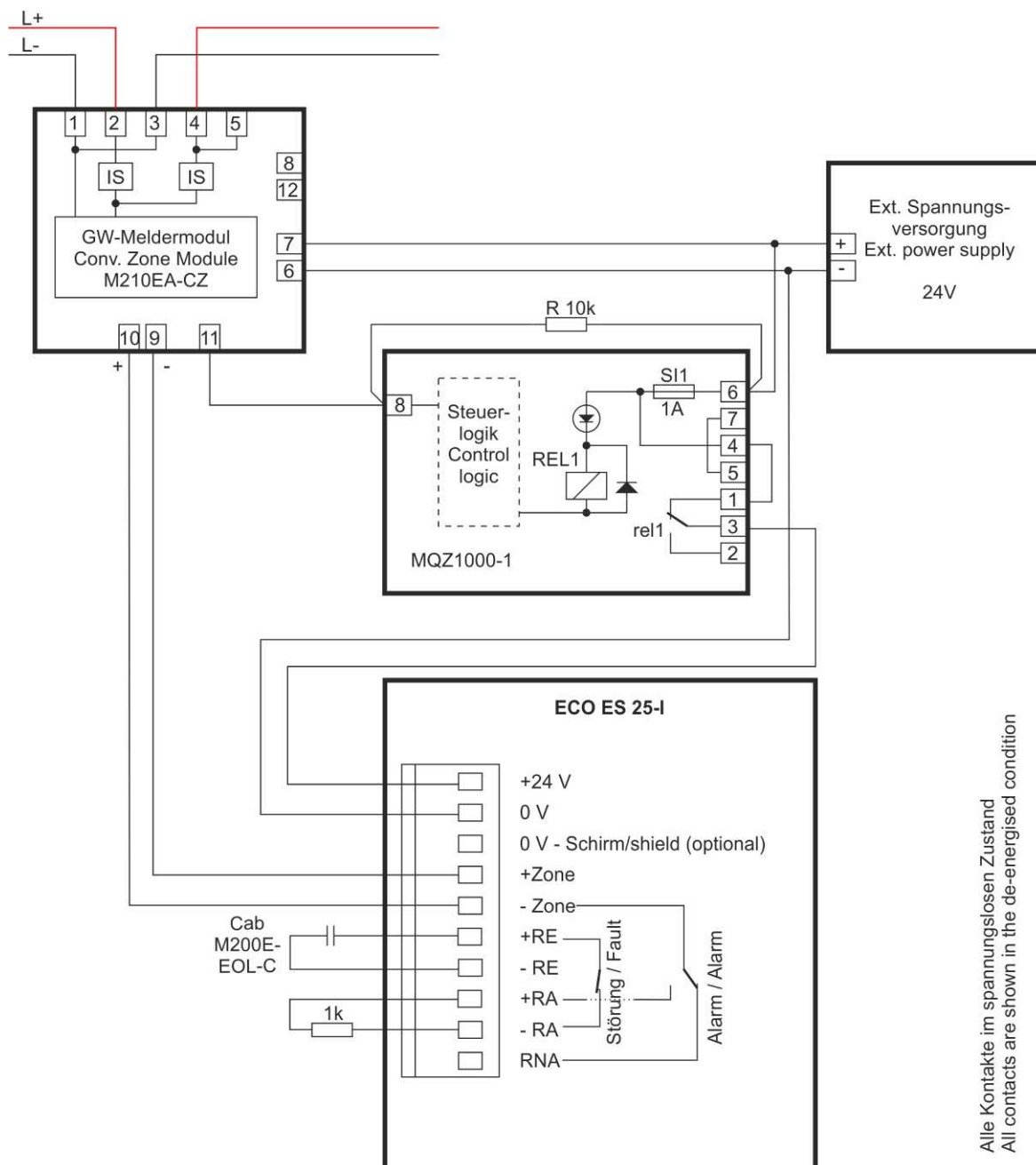
This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

3.11.81 Beam Smoke Detector ECO ES 25-I – M210E-CZ

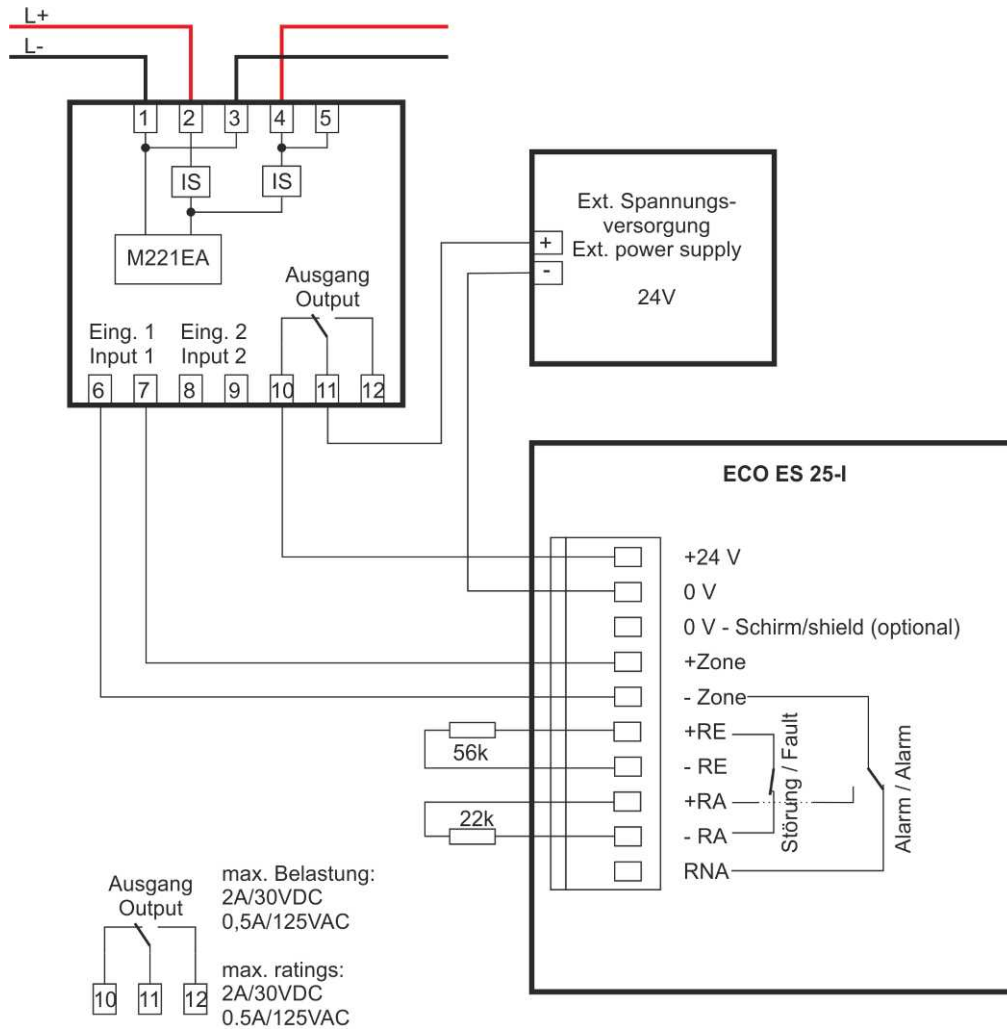


Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

3.11.82 Beam Smoke Detector ECO ES 25-I – M210EA-CZ



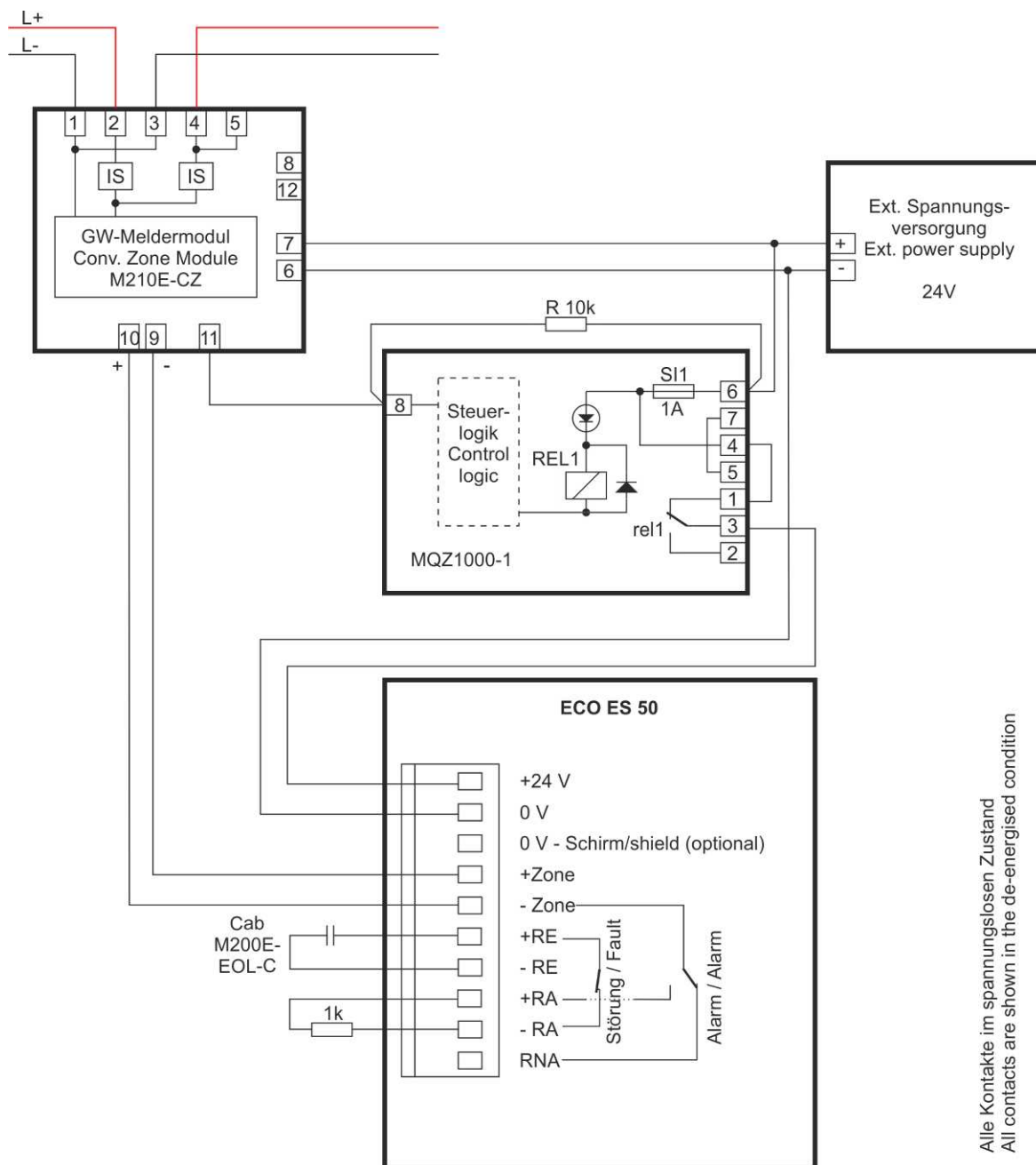
3.11.83 Beam Smoke Detector ECO ES 25-I – M221EA



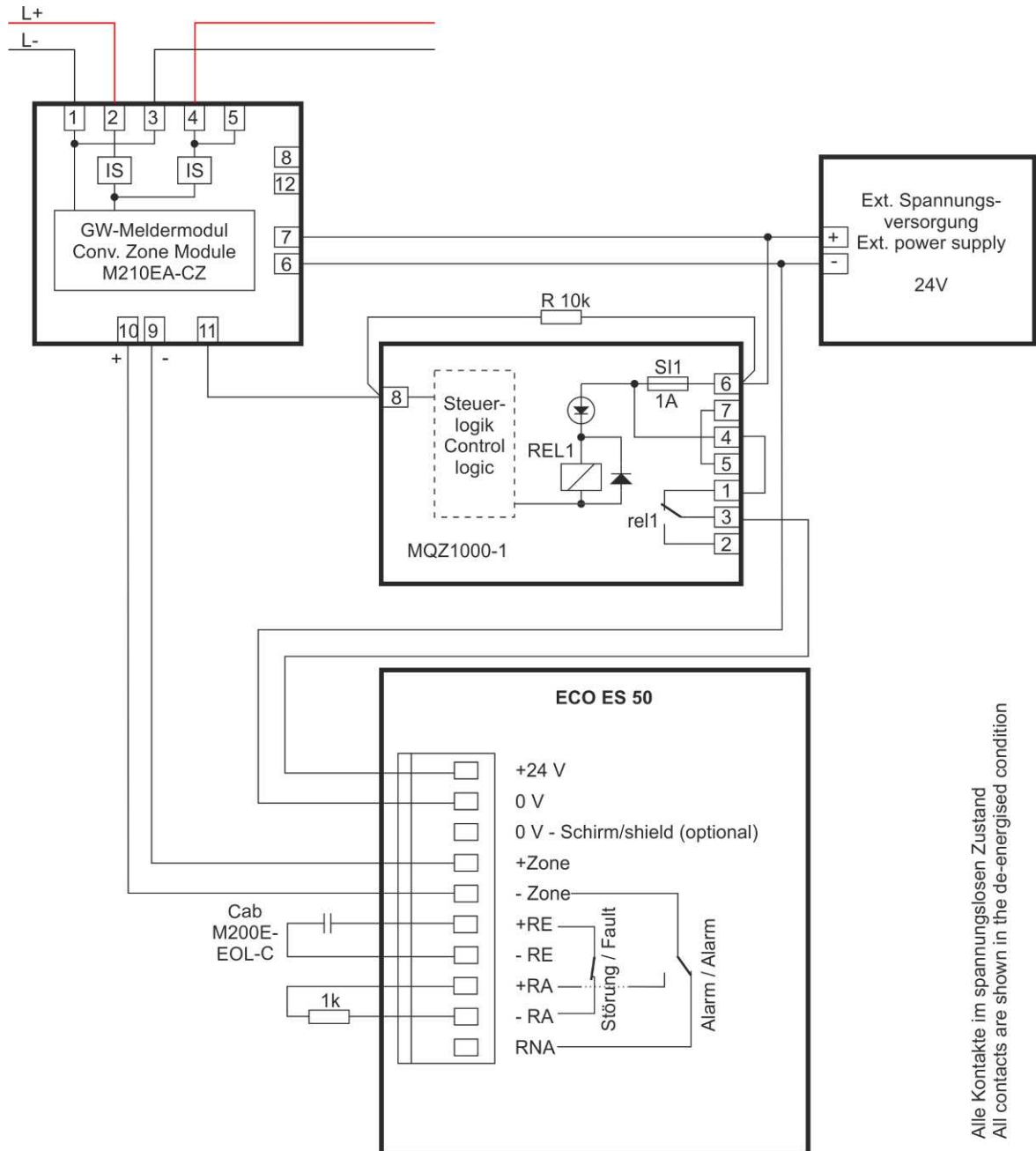
Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

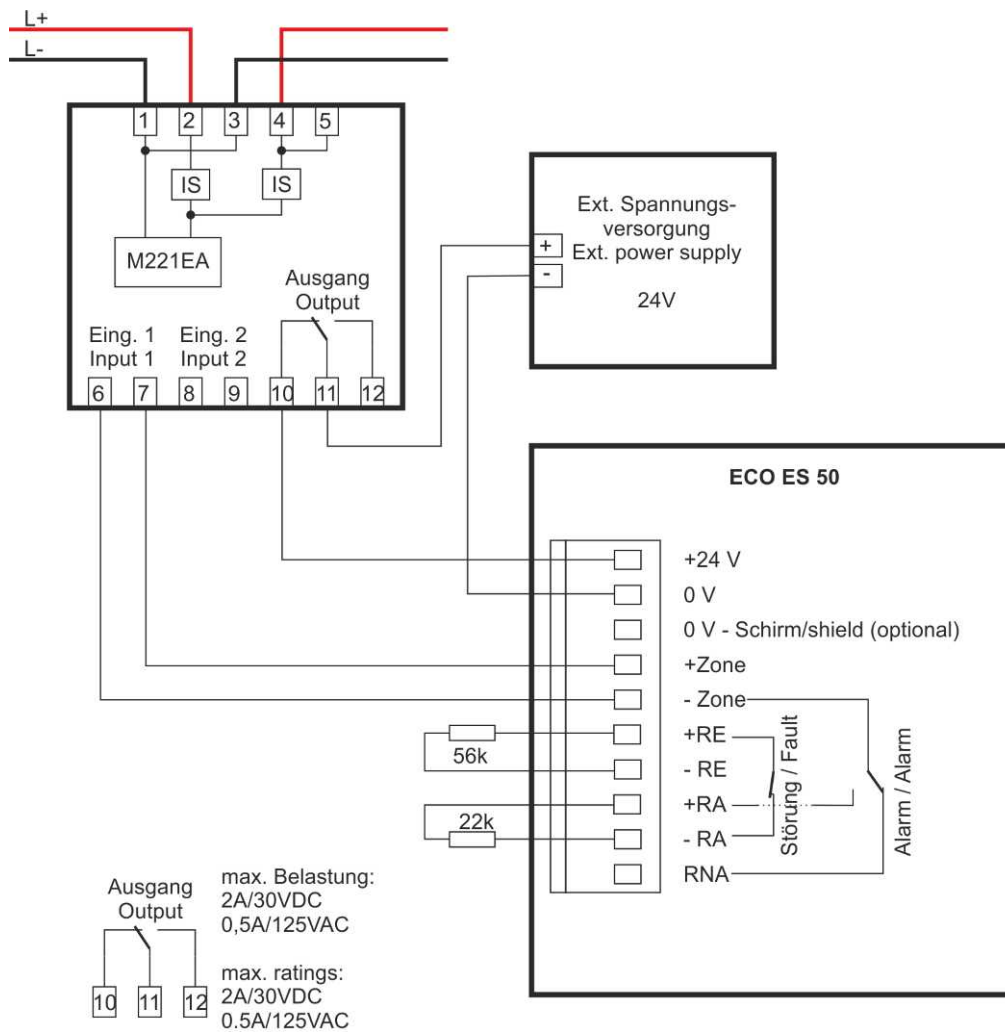
3.11.84 Beam Smoke Detector ECO ES 50 – M210E-CZ



3.11.85 Beam Smoke Detector ECO ES 50 – M210EA-CZ



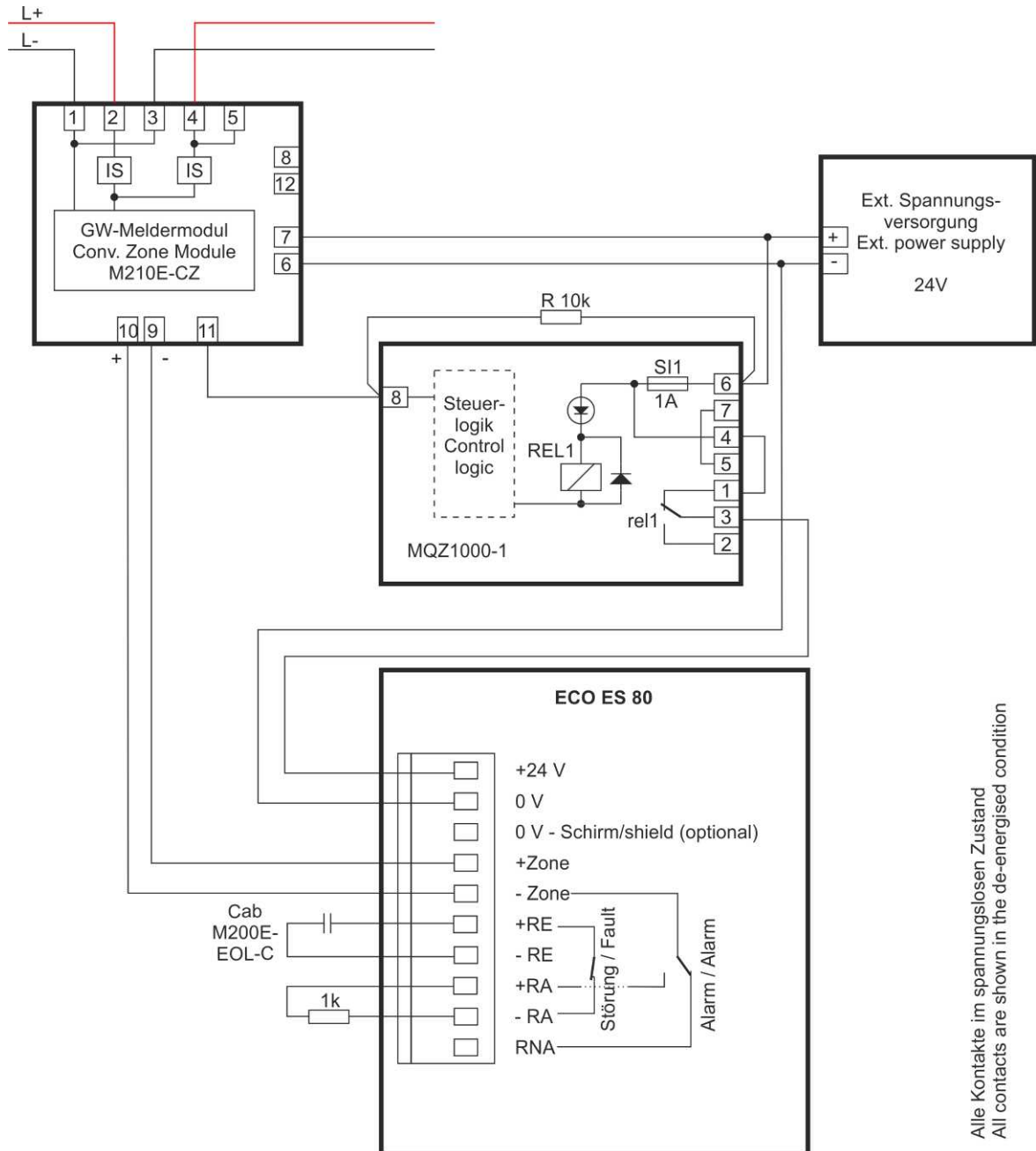
3.11.86 Beam Smoke Detector ECO ES 50 – M221EA



Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

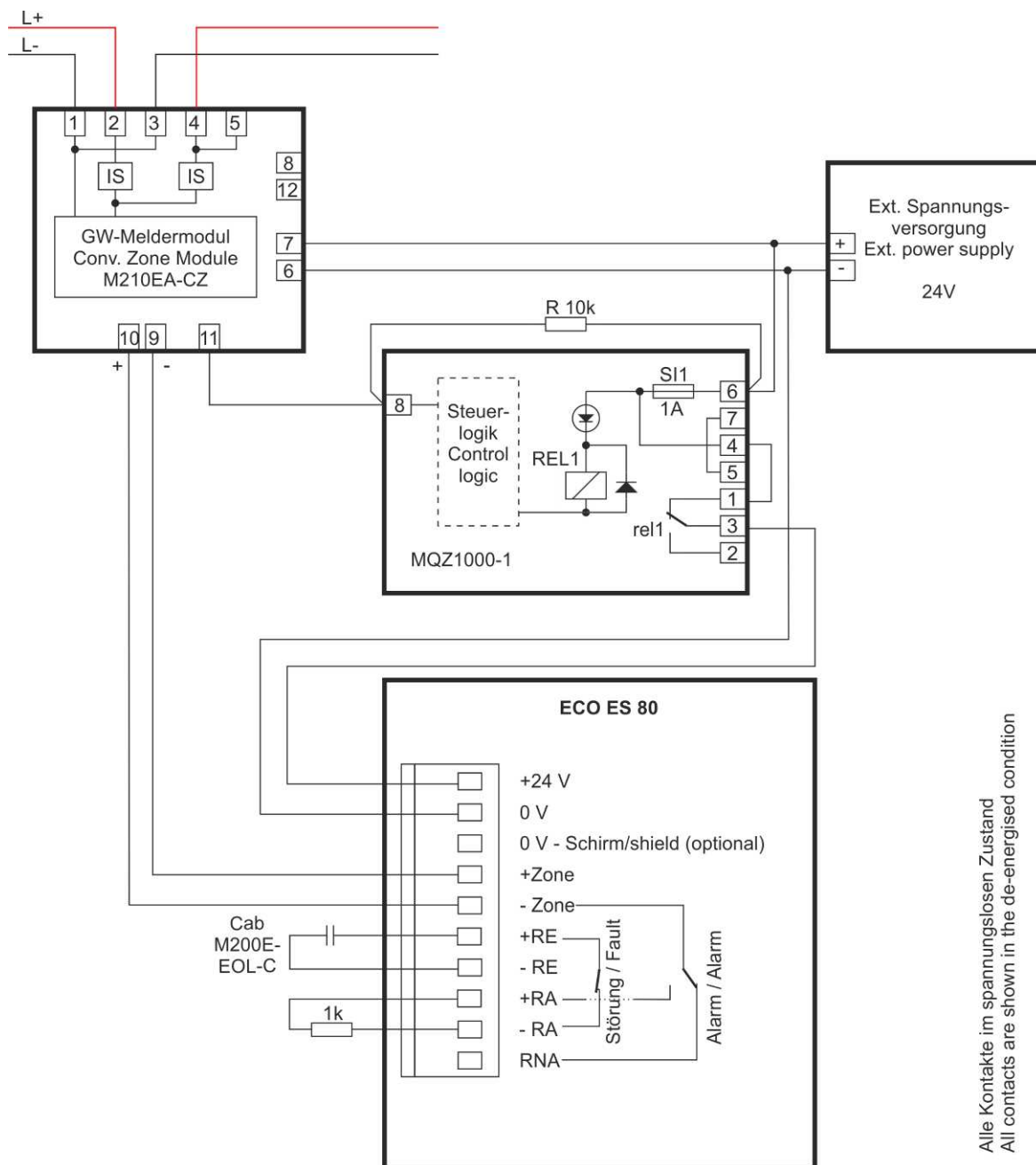
This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

3.11.87 Beam Smoke Detector ECO ES 80 – M210E-CZ

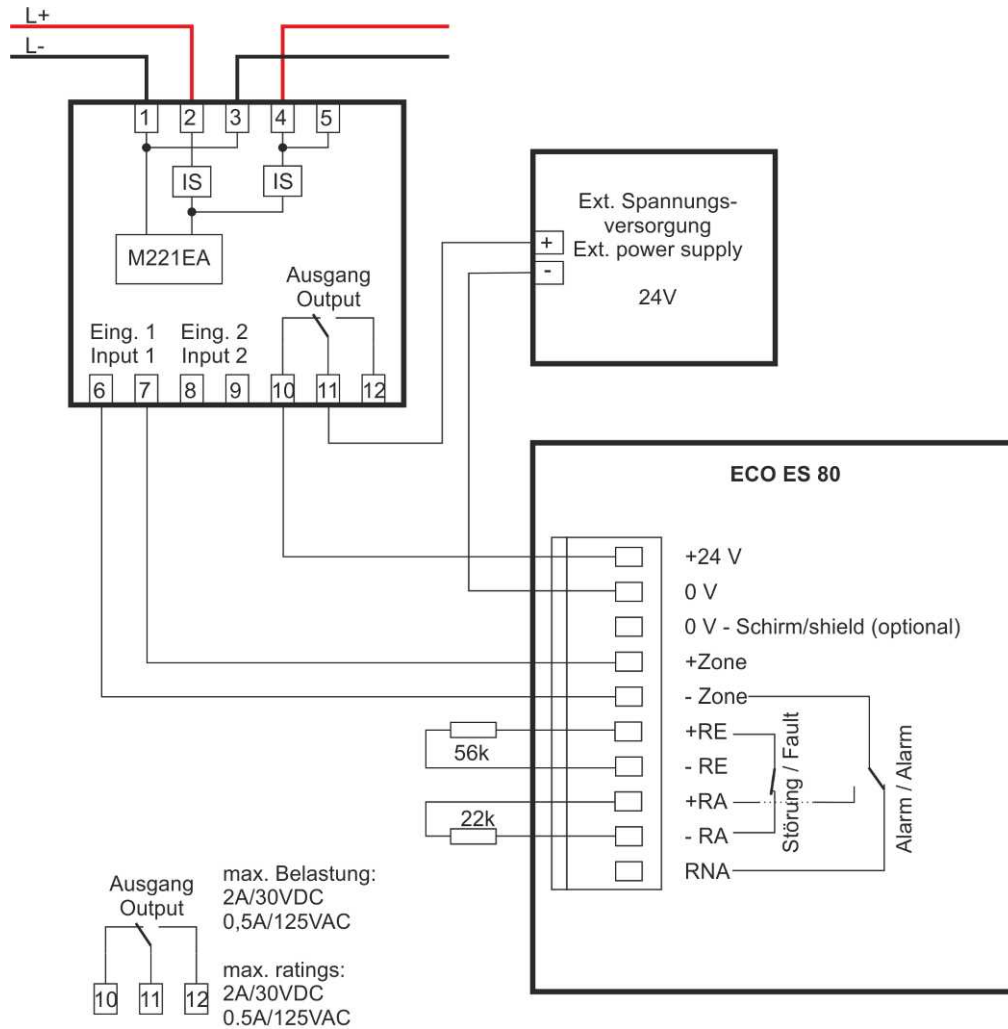


Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

3.11.88 Beam Smoke Detector ECO ES 80 – M210EA-CZ



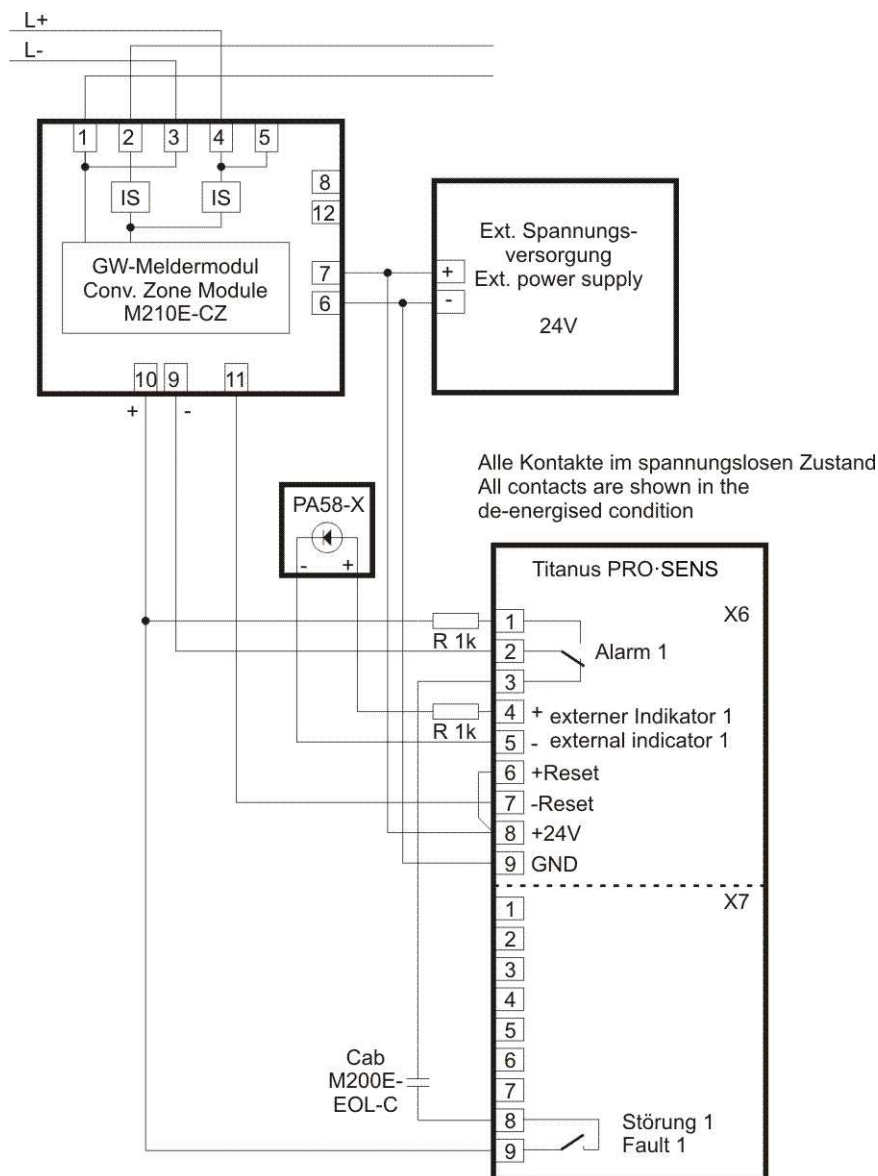
3.11.89 Beam Smoke Detector ECO ES 80 – M221EA



Alle Kontakte im spannungslosen Zustand
All contacts are shown in the de-energised condition

This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

3.11.90 Aspiring smoke detector Titanus PRO·SENS – TP1/A with one detector module – M210E-CZ

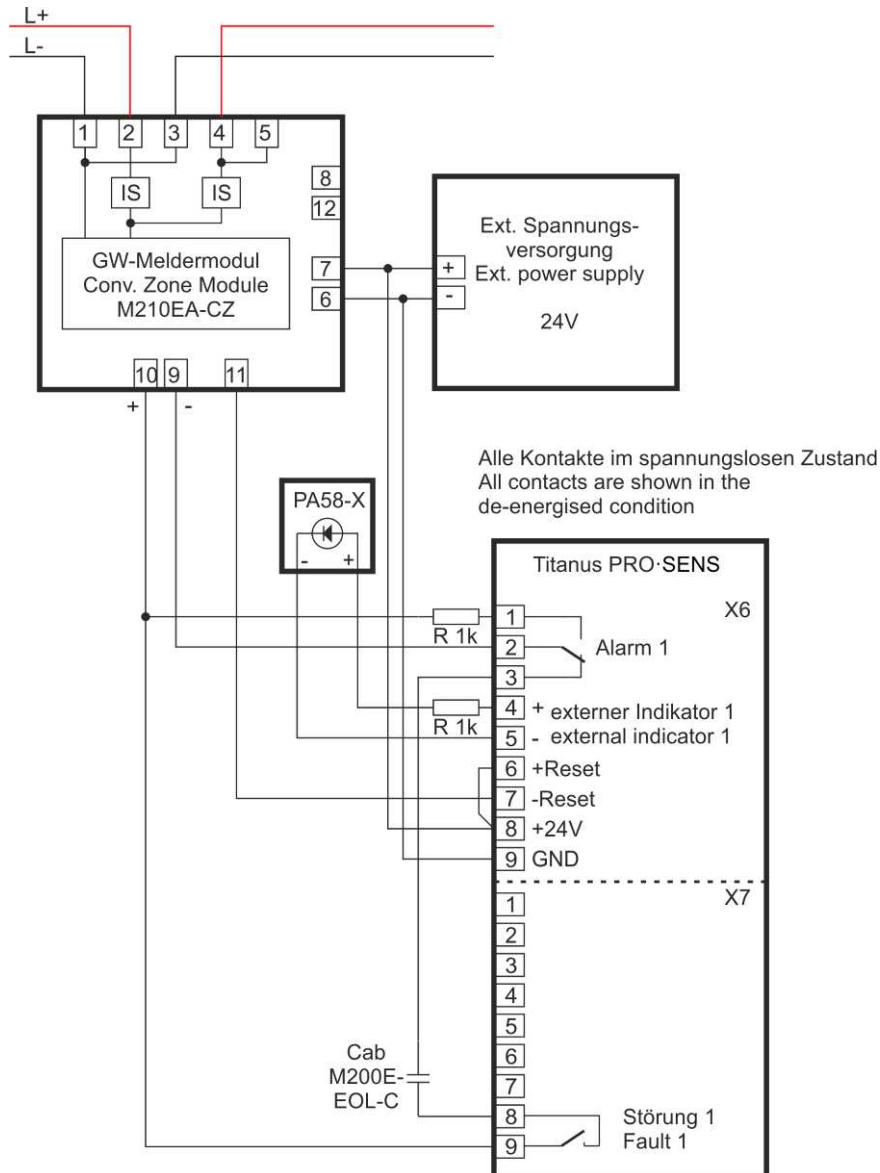


On pin connector JU2/3 (main printed circuit board), the jumper has to be set to position 1-2, which means that the fault relay is set to operate as NORMALLY OPEN contact.



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.11.91 Aspirating smoke detector Titanus PRO SENS – TP1/A with one detector module – M210EA-CZ

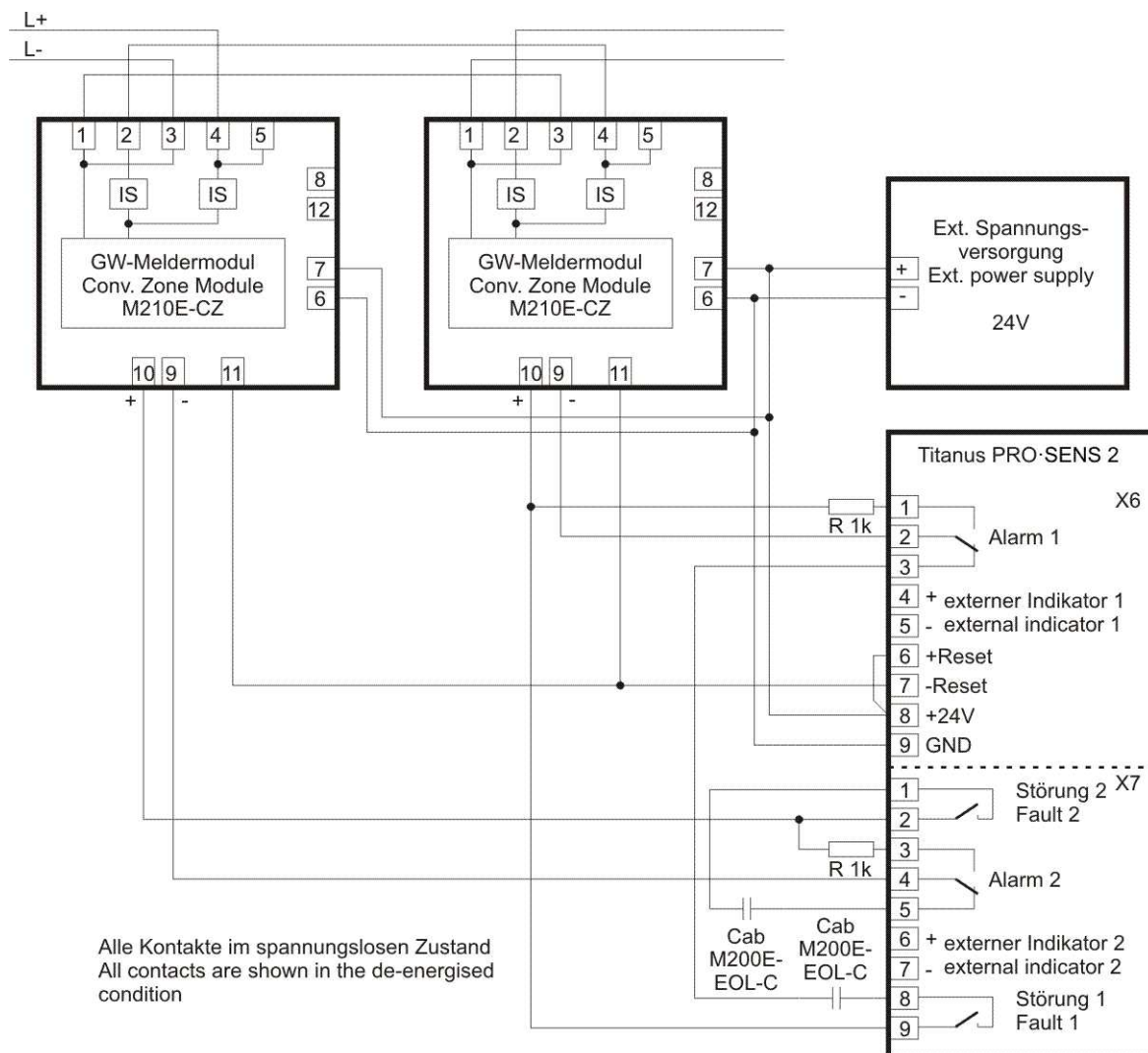


On pin connector JU2/3 (main printed circuit board), the jumper has to be set to position 1-2. In this way, the fault relay is set to operate as NORMALLY OPEN contact.



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.92 Aspirating smoke detector Titanus PRO·SENS – TP1/A with 2 detector modules – M210E-CZ



On pin connector JU2/3 (main printed circuit board), the jumper has to be set to position 1-2, which means that the fault relay is set to operate as NORMALLY OPEN contact.

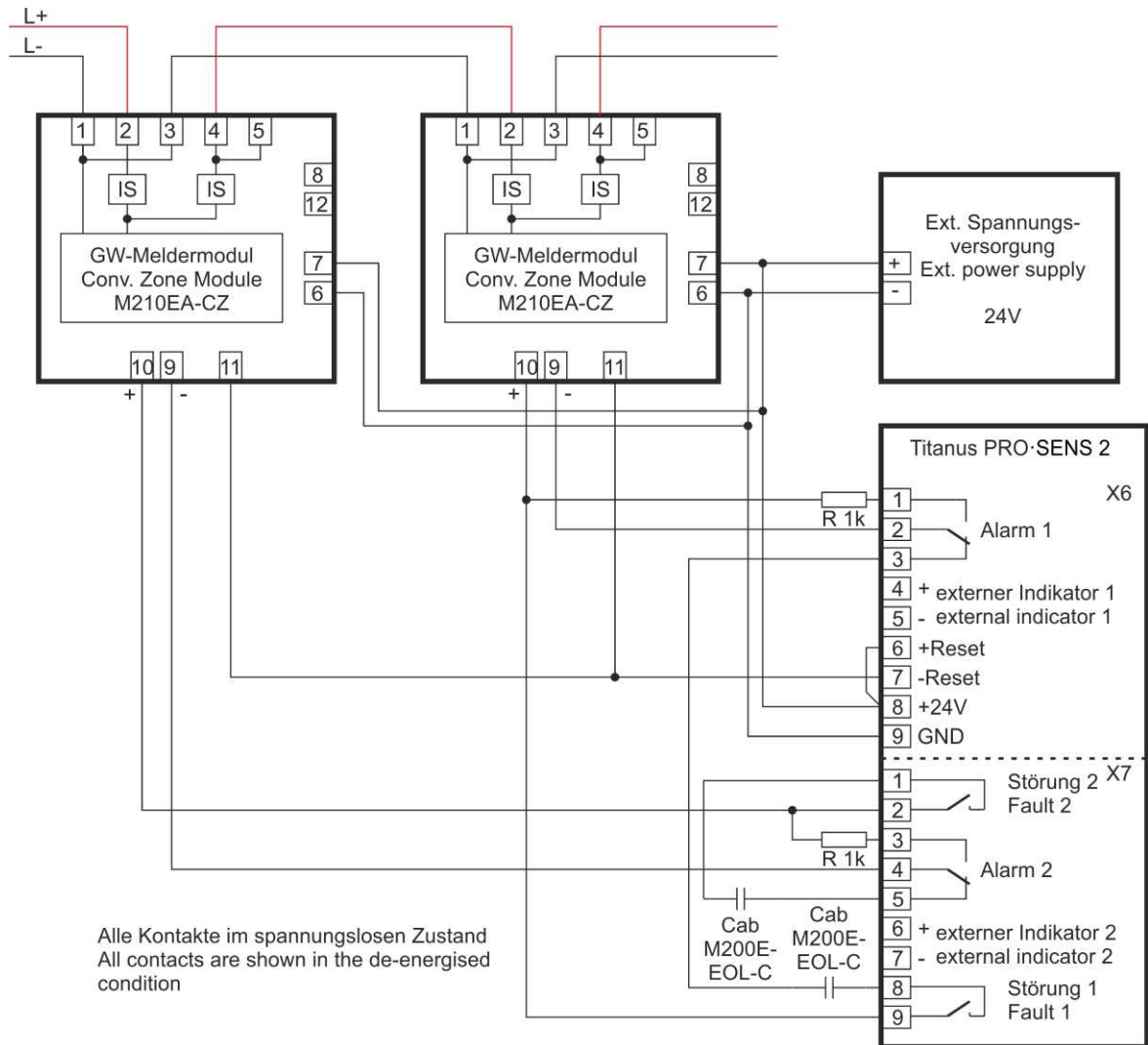


For the operation of the aspirating smoke detector on Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the aspirating smoke detector will be deactivated if one of the two modules is disabled!



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.11.93 Aspirating smoke detector Titanus PRO·SENS – TP-1/A with two detector modules – M210EA-CZ



On pin connector JU2/3 (main printed circuit board), the jumper has to be set to position 1-2. In this way, the fault relay is set to operate as NORMALLY OPEN contact.



For the operation of the aspirating smoke detector on Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used, and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the aspirating smoke detector will be deactivated if one of the two modules is disabled!

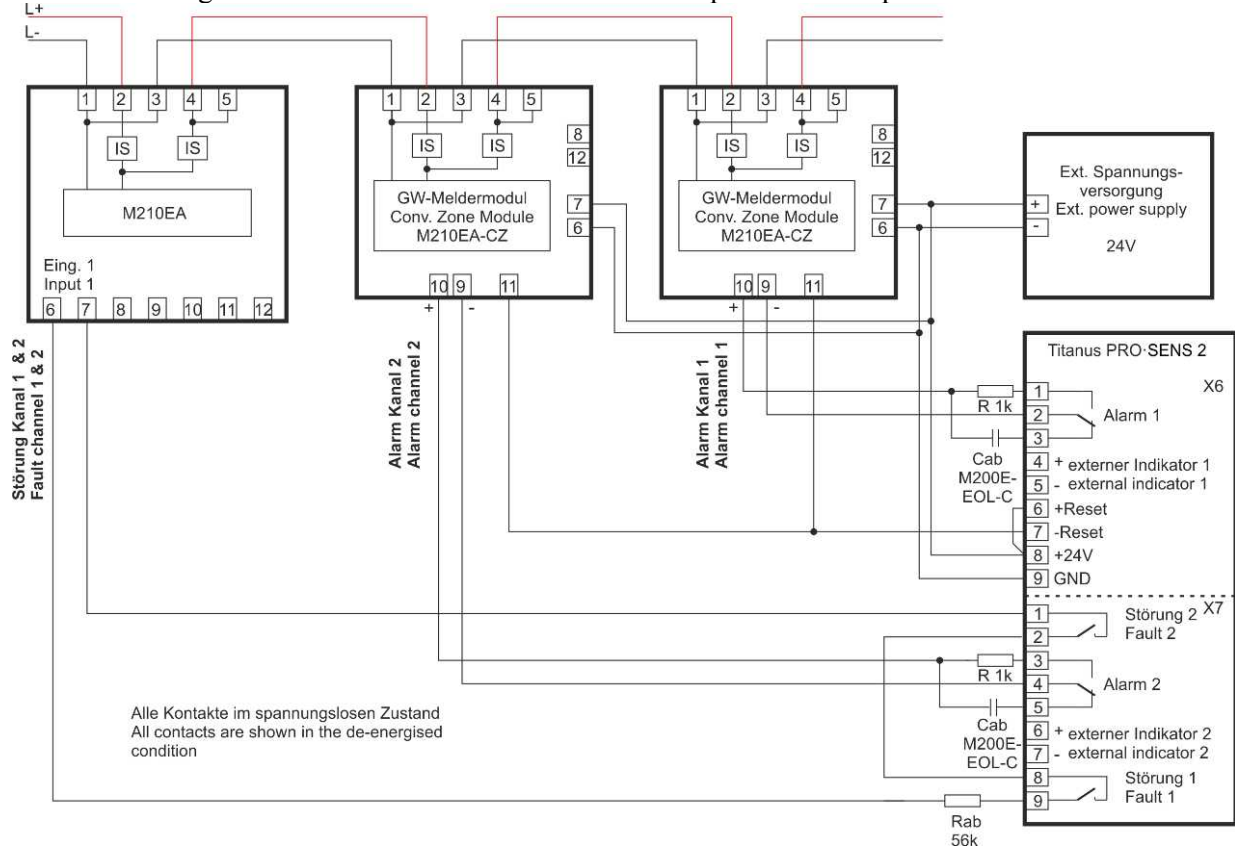


If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.94 Aspirating smoke detector Titanus Pro Sens – TP-1/A with two detector modules – M210EA

As a result of the fault of the aspirating smoke detector, the end-of-line element is disconnected from the input of the conventional zone module. Therefore, a reduced air flow through the pipe network of the aspirating smoke detector leads to an open circuit fault of the module M210EA-CZ. In order to make the aspirating smoke detector's messages that are indicated on the Control Panel Series BC216/BC600 easier to understand, the fault message can be detected and forwarded to the control panel separately.

The fault message of the device is forwarded to the control panel via an input module.



On pin connector JU2/3 (main printed circuit board), the jumper has to be set to position 1-2. In this way, the fault relay is set to operate as NORMALLY OPEN contact.



For the operation of the aspirating smoke detector on Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used, and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the aspirating smoke detector will be deactivated if one of the two modules is disabled!

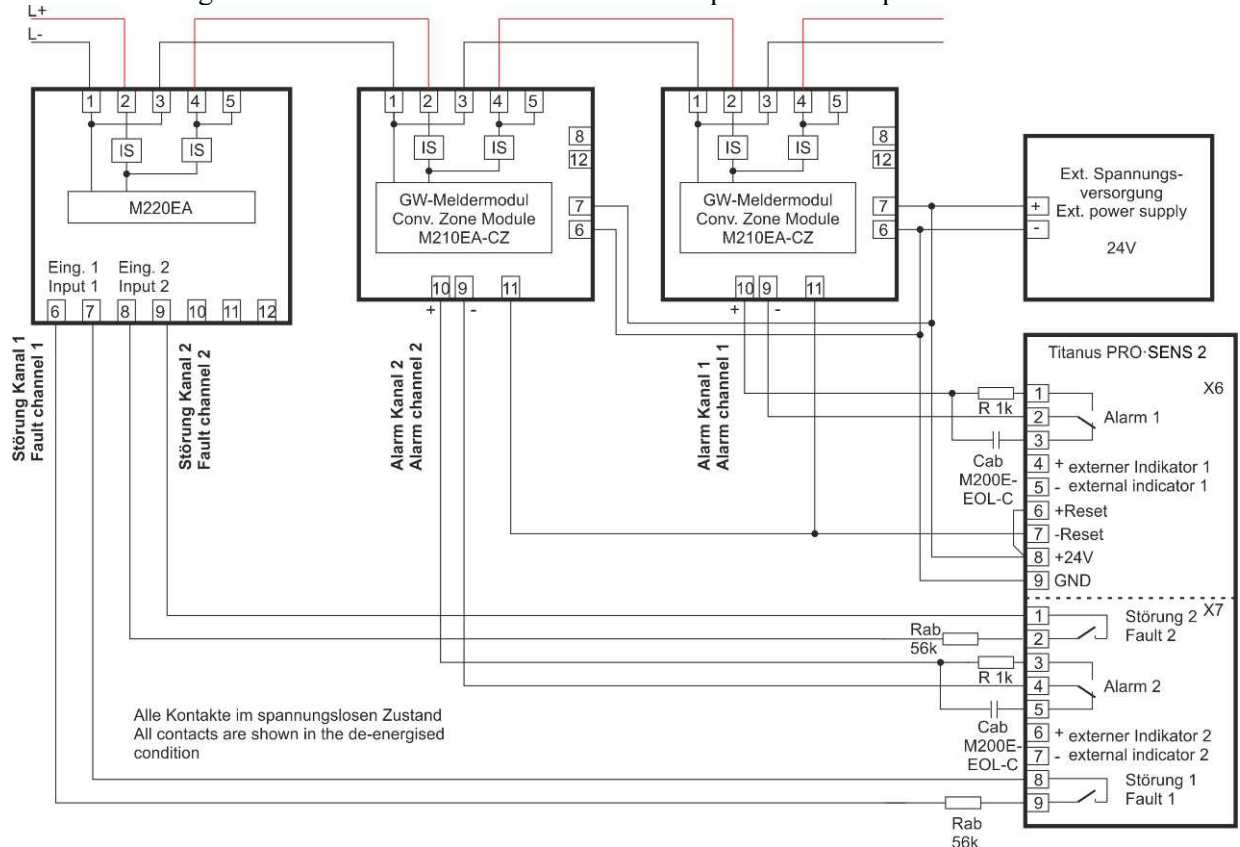


If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.95 Aspirating smoke detector Titanus Pro Sens – TP-1/A with two detector modules – M220EA

As a result of the fault of the aspirating smoke detector, the end-of-line element is disconnected from the input of the conventional zone module. Therefore, a reduced air flow through the pipe network of the aspirating smoke detector leads to an open circuit fault of the module M210EA-CZ. In order to make the aspirating smoke detector's messages that are indicated on the Control Panel Series BC216/BC600 easier to understand, the fault message can be detected and forwarded to the control panel separately.

The fault message of the device is forwarded to the control panel via an input module.



On pin connector JU2/3 (main printed circuit board), the jumper has to be set to position 1-2. In this way, the fault relay is set to operate as NORMALLY OPEN contact.

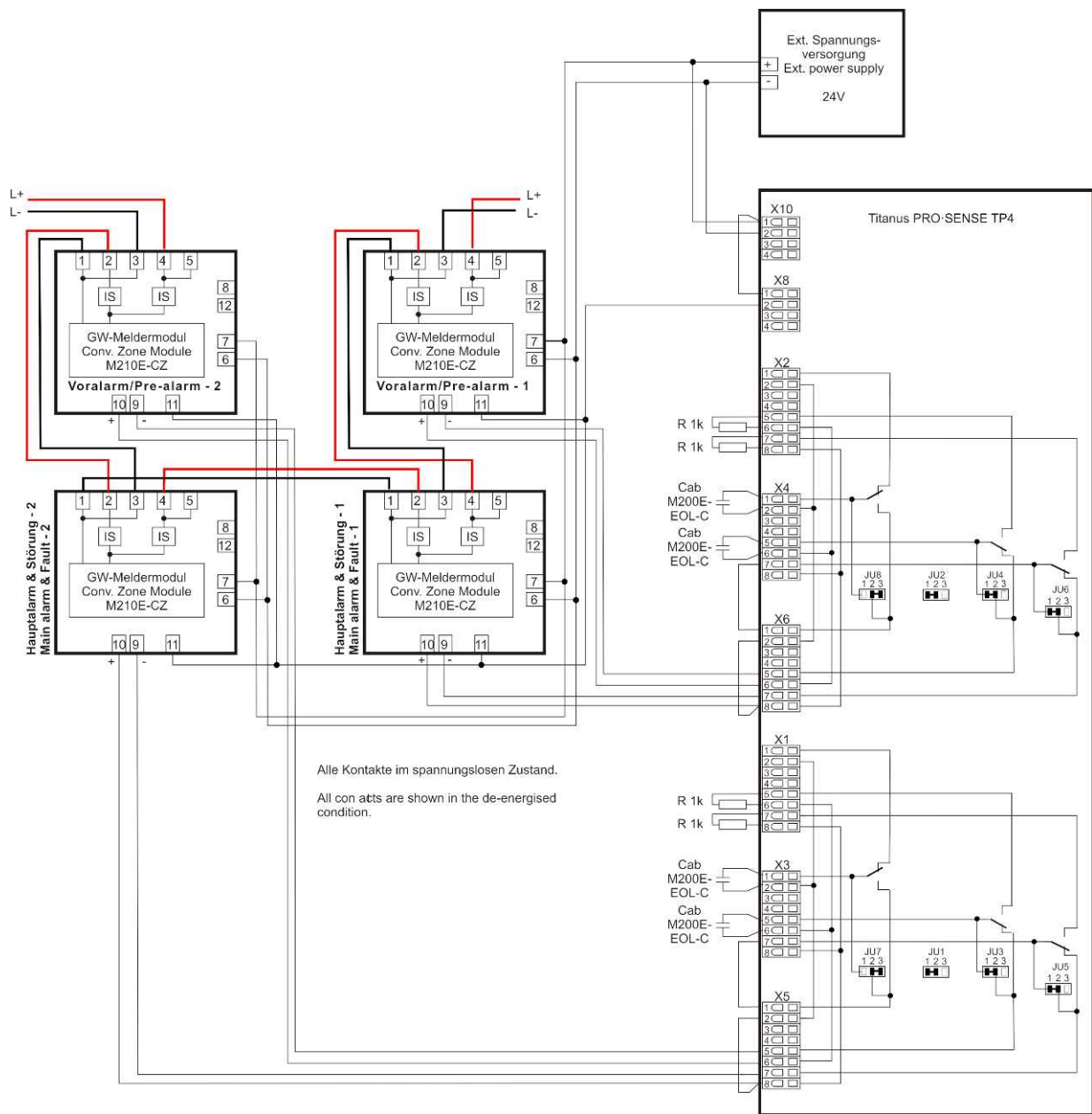


For the operation of the aspirating smoke detector on Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used, and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the aspirating smoke detector will be deactivated if one of the two modules is disabled!



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.96 Aspirating smoke detector Titanus PRO·SENSE – TP-4 with 2 detector modules – M210E-CZ

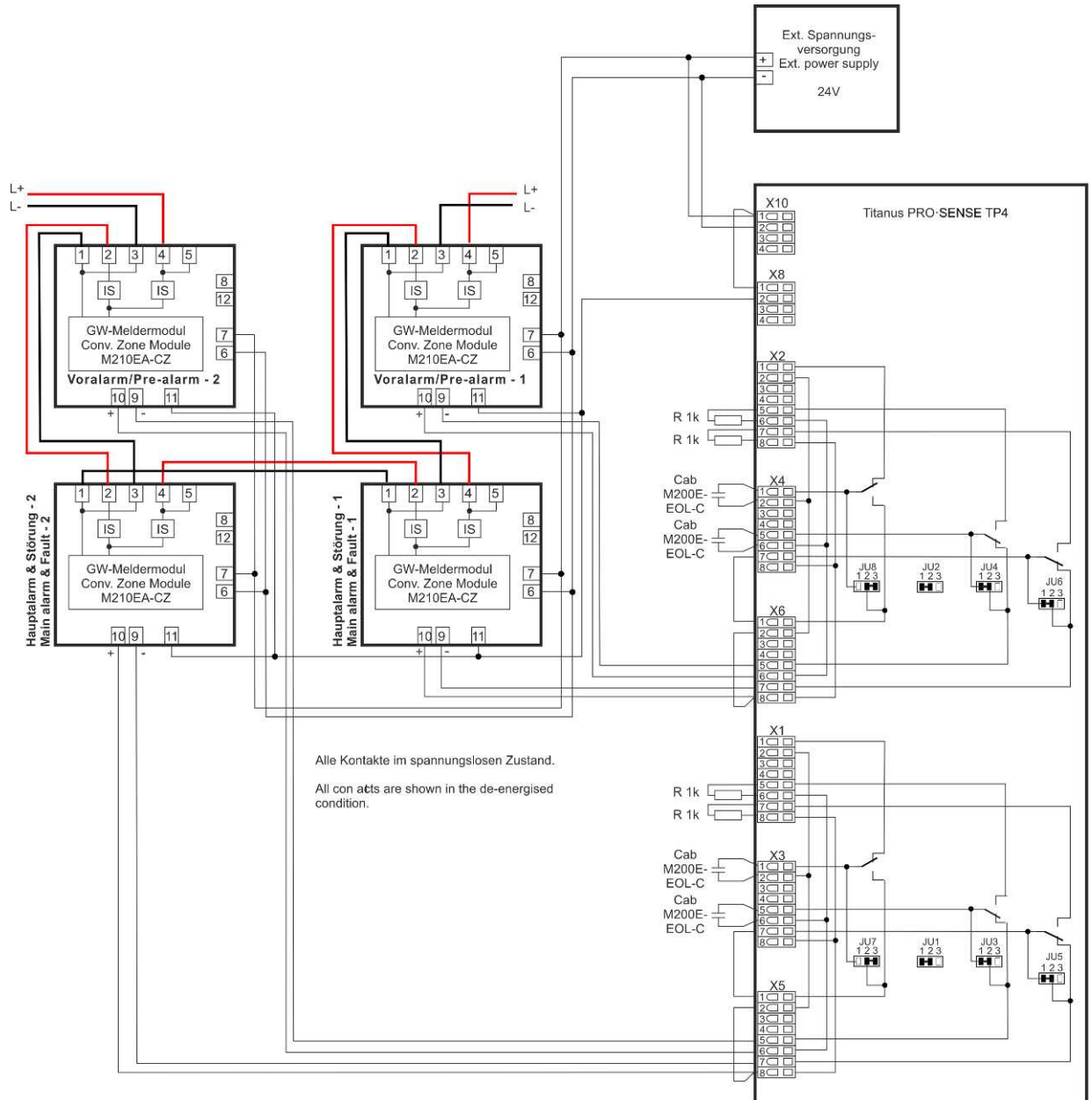


For the operation of the aspirating smoke detector on Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the aspirating smoke detector will be deactivated if one of the two modules is disabled!



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.11.97 Aspirating smoke detector Titanus PRO·SENSE – TP-4 with two detector modules – M210EA-CZ

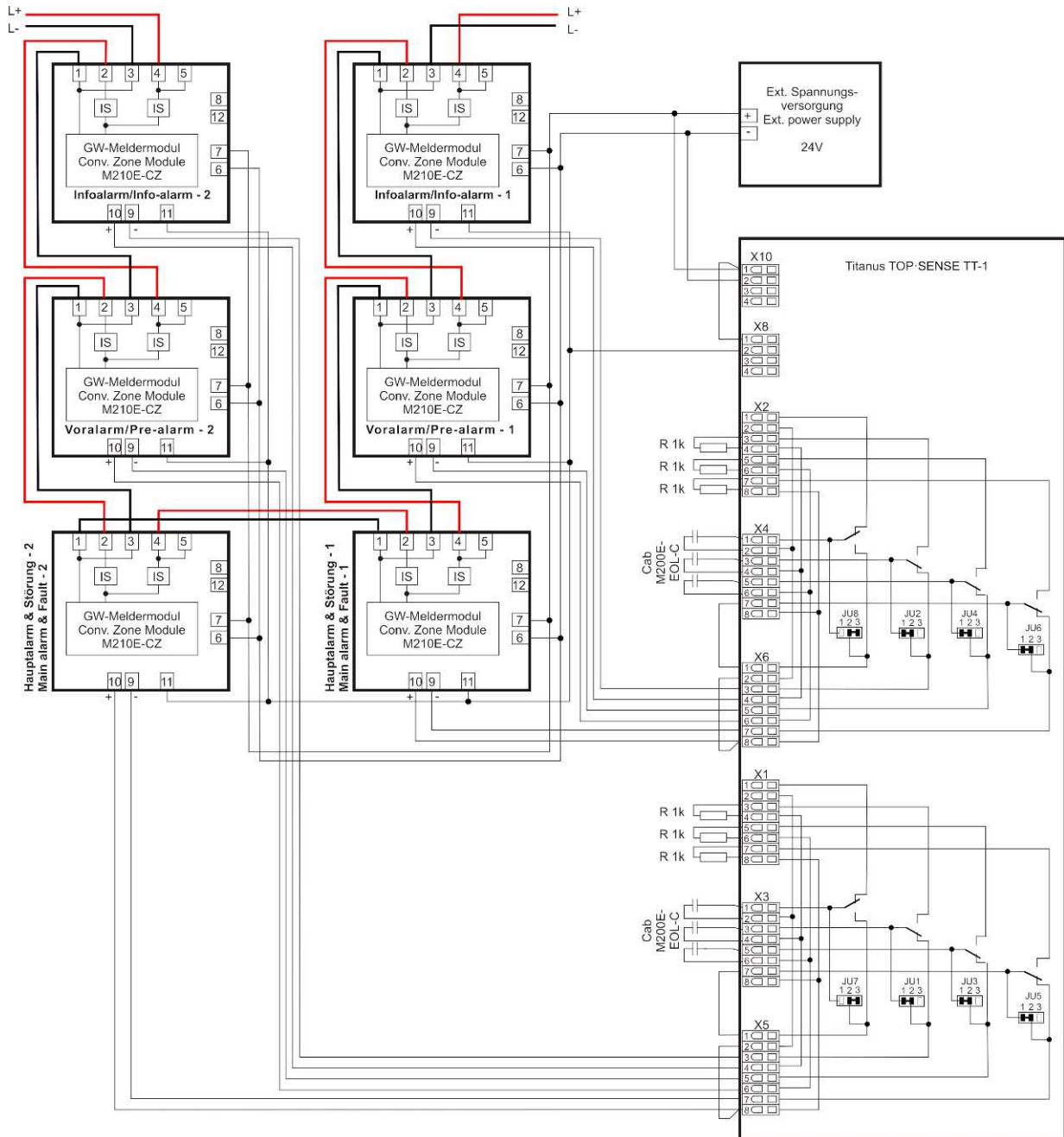


For the operation of the aspirating smoke detector on Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used, and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the aspirating smoke detector will be deactivated if one of the two modules is disabled!



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.98 Aspirating smoke detector Titanus TOP·SENS – TT-1 with 2 detector modules – M210E-CZ

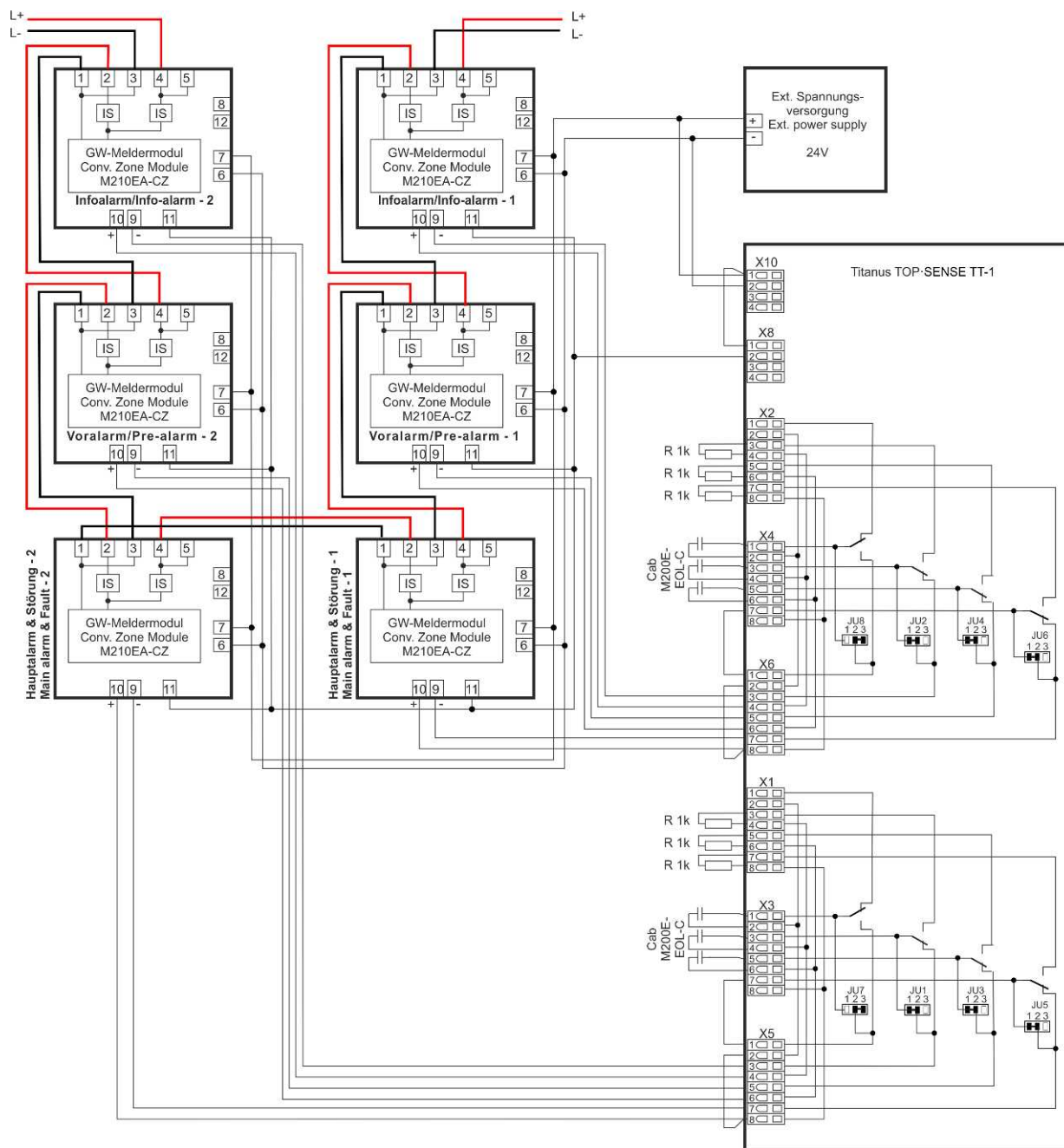


For the operation of the aspirating smoke detector on Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the aspirating smoke detector will be deactivated if one of the two modules is disabled!



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.11.99 Aspirating smoke detector Titanus TOP·SENSE – TT-1 with two detector modules – M210EA-CZ

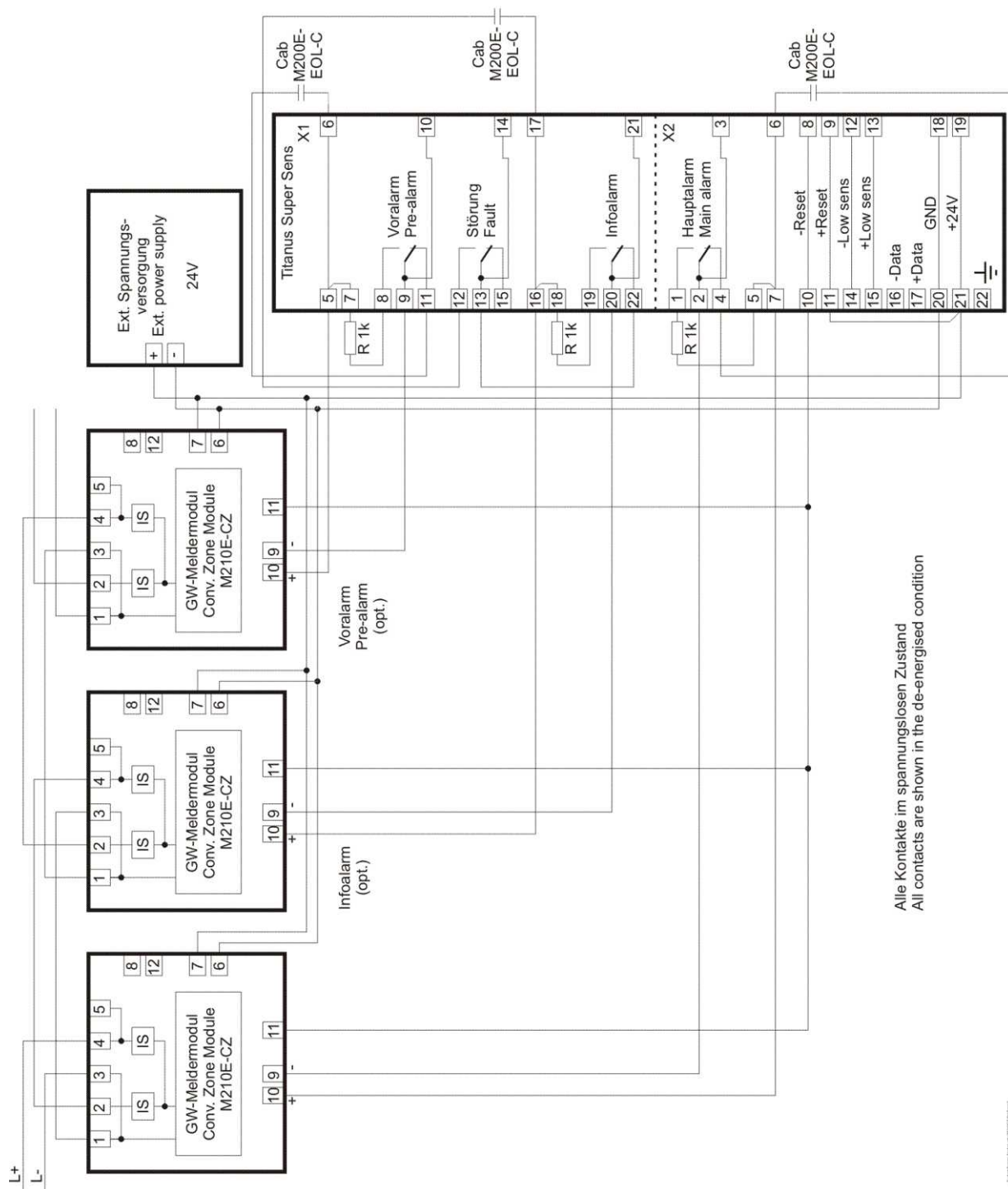


For the operation of the aspirating smoke detector on Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used, and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the aspirating smoke detector will be deactivated if one of the two modules is disabled!



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

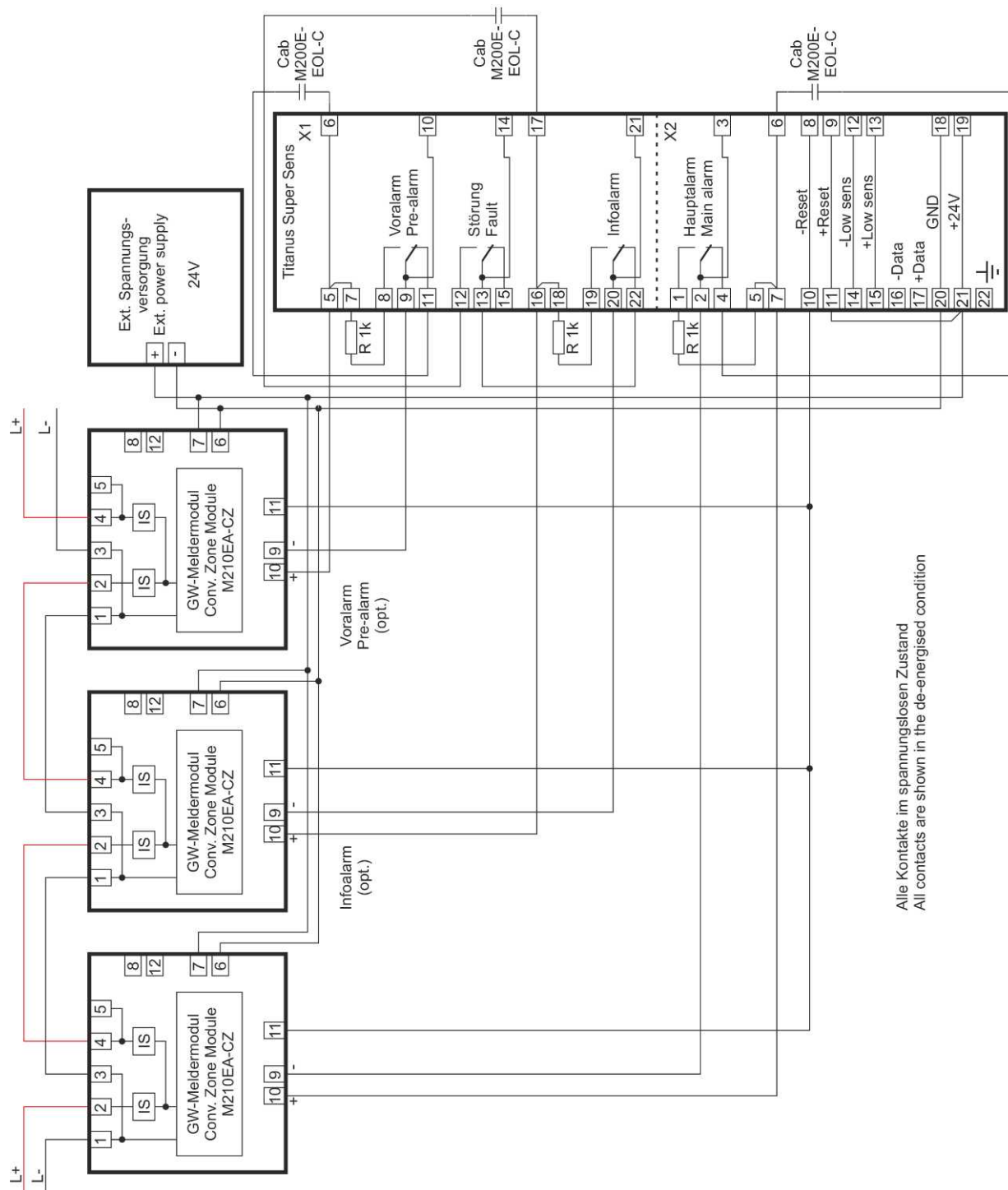
3.11.100 Aspirating smoke detector Titanus Super Sens – T-SS – M210E-CZ



On pin connector JU2/3 (main printed circuit board), the jumper has to be set to position 1-2, which means that the fault relay is set to operate as NORMALLY OPEN contact.

- For the operation of the aspirating smoke detector on Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the aspirating smoke detector will be deactivated if one of the two modules is disabled!
- If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.11.101 Aspirating smoke detector Titanus Super Sens – T-SS – M210EA-CZ



On pin connector JU2/3 (main printed circuit board), the jumper has to be set to position 1-2. In this way, the fault relay is set to operate as NORMALLY OPEN contact.

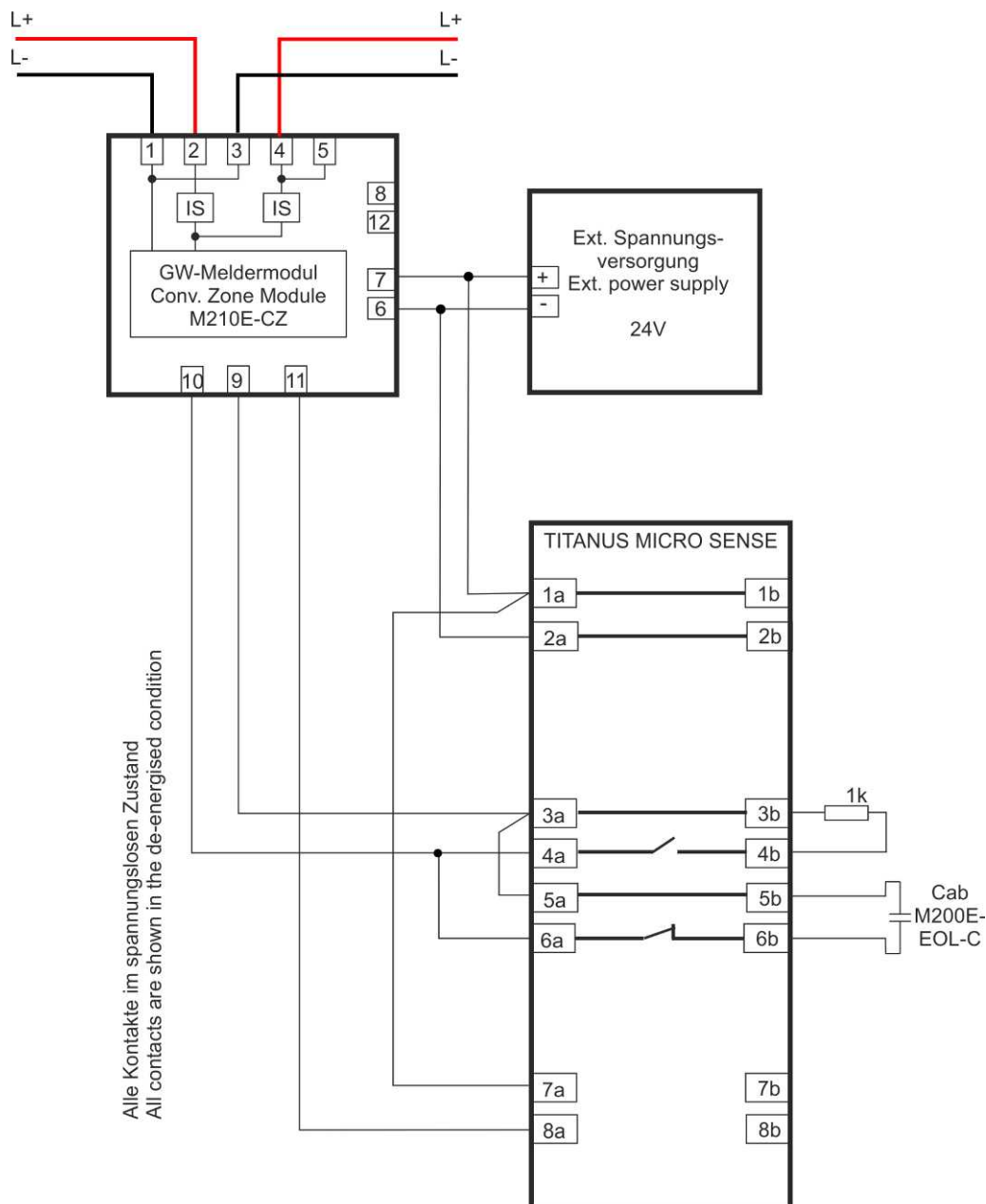


For the operation of the aspirating smoke detector on Control Panels Series BC216/BC600, a firmware from calendar week 12 / 2013 or later is to be used, and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the aspirating smoke detector will be deactivated if one of the two modules is disabled!



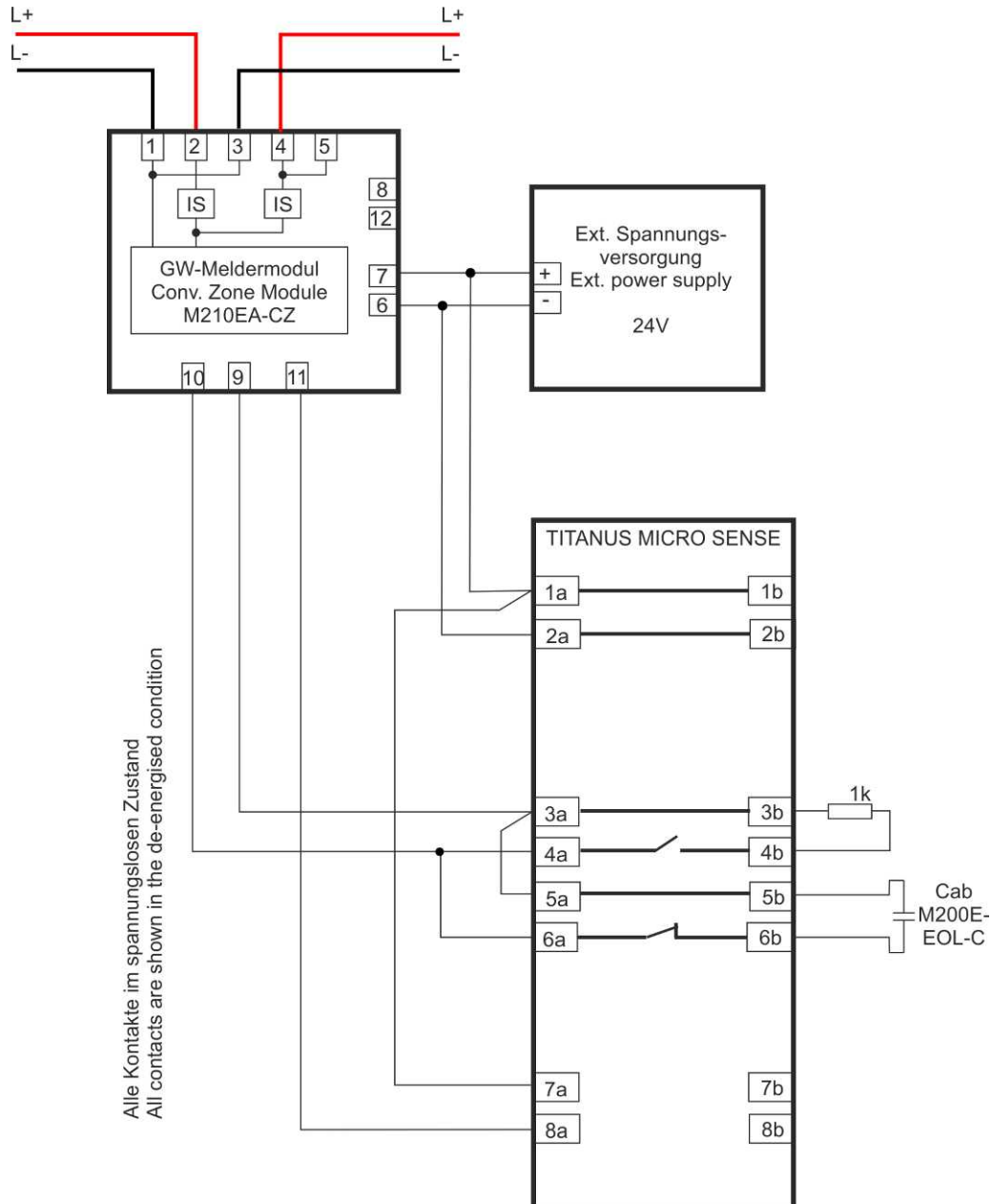
If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.102 Aspirating smoke detector Titanus MICRO SENSE – M210E-CZ



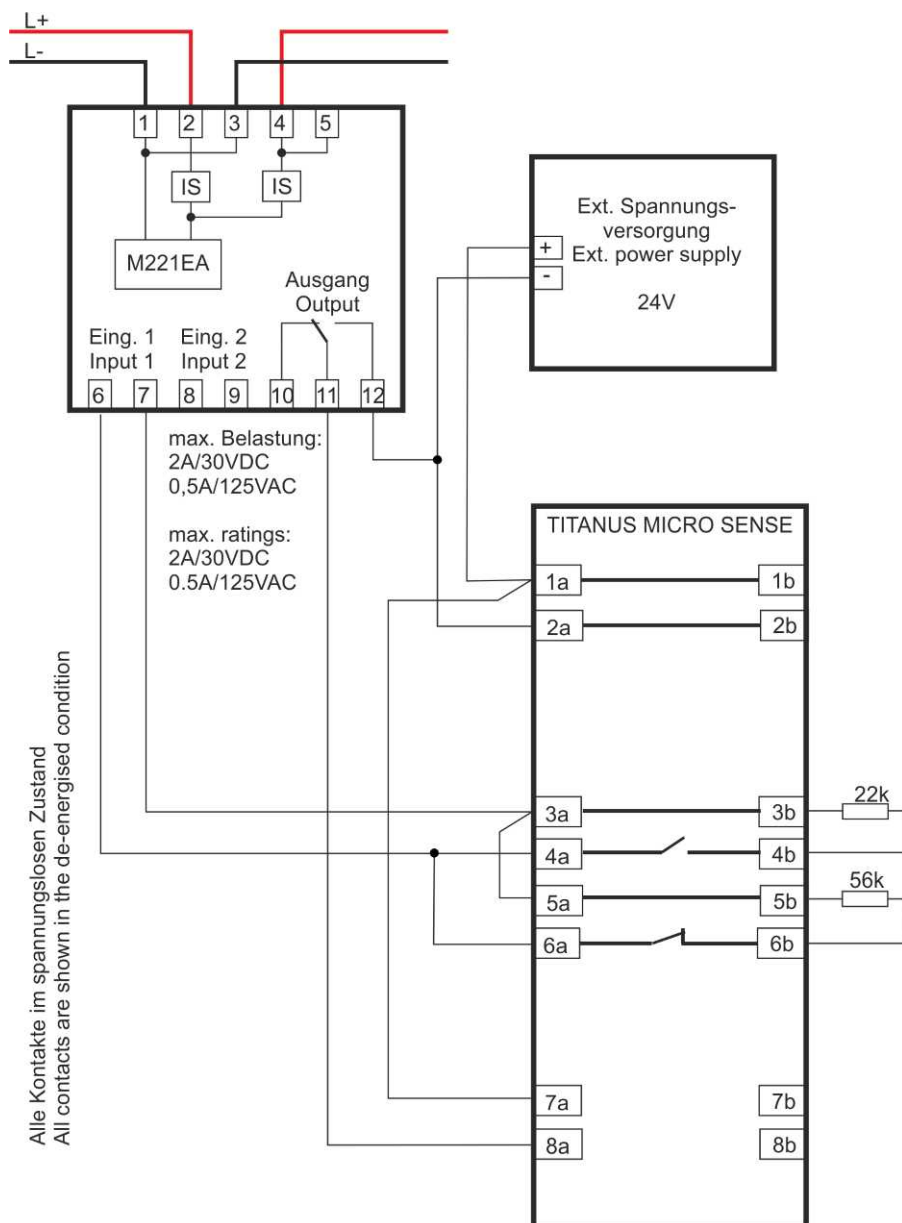
If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.103 Aspirating smoke detector Titanus MICRO SENSE – M210EA-CZ



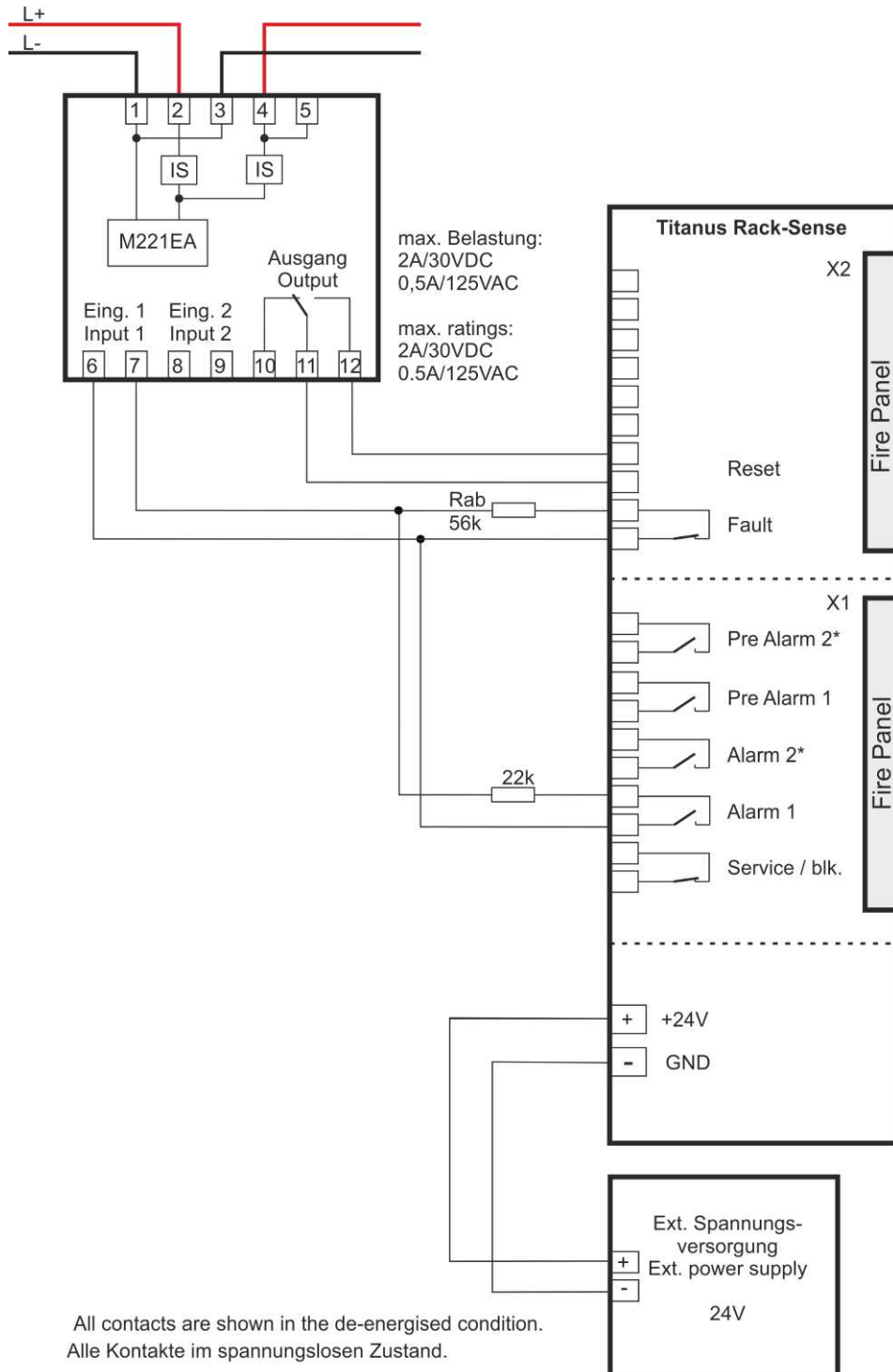
If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.104 Aspirating smoke detector Titanus MICRO SENSE – M221EA



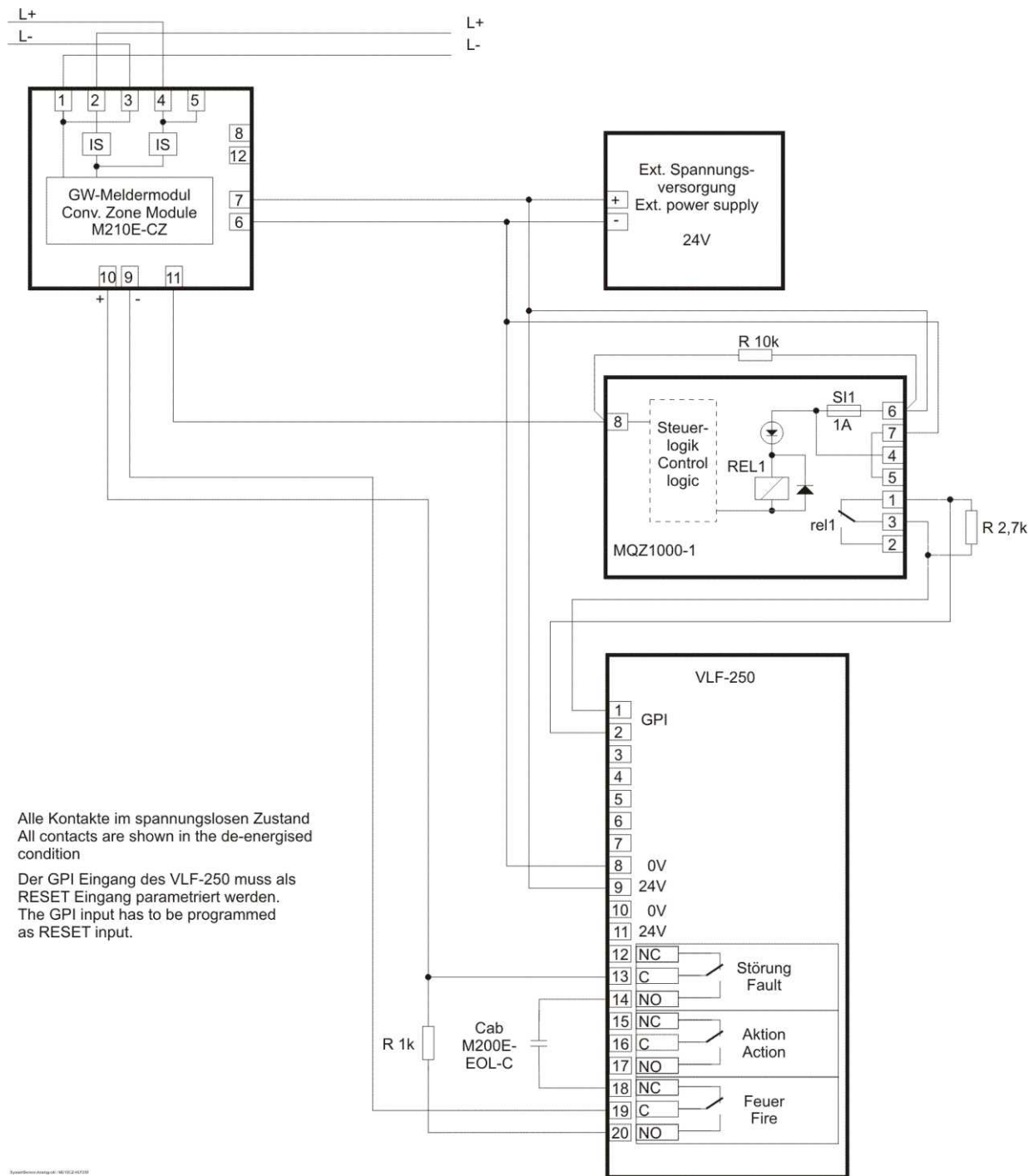
This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

3.11.105 Aspirating smoke detector Titanus RACK SENSE – M221EA



This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

3.11.106 Aspirating smoke detector Vesda VLF-250 / VLF-500 – M210E-CZ



You need a special software for the setup and commissioning of the Vesda VLF-250 / VLF-500.

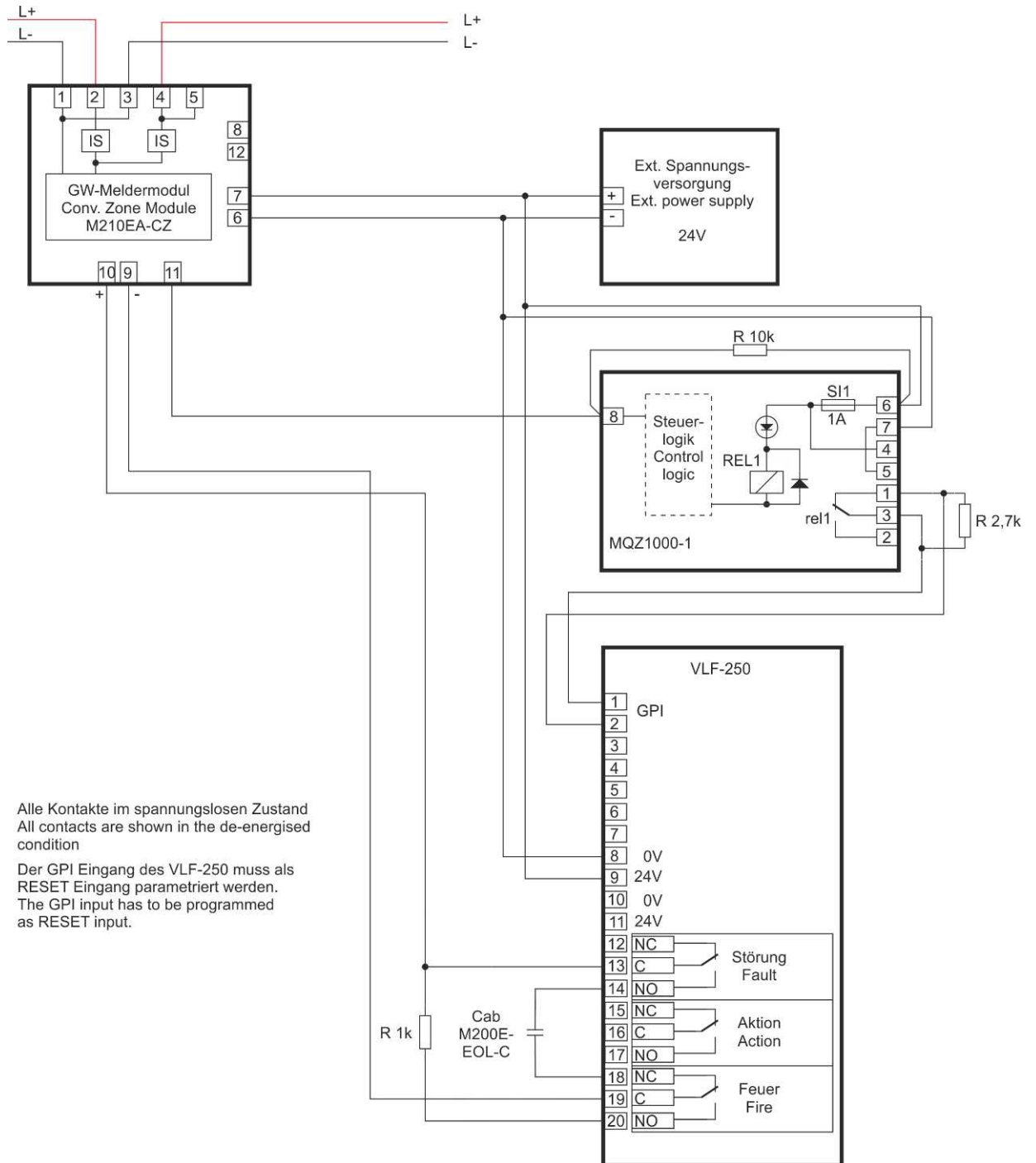


The Vesda VLF-500 has the same terminal configuration as the VLF-250.



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.11.107 Aspirating smoke detector Vesda VLF-250 / VLF-500 – M210EA-CZ



You need a special software for the setup and commissioning of the Vesda VLF-250 / VLF-500.

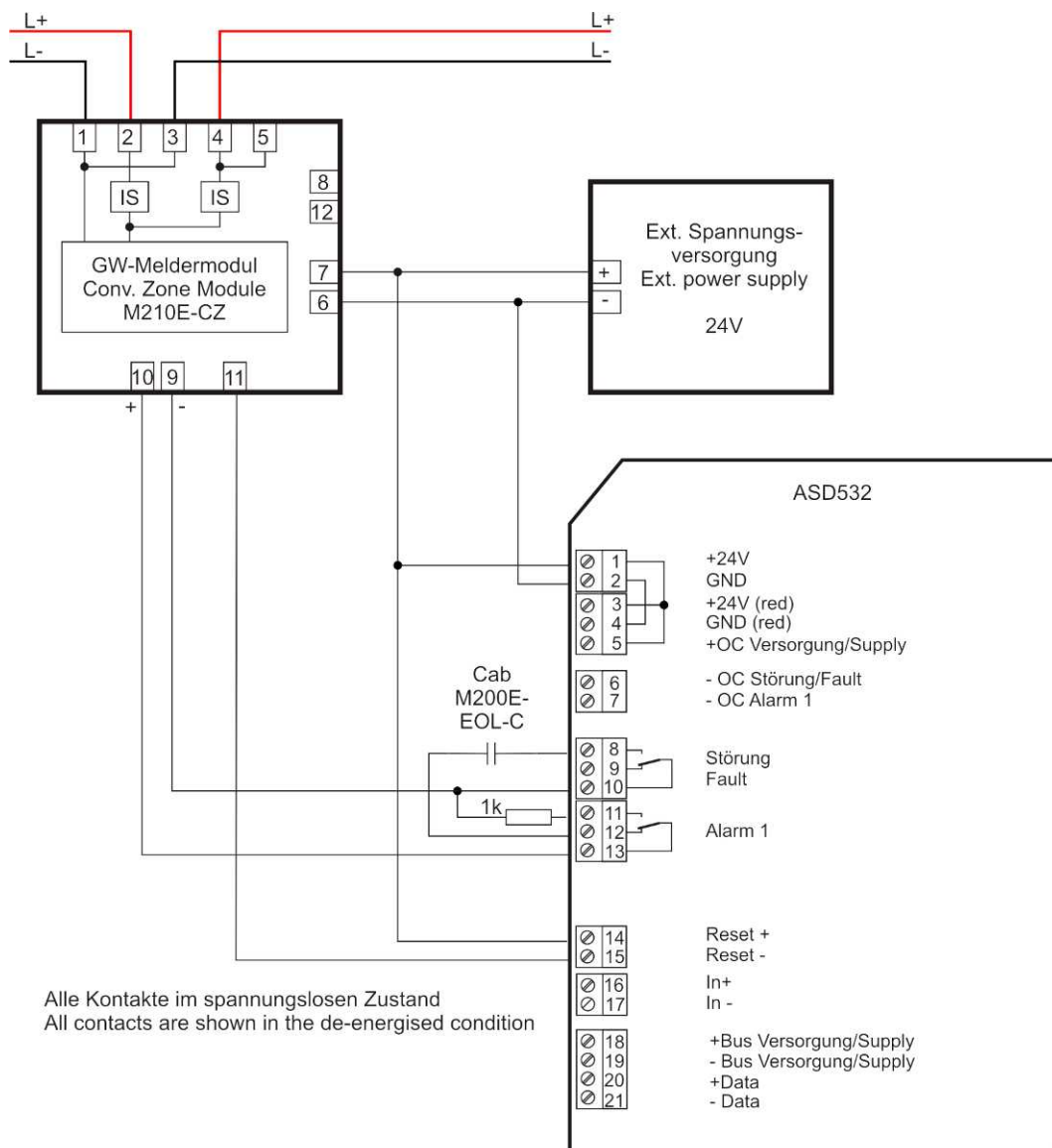


The Vesda VLF-500 has the same terminal configuration as the VLF-250.



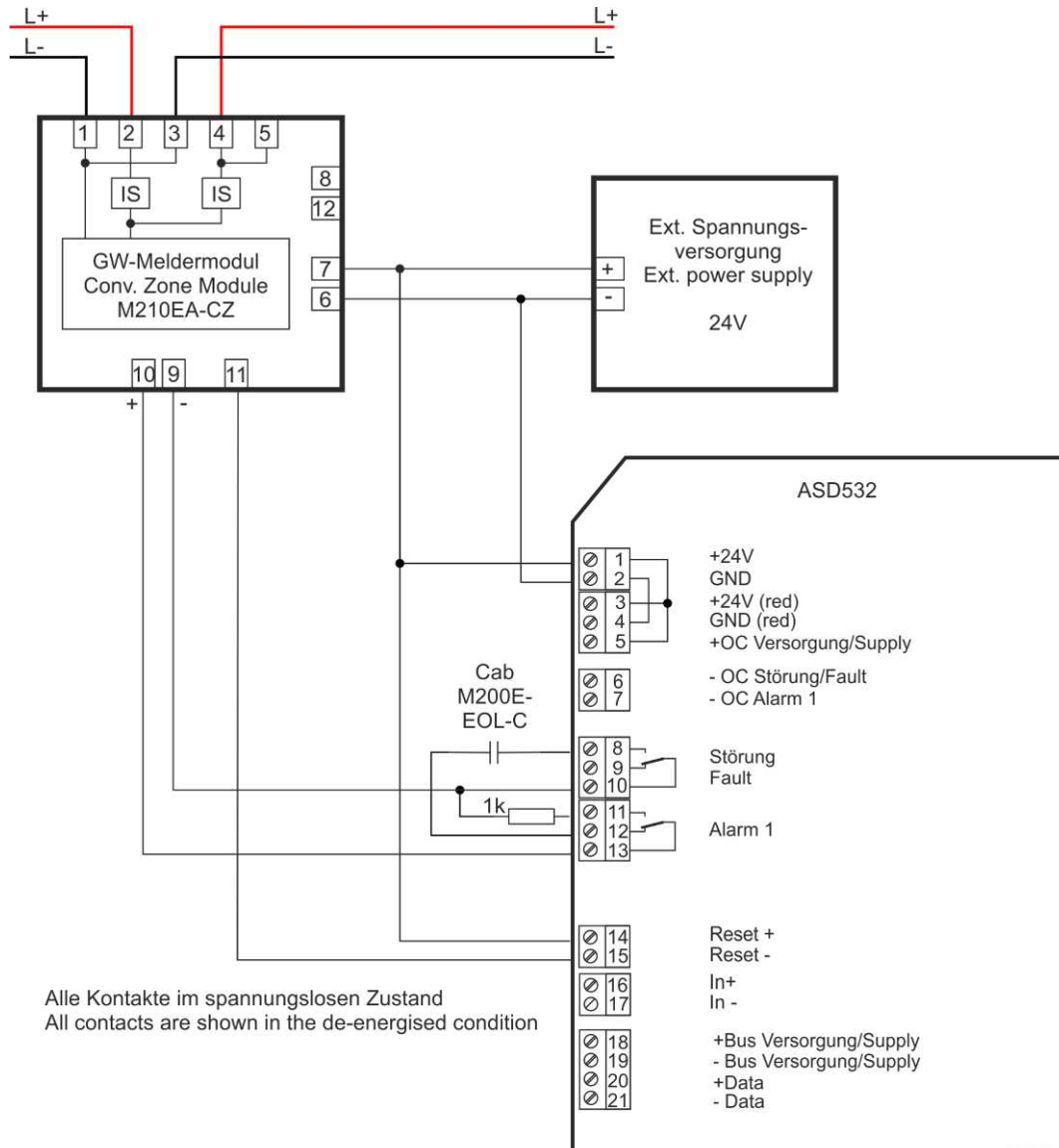
If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.108 Aspirating smoke detector ASD532 – M210E-CZ



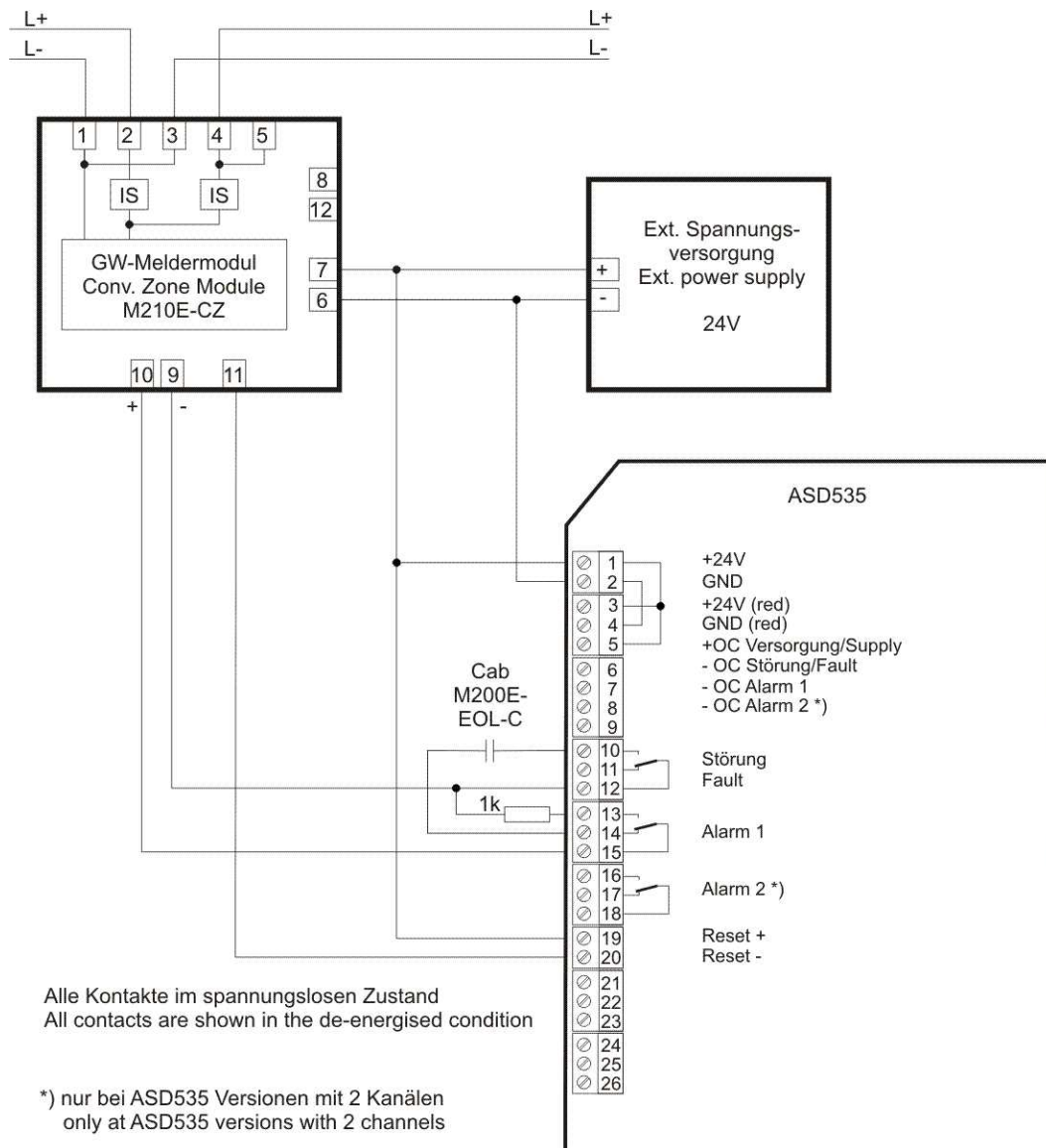
If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.11.109 Aspirating smoke detector ASD532 – M210EA-CZ



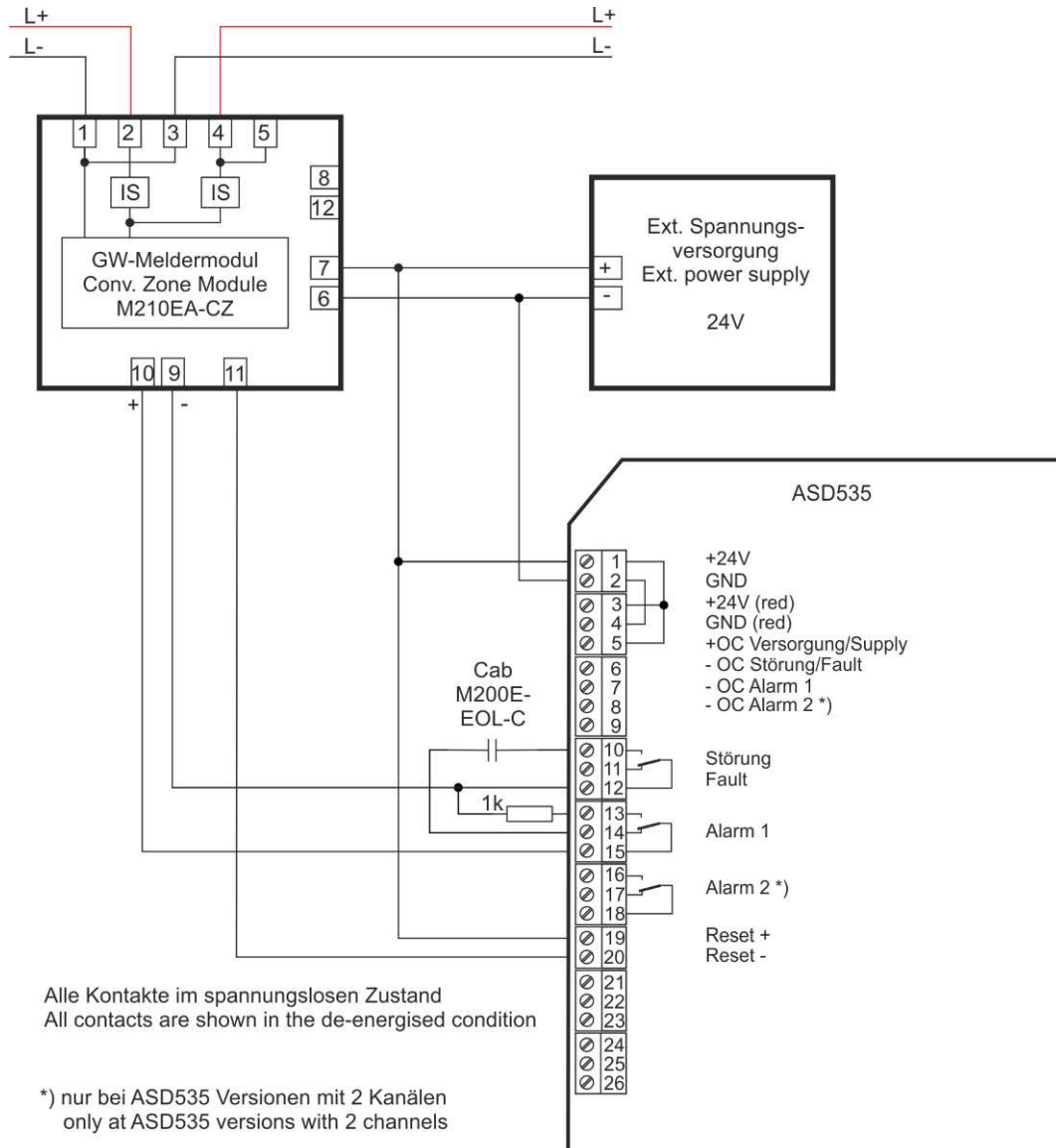
If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.110 Aspirating smoke detector ASD535 with one channel – M210E-CZ



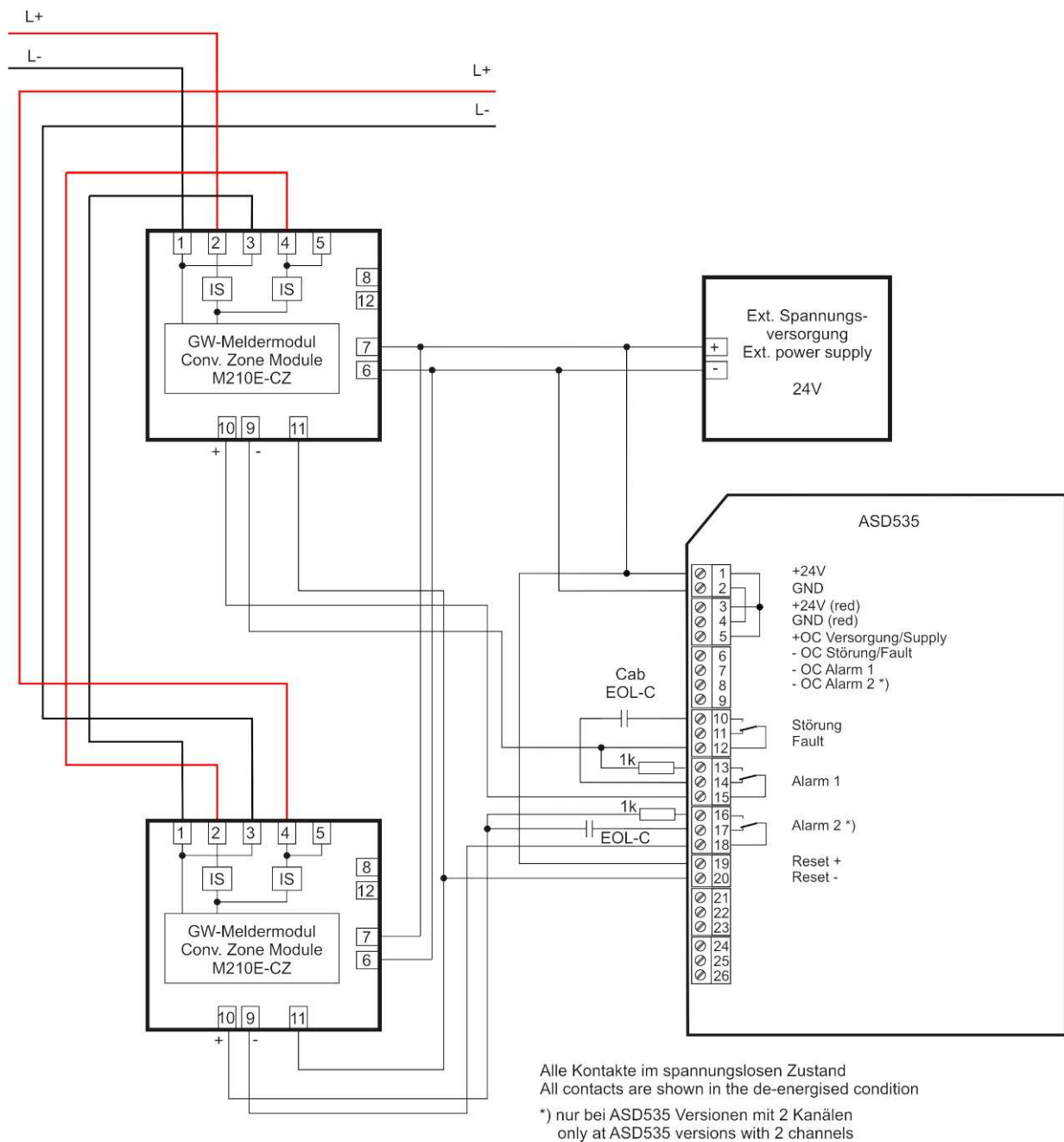
If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.11.111 Aspirating smoke detector ASD535 with one channel – M210EA-CZ



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.112 Aspirating smoke detector ASD535 with two channels – M210E-CZ

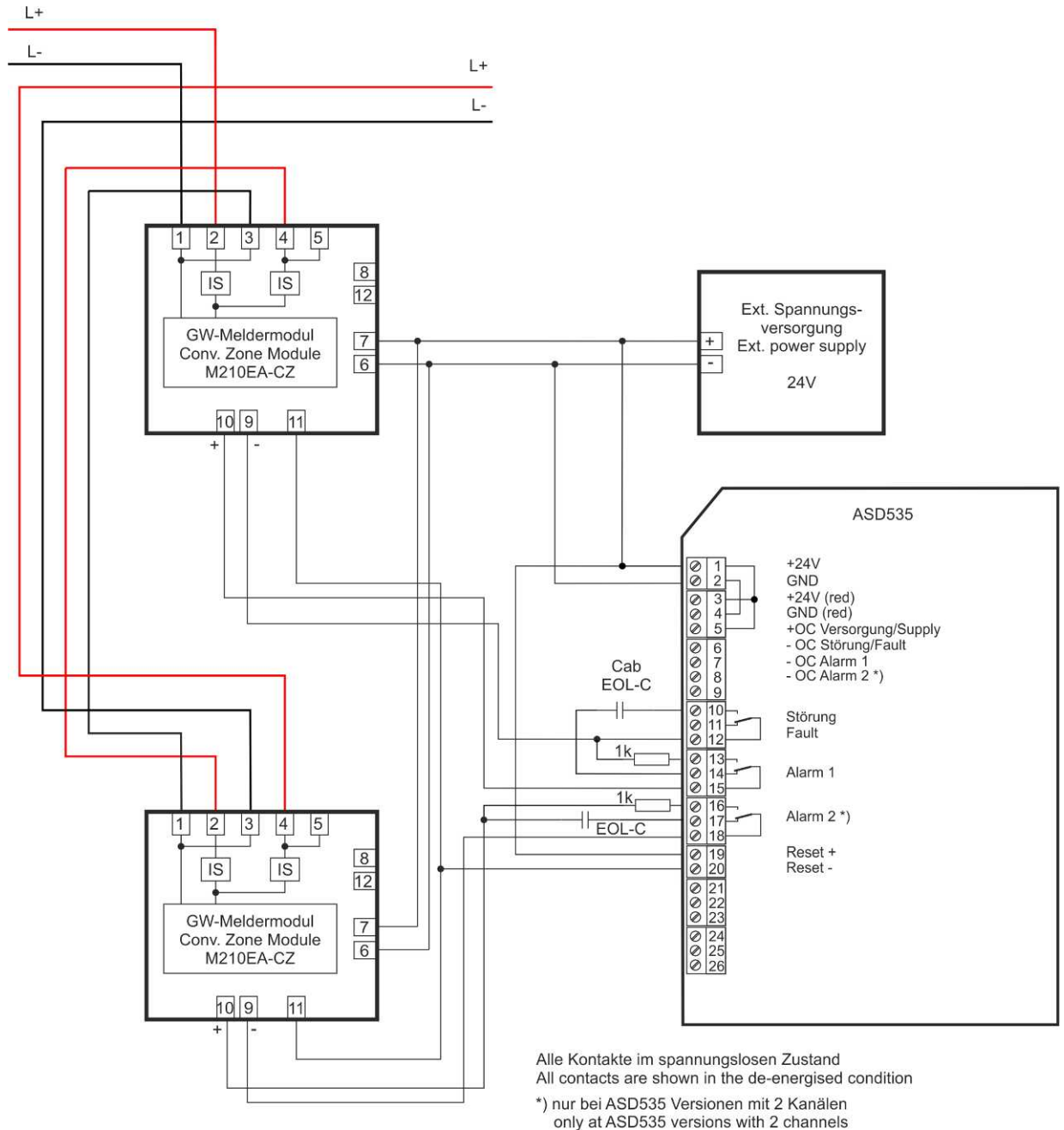


For the operation of the aspirating smoke detector on Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the aspirating smoke detector will be deactivated if one of the two modules is disabled!



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.11.113 Aspirating smoke detector ASD535 with two channels – M210EA-CZ

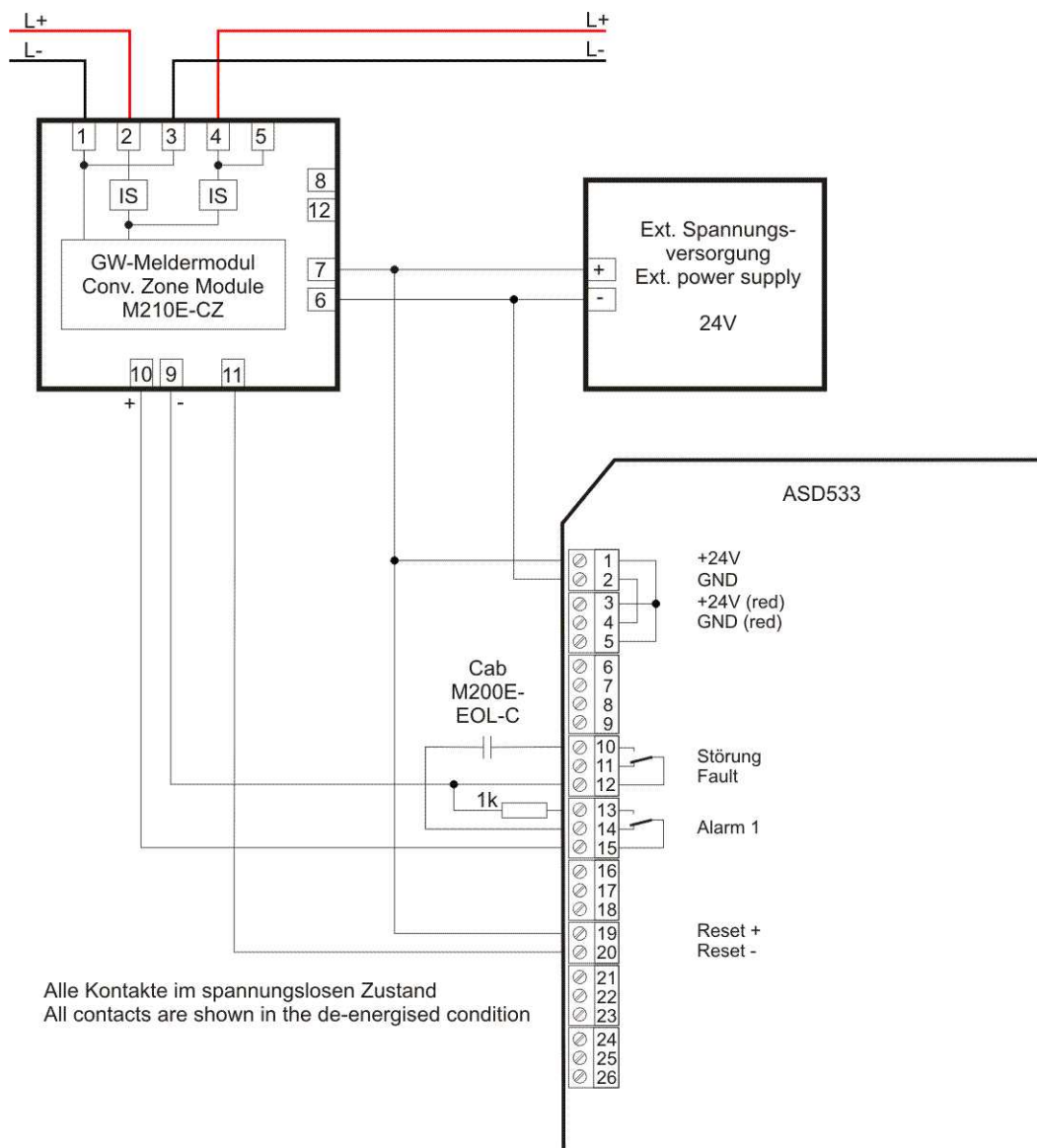


For the operation of the aspirating smoke detector on Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used, and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the aspirating smoke detector will be deactivated if one of the two modules is disabled!



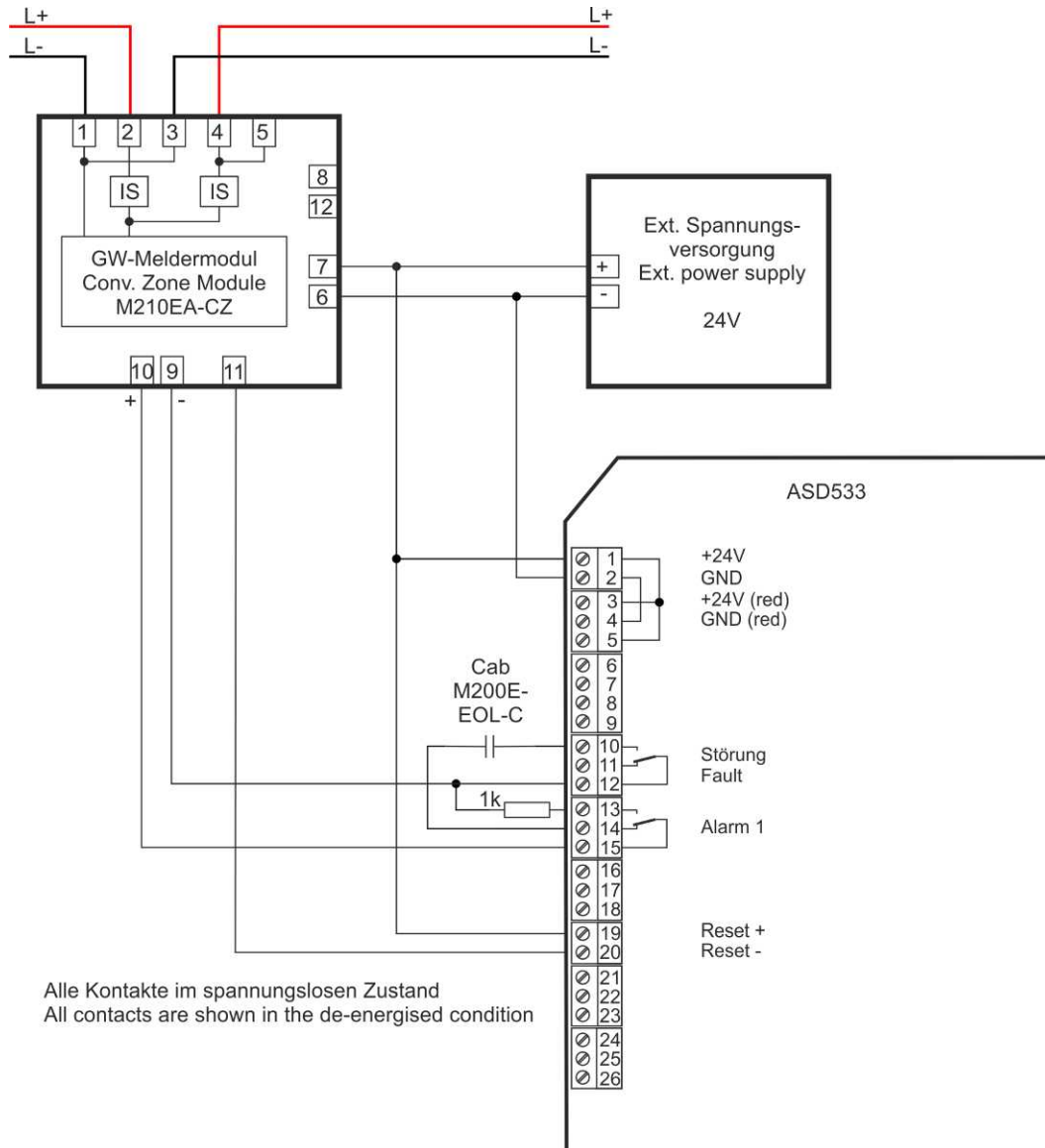
If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.114 Aspirating smoke detector ASD533 – M210E-CZ



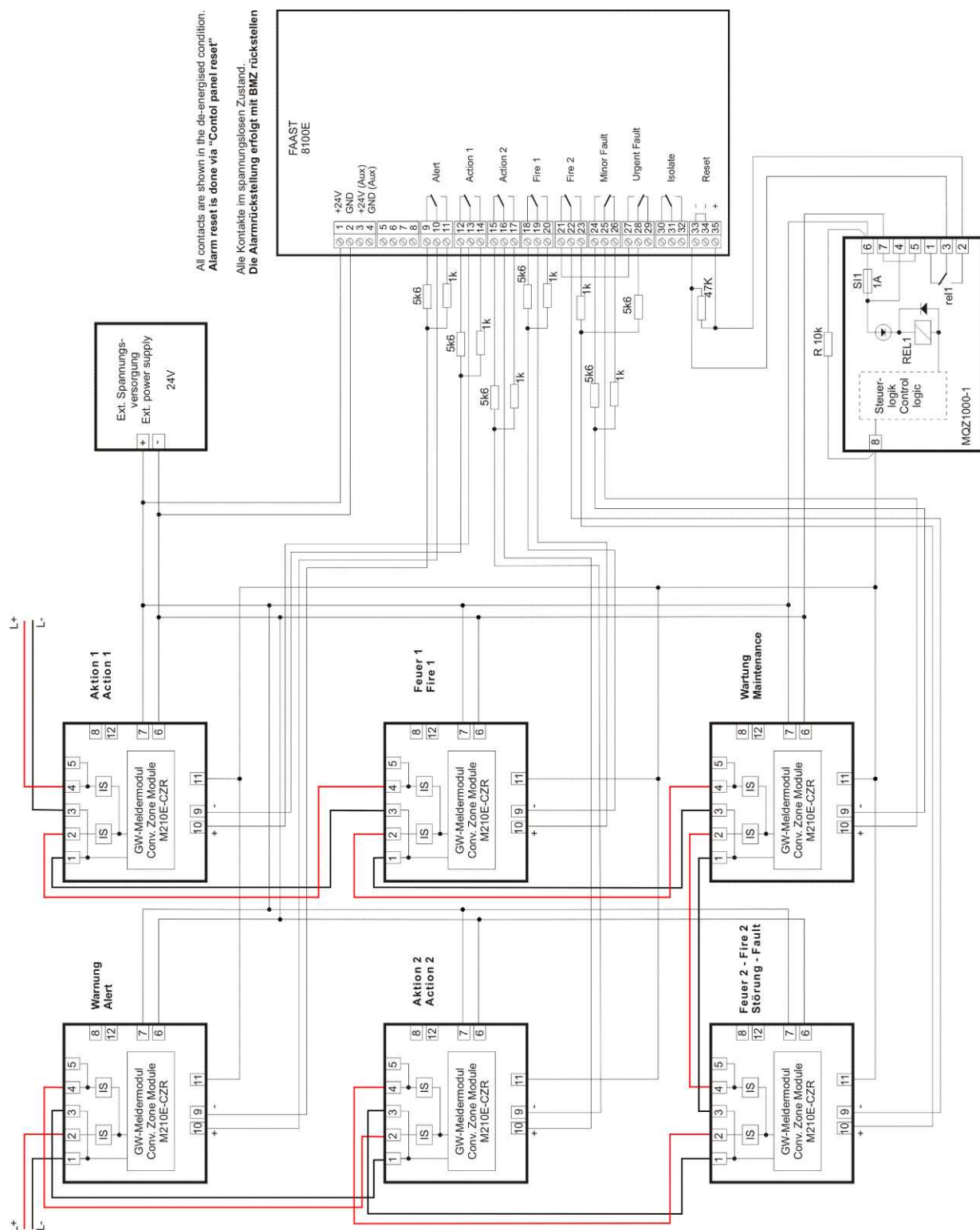
If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.11.115 Aspirating smoke detector ASD533 – M210EA-CZ



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.116 Aspirating smoke detector FFAST 8100E – M210E-CZ

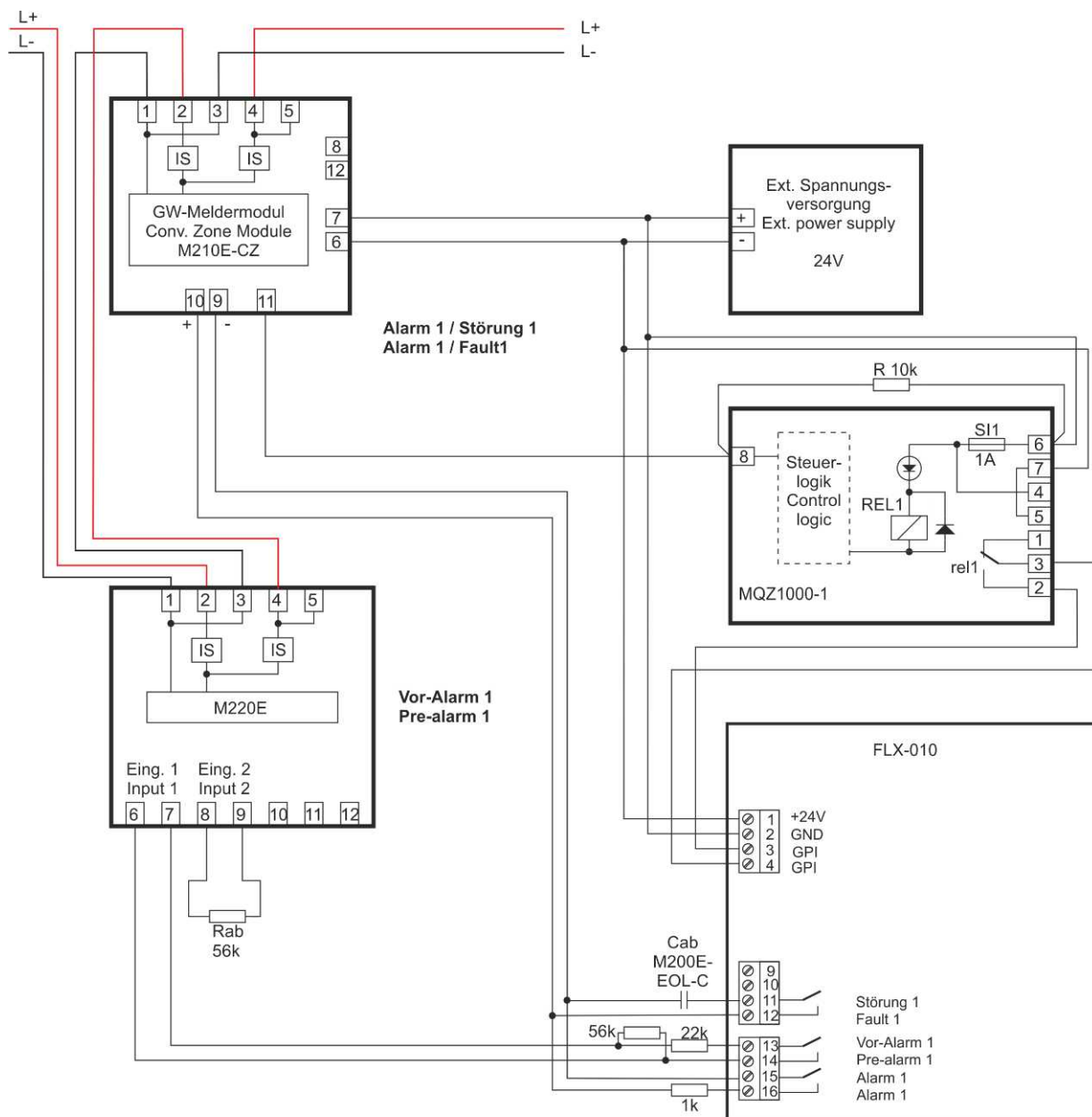


For the operation of the aspirating smoke detector on Control Panels Series BC216 and BC600, a firmware from calendar week 12 / 2013 or later is to be used and the reset output of the conventional zone module is to be set to Pulsed signal. If an older firmware is used, the aspirating smoke detector will be deactivated if one of the two modules is disabled!



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.118 Aspirating smoke detector FLX-010 – M210E-CZ



All contacts are shown in the de-energised condition.
Alarm reset is done via "Control panel reset"

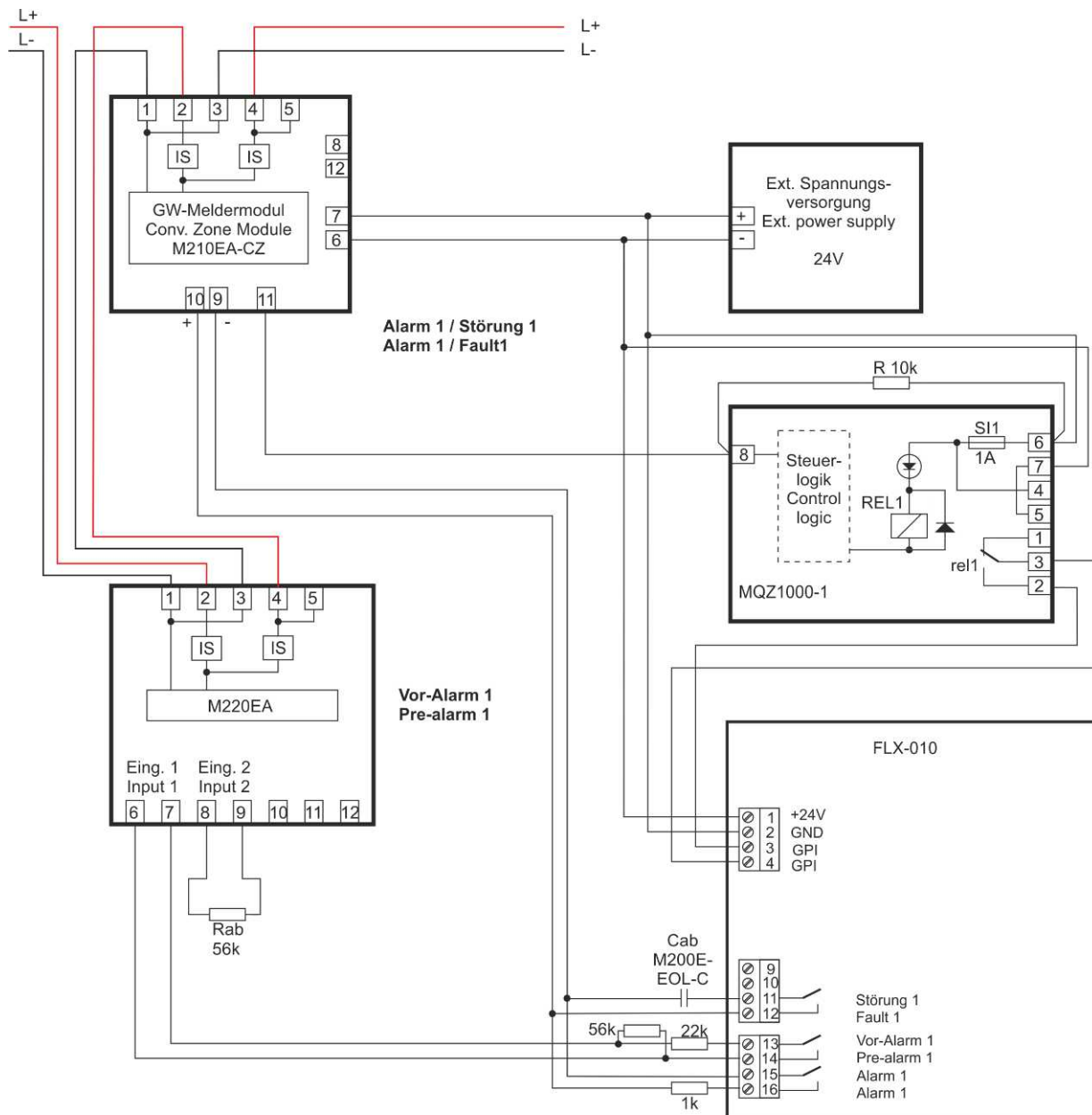
Alle Kontakte im spannungslosen Zustand.
Die Alarmrückstellung erfolgt mit BMZ rückstellen



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

According to the installation instructions, the conditions alarm, pre-alarm and fault only allow their property Latched or Unlatched to be set jointly.
 If "Latched" has been set, every message must be deleted with a control panel reset.

3.11.119 Aspirating smoke detector FLX-010 – M210EA-CZ



All contacts are shown in the de-energised condition.

Alarm reset is done via "Contol panel reset"

Alle Kontakte im spannungslosen Zustand.

Die Alarmrückstellung erfolgt mit BMZ rückstellen



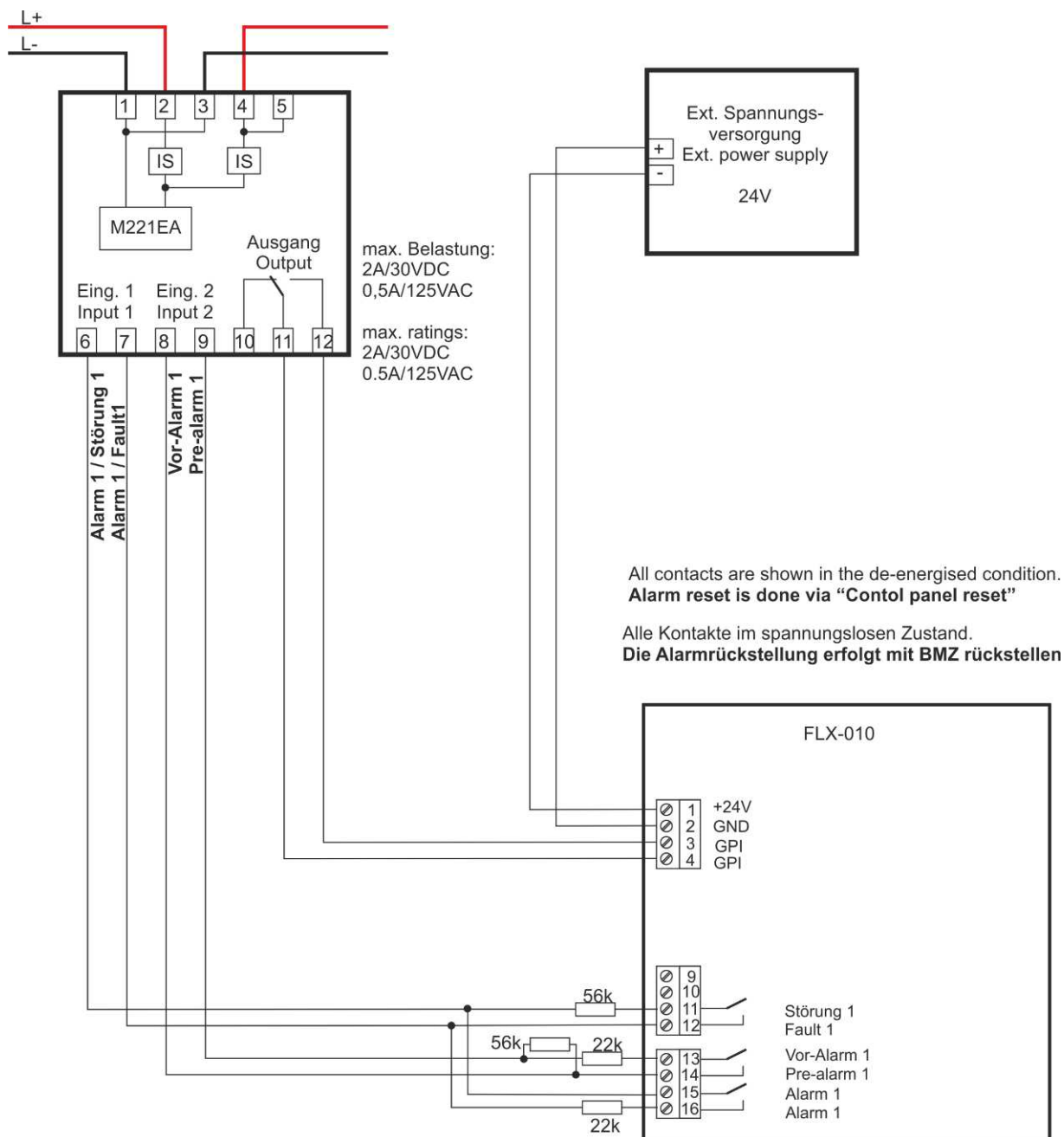
If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.



According to the installation instructions, the conditions alarm, pre-alarm and fault only allow their property Latched or Unlatched to be set jointly.

If "Latched" has been set, every message must be deleted with a control panel reset.

3.11.120 Aspirating smoke detector FLX-010 – M221EA

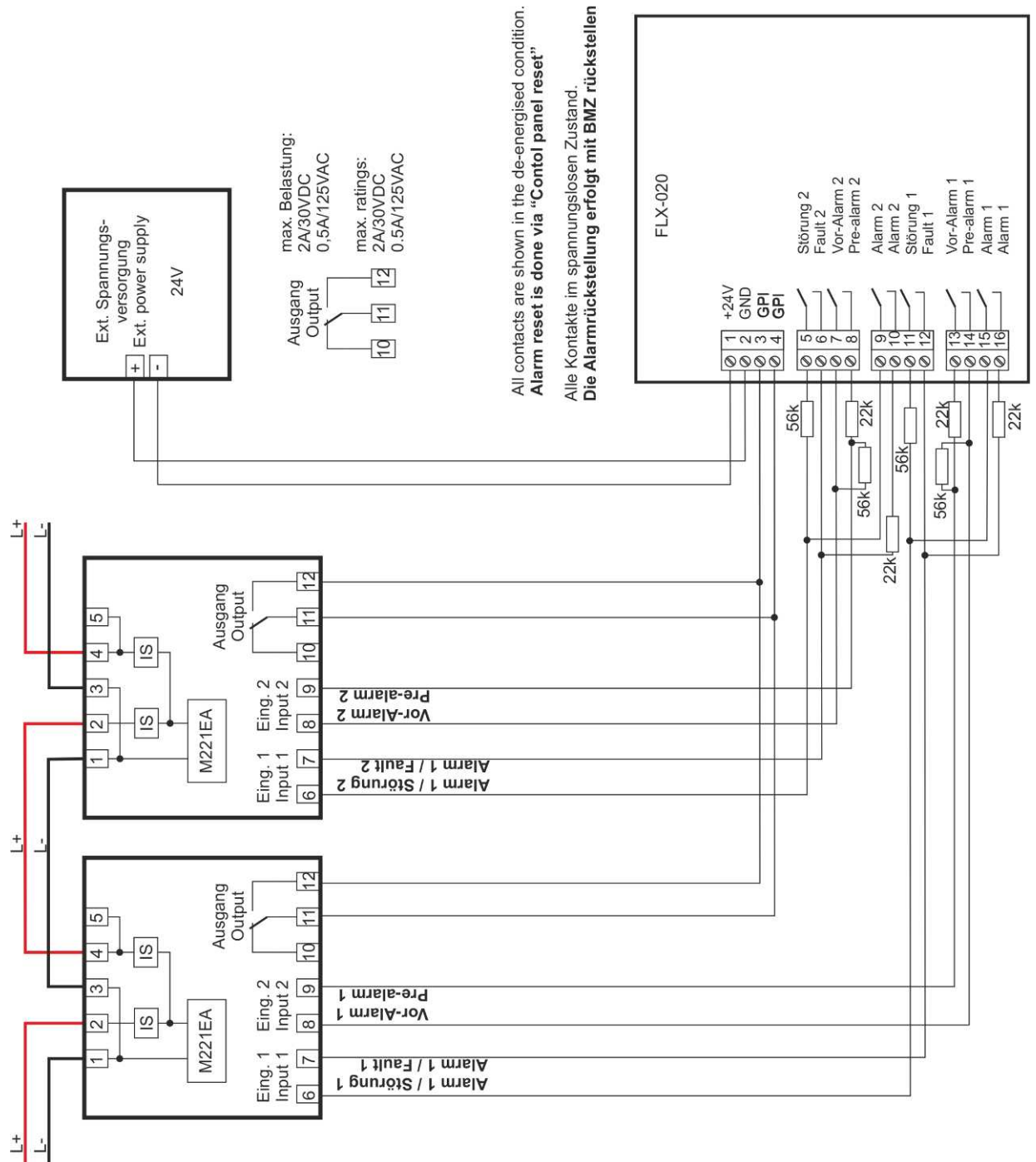


According to the installation instructions, the conditions alarm, pre-alarm and fault only allow their property Latched or Unlatched to be set jointly.

If "Latched" has been set, every message must be deleted with a control panel reset.

This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

3.11.121 Aspirating smoke detector FLX-020 – M221EA



All contacts are shown in the de-energised condition.
Alarm reset is done via "Control panel reset"

Alle Kontakte im spannungslosen Zustand.
Die Alarmrückstellung erfolgt mit BMZ rückstellen

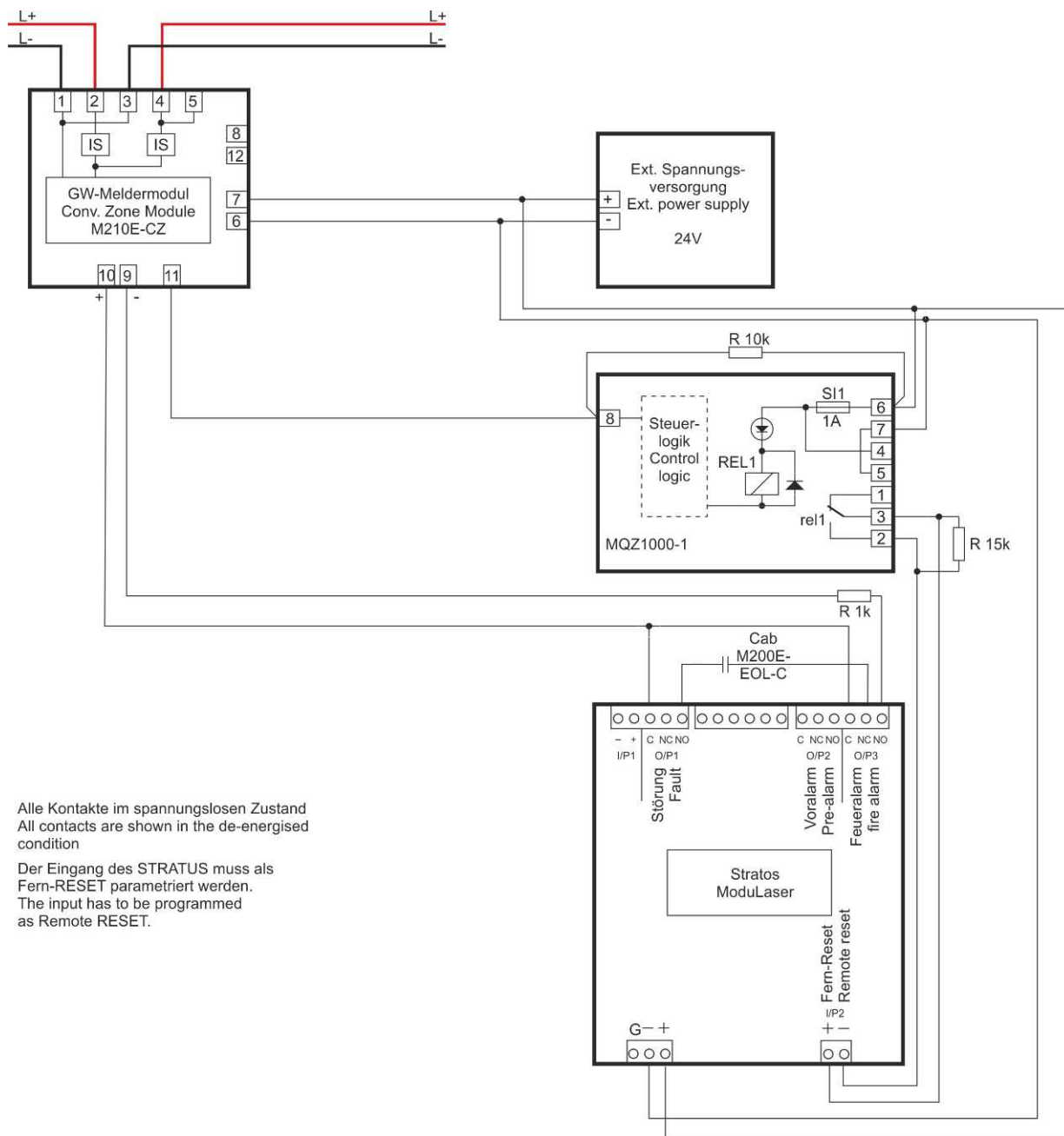


According to the installation instructions, the conditions alarm, pre-alarm and fault only allow their property Latched or Unlatched to be set jointly.

If "Latched" has been set, every message must be deleted with a control panel reset.

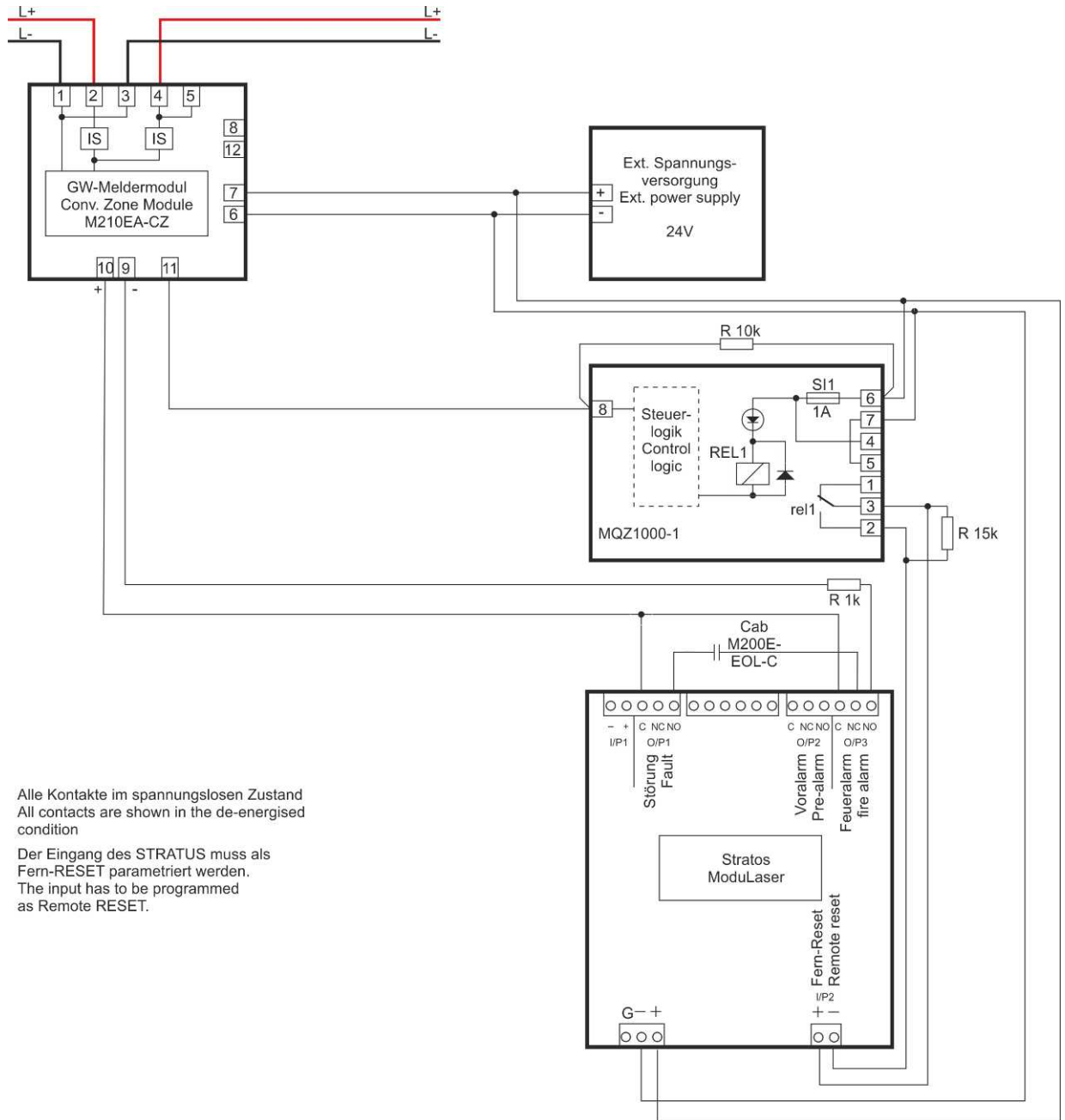
This connection does not apply to the Fire Detection Control Panels Series BC216. The module output has to be parameterised according to Chapter 3.11.2.5.

3.11.122 Aspirating smoke detector Stratos-ModuLaser – M210E-CZ



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.11.123 Aspirating smoke detector Stratos-ModuLaser – M210EA-CZ



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

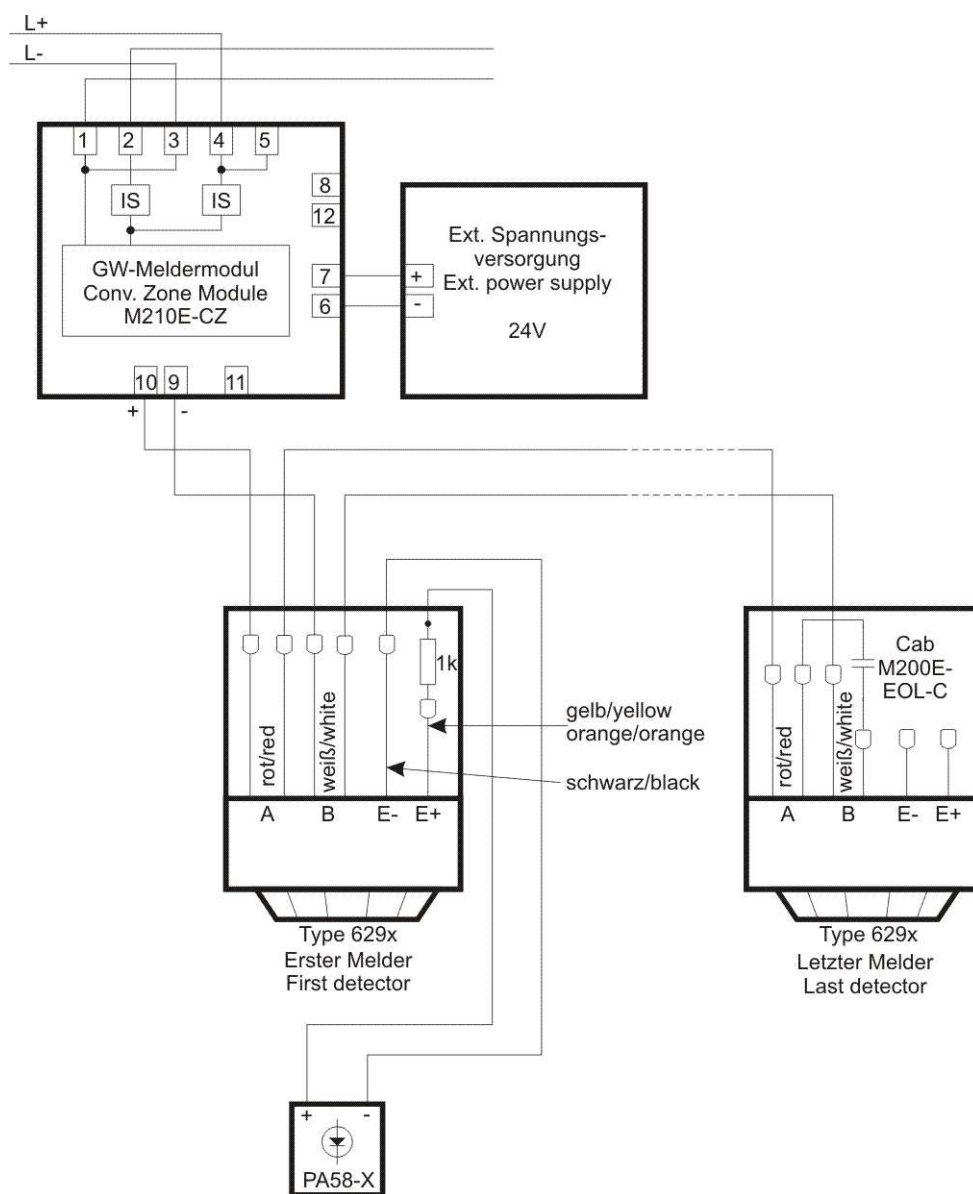
3.11.124 Thermal Max Detectors 6295, 6296, 6297 and 6298 – M210E-CZ

3.11.124.1 Notes

A maximum of 32 detectors 629x can be connected to a conventional zone module.

Type	EN 54-5 Class
6295	57°C – A2S
6296	72°C – B2
6297	87°C – CS
6298	117°C – ES

3.11.124.2 Connection



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.



Make sure that the temperature resistance of the connection cable is sufficient.

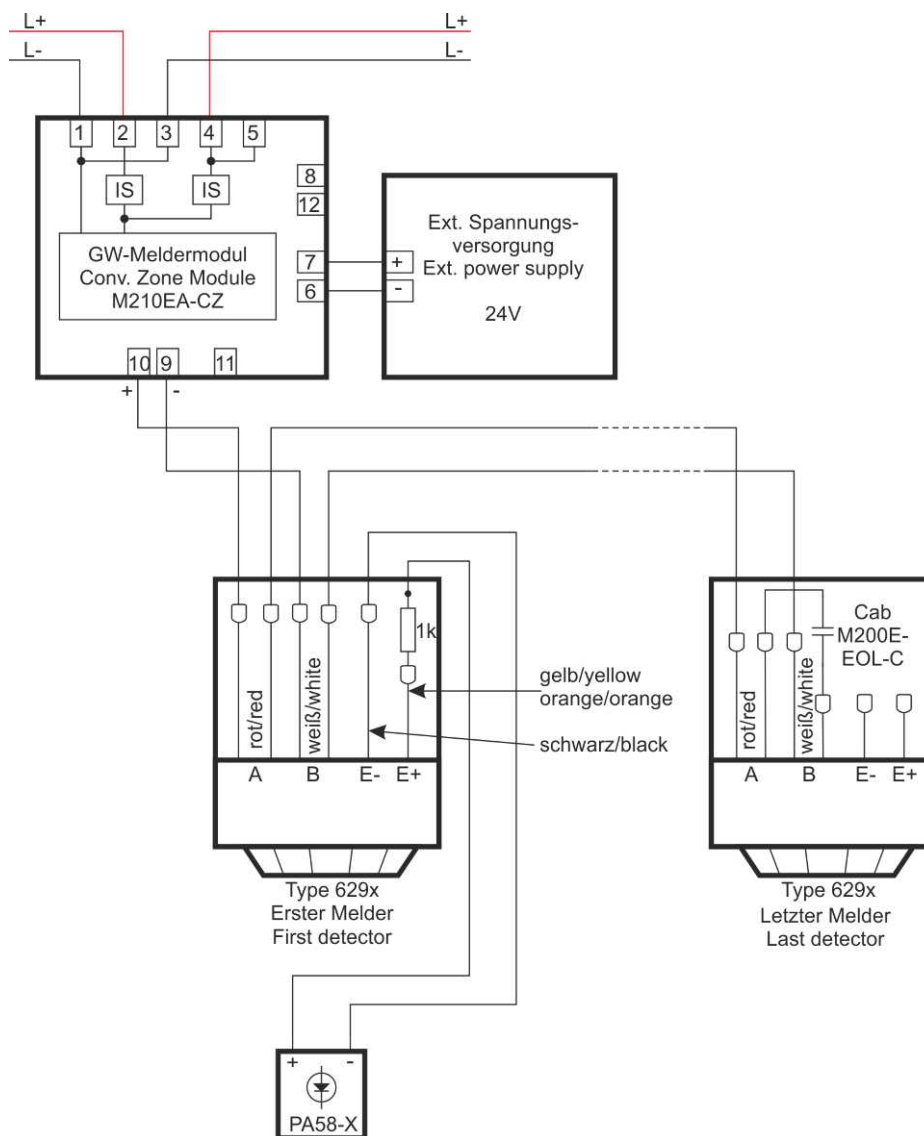
3.11.125 Thermal Detectors 6295, 6296, 6297 and 6298 – M210EA-CZ

3.11.125.1 Notes

Up to 32 detectors 629x may be connected to a conventional zone module.

Type	EN 54-5 Class
6295	57°C - A2S
6296	72°C - B2
6297	87°C - CS
6298	117°C - ES

3.11.125.2 Connection



If the conventional zone module is powered by an external power supply, the country-specific regulations have to be observed.

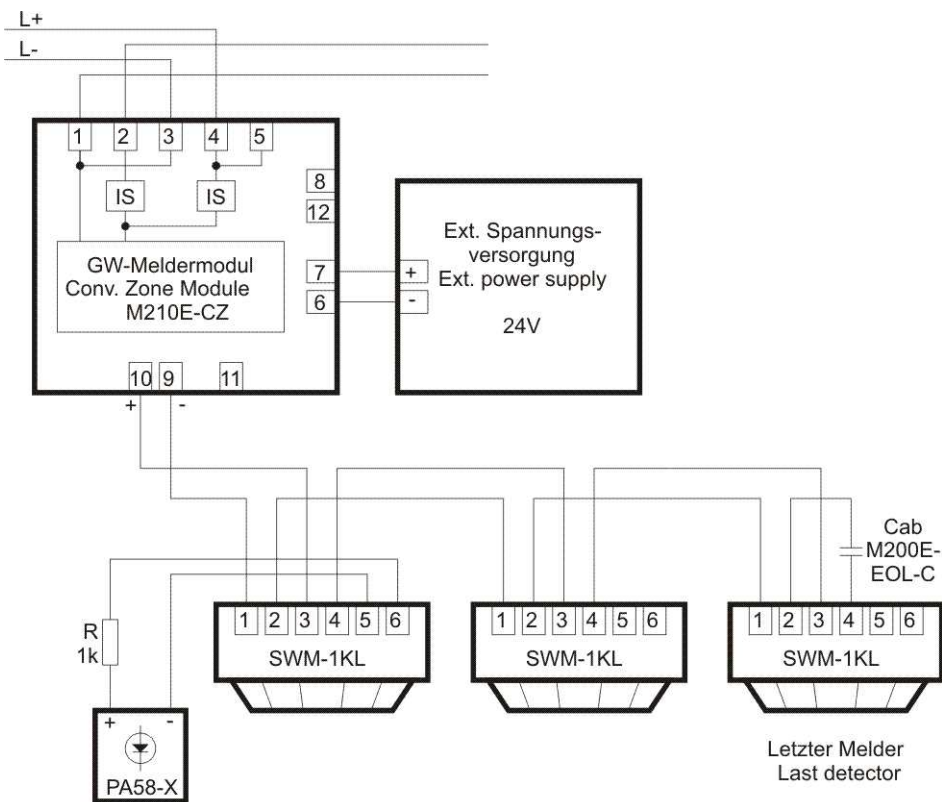


Make sure that the connection cable is sufficiently temperature-resistant.

3.11.126 Thermal Max Detector SWM-1KL – M210E-CZ

A maximum of 3 detectors SWM-1KL can be connected to a conventional zone module.

This drawing is valid for the 57, 80 and 100°C version.



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

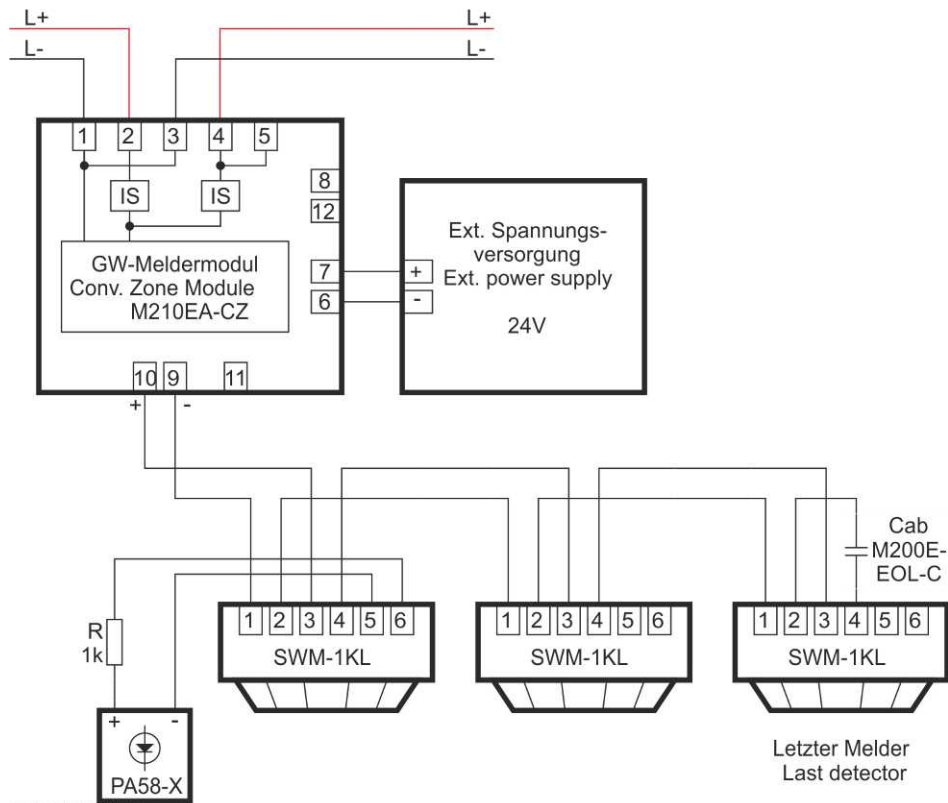


Make sure that the temperature resistance of the connection cable is sufficient.

3.11.127 Thermal Max Detector SWM-1KL – M210EA-CZ

Up to 3 Thermal Max Detectors SWM-1KL may be connected to a conventional module.

This drawing applies to the versions for 57 °C, 80 °C and 100 °C.

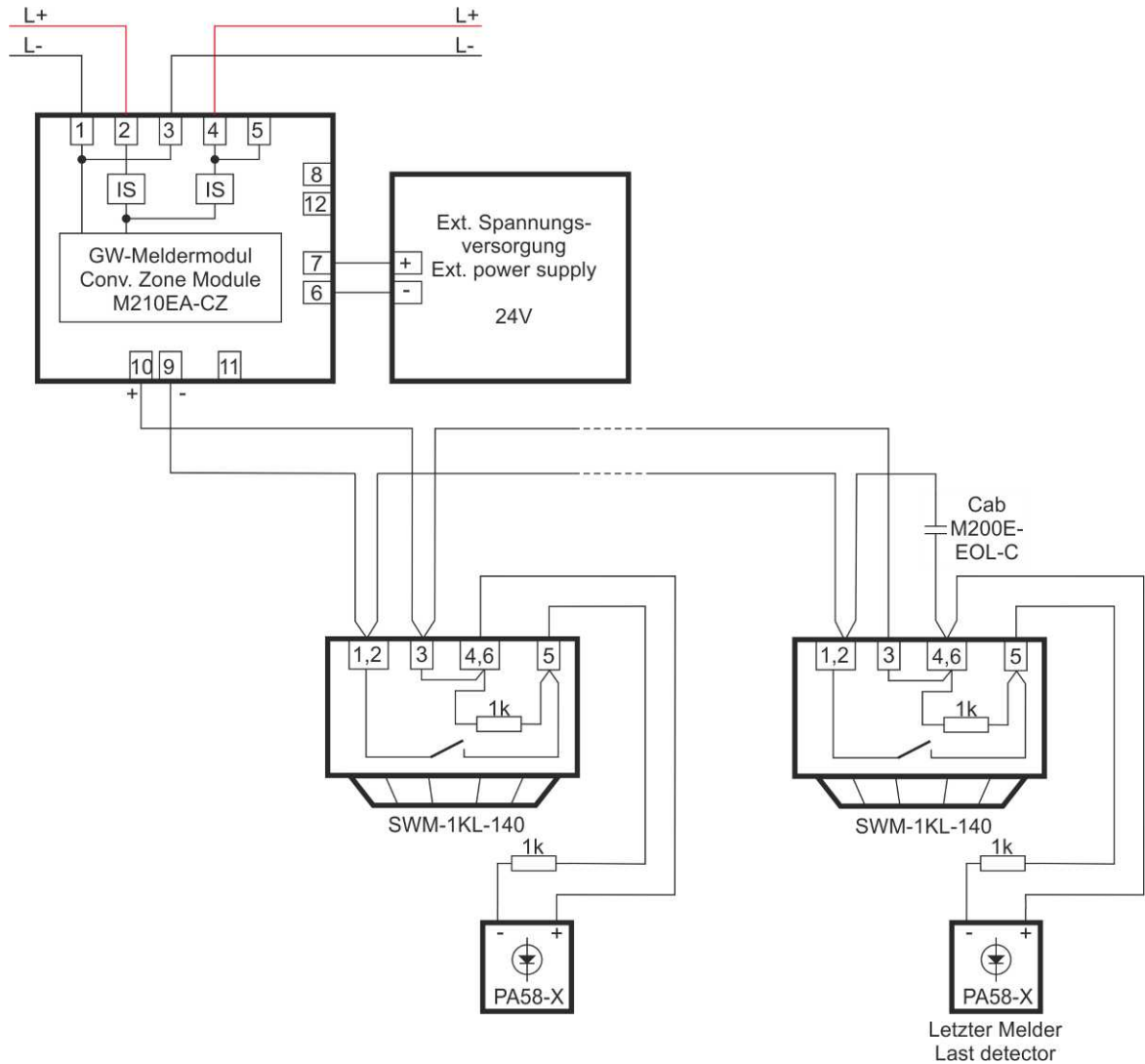


If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.



Make sure that the connection cable is sufficiently temperature-resistant.

3.11.129 Thermal Max Detector SWM-1KL-140 – M210EA-CZ



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.



Make sure that the connection cable is sufficiently temperature-resistant.

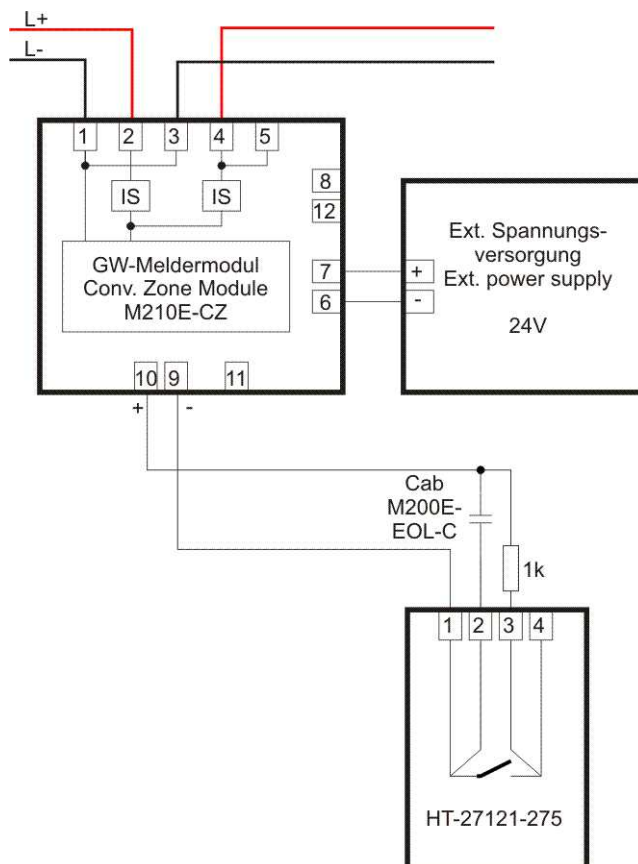
3.11.130 Thermal Max Detector HT-27121-275 – M210E-CZ

The number of detectors of a zone is not limited since only a thermally controlled, normally open contact (bimetallic strip) is used. (Quiescent current of the detector = 0 mA).

This detector activates at 135°C (275°F) and does not have a light emitting diode.

This connection also applies analogously to the following detectors, because they also do not have a light emitting diode.

Type	Alarm temperature	
27121-0-225	107°C	
27121-0-275	135°C	LST Art. No. 242170
27121-0-325	162°C	
27121-0-360	182°C	
27121-0-450	232°C	
27121-0-600	315°C	
27121-0-725	385°C	



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.



Make sure that the temperature resistance of the connection cable is sufficient.

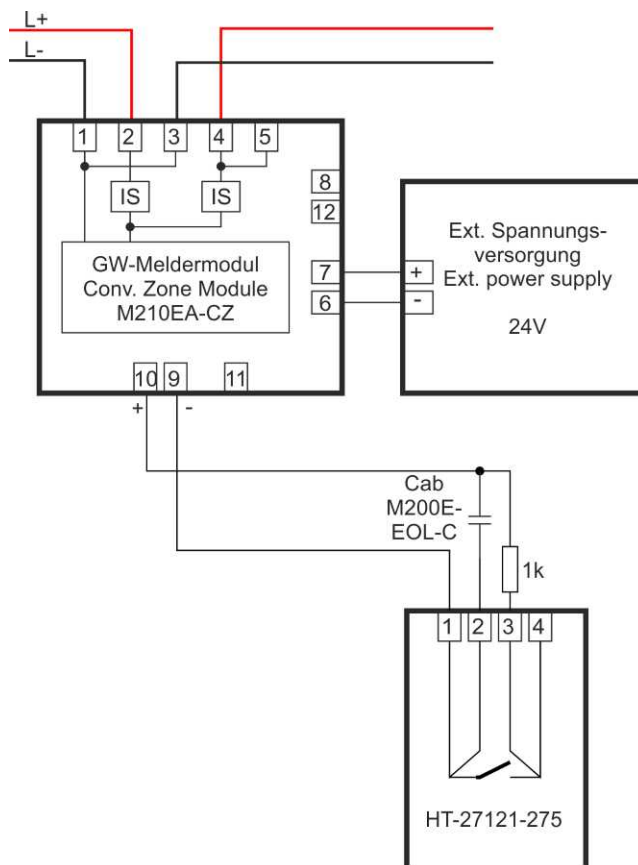
3.11.131 Thermal Max Detector HT-27121-275 – M210EA-CZ

The number of detectors of a zone is not limited since only a thermally controlled, normally open contact (bimetallic strip) is used. (Quiescent current of the detector = 0 mA).

This detector activates at 135°C (275°F) and does not have a light emitting diode.

This connection also applies analogously to the following detectors, because they also do not have a light emitting diode.

Type	Alarm temperature	
27121-0-225	107°C	
27121-0-275	135°C	LST AN 242170
27121-0-325	162°C	
27121-0-360	182°C	
27121-0-450	232°C	
27121-0-600	315°C	
27121-0-725	385°C	



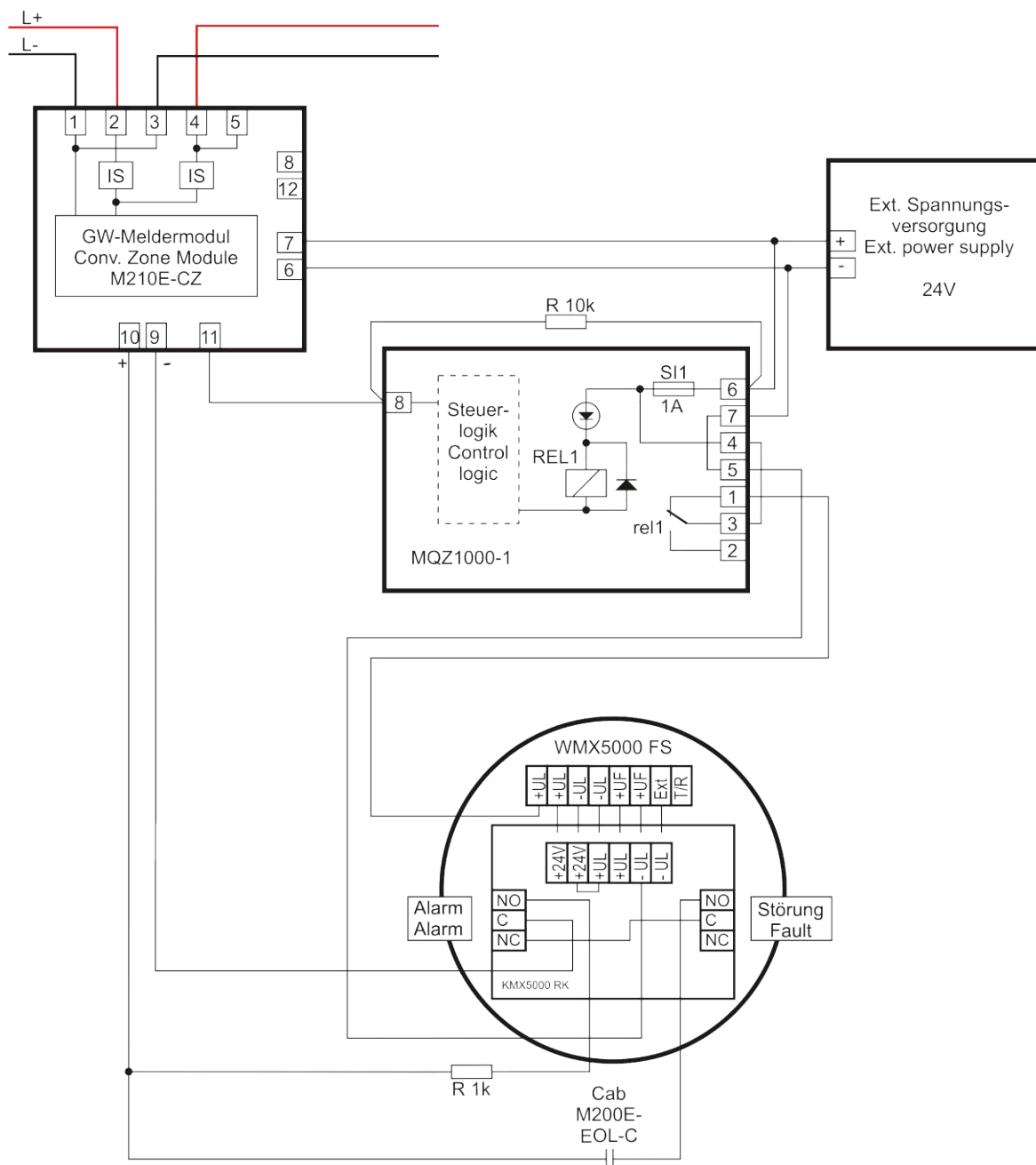
If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.



Make sure that the connection cable is sufficiently temperature-resistant.

3.11.132 Thermal Max Detector WMX5000 FS – M210E-CZ

This detector may only be used together with the Relay Module KMX5000 RK.



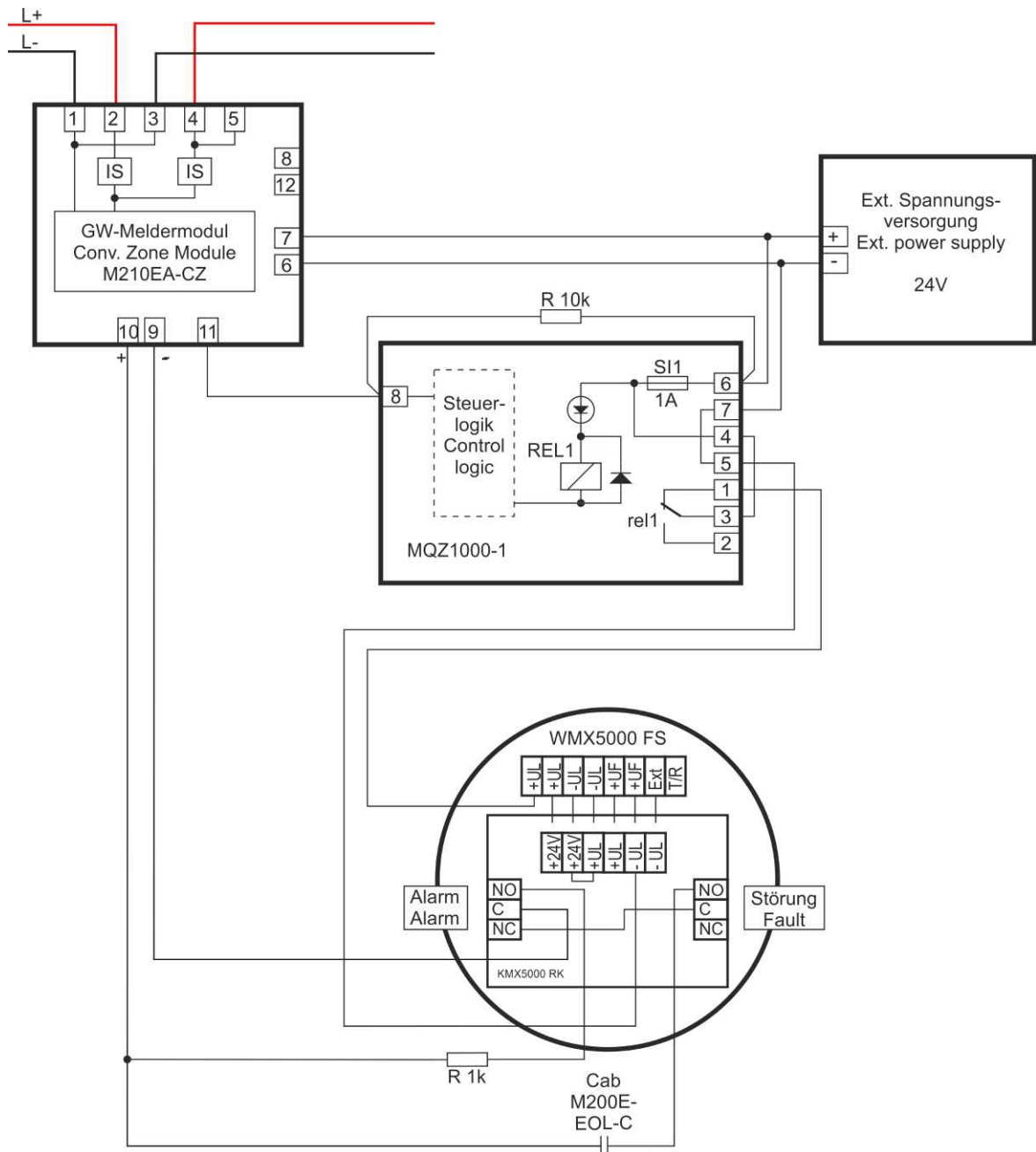
If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.



The reset input T/R must not be used.
Make sure that the connection cable is sufficiently temperature-resistant.

3.11.133 Thermal Max Detector WMX5000 FS – M210EA-CZ

This detector may only be used together with the Relay Module KMX5000 RK.



If the conventional zone module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.



The reset input T/R must not be used.

Make sure that the connection cable is sufficiently temperature-resistant.

3.12 Connection of contact detectors with a monitor module

By means of monitor modules, contact detectors (e.g., sprinkler contacts, monitoring contacts) can be connected to the Fire Detection Control Panel Series BC216 and BC600.

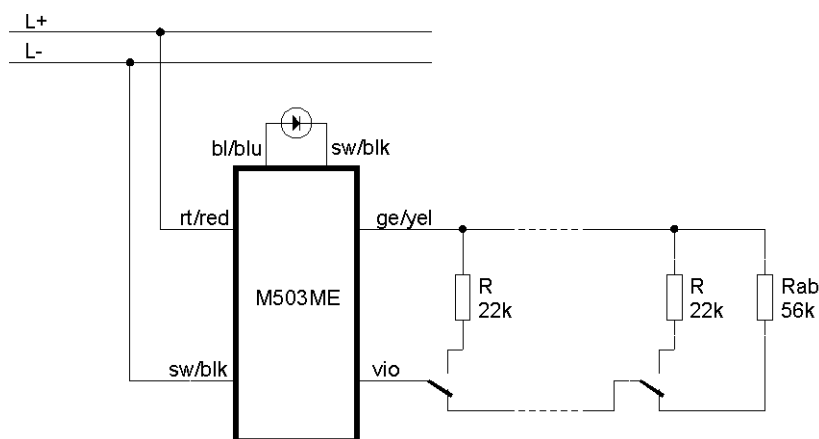
3.12.1 Address setting

Detailed information can be found from page 210 onwards in Chapter 3.6.2: "Detectors and modules".

3.12.2 Monitor Module M503ME

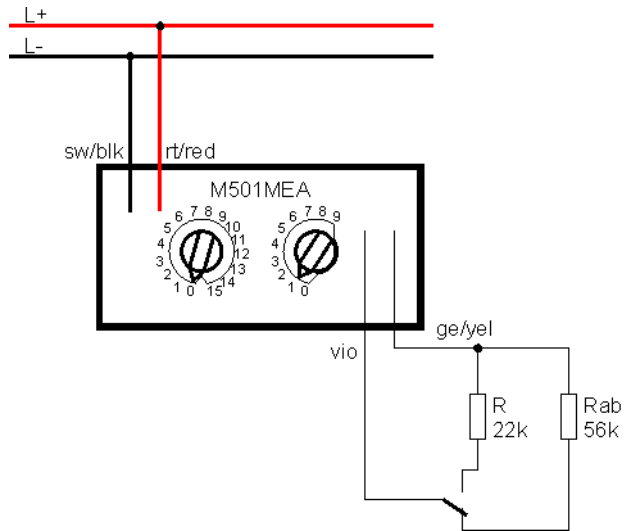
The number of contact detectors that can be connected to a Monitor Module M503ME is not limited. An alarm resistor $R = 22\text{k}\Omega/0.35\text{W}$ must be installed in each detector. In addition, an end-of-line resistor $R_{ab} = 56\text{k}\Omega/0.35\text{W}$ must be installed in the last detector.

This module occupies one address on the loop.



3.12.3 Monitor Module M501MEA

The number of contact detectors that can be connected to a Monitor Module M501MEA is not limited. An alarm resistor $R = 22\text{k}\Omega/0.35\text{W}$ must be installed in each detector. In addition, an end-of-line resistor $R_{ab} = 56\text{k}\Omega/0.35\text{W}$ must be installed in the last detector. This module can be used within the address range 1 to 159.



3.12.4 Monitor Modules M210E / M220E

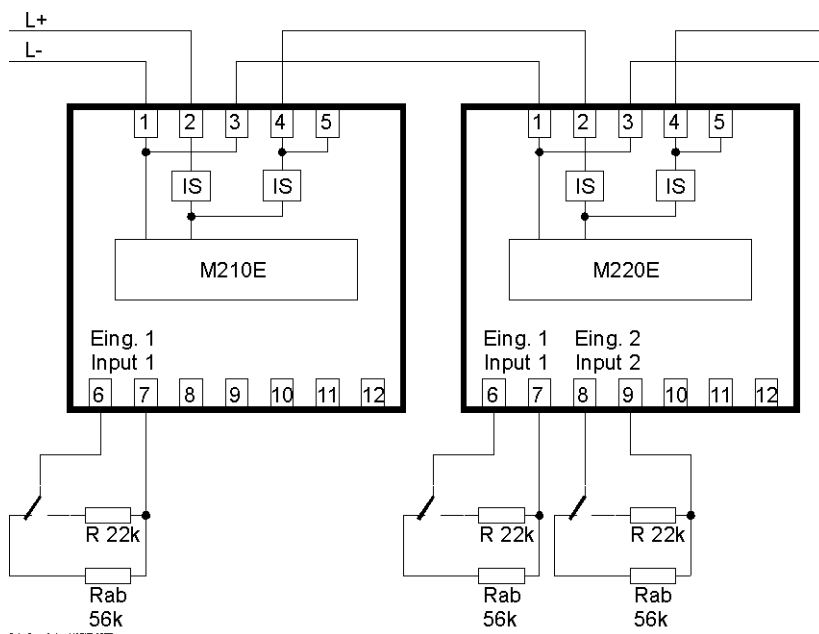
The module M210E has a single monitored input. The module M220E has two monitored inputs. Both modules have an integrated isolator.

3.12.4.1 Address setting

Detailed information can be found from page 210 onwards in Chapter 3.6.2: "Detectors and modules".

- ◆ The address of input 1 is preset with the rotary switches,
- ◆ the address of input 2 is higher by 1.

3.12.4.2 Connection of Monitor Modules M210E / M220E



The illustrated connection of the M2xxE inputs is valid for the modes "Monitor module" and "Monitor module / M2xx / VdS", when used on a Fire Detection Control Panel Series BC216 or Series BC600.

3.12.5 Monitor Modules M210EA / M220EA

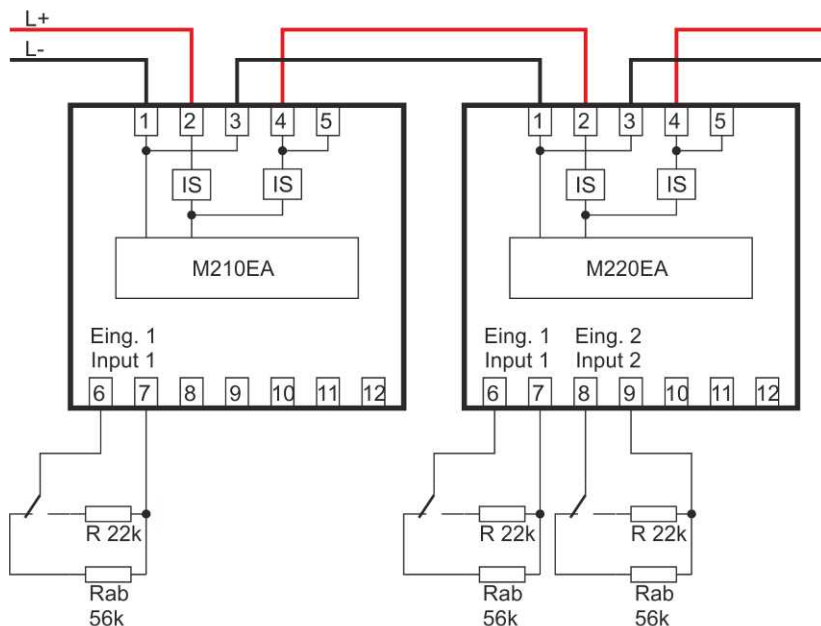
The module M210EA has one monitored input. The module M220EA has two monitored inputs. Both modules have an integrated isolator.

3.12.5.1 Address setting

For details, see from page 210 onwards in Chapter 3.6.2: "Detectors and modules".

- ◆ The address of input 1 is preset with the rotary switches,
- ◆ The address of input 2 is higher by 1.

3.12.5.2 Connection of Monitor Modules M210EA / M220EA



The illustrated connection of the M2xxE inputs is valid for the modes "Monitor module" and "Monitor module / M2xx / VdS", when used on a Fire Detection Control Panel Series BC216 or Series BC600.

3.12.6 Monitor Module IM-10 (Series 200)

The module IM-10 has 10 monitored inputs. The address of input 1 (base address) is preset with the rotary switches within the range 1...99 (page 210 in Chapter 3.6.2: "Detectors and modules"). All further inputs have the next higher addresses. All inputs must be parameterised as monitor modules.



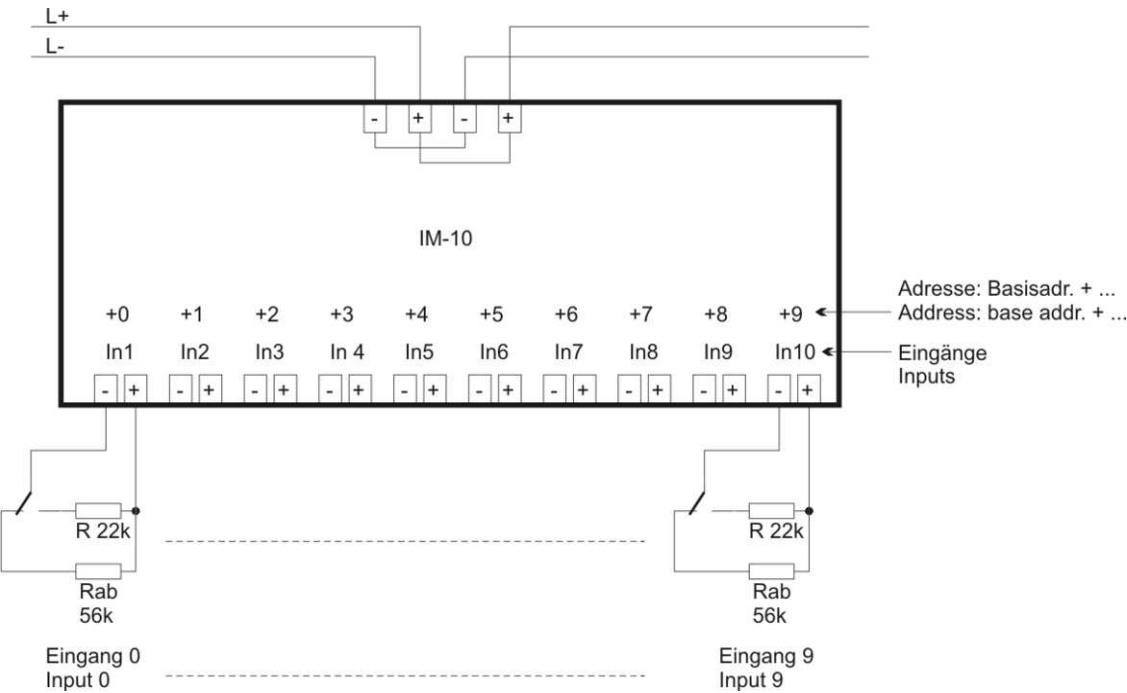
The base address must be set in such a way that even the last input used occupies an address in the range 1...99! Therefore the address must not be higher than 90 if all 10 inputs are to be used.

The number of inputs (and thus addresses) actually used and the operating mode of the inputs can be set by means of jumper J1.

	Meaning	Meaning
Jumper	set	not set
A/B SLCT	mode class B	not allowed!
CL	not used	
DISABLE 1	only inputs In1-In9 used	all 10 inputs used
DISABLE 2	only inputs In1-In8 used	

Remarks:

- ◆ Jumper A/B SLCT must always be set!
- ◆ Either jumper DISABLE 1 or DISABLE 2 can be set, do not set both!



3.12.7 Monitor Module IM-10EA (Series 200AP)

The module IM-10EA has 10 monitored inputs. The address of input 1 is preset with the rotary switches (page 210 in Chapter 3.6.2: "Detectors and modules"), all further inputs have the next higher addresses. This module can be used within the address range 1 to 159.

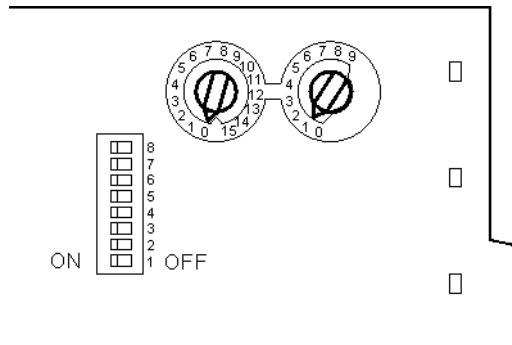


The base address must be set in such a way that even the last input used occupies an address in the range 1...159! Therefore the address must not be higher than 150 if all 10 inputs are to be used.



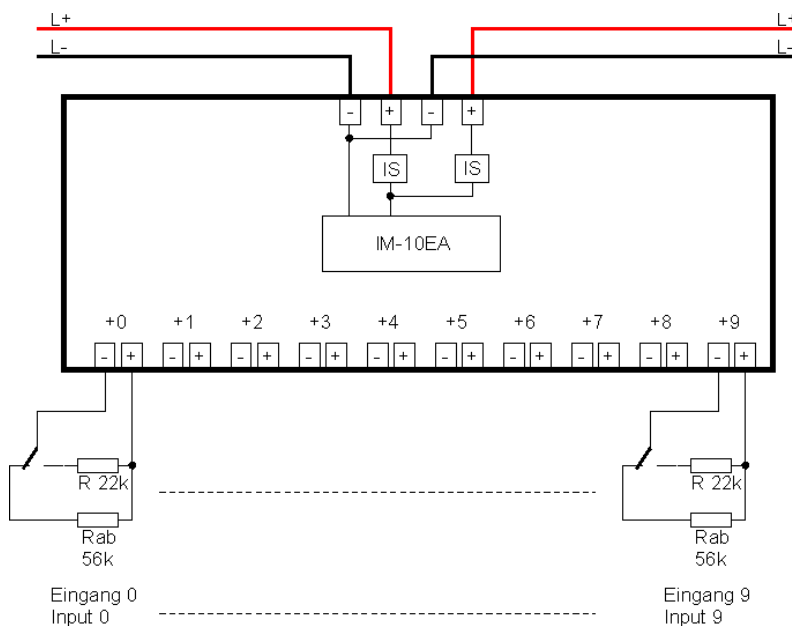
In order to be able to set addresses higher than 99, the mechanical blocking of the tens digit address switch is to be removed carefully using suitable means!

The number of inputs – and thus addresses – actually used can be set by means of the switches.



S1	S2	S3	Function	Remark
On	On	On	All addresses active	
Off	On	On	Addresses 1-4 active	
On	Off	On	Addresses 1-5 active	
Off	Off	On	Addresses 1-6 active	
On	On	Off	Addresses 1-7 active	
Off	On	Off	Addresses 1-8 active	
On	Off	Off	Addresses 1-9 active	
Off	Off	Off	All addresses active	Factory setting

The setting of the switches S4 and S5 is not to be changed – both have to be left at OFF. The switches S6 through S8 do not have a function.



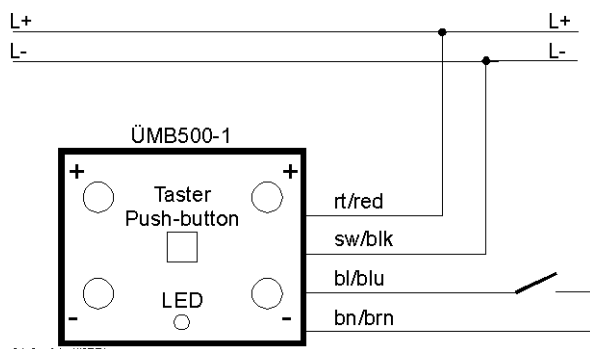
3.12.8 Monitor Module ÜMB500-1

This module has to be mounted in a detector housing because the module does not have a mounting mechanism of its own. The address is set by means of the push-button at the centre. Detailed information can be found from page 210 onwards in Chapter 3.6.2: "Detectors and modules". For this module, addresses within the range 1 to 99 can be assigned.

3.12.8.1 Notes

No alarm or end-of-line resistor has to be connected.

3.12.8.2 Connection



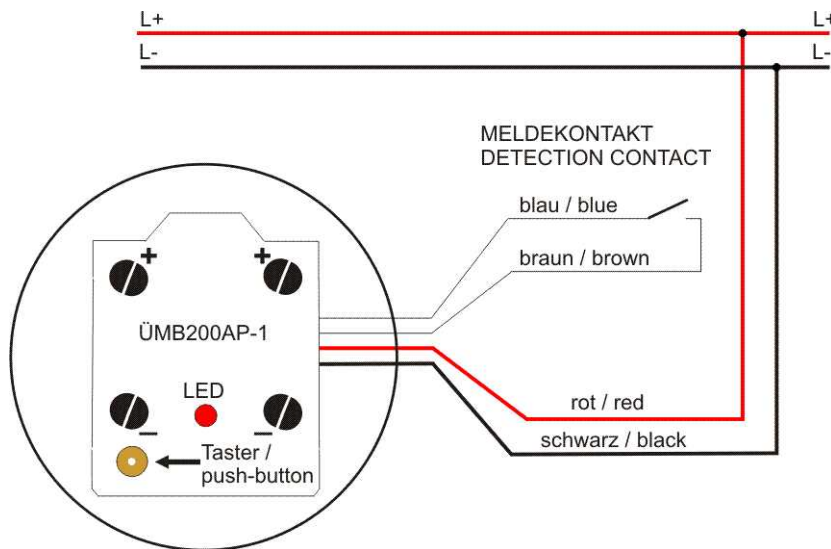
3.12.9 Monitor Module ÜMB200AP-1

This module has to be mounted in a detector housing because the module does not have a mounting mechanism of its own. The address is set by means of the push-button at the centre. Detailed information can be found from page 210 onwards in Chapter 3.6.2: "Detectors and modules". For this module, addresses within the range 1 to 159 can be assigned.

3.12.9.1 Notes

No alarm or end-of-line resistor has to be connected.

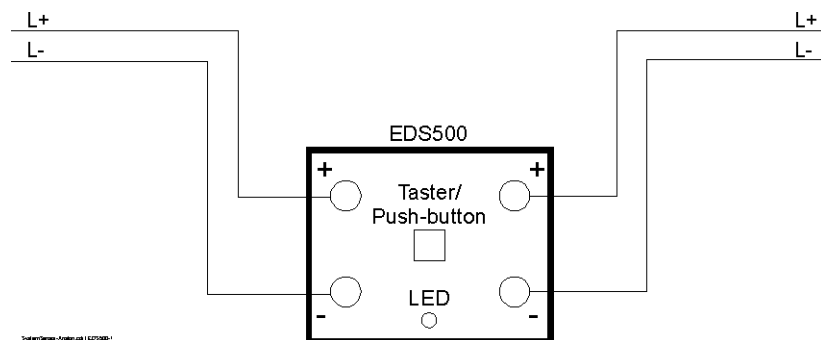
3.12.9.2 Connection



3.12.10 Position Switch EDS500-1

The physical address is set by means of a push-button in combination with the LED. Details can be found from page 210 onwards in Chapter 3.6.2: "Detectors and modules". The address of this module can be set within the range 1 to 99.

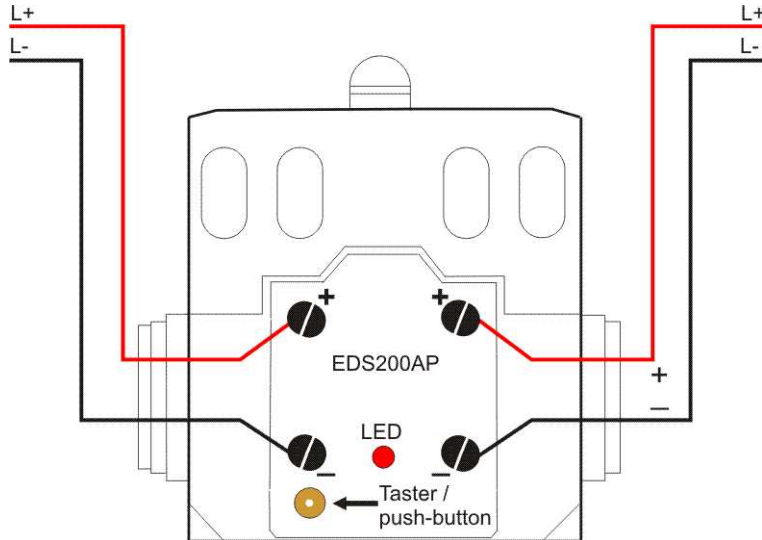
3.12.10.1 Connection



3.12.11 Position Switch EDS200AP

The physical address is set by means of a push-button in combination with the LED. Details can be found from page 210 onwards in Chapter 3.6.2: "Detectors and modules". The address of this module can be set within the range 1 to 159.

3.12.11.1 Connection



3.13 Monitor Module M510E-4-20 / M500M-4-20

This module allows connection of 4-20mA sensors in 2-wire or 3-wire technology; the measured current is evaluated in the fire detection control panel according to the parameter setup.

The module M510E-4-20 is supported by the BC216 and by the BC600. In the BC216, it is supported by firmware version 22 or higher. In the case of the Fire Detection Control Panel Series BC600, the module M510E-4-20 is supported as of firmware version V1.02 1436.

The module M500M-4-20 can be used on a Fire Detection Control Panel Series BC600 with firmware version V1.06 1828 or higher.

Module	Control panel	Protocol	Characteristic
M510E-4-20	BC216 – V22	S200	Address in the detector range
	BC600 – V1.02 1436	S200	Address in the detector range
M500M-4-20	BC600 – V1.06 1828	S200	Address in the module range



The module M500M-4-20 is not supported by the Fire Detection Control Panels Series BC216.

PARSOFT allows you to define the threshold values of the alert and alarm condition. Furthermore it is possible to use an inverted evaluation of the threshold values (alarm message on decreasing current value). These threshold values can be freely set in the range 4 to 20mA. The factory setting for both threshold values is 10mA. This means that the alert condition will never be reached and the alarm condition will be reached directly.

Same threshold values in PARSOFT = no alert = only alarm condition.

To evaluate several alarm thresholds, PARSOFT allows you to use up to 4 virtual inputs per address.

3.13.1 Examples

3.13.1.1 Alarm evaluation with increasing current values

The sensor has an idle current of 8mA.

The following threshold values have been defined:

- ◆ Idle -> alert = 12.5mA
- ◆ Alert -> alarm = 16.3mA

If the measured value increases and reaches the threshold value of the alert condition, a technical message (detailed information: "alert") will be displayed. If the measured current falls below 12.5mA, the previously displayed technical message will be deleted automatically. If the current increases and exceeds the threshold level of 16.3mA, an alarm message will be displayed.

3.13.1.2 Alarm evaluation with decreasing current values – inverted alarm evaluation

The sensor has an idle current of 16mA.

The following threshold values have been defined:

- ◆ Idle -> alert = 14.2mA
- ◆ Alert -> alarm = 6mA

When the measured current decreases, first the alert state will be reached and a technical message will be displayed (detailed information: "alert"). If the current increases again and exceeds 14.2mA, the previously displayed technical message will be deleted automatically. If the measured current falls below 6mA, an alarm message will be displayed.

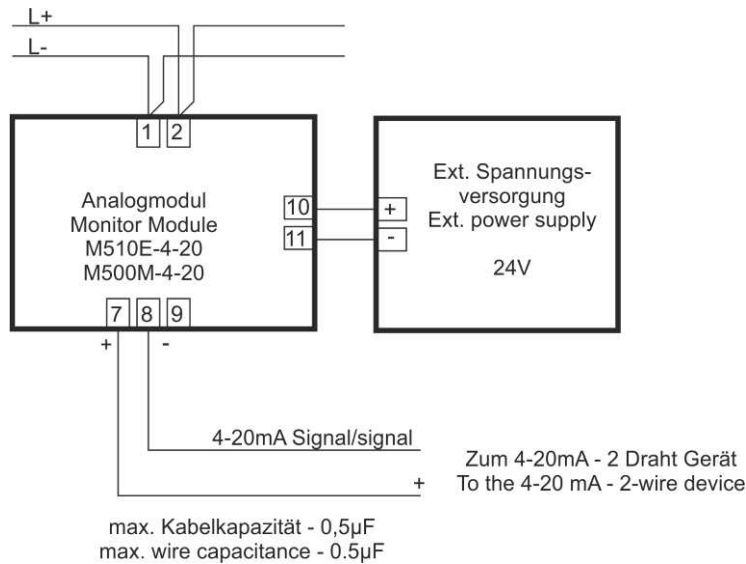
3.13.2 Address setting

Detailed information can be found from page 210 onwards in Chapter 3.6.2: "Detectors and modules".

Attention: The module M510E-4-20 occupies an **address within the detector range**.

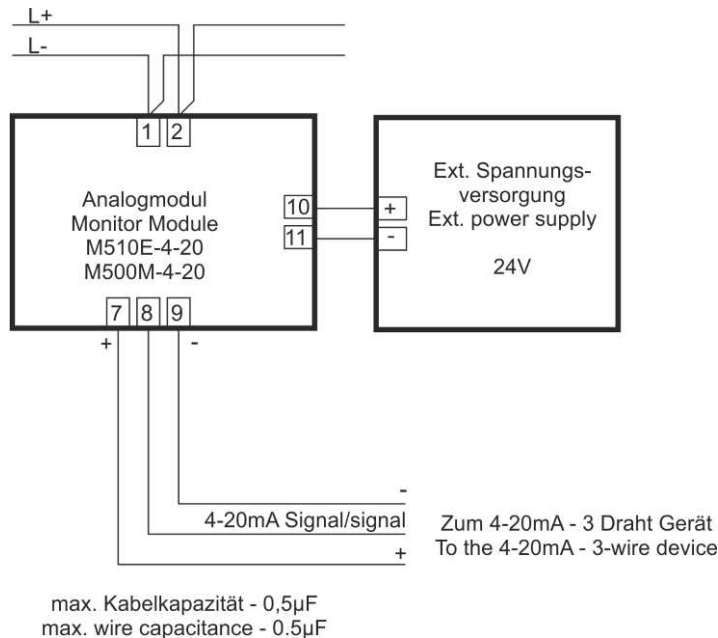
Attention: The module M500E-4-20 occupies an **address within the MODULE range**.

3.13.3 Connection of a 2-wire sensor



If the module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.13.4 Connection of a 3-wire sensor



3.14 Connection of control modules with monitoring

By means of a Control Module M201E, external line-monitored devices (fire controls, acoustical signalling equipment, etc.) can be activated.

Attention: The electrical energy for the operation of the externally connected devices must not be supplied by the detector circuit. Therefore a local power supply with adequate power is required!

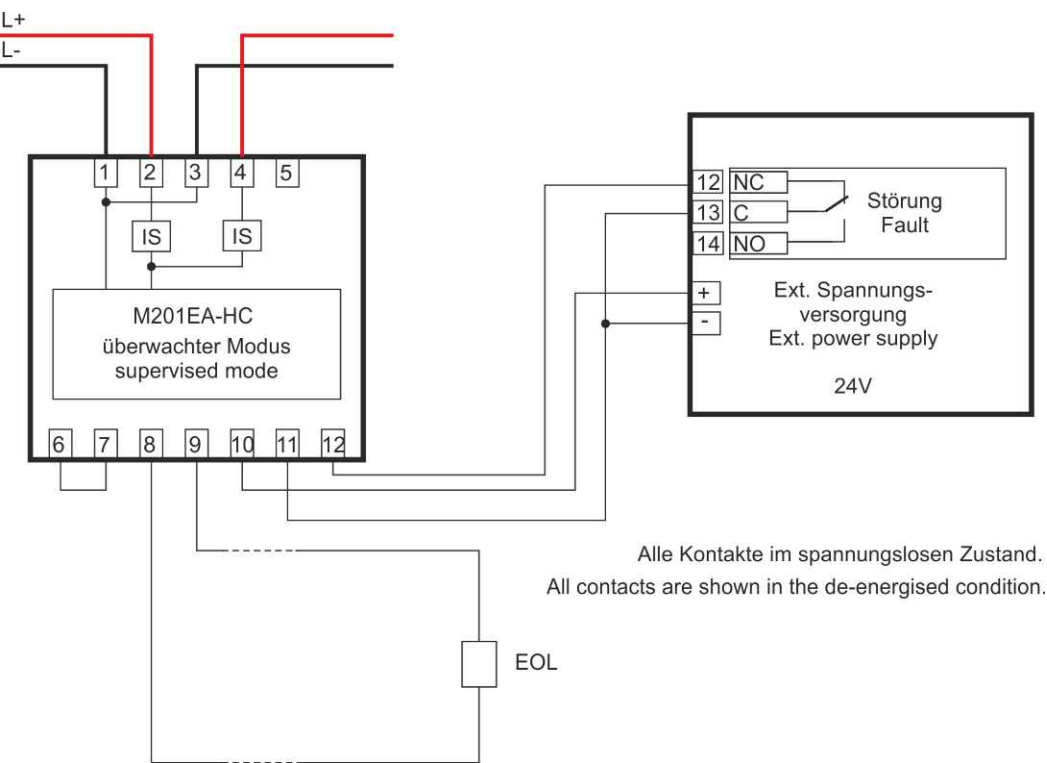
The Control Modules M201E and M201EA can evaluate the fault condition of the external power supply and forward it to the fire detection control panel. The Fire Detection Control Panel Series BC600 is able to receive more detailed information from the module (exemplified here by an actuation).

Message Series BC600: **Device fault – actuation element**

Cause: The supply voltage of the module (terminals 10 + 11) is below 6VDC or the external fault input (terminal 12) is below 6V (i.e., the minus signal of the power supply is present).

Message Series BC600: **Line fault – actuation element**

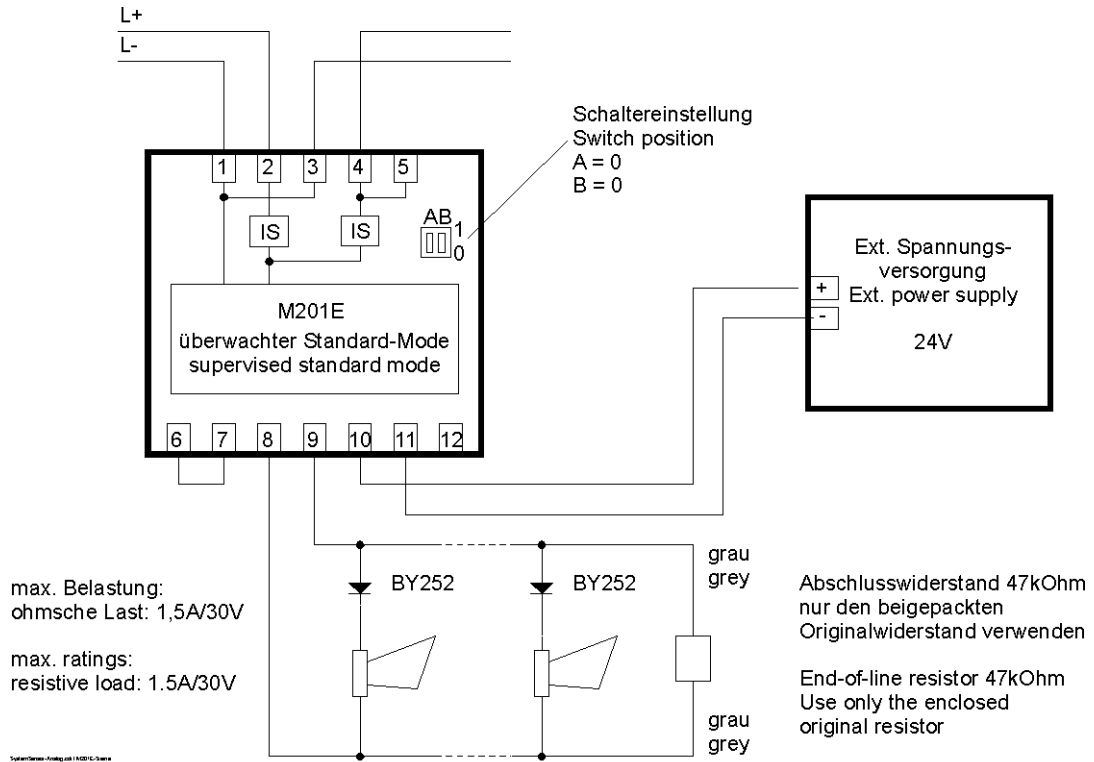
In the event of a fault on the monitored output, a **Line fault** will be output on the BC600.



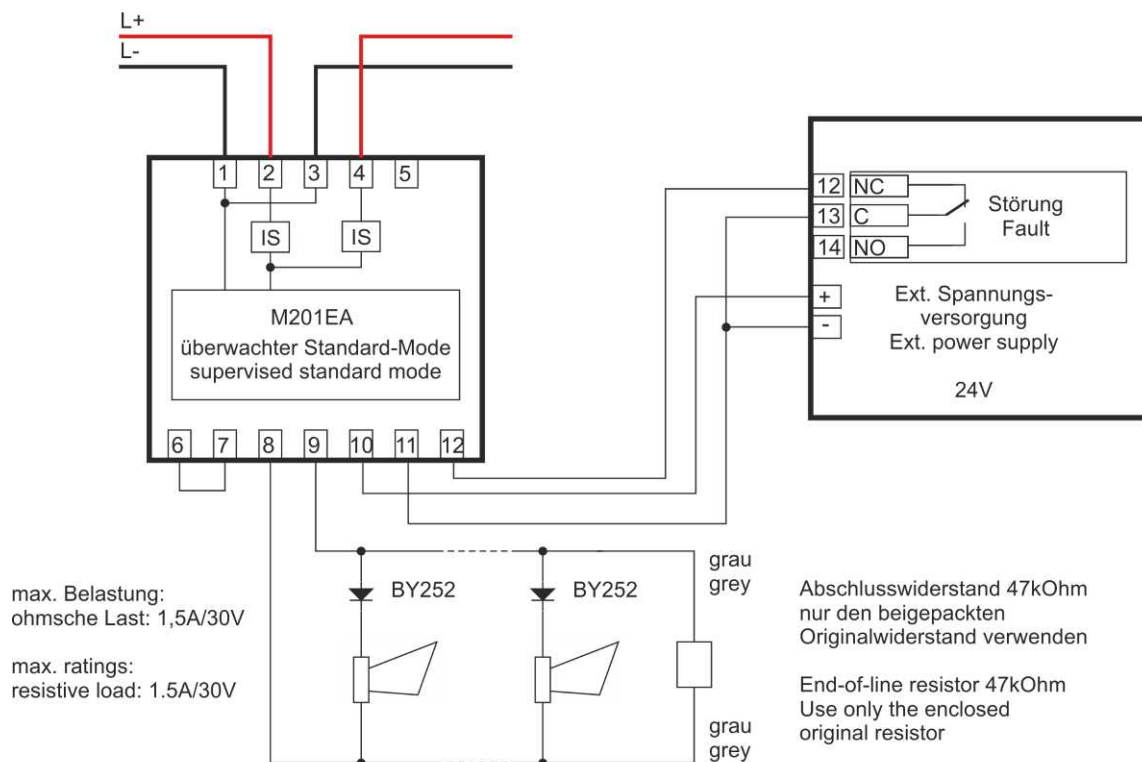
3.14.1 Address setting

Detailed information can be found in Chapter 3.6.2: "Detectors and modules" from page 210 onwards.

3.14.2 Connection of sirens – M201E



3.14.3 Connection of sirens – M201EA



The function of this module is determined by the external wiring, in this case by a link between the terminals 6 and 7 – this connection activates the monitoring of the output.

If you have forgotten the link between the terminals (error message: wrong type installed), you should perform the following steps:

- ◆ Completely disconnect the module from the loop.
- ◆ Connect terminal 6 to terminal 7.
- ◆ Connect the module.

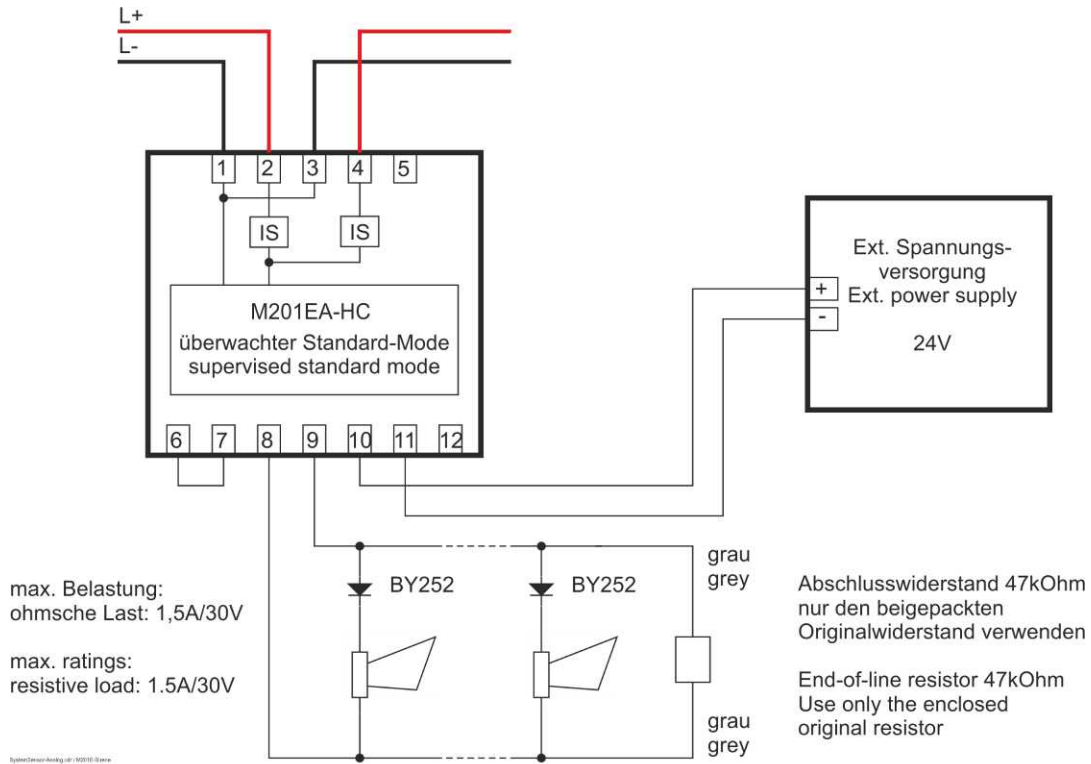


For the module to use the new function type (monitored output), it has to be initialised by the control panel. Therefore, wait until an appropriate error message (Element does not answer) appears on the control panel before you connect the module (loop). This ensures that the energy storage devices in the module have been discharged completely and the module can be initialised successfully.



If the module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed. This product has not been approved by VdS.

3.14.4 Connection of sirens – M201EA-HC



The function of this module is determined by the external wiring.

In this case this is done by means of a link between the terminals 6 and 7 – this connection activates the monitoring of the output.

If you have forgotten the link between the terminals (error message: wrong type installed), you should perform the following steps:

- ◆ Completely disconnect the module from the loop.
- ◆ Connect terminal 6 to terminal 7.
- ◆ Connect the module.

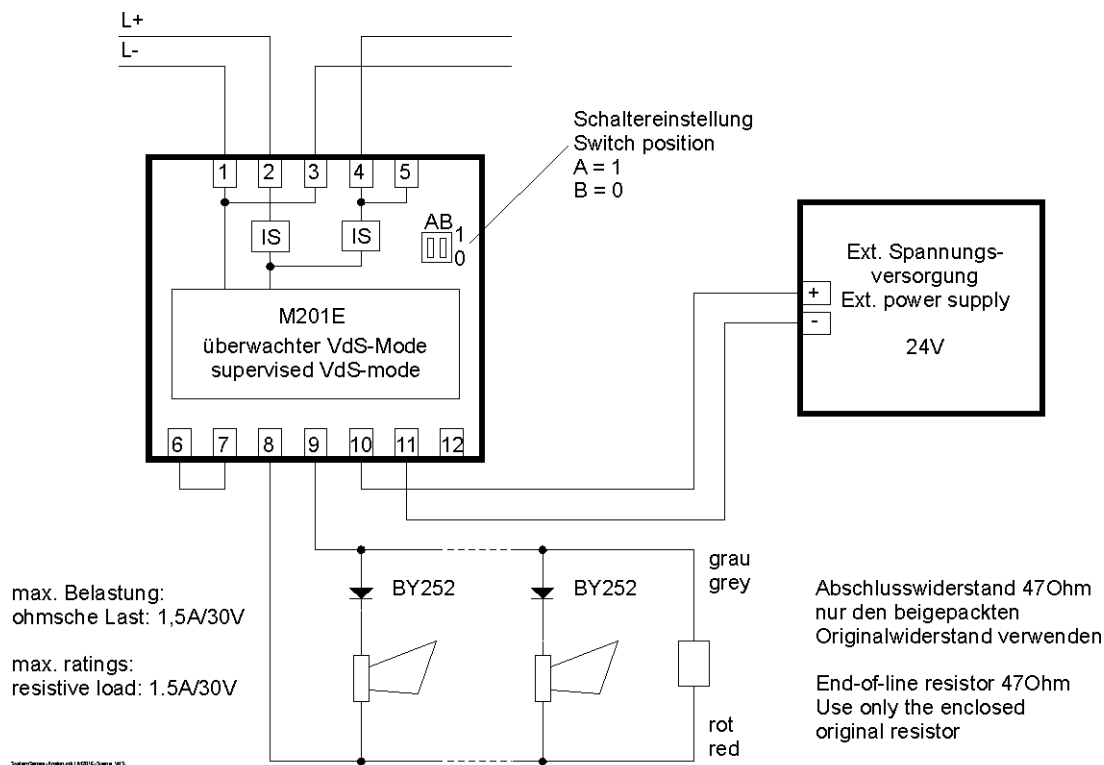


For the module to use the new function type (monitored output), it has to be initialised by the control panel. Therefore, wait until an appropriate error message (Element does not answer) appears on the control panel before you connect the module (loop). This ensures that the energy storage devices in the module have been discharged completely and the module can be initialised successfully.



If the module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

3.14.5 Connection of sirens and solenoid valves according to VdS guidelines – M201E



For the VdS 2489 requirements, an alternative end-of-line resistor 47 Ohm (to be recognised by a grey and a red connection wire) is available.

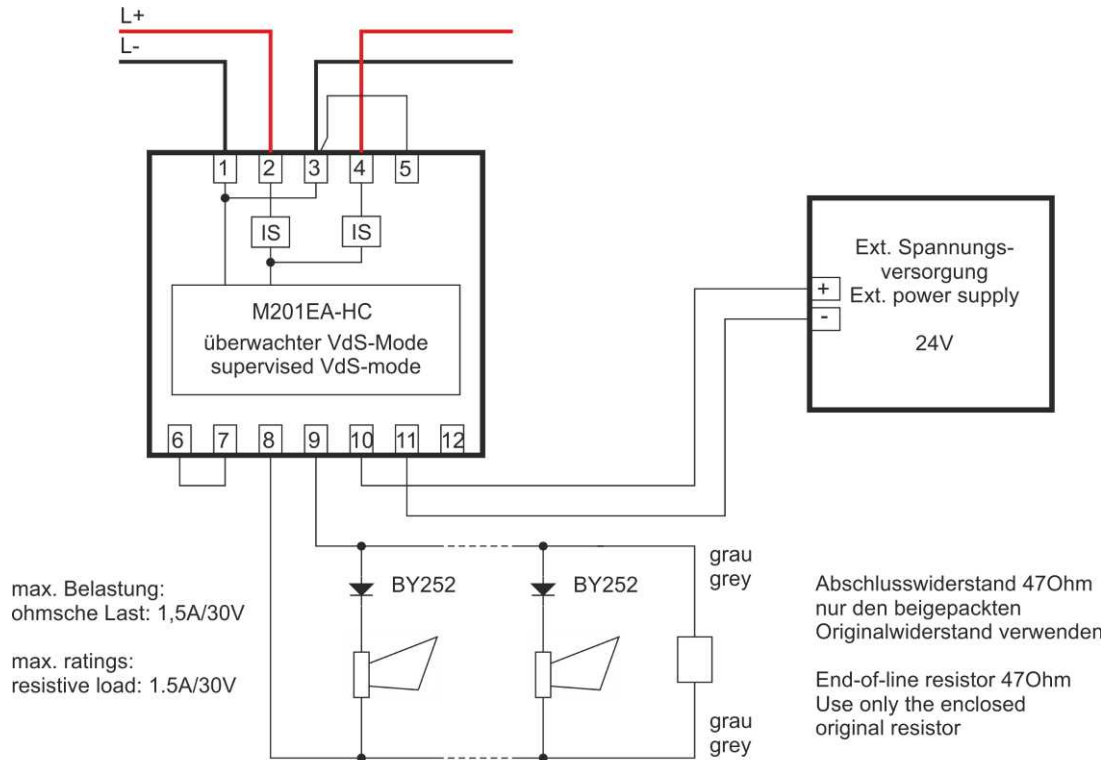
The current for the external componentry is limited by the maximum permissible line resistance of 10 Ohm and the voltage drop on the line between the power unit and the load.

EXAMPLE: Minimum power supply voltage = 21V, minimum load voltage = 18V, maximum line resistance = 10 Ohm, therefore the maximum current is 300mA $[(21V-18V)/10 \text{ Ohm}]$.



If the module is powered by an external power supply, the country-specific regulations concerning the emergency power supply have to be observed.

3.14.6 Connection of sirens and solenoid valves according to VdS guidelines – M201EA-HC



For the VdS 2489 requirements, an alternative end-of-line resistor 47 Ohm (to be recognised by a grey and a red connection wire) is available.



Note the link between the terminals 3 and 5. This external connection activates the monitoring according to the VdS guideline.

If you have forgotten the links between the terminals (error message: wrong type installed; energy fault), you should perform the following steps:

- ◆ Completely disconnect the module from the loop.
- ◆ Connect terminal 6 to terminal 7.
- ◆ Connect the module.



For the module to use the new function type (monitored output), it has to be initialised by the control panel. Therefore, wait until an appropriate error message (Element does not answer) appears on the control panel before you connect the module (loop). This ensures that the energy storage devices in the module have been discharged completely and the module can be initialised successfully.

The current for the external componentry is limited by the maximum permissible line resistance of 10 Ohm and the voltage drop on the line between the power unit and the load.

EXAMPLE: Minimum power supply voltage = 21V, minimum load voltage = 18V, maximum line resistance = 10 Ohm, therefore the maximum current is 300mA $[(21V-18V)/10 \text{ Ohm}]$.



If the module is powered by an external power supply, the country-specific regulations concerning emergency power supply have to be observed.

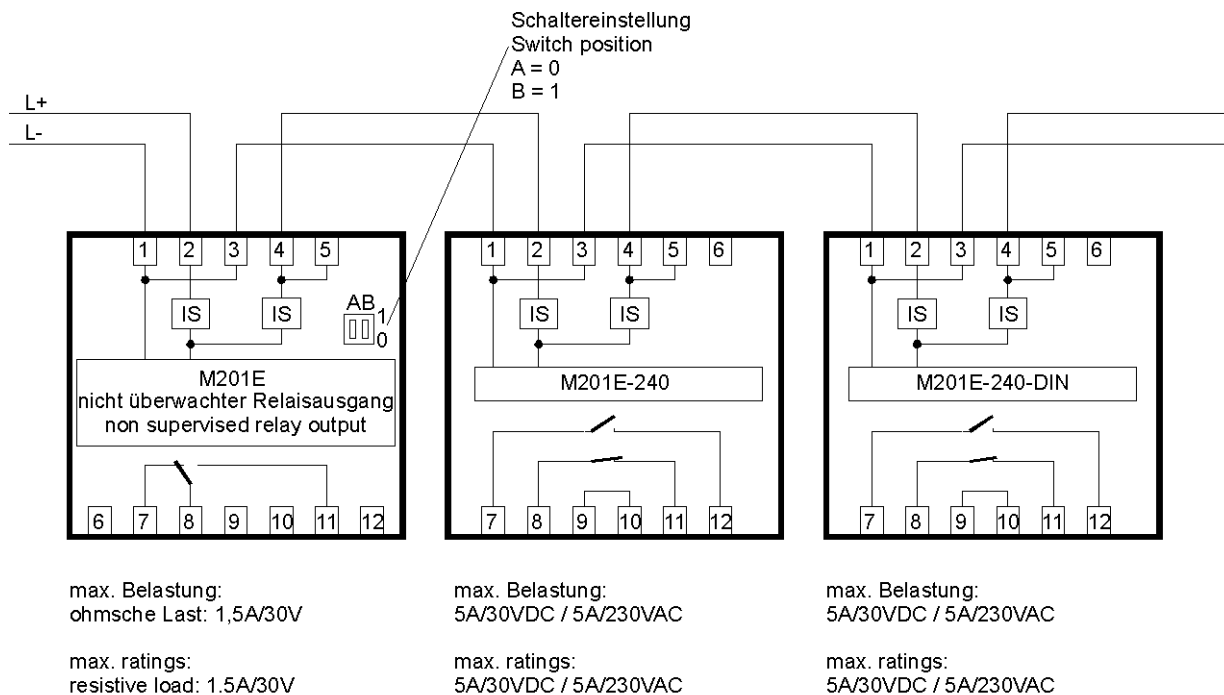
3.15 Connection of control modules with relay output

3.15.1 Address setting

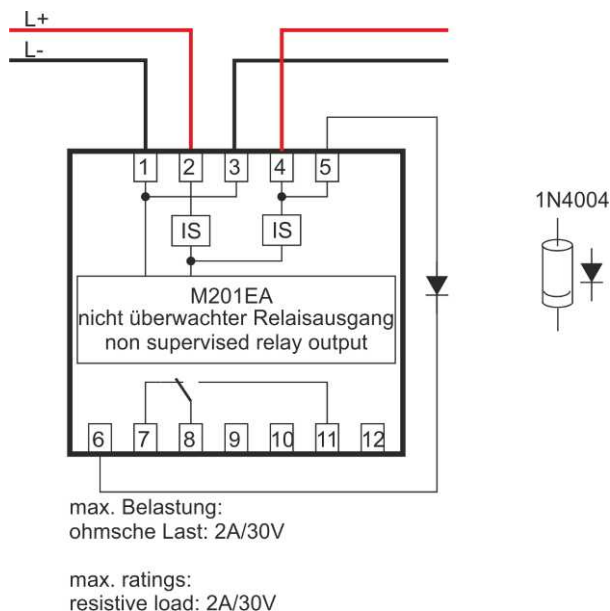
Detailed information can be found in Chapter 3.6.2: "Detectors and modules" from page 210 onwards.

3.15.2 Control Modules M201E, M201E-240, M201E-240-DIN

All modules have an integrated isolator.



3.15.3 Control Module M201EA



The function of this module is determined by the external wiring.

In this case this is done by means of a diode between the terminals 5 and 6 – this connection activates the relay function.

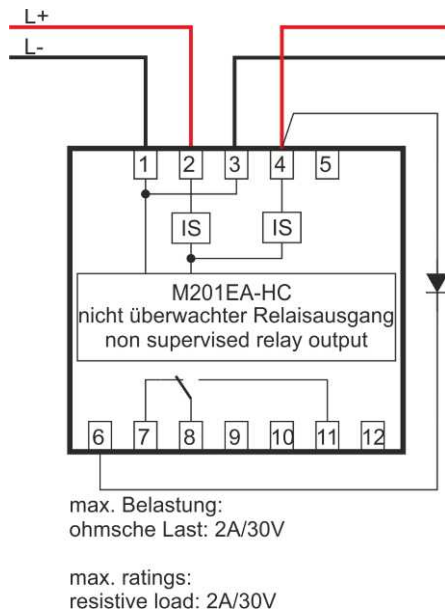
If you have forgotten the diode between the terminals, you should perform the following steps:

- ◆ Completely disconnect the module from the loop.
- ◆ Connect the diode between the terminals 5 and 6.
- ◆ Connect the module.



For the module to use the new function type (relay output), it has to be initialised by the control panel. Therefore, wait until an appropriate error message (Element does not answer) appears on the control panel before you connect the module (loop). This ensures that the energy storage devices in the module have been discharged completely and the module can be initialised successfully.

3.15.4 Control Module M201EA-HC



The function of this module is determined by the external wiring.

In this case this is done by means of a diode between the terminals 4 and 6 – this connection activates the relay function.

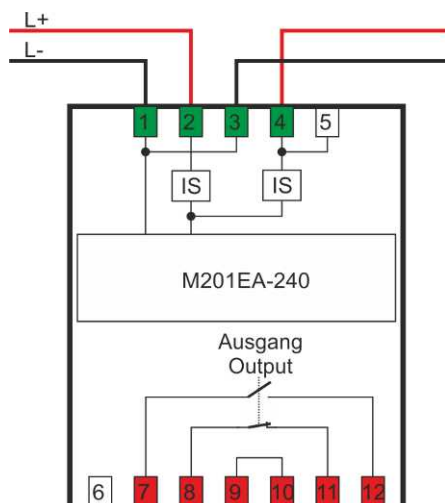
If you have forgotten the diode between the terminals, you should perform the following steps:

- ◆ Completely disconnect the module from the loop.
- ◆ Connect the diode between the terminals 4 and 6.
- ◆ Connect the module.



For the module to use the new function type (relay output), it has to be initialised by the control panel. Therefore, wait until an appropriate error message (Element does not answer) appears on the control panel before you connect the module (loop). This ensures that the energy storage devices in the module have been discharged completely and the module can be initialised successfully.

3.15.5 Control Module M201EA-240



3.15.6 Control Module CR-6 (Series 200)

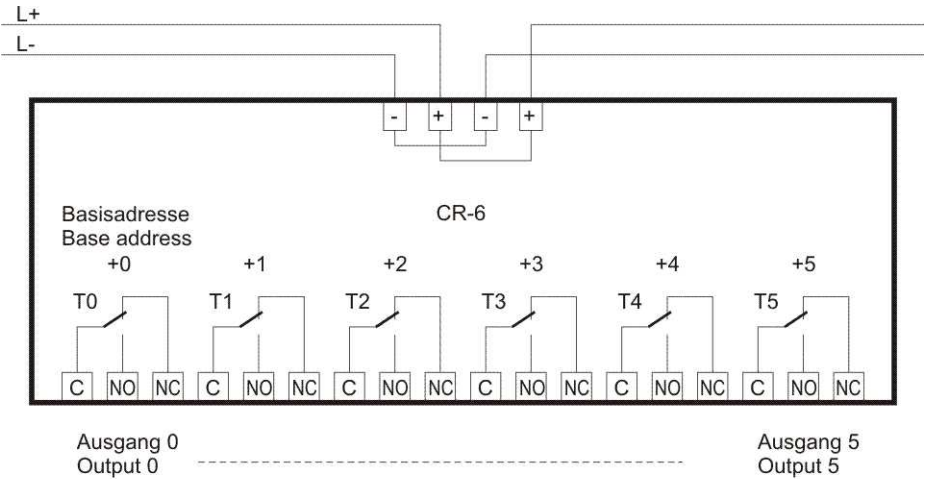
The module CR-6 has 6 relay outputs (change-over contact), that can switch low voltages. Every output occupies a separate address, but you do not have to use all outputs. The address of output 1 (base address) is preset in the range 1...99 by means of the rotary switches, all further outputs have the next higher addresses. All outputs must be parameterised as control module without supervision.



The base address must be set in such a way that even the last output used occupies an address in the range 1...99! Therefore the address must not be higher than 94 if all 6 outputs are to be used.

The number of outputs (and thus addresses) actually used can be set by means of jumper J1:

J1	Explanation
NONE	Outputs 0 through 5 used
ONE	Outputs 0 through 4 used
TWO	Outputs 0 through 3 used
THREE	Outputs 0 through 2 used



max. Belastung:
ohmsche Last: 3A/30VDC
indukt. Last: 1A/30VDC

max. ratings:
resistive load: 3A/30VDC
inductive load: 1A/30VDC

System Sensor / Produkt-Info / CR-6

3.15.7 Control Module CR-6EA (Series 200AP)

The module CR-6EA has 6 relay outputs (change-over contact), that can switch low voltages. Every output occupies a separate address, but you do not have to use all outputs. The address of output 1 (base address) is preset in the range 1...159 by means of the rotary switches, all further outputs have the next higher addresses. All outputs must be parameterised as control module without supervision.

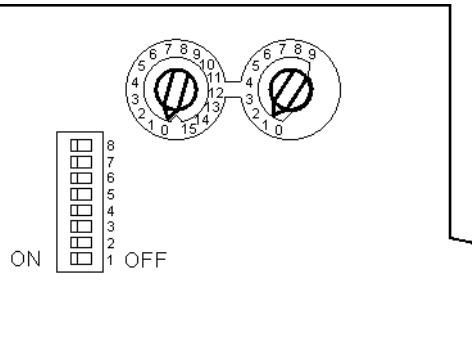


The base address must be set in such a way that even the last output used occupies an address in the range 1...159! Therefore the address must not be higher than 154 if all 6 outputs are to be used.



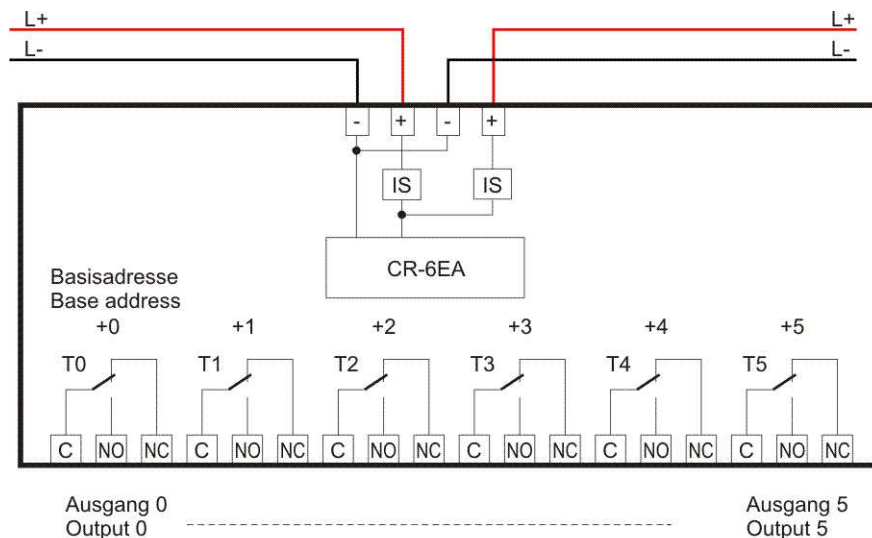
In order to be able to set addresses higher than 99, the mechanical blocking of the tens digit address switch is to be removed carefully using suitable means!

The number of outputs (and thus addresses) actually used can be set by means of the switches.



S1	S2	S3	Function	Remark
On	On	On	All addresses active	
Off	On	On	All addresses active	
On	Off	On	All addresses active	
Off	Off	On	Addresses 1-2 active	
On	On	Off	Addresses 1-3 active	
Off	On	Off	Addresses 1-4 active	
On	Off	Off	Addresses 1-5 active	
Off	Off	Off	All addresses active	Factory setting

The switches S4 through S8 do not have a function.



max. Belastung:
ohmsche Last: 3A/30VDC
indukt. Last: 1A/30VDC

max. ratings:
resistive load: 3A/30VDC
inductive load: 1A/30VDC

3.16 Connection of combi modules

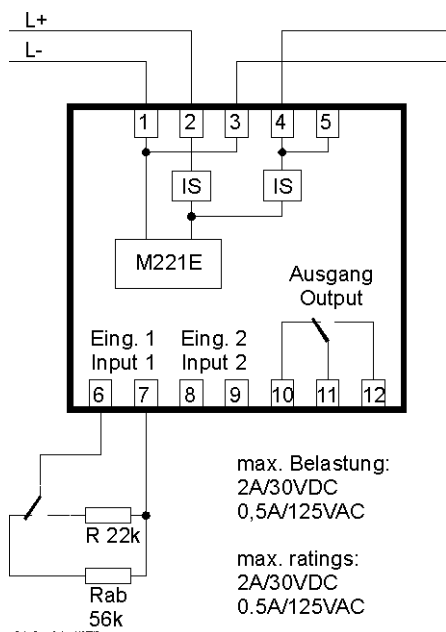
3.16.1.1 Address setting

Detailed information can be found from page 210 onwards in Chapter 3.6.2: "Detectors and modules".

The module M221E / M221EA has two monitored inputs and one output (relay change-over contact).

- ◆ The address of input 1 is set with the rotary switches (A).
- ◆ The address of input 2 is higher by 1 (A+1).
- ◆ The address of the output is higher by two (A+2).

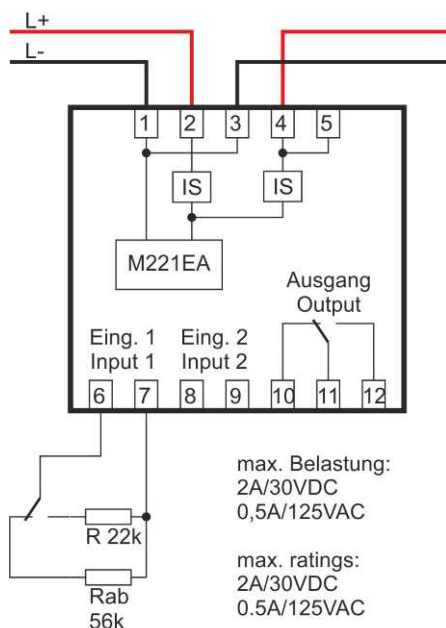
3.16.2 Connection of combi module M221E



The shown connection of the M2xxE inputs applies to the modes "Monitor module" and "Monitor module / M2xx / VdS".

On the Control Panel BC216, 2 Monitor modules and one Control module without supervision are parameterised for this module. On the BC600, the exact type of the module is selected.

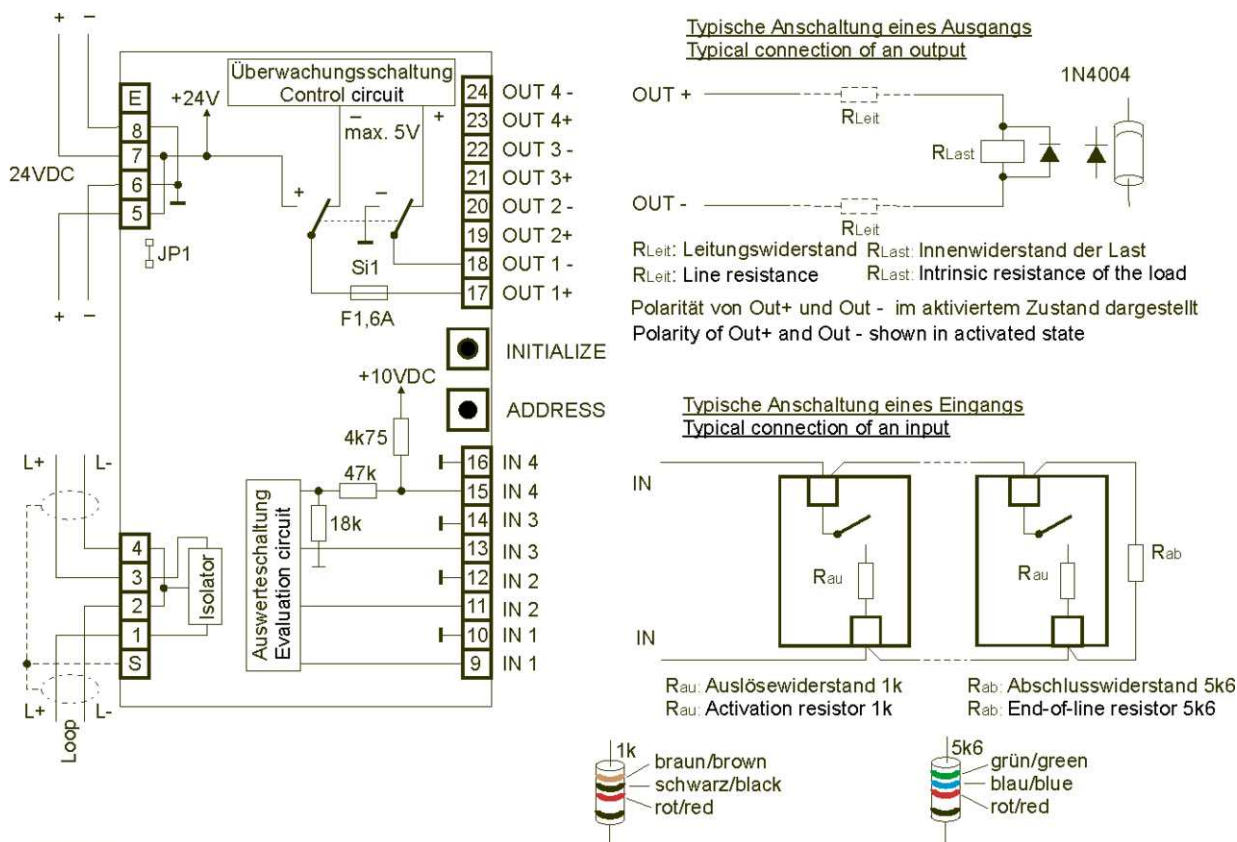
3.16.3 Connection of combi module M221EA



On the Control Panel BC216, 2 Monitor modules and one Control module without supervision are parameterised for this module. On the BC600, the exact type of the module is selected.

3.16.4 Connection of Module MEA244-1

The four outputs of the Module MEA244-1 are designed for the activation of control devices with a nominal voltage of 24VDC and a maximum load current of 1.5A each.



3.16.4.1 Entry of the base address

The address is entered in two digits. The set address is the address of the first input. All further inputs and outputs have the next higher addresses.

Since the module occupies 8 addresses, the base address must be set in the range 1...92 so that all inputs and outputs can be used.

Example:

- ◆ Base address PLUS 1 = input 2
- ◆ Base address PLUS 4 = output 1
- ◆ Base address PLUS 7 = output 4

Starting the entry process

Press the "ADDRESS" button until the LED assigned to input 1 lights up (this will take about 1 second) and thereupon release the button. Then you must, within four seconds, start to enter the tens digit of the base address.

The remaining process is identical with the process for HFM/HM products. They are described from page 206 onwards in Chapter 3.6.1: "Manual call points".

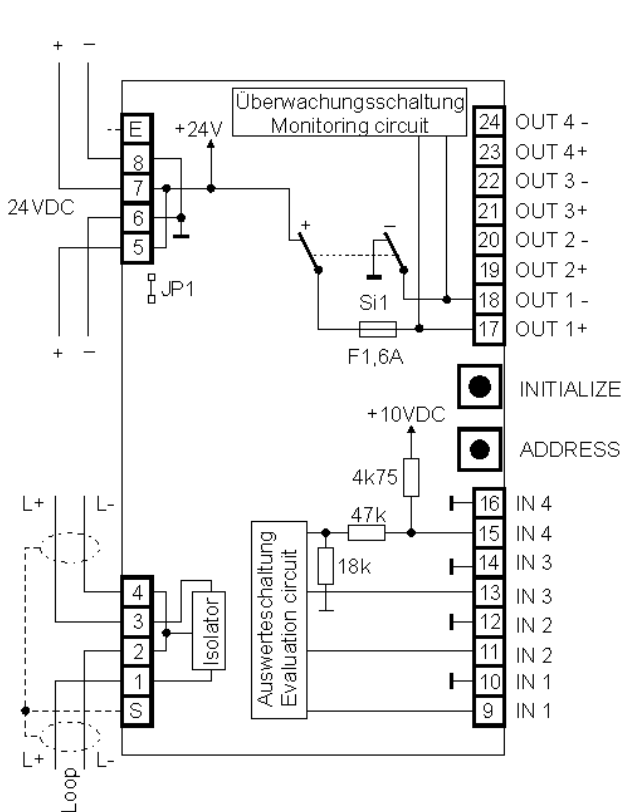


If you want to use the MEA244 on a loop with more than 99 addresses, you have to make sure that the firmware version is at least PL161 1.01 0846.

3.16.5 Connection of Module MEA244-1/FS

The four outputs of the Module MEA244-1/FS are designed for the activation of control devices with a nominal voltage of 24VDC and a maximum load current of 1.5A each.

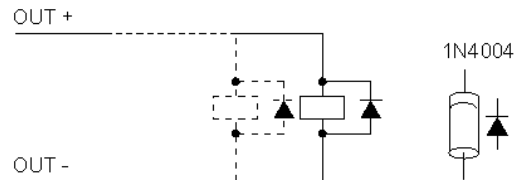
The Multi Module MEA244-1/FS serves especially for the actuation of fire protection devices that have to enter a safe position in case of a fault – e.g., door hold-open systems. The control devices are therefore powered with the control voltage in the normal condition and are thus actuated.



Typische Anschaltung eines Ausgangs

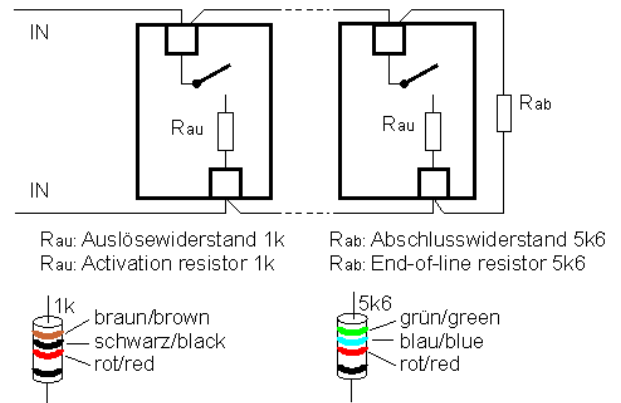
Typical connection of an output

Anschaltung eines Haltermagneten
Connection of a magnetic clamp



Typische Anschaltung eines Eingangs

Typical connection of an input



3.16.5.1 Entry of the base address

The address is entered in two digits. The set address is the address of the first input. All further inputs and outputs have the next higher addresses.

Since the module occupies 8 addresses, the base address must be set in the range 1...92 so that all inputs and outputs can be used.

Example:

- ◆ Base address PLUS 1 = input 2
- ◆ Base address PLUS 4 = output 1
- ◆ Base address PLUS 7 = output 4

Starting the entry process

Press the "ADDRESS" button until the LED assigned to input 1 lights up (this will take about 1 second) and thereupon release the button. Then you must, within four seconds, start to enter the tens digit of the base address.

The remaining process is identical with the process for HFM/HM products. They are described from page 206 onwards in Chapter 3.6.1: "Manual call points".



If you want to use the MEA244 on a loop with more than 99 addresses, you have to make sure that the firmware version is at least PL161 1.01 0846.

3.17 Loop alarming devices

The setting of parameters (sound level, frequency and tone) is shown in the leaflet provided with the sounder.

Information about the setting of the address can be found from page 212 onwards in Chapter 3.6.3: "Loop Sounders".

3.17.1 Notes

Loop-powered sounders can only be connected to a Loop Interface LIF64-1 with PCB version V3 or higher, to an LIF128-1 or to an LIF601-1.

 The LIF64-1/V3 provides approx. 300mA for loop-powered devices. The LIF128-1 and the LIF601-1 provide approx. 500mA for loop-powered devices.

At the maximum loop current, the line resistance must not exceed 15 Ohm per wire. The corresponding maximum loop length for different wire sizes is shown in the following table:

Wire gauge [mm²]	Diameter [mm]	max. loop length [m]	Notes
0.5	0.8	420	Standard fire detection cable
0.75	1	630	
1.5	1.4	1260	
2.5	1.8	2100	

Maximum number of loop-powered sounders:

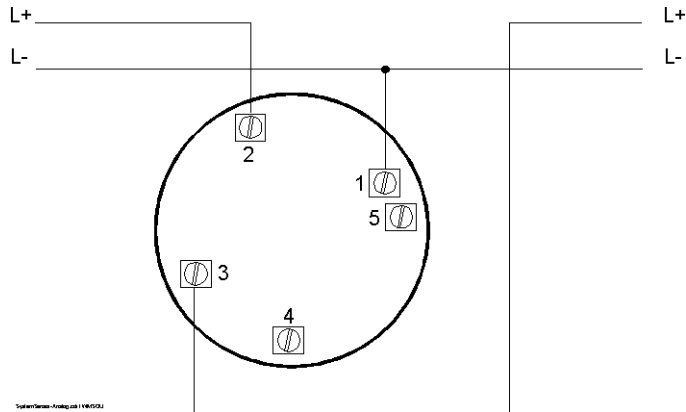
- ◆ The maximum number of loop-powered sounders per loop depends on the set sound level, because the power consumption is substantially affected by the sound level.
- ◆ The maximum number of sounders can be found in the loop calculator tool FireSysCALC_ xxxx.ods which is available in the download area of the LST website – registration required.
- ◆ The maximum number of sounders between two isolators is listed in the tables in Chapter 3.4: "Use of isolators" from page 199 onwards.

3.17.2 Sounder WMSOU-xx-P01 – WMSOU-xx-P02

These sounders can be operated in the address range 1-99 and need the sounder base LPBW.

In contrast to the version P01, the version P02 has an integrated isolator.

3.17.2.1 Connection



3.17.2.2 Tone setting

On the sounder there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	970	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/970	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone

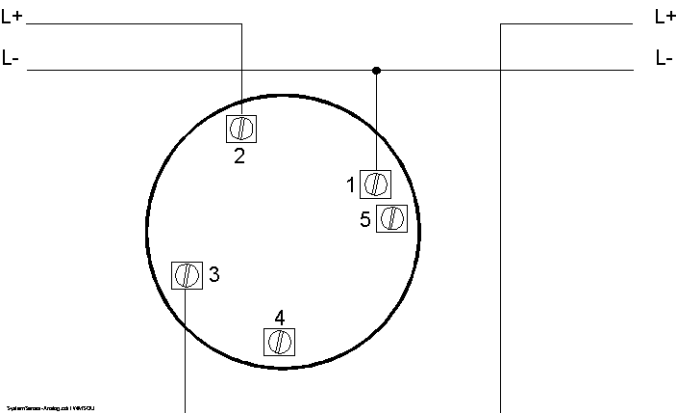
Sound level

<i>Switch</i>		Sound level
<i>SW6</i>	<i>SW7</i>	
OFF	OFF	High
OFF	ON	Medium
ON	OFF	Low
ON	ON	Low

3.17.3 Sounder WMSOU-xx-P33 – WMSOU-xx-P34

These sounders can be operated in the address range 1-159 and need the sounder base LPBW. In contrast to the version P33, the version P34 has an integrated isolator.

3.17.3.1 Connection



3.17.3.2 Tone setting

On the sounder there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

Switch					Frequency [Hz]	Repetition	Application
SW1	SW2	SW3	SW4	SW5			
1- ON	1- ON	1- ON	0- OFF	0- OFF	970	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

Switch					Frequency [Hz]	Repetition	Application
SW1	SW2	SW3	SW4	SW5			
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/970	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone

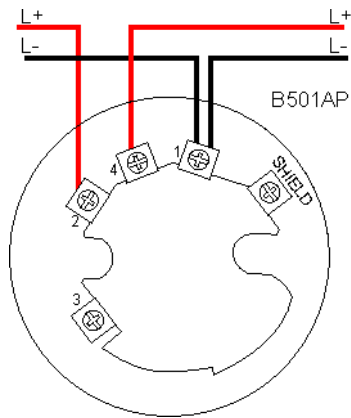
Sound level

Switch		Sound level
SW6	SW7	
OFF	OFF	High
OFF	ON	Medium
ON	OFF	Low
ON	ON	Low

3.17.4 Sounder WSO-xx-N – WSO-xx-I

These sounders can be operated in the address range 1-159 and need the sounder base B501AP. In contrast to the version N, the version I has an integrated isolator.

3.17.4.1 Connection



3.17.4.2 Tone setting

On the sounder there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.



If this product is accessed (BC600) through the 200-Advanced protocol, the tone is set through the protocol. In this case, the switch settings do not have to be changed.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	970	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/970	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone

Sound level

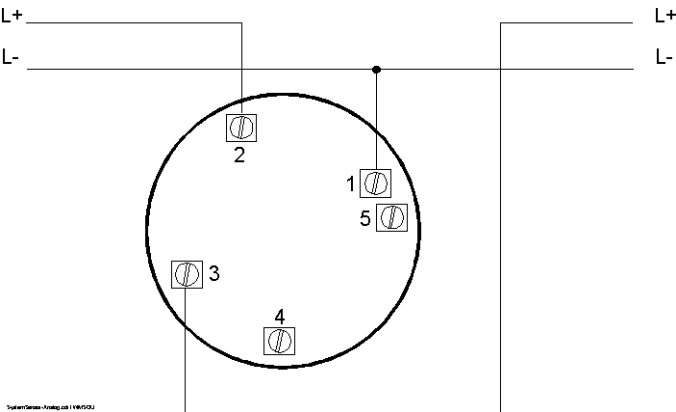
<i>Switch</i>		Sound level
<i>SW6</i>	<i>SW7</i>	
OFF	OFF	High
OFF	ON	Medium
ON	OFF	Low
ON	ON	Low

3.17.5 Sounder-Strobe WMSST-xx-P01 – WMSST-xx-P02

These sounder-strobes can be operated in the address range 1-99 and need the sounder base LPBW.

In contrast to the version P01, the version P02 has an integrated isolator. If the signalling device is activated, the sounder and the strobe are activated together.

3.17.5.1 Connection



3.17.5.2 Tone setting

On the sounder there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

Switch					Frequency [Hz]	Repetition	Application
SW1	SW2	SW3	SW4	SW5			
1- ON	1- ON	1- ON	0- OFF	0- OFF	970	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

Switch					Frequency [Hz]	Repetition	Application
SW1	SW2	SW3	SW4	SW5			
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/970	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone

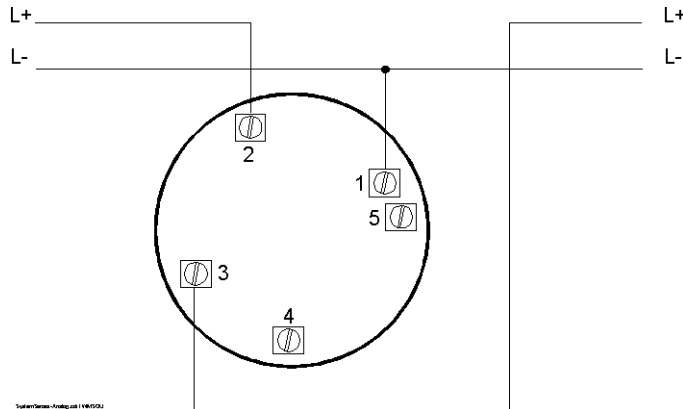
Sound level

Switch		Sound level
SW6	SW7	
OFF	OFF	High
OFF	ON	Medium
ON	OFF	Low
ON	ON	Low

3.17.6 Sounder-Strobe WMSST-xx-P33 – WMSST-xx-P34

These sounder-strobes can be operated in the address range 1-159 and need the sounder base LPBW. In contrast to the version P33, the version P34 has an integrated isolator. If the signalling device is activated, the sounder and the strobe are activated together.

3.17.6.1 Connection



3.17.6.2 Tone setting

On the sounder there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	970	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/970	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone

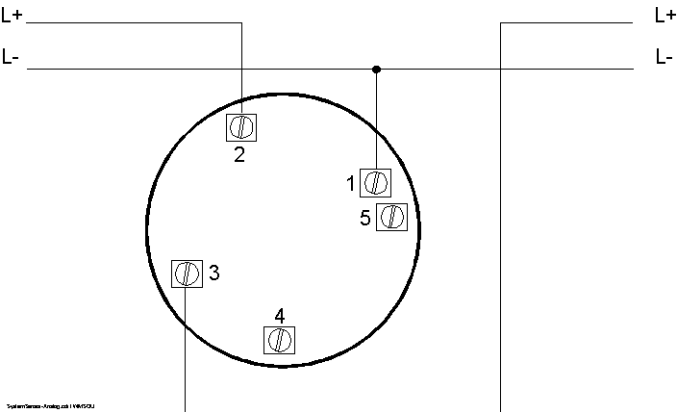
Sound level

<i>Switch</i>		Sound level
<i>SW6</i>	<i>SW7</i>	
OFF	OFF	High
OFF	ON	Medium
ON	OFF	Low
ON	ON	Low

3.17.7 Sounder-Strobe WMSST-xx-P38

This sounder-strobe can be operated in the address range 1-159 and needs the sounder base LPBW. The sounder and the strobe are activated separately. The sounder is addressed via the set address and the strobe via the next higher address.

3.17.7.1 Connection



3.17.7.2 Tone setting

On the sounder there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

Switch							
SW1	SW2	SW3	SW4	SW5	Frequency [Hz]	Repetition	Application
1- ON	1- ON	1- ON	0- OFF	0- OFF	970	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

Switch							
SW1	SW2	SW3	SW4	SW5	Frequency [Hz]	Repetition	Application
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/970	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone

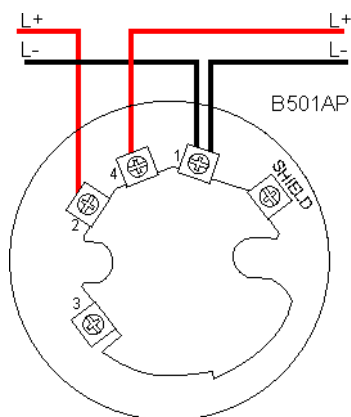
Sound level

Switch		
SW6	SW7	Sound level
OFF	OFF	High
OFF	ON	Medium
ON	OFF	Low
ON	ON	Low

3.17.8 Sounder-Strobe WSS-xx-N – WSS-xx-I

These alarming devices can be operated in the address range 1-159 and need the base B501AP. In contrast to the version N, the version I has an integrated isolator.

3.17.8.1 Connection



3.17.8.2 Tone setting

On the sounder there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.



If this product is accessed (BC600) through the 200-Advanced protocol, the tone is set through the protocol. In this case, the switch settings do not have to be changed.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	970	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/970	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone

Sound level

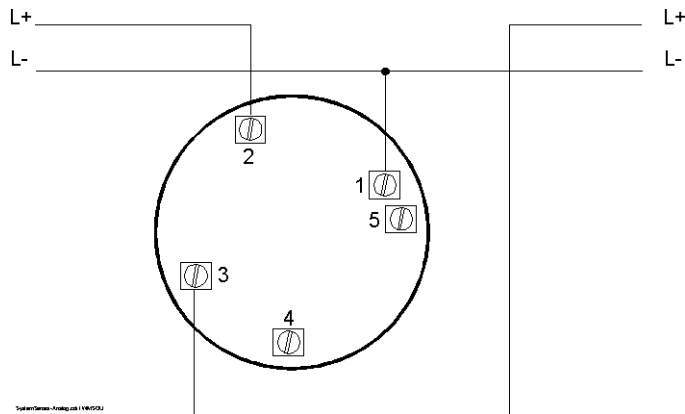
<i>Switch</i>		Sound level
<i>SW6</i>	<i>SW7</i>	
OFF	OFF	High
OFF	ON	Medium
ON	OFF	Low
ON	ON	Low

3.17.9 Sounder IBSOU-xx-P01 – IBSOU-xx-P02

These sounders can be operated in the address range 1-99 and need the sounder base LPBW.

In contrast to the version P01, the version P02 has an integrated isolator.

3.17.9.1 Connection



3.17.9.2 Tone setting

On the sounder there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	970	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/970	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone

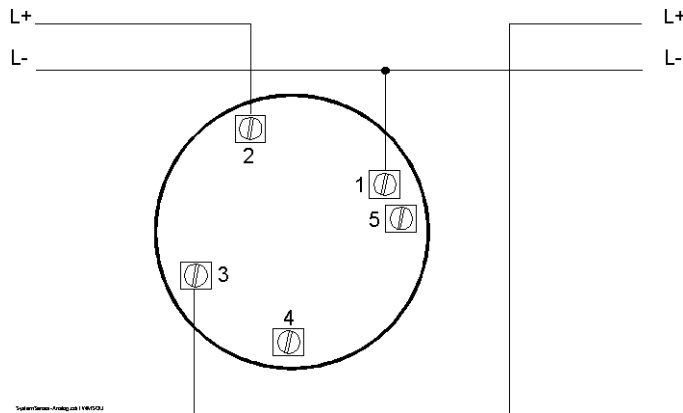
Sound level

<i>Switch</i>		Sound level
<i>SW6</i>	<i>SW7</i>	
OFF	OFF	High
OFF	ON	Medium
ON	OFF	Low
ON	ON	Low

3.17.10 Sounder IBSOU-xx-P33 – IBSOU-xx-P34

These sounders can be operated in the address range 1-159 and need the sounder base LPBW. In contrast to the version P33, the version P34 has an integrated isolator.

3.17.10.1 Connection



3.17.10.2 Tone setting

On the sounder there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	970	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/970	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone

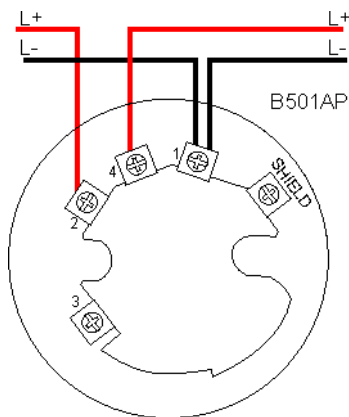
Sound level

<i>Switch</i>		Sound level
<i>SW6</i>	<i>SW7</i>	
OFF	OFF	High
OFF	ON	Medium
ON	OFF	Low
ON	ON	Low

3.17.11 Sounder BSO-xx-N – BSO-xx-I

These alarming devices can be operated in the address range 1-159 and need the base B501AP. In contrast to the version N, the version I has an integrated isolator.

3.17.11.1 Connection



3.17.11.2 Tone setting

On the sounder there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.

 If this product is accessed (BC600) through the 200-Advanced protocol, the tone is set through the protocol. In this case, the switch settings do not have to be changed.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

Switch					Frequency [Hz]	Repetition	Application
SW1	SW2	SW3	SW4	SW5			
1- ON	1- ON	1- ON	0- OFF	0- OFF	970	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

Switch					Frequency [Hz]	Repetition	Application
SW1	SW2	SW3	SW4	SW5			
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/970	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone

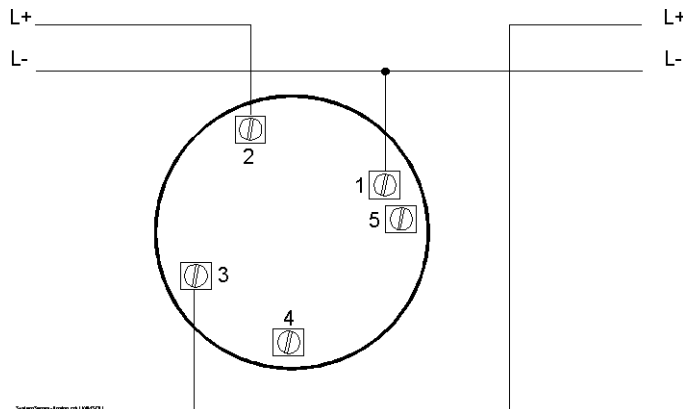
Sound level

Switch		Sound level
SW6	SW7	
OFF	OFF	High
OFF	ON	Medium
ON	OFF	Low
ON	ON	Low

3.17.12 Sounder-Strobe IBSST-xx-P01 – IBSST-xx-P02

These alarming devices can be operated in the address range 1-99 and need the sounder base LPBW. In contrast to the version P01, the version P02 has an integrated isolator. If the signalling device is activated, the sounder and the strobe are activated together.

3.17.12.1 Connection



3.17.12.2 Tone setting

On the sounder there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	970	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/970	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone

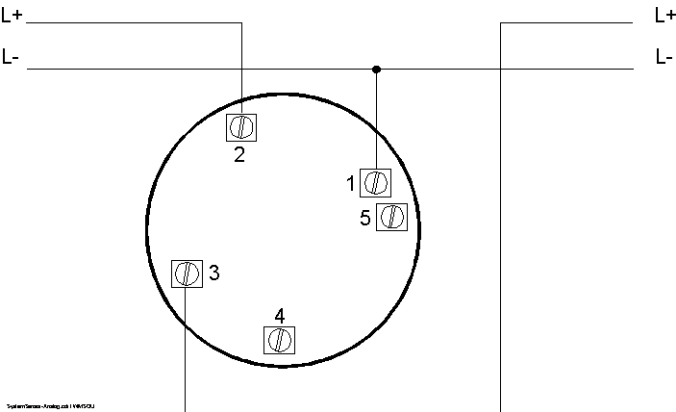
Sound level

<i>Switch</i>		Sound level
<i>SW6</i>	<i>SW7</i>	
OFF	OFF	High
OFF	ON	Medium
ON	OFF	Low
ON	ON	Low

3.17.13 Sounder-Strobe IBSST-xx-P33 – IBSST-xx-P34

These alarming devices can be operated in the address range 1-159 and need the sounder base LPBW. In contrast to the version P33, the version P34 has an integrated isolator. If the signalling device is activated, the sounder and the strobe are activated together.

3.17.13.1 Connection



3.17.13.2 Tone setting

On the sounder there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

Switch					Frequency [Hz]	Repetition	Application
SW1	SW2	SW3	SW4	SW5			
1- ON	1- ON	1- ON	0- OFF	0- OFF	970	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

Switch					Frequency [Hz]	Repetition	Application
SW1	SW2	SW3	SW4	SW5			
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/970	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone

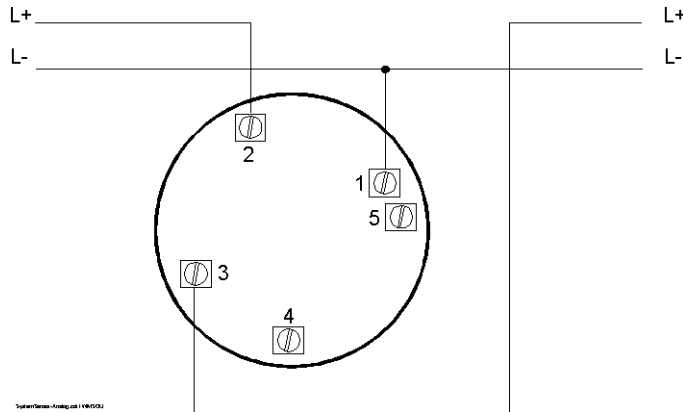
Sound level

Switch		Sound level
SW6	SW7	
OFF	OFF	High
OFF	ON	Medium
ON	OFF	Low
ON	ON	Low

3.17.14 Sounder-Strobe IBSST-xx-P38

This sounder-strobe can be operated in the address range 1-159 and needs the sounder base LPBW. The sounder and the strobe are activated separately. The sounder is addressed via the set address and the strobe via the next higher address.

3.17.14.1 Connection



3.17.14.2 Tone setting

On the sounder there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	970	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/970	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone

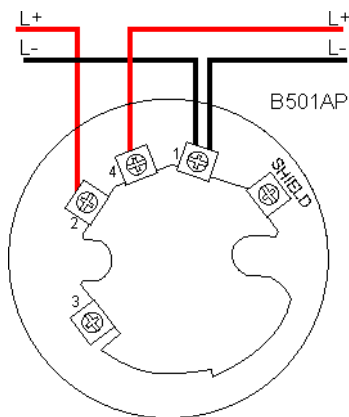
Sound level

<i>Switch</i>		Sound level
<i>SW6</i>	<i>SW7</i>	
OFF	OFF	High
OFF	ON	Medium
ON	OFF	Low
ON	ON	Low

3.17.15 Sounder-Strobe BSS-xx-N – BSS-xx-I

These alarming devices can be operated in the address range 1-159 and need the base B501AP. In contrast to the version N, the version I has an integrated isolator.

3.17.15.1 Connection



3.17.15.2 Tone setting

On the sounder there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.

 If this product is accessed (BC600) through the 200-Advanced protocol, the tone is set through the protocol. In this case, the switch settings do not have to be changed.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

Switch					Frequency [Hz]	Repetition	Application
SW1	SW2	SW3	SW4	SW5			
1- ON	1- ON	1- ON	0- OFF	0- OFF	970	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

Switch					Frequency [Hz]	Repetition	Application
SW1	SW2	SW3	SW4	SW5			
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/970	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone

Sound level

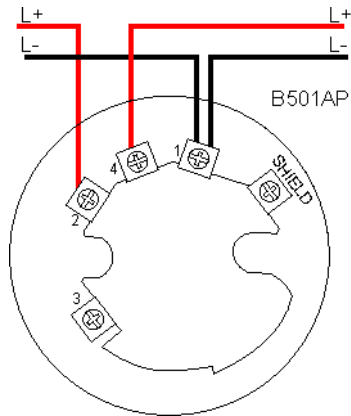
Switch		Sound level
SW6	SW7	
OFF	OFF	High
OFF	ON	Medium
ON	OFF	Low
ON	ON	Low

3.17.16 Sounder-Strobe DSS-xx-N – DSS-xx-I

These alarming devices can be operated in the address range 1-159 and need the base B501AP. In contrast to the version N, the version I has an integrated isolator.

The DSS has, compared to the BSS version, a clear lens and allows an EN 53-23 O category installation in up to 3 meters height.

3.17.16.1 Connection



3.17.16.2 Tone setting

On the sounder there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.



If this product is accessed (BC600) through the 200-Advanced protocol, the tone is set through the protocol. In this case, the switch settings do not have to be changed.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	922	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/922	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	922	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	922	Continuous tone	BS tone

Sound level

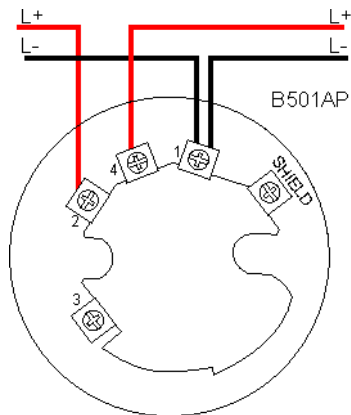
<i>Switch</i>		Sound level
<i>SW6</i>	<i>SW7</i>	
OFF	OFF	High
OFF	ON	Medium

ON	OFF	Low
ON	ON	Low

3.17.17 Sounder-Strobe BRH-xx-I

These alarming devices can be operated in the address range 1-159 and need the base B501AP. They have an integrated isolator.

3.17.17.1 Connection



3.17.17.2 Tone setting

On the sounder there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.



If this product is accessed (BC600) through the 200-Advanced protocol, the tone is set through the protocol. In this case, the switch settings do not have to be changed.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

<i>Switch</i>							
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>	<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
1- ON	1- ON	1- ON	0- OFF	0- OFF	970	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

<i>Switch</i>							
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>	<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/970	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone

Sound level

<i>SW6</i>	
OFF	High
ON	Low

EN 54-23 mode

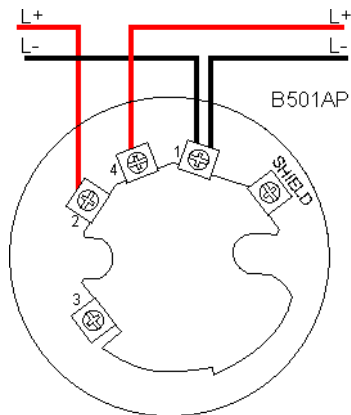
<i>SW7</i>	<i>SW8</i>	
OFF	OFF	0.5Hz (C-3-15)

ON	OFF	0.5Hz (C-3-11)
----	-----	----------------

3.17.18 Sounder-Strobe BRS-xx-I

These alarming devices can be operated in the address range 1-159 and need the base B501AP. They have an integrated isolator.

3.17.18.1 Connection



3.17.18.2 Tone setting

On the sounder there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.



If this product is accessed (BC600) through the 200-Advanced protocol, the tone is set through the protocol. In this case, the switch settings do not have to be changed.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	970	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/970	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone

Sound level

<i>SW6</i>	
OFF	High
ON	Low

EN 54-23 mode

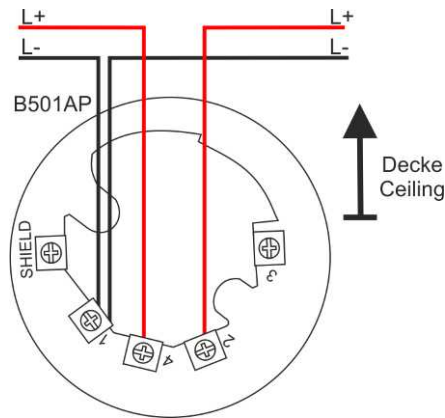
<i>SW8</i>	
ON	1Hz (0-1-3)

OFF	0.5Hz (C-3-8.5)
-----	-----------------

3.17.19 Sounder-Strobe WRA-RC-I

This red alarming device can be operated in the address range 1-159 and needs the base B501AP. It has an integrated isolator, and in the event of activation it will emit a RED light.

3.17.19.1 Connection



3.17.19.2 Tone setting

On the sounder-strobe there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.



If this product is accessed (BC600) through the 200-Advanced protocol, the tone is set through the protocol. In this case, the switch settings do not have to be changed.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	922	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/922	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	922	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	800	Continuous tone	BS tone

Sound level

<i>SW6</i>	
OFF	High
ON	Low

Brightness - EN 54-23 mode – 0.5 Hz

<i>SW7</i>	
ON	W-2.4-9/W-3.8-9

OFF	W-2.4-10/W-4.8-11
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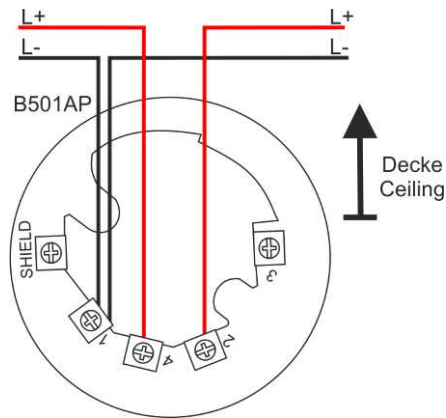
Flash frequency - EN 54-23 mode

<i>SW8</i>	
ON	1 Hz (O-1-3)
OFF	0.5 Hz (W-2.4-10/W-4.8-11)

3.17.20 Sounder-Strobe WRA-PC-I

This red alarming device can be operated in the address range 1-159 and needs the base B501AP. It has an integrated isolator, and in the event of activation it will emit a WHITE light.

3.17.20.1 Connection



3.17.20.2 Tone setting

On the sounder-strobe there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.



If this product is accessed (BC600) through the 200-Advanced protocol, the tone is set through the protocol. In this case, the switch settings do not have to be changed.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	922	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/922	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	922	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	800	Continuous tone	BS tone

Sound level

<i>SW6</i>	
OFF	High
ON	Low

Brightness - EN 54-23 mode – 0.5 Hz

<i>SW7</i>	
ON	W-2.4-9/W-3.8-9

OFF	W-2.4-10/W-4.8-11
-----	-------------------

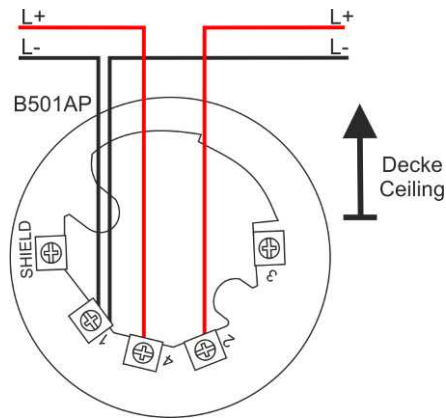
Flash frequency - EN 54-23 mode

<i>SW8</i>	
ON	1 Hz (O-1-3)
OFF	0.5 Hz (W-2.4-10/W-4.8-11)

3.17.21 Sounder-Strobe WWA-RC-I

This white alarming device can be operated in the address range 1-159 and needs the base B501AP. It has an integrated isolator, and in the event of activation it will emit a RED light.

3.17.21.1 Connection



3.17.21.2 Tone setting

On the sounder-strobe there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.



If this product is accessed (BC600) through the 200-Advanced protocol, the tone is set through the protocol. In this case, the switch settings do not have to be changed.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	922	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

<i>Switch</i>					<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>			
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/922	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	922	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	800	Continuous tone	BS tone

Sound level

<i>SW6</i>	
OFF	High
ON	Low

Brightness - EN 54-23 mode – 0.5 Hz

<i>SW7</i>	
ON	W-2.4-9/W-3.8-9

OFF	W-2.4-10/W-4.8-11
-----	-------------------

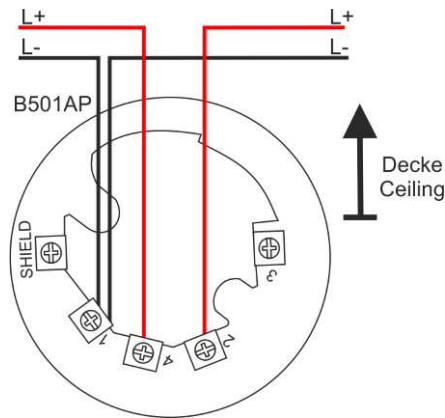
Flash frequency - EN 54-23 mode

<i>SW8</i>	
ON	1 Hz (O-1-3)
OFF	0.5 Hz (W-2.4-10/W-4.8-11)

3.17.22 Sounder-Strobe WWA-PC-I

This white alarming device can be operated in the address range 1-159 and needs the base B501AP. It has an integrated isolator, and in the event of activation it will emit a WHITE light.

3.17.22.1 Connection



3.17.22.2 Tone setting

On the sounder-strobe there are switches by means of which the sound level and the tone can be set. Three tones are listed here as examples.



If this product is accessed (BC600) through the 200-Advanced protocol, the tone is set through the protocol. In this case, the switch settings do not have to be changed.

The switch settings result in the following **Sound A**, which can be assigned in PARSOFT:

<i>Switch</i>							
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>	<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
1- ON	1- ON	1- ON	0- OFF	0- OFF	922	Continuous tone	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	500 – 1200	3.5s increasing, 0.5s silent	Slow whoop
1- ON	0- OFF	1- ON	0- OFF	1- ON	1200 – 500	1Hz	DIN tone

The switch settings result in the following **Sound B**, which can be assigned in PARSOFT:

<i>Switch</i>							
<i>SW1</i>	<i>SW2</i>	<i>SW3</i>	<i>SW4</i>	<i>SW5</i>	<i>Frequency [Hz]</i>	<i>Repetition</i>	<i>Application</i>
1- ON	1- ON	1- ON	0- OFF	0- OFF	800/922	Alternating 1Hz	BS tone
1- ON	1- ON	1- ON	0- OFF	1- ON	922	Continuous tone	BS tone
1- ON	0- OFF	1- ON	0- OFF	1- ON	800	Continuous tone	BS tone

Sound level

<i>SW6</i>	
OFF	High
ON	Low

Brightness - EN 54-23 mode – 0.5 Hz

<i>SW7</i>	
ON	W-2.4-9/W-3.8-9

OFF	W-2.4-10/W-4.8-11
-----	-------------------

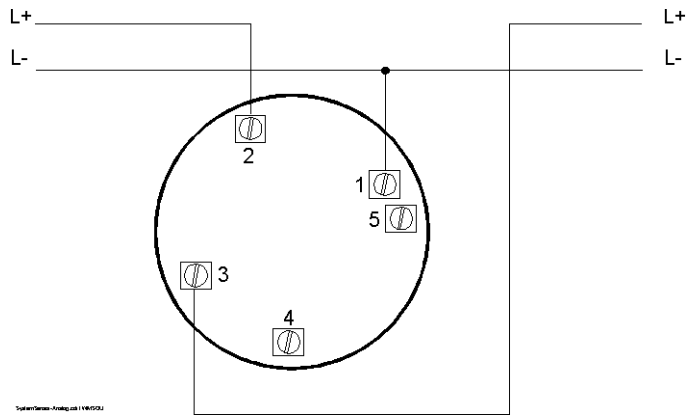
Flash frequency - EN 54-23 mode

<i>SW8</i>	
ON	1 Hz (O-1-3)
OFF	0.5 Hz (W-2.4-10/W-4.8-11)

3.17.23 Strobe WMSTR-xx-P01 – WMSTR-xx-P02

These alarming devices can be operated in the address range 1-99 and need the sounder base LPBW. In contrast to the version P01, the version P02 has an integrated isolator.

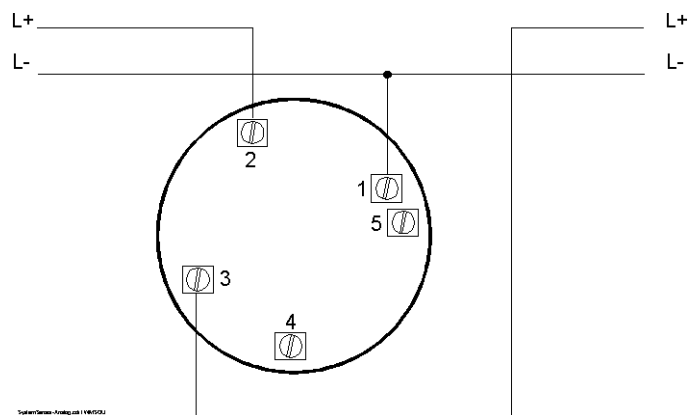
3.17.23.1 Connection



3.17.24 Strobe WMSTR-xx-P33 – WMSTR-xx-P34

These alarming devices can be operated in the address range 1-159 and need the sounder base LPBW. In contrast to the version P33, the version P34 has an integrated isolator.

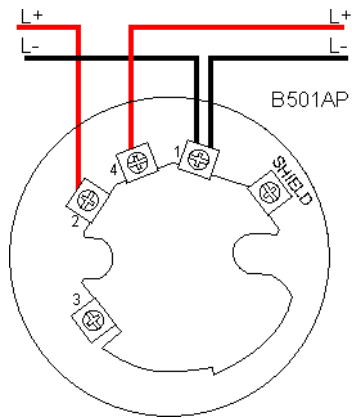
3.17.24.1 Connection



3.17.25 Strobe WST-xx-N – WST-xx-I

These alarming devices can be operated in the address range 1-159 and need the base B501AP. In contrast to the version N, the version I has an integrated isolator.

3.17.25.1 Connection

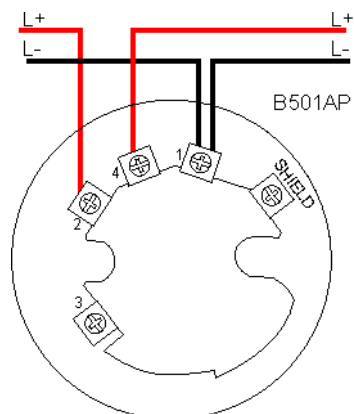


3.17.26 Strobe VAD-PC-I06 – VAD-PC-N06

These alarming devices can be operated in the address range 1-159 and need the base B501AP. In contrast to the version N, the version I has an integrated isolator.

This strobe has to be parameterised like a WST-xx-I or a WST-xx-N.

3.17.26.1 Connection

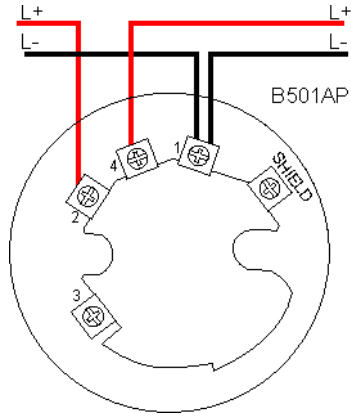


3.17.27 Strobe BGL-PC-I (C-3-8.5)

This alarming device can be operated in the address range 1-159 and needs the base B501AP. It has an integrated isolator.

This strobe has to be parameterised like a WST-xx-I or a WST-xx-N.

3.17.27.1 Connection

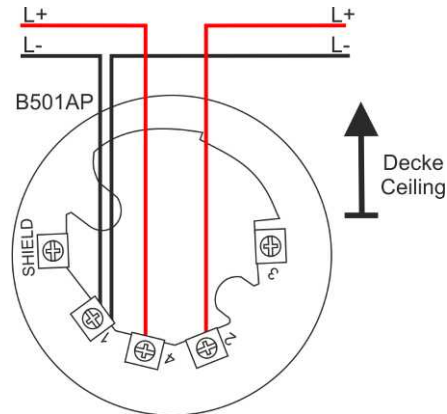


3.17.28 Strobe WRL-RC-I (W-3.6-10.5 / W-2.4-10.5)

This red alarming device can be operated in the address range 1-159 and needs the base B501AP. It has an integrated isolator, and in the event of activation it will emit a RED light.

This strobe has to be parameterised like a WST-xx-I.

3.17.28.1 Connection

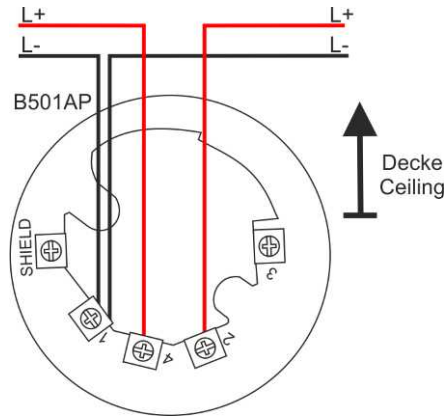


3.17.29 Strobe WRL-PC-I (W-3.6-10.5 / W-2.4-10.5)

This white alarming device can be operated in the address range 1-159 and needs the base B501AP. It has an integrated isolator, and in the event of activation it will emit a RED light.

This strobe has to be parameterised like a WST-xx-I.

3.17.29.1 Connection

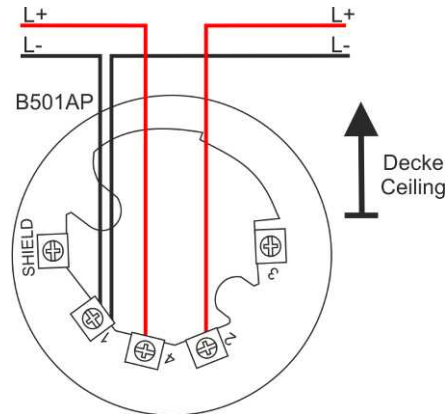


3.17.30 Strobe WWL-RC-I (W-3.8-9 / W-2.4-9)

This red alarming device can be operated in the address range 1-159 and needs the base B501AP. It has an integrated isolator, and in the event of activation it will emit a WHITE light.

This strobe has to be parameterised like a WST-xx-I.

3.17.30.1 Connection

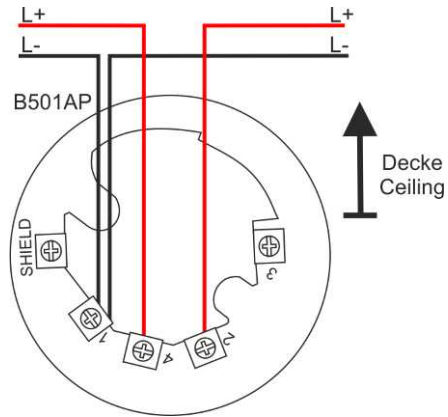


3.17.31 Strobe WWL-PC-I (W-3.8-9 / W-2.4-9)

This white alarming device can be operated in the address range 1-159 and needs the base B501AP. It has an integrated isolator, and in the event of activation it will emit a WHITE light.

This strobe has to be parameterised like a WST-xx-I.

3.17.31.1 Connection



3.17.32 Sounder 200/FBRI/SOUW

This sounder is powered via the loop and actuated via the parallel output of the detector. The sounder is to be mounted below the Detector Base B501AP.



On the BC216, the sounder can only be activated if the detector is activated.



If the devices are connected to Fire Detection Control Panels Series BC216, a maximum of 8 sounders can be simultaneously activated per loop, because the number of detector/module LEDs that can be activated is limited. The parallel output of the actuating element (detector) has to be set to "contin. on".

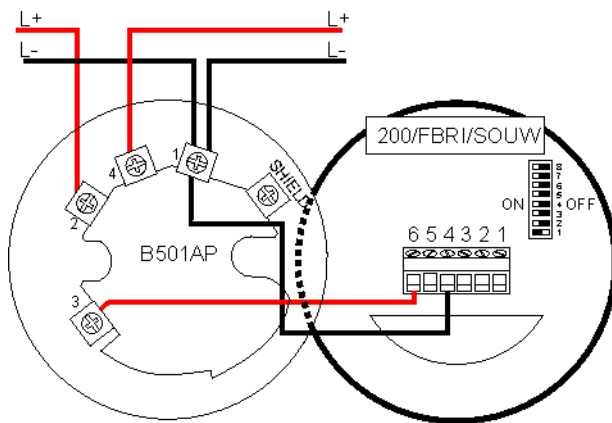


If the sounder is used on the **BC600**, either the parallel output of the detector can be parameterised as "illuminated", in which case up to 8 sounders that can be activated simultaneously can be used per loop, or the parallel output (for Series 200AP detectors) can be freely parameterised according to the requirements, which is done with the RI setting "individual". In the latter case the limitation of max. 8 sounders that can be activated simultaneously per loop is cancelled. Therefore it is all the more important to check the maximum number of sounders by means of the FireSysCALC_xxxx.ods (available in the download area of the LST website – registration required).



After installation, the switches by means of which the tone and the sound level are set, are located below the base B501AP.

3.17.32.1 Connection



3.17.32.2 Tone setting

On the sounder there are switches by means of which the sound level and the tone can be set. Two tones are listed here as examples.

Switch					Frequency [Hz]	Repetition	Application
SW2	SW3	SW4	SW5	SW6			
1- ON	0- OFF	1- ON	0- OFF	1- ON	970	Continuous tone	BS tone
0- OFF	0- OFF	1- ON	1- ON	1- ON	1200 – 500	1Hz	DIN tone

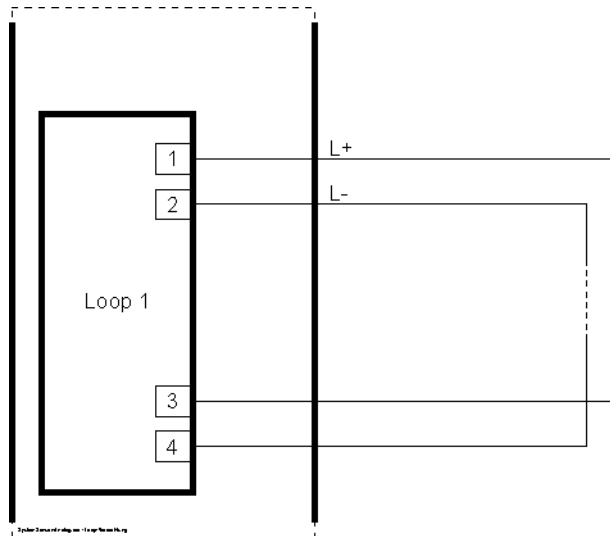
Sound level

Switch		Sound level
SW7	SW8	
OFF	OFF	Low
OFF	ON	High
ON	OFF	Medium

3.18 Examples for the wiring of detector circuits

We ask you again to consider country-specific standards and regulations in the field of fire detection systems when installing fire detection systems. Especially the use of isolator modules is not mandatory in some countries. The Series 200AP elements have an integrated isolator.

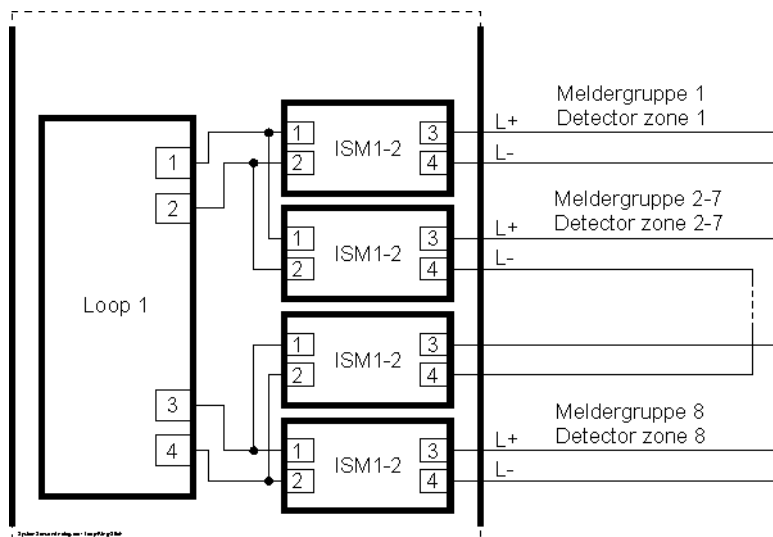
3.18.1 Loop



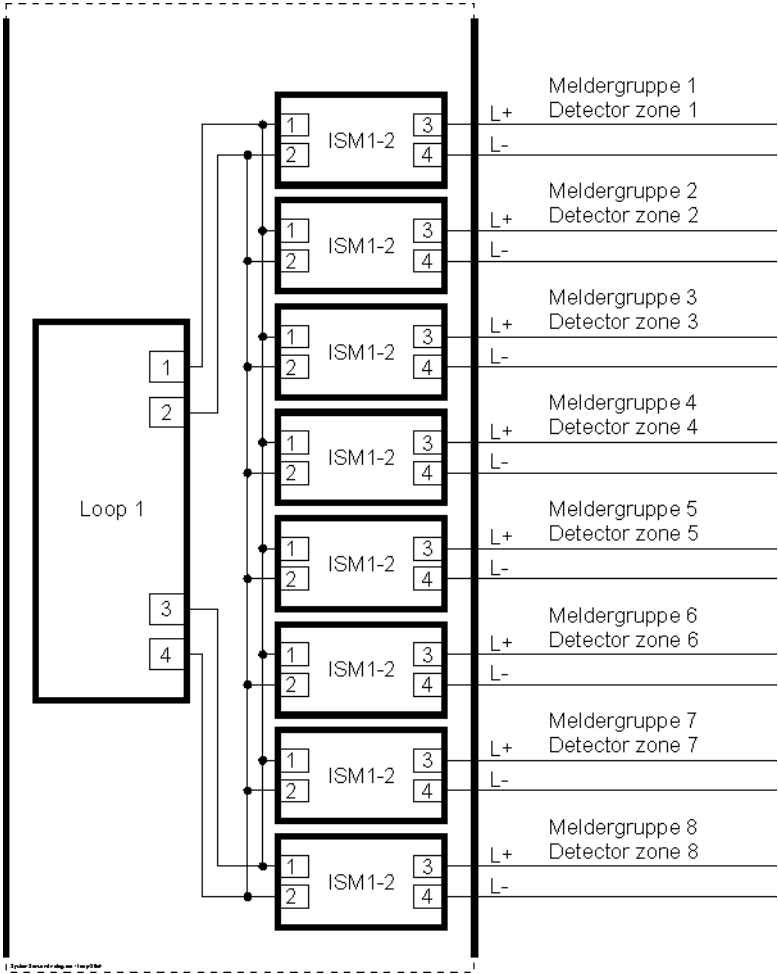
3.18.2 Combination of branch lines and loops

If Isolator Modules ISM1-2 are inserted into the loop, the section between two isolator modules will be disconnected from the loop if this section experiences a short circuit. As a result, all elements that are located outside the faulty section will remain fully functional.

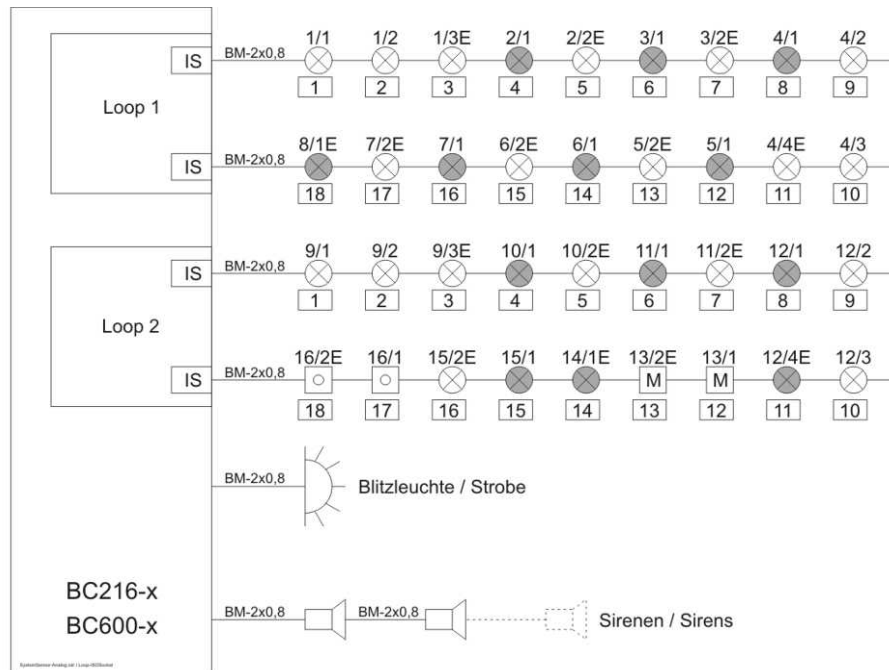
Any combination of loops and branch lines is permitted.



3.18.3 Branch lines



3.18.4 System cabling ADM loop with isolator bases or isolators in the detectors



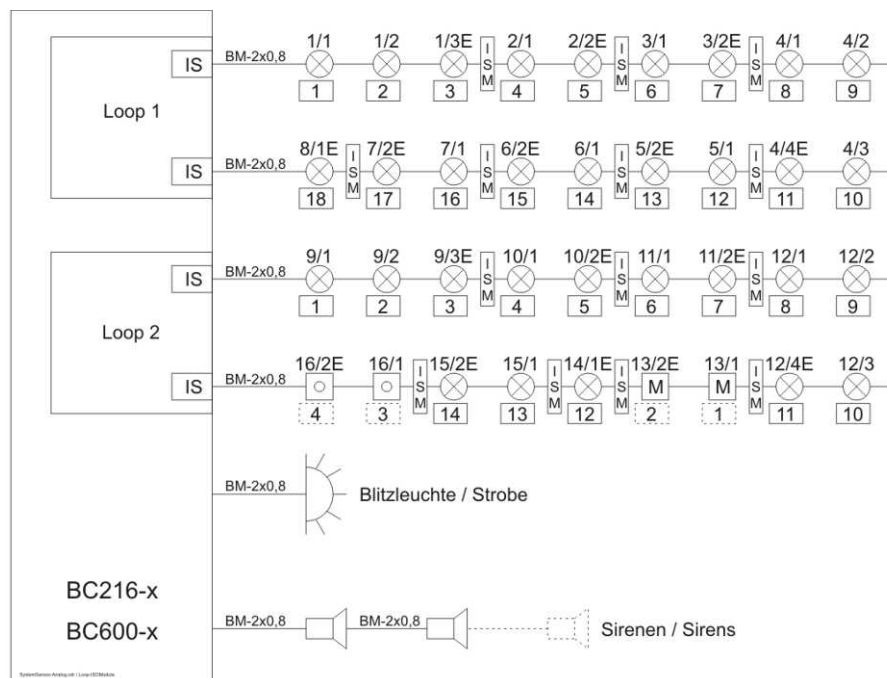
Legende:

- Rauchmelder ohne integrierten Isolator
- Rauchmelder mit integriertem Isolator bzw. Isolatorsockel (der erste Melder einer Gruppe benötigt einen Isolator, ausgenommen der erste Melder eines Loops)
- Handfeuermelder
- Modul (z.B. Grenzwertmelder-, Überwachungsmodul)
- Isolator auf Loop-Interfacemodul
- 15/2E Gruppen-/Elementnummer (der letzte Melder einer Gruppe ist mit 'E' zu kennzeichnen)
- Melderadresse (max. 159 automatische Melder pro Loop)
- Moduladresse (max. 159 Module/Handfeuermelder pro Loop)
- BM-2x0,8 Kabeltype (die max. Kabellänge ist im Kapitel "Anforderungen an Kabel" erläutert)

Explanation:

- Smoke detector without integrated isolator
- Smoke detector with integrated isolator or isolator base (with the exception of the first detector of a loop, the first detector of every zone has to have an isolator)
- Manual call point
- Module (e.g., conventional zone module, monitoring module)
- Isolator on loop interface
- 15/2E Zone/element number (the last detector of a zone has to be marked with 'E')
- Detector address (max. 159 automatic detectors per loop)
- Module address (max. 159 modules/manual call points per loop)
- BM-2x0,8 Cable type (the max. cable length is explained in Chapter "Cable requirements")

3.18.5 System cabling ADM loop with isolator modules



Legende:

- Rauchmelder ohne integrierten Isolator
- Handfeuermelder
- Modul (z.B. Grenzwertmelder-, Überwachungsmodul)
- Isolator auf Loop-Interfacemodul
- Isolatormodul
- 15/2E Gruppen-/Elementnummer (der letzte Melder einer Gruppe ist mit 'E' zu kennzeichnen)
- Melderadresse (max. 159 automatische Melder pro Loop)
- Moduladresse (max. 159 Module/Handfeuermelder pro Loop)
- BM-2x0,8 Kabeltype (die max. Kabellänge ist im Kapitel "Anforderungen an Kabel" erläutert)

Explanation:

- Smoke detector without integrated isolator
- Manual call point
- Module (e.g., conventional zone module, monitoring module)
- Isolator on loop interface
- Isolator module
- 15/2E Zone/element number (the last detector of a zone has to be marked with 'E')
- Detector address (max. 159 automatic detectors per loop)
- Module address (max. 159 modules/manual call points per loop)
- BM-2x... Cable type (the max. cable length is explained in Chapter "Cable requirements")

3.19 Tips for programming

This part of the document is intended for Fire Detection Control Panels Series BC216 and BC600.

In the case of the Fire Detection Control Panel Series BC600, the elements have to be selected in PAR-SOFT by means of the exact type (for example **22051TLEI**).

For the Fire Detection Control Panels Series BC216, the types have to be selected according to the tables below and the detailed information which the tables contain. For example, for a detector of type 22051TLEI, the element type **Multisensor** is to be used in PARSOFT.



If a 200AP element is parameterised on a BC600 and a 200 element is installed, this will result in a fault message "Element does not answer".

3.19.1 Parameterising Series 200/200AP/500 detectors on the BC216

Art. No.	Type	Element type in PARSOFT	Remarks		
Manual call points					
	HxM/x/22/xx/xx	Manual call point			
	HxM/x/25/xx/xx	Manual call point			
	HME/FFFF/25/TT/LL	Manual call point			
Ionisation detector					
240013	1251E	Ionisation detector			
Optical detector					
241010	ND2251EM	Optical detector			
241111	ND22051E	Optical detector			
241110	ND22051EI	Optical detector			
241047	ND22051E-IV	Optical detector			
241049	ND22051EI-IV	Optical detector			
Laser detector					
241050	7251	Laser detector	Level	Sensitivity	
241123	72051EI	Possibility of having a technical message - "pre warning" - 2 levels before the set alarm level is reached. This feature only works with levels 3-9. In the case of the 72051EI and the F-SEN-SSE, only the address range 1-99 is available!	1	0.03 %/m	
241124	F-SEN-SSE		2	0.06 %/m	
			3	0.13 %/m	
			4	0.31 % /m	
			5	0.72 %/m	
			6	1.24 %/m	
			7	1.93 %/m	
			8	2.63 %/m	
			9	3.33 %/m	
Multisensor					
241020	2251TEM	from PARSOFT V1.21 onwards Multisensor	Level	Mode	Sensitivity
241117	DV22051TE		1	O/T	1.5 %/m
241116	DV22051TEI	with PARSOFT V1.20 Opt./therm. detector	2	O var. / T	1.5 – 2.8 %/m
241048	DV22051TE-IV		3	O/T	2.8 %/m
		until PARSOFT V1.19 Multisensor	4	O var. / T	2.8 – 5.2 %/m
			5	O/T	5.2 %/m
			therm. T		58°C RoR, MAX

Art. No.	Type	Element type in PARSOFT	Sensitivity class according to EN 54-5			
Multisensor						
241052	2251TLE	Multisensor	Level	Mode	Sensitivity	
		Level 1 only since Vxx.20 0605	1	O/T/IR	1.5 %/m	
			2	O/T/IR	2.8 %/m	
			< 1.5 minutes delay	3	O/T/IR delayed	4.2 %/m
			1.5 – 3 minutes delay	4	O/T/IR delayed	4.2 %/m
			> 3 minutes delay	5	O/T/IR delayed	4.2 %/m
			therm.	T	58°C RoR, MAX	
241119	22051TLE	Multisensor	Level	Mode	Sensitivity	
241118	22051TLEI	Level 1 only since Vxx.20 0605	1	O/T/IR	2.5 %/m	
241053	22051TLE-IV		2	O/T/IR	3.8 %/m	
< 45 seconds delay	3		O/T/IR delayed	5.6 %/m		
45 – 90 seconds delay	4		O/T/IR delayed	5.6 %/m		
> 90 seconds delay	5		O/T/IR delayed	5.6 %/m		
		therm.	T	60°C RoR, MAX		
241120	2251CTLE	Multisensor	Level	Mode	Sensitivity	
241051	2251CTLE-IV		1	O/T/IR/CO	1.6 %/m	
			2	O/T/IR/CO	3 %/m	
			3	O/T/IR/CO	4.5 %/m	
		< 10 minutes delay	4	O/T/IR/CO del.	4.5 %/m	
		< 10 minutes delay	5	O/T/IR/CO del.	6.0 %/m	
		therm.	T	60°C RoR, MAX		
In the case of the detector 2251CTLE, applications can be assigned. Every application requires a suitable level (depending on the control panel type) to be set. If no application has been selected, the levels 1-6 can be used.						
Application number		Application name		Level		
	0	Hotel rooms		4		
	0	Boiler rooms		4		
	1	Dormitory		5		
	2	Attack by insects		4 or 5		
	2	Condensation problems		4 or 5		
	2	Heavy industry		4 or 5		
	2	Electric arcs, flashes, etc.		4 or 5		
	3	Dusty areas		5		
	3	Engine rooms (dusty areas)		5		
	4	Disco fog and light effects		5		
	4	Bars (steam, tobacco smoke)		5		
	4	Smoking area		5		
	5	Garages, truck loading areas, etc.		5		
	5	Kitchen and canteen areas, etc.		5		
O/T=optical and thermal; O var./T=variable optical sensitivity and thermal mode T=thermal mode O/T/IR/CO=optical, thermal, IR and CO detection						

Art. No.	Type	Element type in PARSOFT	Sensitivity class according to EN 54-5
Optical detector - IS			
241025	2251EIS	Optical detector	
241101	22051EISE	Optical detector	
Thermal detectors			
242002	5251EM	From PARSOFT V1.23 onwards:	
		Max-therm detector 58C	Class A1S typ. 58°C (MAX)
		Max-th. detector 78C noCPD	Class BS typ. 78°C (MAX)
		Diff-th. detect. 5251EM noCPD	Class A1R typ. 58°C (RoR, MAX)
		Until PARSOFT V1.22:	
		Max-therm detector 58C	Class A1S typ. 58°C (MAX)
		Max-therm detector 78C	Class BS typ. 78°C (MAX)
		Diff-therm detector 5251EM	Class A1R typ. 58°C (RoR, MAX)
	5551EM	From PARSOFT V1.23 onwards:	
		Th-Diff 5551EM n CPD	Class A1R typ. 58°C (RoR, MAX)
		Until PARSOFT V1.22:	
		Diff-therm detector 5551EM	Class A1R typ. 58°C (RoR, MAX)
242111	52051RE	From PARSOFT V1.23 onwards:	
241110	52051REI	Therm. detector AP	Class A1R typ. 58°C (RoR, MAX)
242090	52051RE-IV	Until PARSOFT V1.22:	
		Max-therm detect. 58	Class A1R typ. 58°C (RoR, MAX)
242113	52051E	From PARSOFT V1.23 onwards:	
242112	52051EI	Therm. detector AP	Class A1S typ. 58°C (MAX)
242091	52051E-IV	Until PARSOFT V1.22:	
		Max-therm detect. 58	Class A1S typ. 58°C (MAX)
242115	52051HTE	From PARSOFT V1.23 onwards:	
242114	52051HTEI	Therm. detector AP	Class BS typ. 78°C (MAX)
242092	52051HTE-IV	Until PARSOFT V1.22:	
		Max-therm detect. 58	Class BS typ. 78°C (MAX)
Special detectors			
241019	FTX-P1	Optical detector	
244020	6500	Beam Detector	
244021	6500S	Beam Detector	
244491	OSI-RIE-00	Beam Detector	
244030	A211E-LSR	Smoke aspiration system	1 detector in the housing
244031	A222E-LSR	Smoke aspiration system	2 detectors in the housing



Thermal detectors may **ONLY** be used in the specified combinations (detector / setting of the control panel / setting in PARSOFT). Make sure that the **CORRECT** settings are selected. In case of incorrect parameterisation, the entire fire detection system may not work in a proper way, and in extreme cases it can be completely useless! In case of an incorrect parameter setup, the control panel can **NOT** display an error message.

3.19.2 Parameterising Series 200/500 modules on the BC216

Art. No.	Type	Element type in PARSOFT	Remarks
249046	M503ME	Monitor module	
249100	M210E	Monitor module Monitor module/latching Monitor module / M2xx / VdS	
249101	M220E	Monitor module Monitor module/latching Monitor module / M2xx / VdS	
249430	M210EA	Monitor module Monitor module/latching Monitor module / M2xx / VdS	
249431	M220EA	Monitor module Monitor module/latching Monitor module / M2xx / VdS	
249115	IM-10	Monitor module Monitor module/latching	
249104	M210E-CZ	Conventional module	EOL-capacitor
249107	M210E-CZR	Conventional module	EOL-resistor
249434	M210EA-CZ	Conventional module	EOL-capacitor
249437	M210EA-CZR	Conventional module	EOL-resistor
249103	M201E	Ctrl.module without supervis. Ctrl.module with supervis. Ctrl.module / M201 / VdS	Relay output EOL 47kOhm - supervis. EOL 47 Ohm - supervis.
249436	M201EA	Ctrl.module without supervis. Ctrl.module with supervis.	Relay output EOL 47kOhm - supervis.
249433	M201EA-HC	Ctrl.module without supervis. Ctrl.module with supervis. Ctrl.module / M201 / VdS	Relay output EOL 47kOhm - supervis. EOL 47 Ohm - supervis.
249105/06	M201E-240	Ctrl.module without supervis.	Relay output
249435	M201EA-240	Ctrl.module without supervis.	Relay output
249116	CR-6	Ctrl.module without supervis.	Relay output
249102	M221E	Monitor module Monitor module/latching Monitor module / M2xx / VdS Ctrl.module without supervis.	Output (relay output)
249432	M221EA	Monitor module Monitor module/latching Monitor module / M2xx / VdS Ctrl.module without supervis.	Output (relay output)
249092/95	MEA244	Monitor mod./MEA2xx	Input 1-4

Art. No.	Type	Element type in PARSOFT	Remarks
		Mon.mod/MEA2xx/latch Ctrl.module/MEA2xx	Input 1-4 Output 1-4
249090	EDS500-1	Monitor module Monitor module/latching	
249091	ÜMB500-1	Monitor module Monitor module/latching	
249112	M510E-4-20	Analog module	4-20mA

3.19.3 Parameterising Series 200AP modules on the BC216

Art. No.	Type	Element type in PARSOFT	Remarks
249126	M510EA	Monitor module	
249115	IM-10EA	Monitor module Monitor module/latching	
249116	CR-6EA	Ctrl.module without supervis.	Relay output
249102	EDS200AP-1	Monitor module Monitor module/latching	
249123	ÜMB200AP-1	Monitor module Monitor module/latching	

3.19.4 Parameterising signalling devices Series 200/200AP on the BC216

3.19.4.1 Signalling devices Series WMSxx and IBSxx (Series 200)

The following signalling devices can only be used in the address range 1-99.

Art. No.	Type	Element type in PARSOFT	Remarks
355160	WMSOU-xx-P01	Loop siren	
355168		Ctrl.module with supervis.	
355161	WMSOU-xx-P02	Loop siren	
355169		Ctrl.module with supervis.	
355162	WMSST-xx-P01	Loop siren	
		Ctrl.module with supervis.	
355163	WMSST-xx-P02	Loop siren	
		Ctrl.module with supervis.	
355164	IBSOU-xx-P01	Loop siren	
355172		Ctrl.module with supervis.	
355165	IBSOU-xx-P02	Loop siren	
355173		Ctrl.module with supervis.	
355166	IBSST-xx-P01	Loop siren	
355174		Ctrl.module with supervis.	
355167	IBSST-xx-P02	Loop siren	
355175		Ctrl.module with supervis.	
356140	WMSTR-xx-P01	Ctrl.module with supervis.	
356141	WMSTR-xx-P02	Ctrl.module with supervis.	

3.19.4.2 Signalling devices Series WMSxx and IBSxx (Series 200AP)

These signalling devices can be used in the extended address range (1-159).

Art. No.	Type	Element type in PARSOFT	Remarks
355220	WMSOU-xx-P33	Loop siren	
355228		Ctrl.module with supervis.	
355221	WMSOU-xx-P34	Loop siren	
355229		Ctrl.module with supervis.	
355222	WMSST-xx-P33	Loop siren	
		Ctrl.module with supervis.	
355223	WMSST-xx-P34	Loop siren	
		Ctrl.module with supervis.	
355224	IBSOU-xx-P33	Loop siren	
355232		Ctrl.module with supervis.	
355225	IBSOU-xx-P34	Loop siren	
355233		Ctrl.module with supervis.	
355226	IBSST-xx-P33	Loop siren	
355234		Ctrl.module with supervis.	
355227	IBSST-xx-P34	Loop siren	
355235		Ctrl.module with supervis.	
356142	WMSTR-xx-P33	Loop siren	
		Ctrl.module with supervis.	
356143	WMSTR-xx-P34	Ctrl.module with supervis.	
356144		Loop siren	
355241	IBSST-xx-P38	Loop siren Ctrl.module with supervis.	Separate actuation of sounder and strobe; 2 addresses
355240	WMSST-xx-P38	Loop siren Ctrl.module with supervis.	Separate actuation of sounder and strobe; 2 addresses

3.19.4.3 Signalling devices Series VAD (Series 200AP)

These signalling devices can be used in the extended address range (1-159).

Art. No.	Type	Element type in PARSOFT	Remarks
356158	VAD-xx-I	Loop siren Ctrl.module with supervis.	
356157	VAD-xx-N	Loop siren Ctrl.module with supervis.	

3.19.4.4 Other signalling devices – Series 200AP

Art. No.	Type	Element type in PARSOFT	Remarks
	BSO	Loop siren Ctrl.module with supervis.	Sounder
355276	BRH	Loop siren Ctrl.module with supervis.	Sounder-strobe
355277	BRS	Loop siren Ctrl.module with supervis.	Sounder-strobe
356159	BGL	Ctrl.module with supervis.	Strobe
355273	DSS	Loop siren Ctrl.module with supervis.	Sounder-strobe
	WRA-xC-I	Loop siren Ctrl.module with supervis.	Sounder-strobe
	WWA-xC-I	Loop siren Ctrl.module with supervis.	Sounder-strobe
	WRL-xC-I	Ctrl.module with supervis.	Strobe
	WWL-xC-I	Ctrl.module with supervis.	Strobe

3.19.5 Parameterising wireless elements Series 200AP-RF on the BC216

Art. No.	Type	Element type in PARSOFT	Remarks		
249350	M200G-RF	Ctrl.module with supervis.	RF gateway		
241140	22051E-RF	Optical detector			
241141	22051TLE-RF	Multisensor	Level	Mode	Sensitivity
			1	O/T/IR	2.5 %/m
			2	O/T/IR	3.8 %/m
			< 45 seconds delay 3	O/T/IR delayed	5.6 %/m
			45 – 90 seconds delay 4	O/T/IR delayed	5.6 %/m
			> 90 seconds delay 5	O/T/IR delayed	5.6 %/m
			therm.	T	58°C RoR, MAX
242140	52051E-RF	Thermal detector AP	Class A1S typ. 58°C (MAX)		
242141	52051RE-RF	Thermal detector AP	Class A1R typ. 58°C (RoR, MAX)		
245140	R5A-RF	Manual call point KAC	Whether this is selectable depends on the country-specific version of the control panel		
249355	M221E-RF (input)	Monitor module			
	M221E-RF (output)	Ctrl.module without supervis.	The output of the module can only be used in the 'relay' mode.		
355274	WSO-RR-RF	Loop siren			
355275	WSO-WW-RF	Loop siren			
356160	WSF-RR-RF	Loop siren			
356161	WSF-WW-RF	Loop siren			



For wireless elements of the 200AP-RF series, no address > 99 may be set when connecting to the BC216.



The RF gateway M200G-RF is an element of an actuation. Through the measured values of the actuation element, the conditions of the RF system are evaluated.



In the Series BC216, at least one combination is needed for an actuation. You can enter anything for the combinations because the actuation will never be activated.

The Series BC600 allows the parameters to be transmitted to the control panel even if no combinations have been entered for the actuation.



As an alternative to the combination entry – the actuation will never be activated – PARSOFT allows you to enter any free sector number for the actuation element, for the Series BC216. As a result of using sectors for the actuation, there is no need to enter combinations. It is not necessary to configure the sector any further.

3.19.6 Parameterising wireless elements Series 500 on the BC216

Art. No.	Type	Element type in PARSOFT	Remarks
249202	M500RFE-AS	Conventional module	RF interface
241036	2100RFT-AS	Optical detector	Optical-thermal detector
245022	M400DKMR-AS	Manual call point	
245023	M400DKMB-AS	Manual call point	Manual call point blue "HAUSALARM"

M500RFE-AS: The address has to be set on the RF interface.

3.19.7 Parameterising various elements on the BC216

Art. No.	Type	Element type in PARSOFT	Remarks
244030	A211E-LS	Ctrl.module/aspirating system	Fault feedback
244031	A222E-LS	Ctrl.module/aspirating system	Fault feedback

A2xxE-LS: The module address corresponds to the address set on the detector.

3.20 Glossary

3.20.1 Definition of the inputs

3.20.1.1 Monitor module

In the normal condition the end-of-line resistor (Rab) is active, in the activated condition the alarm resistor is active. The detection contact must be in the messaging condition for at least 10s in order to be evaluated as message by the control panel.

3.20.1.2 Monitor module/latching

The inputs of the modules Series 200 (M210E, M220E, M221E) as well as the inputs of the IM-10 are provided with a latching function. This means that a switching impulse, which is present at the input for more than 1s, is detected and stored. For that, the module type "Monitor module/latching" must be parameterised. **If this type is parameterised, a short circuit is evaluated as alarm!**

3.20.1.3 Monitor module / M2xx / VdS

The inputs of the modules Series 200 support line-monitoring according to VdS2489 (VdS mode). Modules Series 200 which shall operate in the VdS mode have to be parameterised accordingly. Modules Series 500 must not be used in the VdS mode. When setting the monitor module to VdS mode, the detection circuit which is responsible for sensing a broken wire is more sensitive.

3.20.1.4 Conventional module

The features of this module can be compared with the features of a monitor module. In addition, it can be used to supply the connected detectors through the conventional line. The detectors are reset by the module when it is disabled or when "Panel reset" is activated.

3.20.1.5 Monitor mod./MEA2xx

In the normal condition the end-of-line resistor (Rab) is active, in the activated condition the alarm resistor is active. The detection contact must be in the messaging condition for at least 135ms in order to be evaluated as message by the control panel.

3.20.1.6 Mon.mod/MEA2xx/latch

The detection contact must be in the messaging condition for more than 135ms in order to be recognised as message by the multi module. This condition is stored in the module and after max. 10s it is displayed as message on the fire detection control panel. **If this type is parameterised, a short circuit is evaluated as alarm!**

3.20.1.7 Analog module

The current measured by the module will be evaluated, according to the parameter setup of the control panel, with a resolution of 0.1mA.

3.20.2 Definition of the outputs

3.20.2.1 Ctrl.module without supervis.

Output which is NOT monitored – typically a relay output.

3.20.2.2 Ctrl.module with supervis.

Monitored output which requires an end-of-line resistor. Wire breakage and short circuit are evaluated.

3.20.2.3 Ctrl.module / M201 / VdS

The module must be set to the VdS mode by means of a DIP switch. For settings and connection, see page 418 in Chapter 3.14.5: "Connection of sirens and solenoid valves according to VdS guidelines – M201E".

As a result, in addition to meeting the requirements of VdS2489, the module monitors the external supply voltage, and in the event of a supply fault the detailed information "Element open circuit" is displayed.

3.20.2.4 Ctrl.module/MEA2xx

Monitored Output. For connection see Chapter 3.16.4: "Connection of Module MEA244-1" on page 426. Wire breakage and short circuit are evaluated. The line resistance and the load resistance are monitored separately. A change of the condition, such as a wire breakage or a short circuit, is accepted after approximately 64 seconds.

3.20.2.5 Ctrl.module/aspirating system

The module reports the system condition of the smoke aspiration system.

4 ANALOGUE VALUES - CONDIT. OF DETECTORS/MODULES

The current analogue values and the condition of detectors / modules can be displayed by means of PARSOFT and also on the Fire Detection Control Panel BC216 or BC600. The following pages will give you an overview of the correlation between the value and the condition of detectors and modules.

4.1 Standard detectors on the Series BC216

4.1.1 Ionisation smoke detector

The table below applies to the detector 1251E:

Value	Meaning	Indication on the BC216
0	Loop element does not answer	Fault
1 - 32	Loop element defective	
33 - 112	Detector OK	Technical message
113 - 150	Loop element dirty	
> 150	Alarm condition	

4.1.2 Optical smoke detectors

The table below applies to the following optical detectors and detectors in the optical operating mode:

- ◆ 2251EIS
- ◆ FTX-P1
- ◆ ND2251EM, ND22051E / ND22051EI

Value	Meaning	Indication on the BC216
0	Loop element does not answer	Fault
1 - 32	Loop element defective	
33 - 112	Detector OK	Technical message
113 - 200	Loop element dirty	
> 200	Alarm condition	

4.1.3 Optical laser smoke detector

The table below applies to the detectors 7251, 72051EI and F-SEN-SSE:

Value	Meaning	Indication on the BC216
0	Loop element does not answer	Fault
13	Loop element defective	
25	Loop element dirty ¹⁾	Technical message
38	Compensation level 2 reached ²⁾	
50	Compensation level 1 reached ³⁾	
57 - 115	Detector OK	Alarm evaluation according to the BC216 setup
116	Alarm level 1	
133	Alarm level 2	
150	Alarm level 3	
167	Alarm level 4	
183	Alarm level 5	
200	Alarm level 6	
217	Alarm level 7	
233	Alarm level 8	
250	Alarm level 9	

- ¹⁾ Detector must be replaced - drift limit reached
- ²⁾ Detector dirty - alarm level is compensated
- ³⁾ Detector slightly dirty - alarm level is compensated

4.1.4 Multisensors

4.1.4.1 Optical-thermal detectors

The table below applies to the following detectors:

- ◆ 2251TEM
- ◆ DV22051TE / DV22051TEI

Value	Meaning	Indication on the BC216
0	Detector defective or removed, short circuit on the loop	Fault
13	Chamber or thermistor defective	
25	Detector dirty	Technical message
38	80% of the drift limit reached	
63 - 105	Detector OK	Alarm evaluation according to the BC216 setup
116	Alarm level 1	
150	Alarm level 2	
183	Alarm level 3	
217	Alarm level 4	
250	Alarm level 5	
283	Alarm level 6	

4.1.4.2 3 criteria multisensors

The table below applies to the following detectors:

- ◆ 2251TLE
- ◆ 22051TLE / 22051TLEI

Value	Meaning	Indication on the BC216
0	Detector defective or removed, short circuit on the loop	Fault
12	Chamber defective	
25	Drift limit reached	Technical message
37	80% of the drift limit reached or continuous IR fault	
58	Temporary IR fault	Alarm evaluation according to the BC216 setup
63 - 105	Detector OK	
116	Alarm level 1	
150	Alarm level 2	
183	Alarm level 3	
217	Alarm level 4	
250	Alarm level 5	
283	Alarm level 6	

4.1.4.3 4 criteria multisensor

The table below applies to the 4 criteria detector 2251CTLE:

Value	Meaning	Indication on the BC216
0	Detector defective or removed, short circuit on the loop	Fault
13	CO detector expired	
13	Chamber defective	Technical message
25	Drift limit reached	
37	80% of the drift limit reached or continuous IR fault	
50	CO detector will expire in 6 months	
58	Temporary IR fault	Alarm evaluation according to the BC216 setup
63 - 105	Detector OK	
116	Alarm level 1	
150	Alarm level 2	
183	Alarm level 3	
217	Alarm level 4	
250	Alarm level 5	
283	Alarm level 6	

4.1.5 Thermal detectors

The table below applies to the following detectors:

- ◆ 5251EM
- ◆ 5551EM
- ◆ 52051RE / 52051REI
- ◆ 52051E / 52051EI
- ◆ 52051HTE/ 52051HTEI

Value	Meaning	Indication on the BC216
0	Detector defective or removed, short circuit on the loop	Fault
1 - 32	Detector defective	
33 - A	Detector OK	
> A	Alarm condition	

The 5251EM detector has the following alarm threshold values (A): 166 at 58°C and 220 at 78°C.

Other detectors than the 5251EM have a fixed alarm threshold value (A) of 166.



The detector 5251EM / 5551E can be operated as a thermal DIFF detector on the BC216 without any restrictions. If the detector 5251EM / 5551E is used as an A1R detector on the BC600, the maximum number of these detectors is reduced to 50 per loop. PARSOFT checks the number of parameterised elements and provides an error message if it is exceeded.
If a thermo-differential evaluation is desired, the number of elements must be reduced to a maximum of 50, for example by replacing them with 52051RE or 52051REI.

4.2 Special detectors on the Series BC216

4.2.1 Beam smoke detectors Series 6500 / Series 6500AP

Value	Meaning	Indication on the BC216
0	Detector defective or removed, short circuit on the loop	Fault
0	Fault, light beam interrupted	
12	Fault (alignment not correct)	
25	Fault (alignment in progress)	
73	>10% drift compensation	
78	>20% drift compensation	
84	>30% drift compensation	
89	>40% drift compensation	
96	>50% drift compensation	
101	>60% drift compensation	
106	>70% drift compensation	
114	>80% drift compensation – detector dirty	Technical message
118	>90% drift compensation – detector dirty	
125	>100% drift compensation – detector dirty	
225	Alarm at 25% sensitivity	Alarm evaluation according to the BC216 setup
233	Alarm at 30% sensitivity	
240	Alarm at 40% sensitivity	
248	Alarm at 50% sensitivity	
68	Detector OK	
> 225	Alarm condition	

4.2.2 Beam Smoke Detector OSI-RIE-00

Value	Meaning	Indication on the BC216
0	Detector defective or removed, or short circuit on the loop	Fault
0	Fault, light beam interrupted	
12	Fault (alignment not correct)	
25	Fault (alignment in progress)	
73	>10% drift compensation	
78	>20% drift compensation	
84	>30% drift compensation	
89	>40% drift compensation	
96	>50% drift compensation	
101	>60% drift compensation	
106	>70% drift compensation	
114	>80% drift compensation – detector dirty	Technical message
118	>90% drift compensation – detector dirty	
125	>100% drift compensation – detector dirty	
225	Alarm at 25% sensitivity	Alarm evaluation according to the BC216 setup
233	Alarm at 30% sensitivity	
240	Alarm at 40% sensitivity	
248	Alarm at 50% sensitivity	
68	Detector OK	
> 225	Alarm condition	

4.2.3 Aspirating smoke detectors A211E-LSR and A222E-LSR

4.2.3.1 Detector

Value	Meaning	Indication on the BC216
0	Detector defective or removed, short circuit on the loop	Fault
4	Chamber defective	
67	Aspirating smoke detector OK	
100	Drift alert 1 ¹⁾	Technical message
117	Drift alert 2 ²⁾	
133	Drift alarm ³⁾	
> 192	Alarm	

¹⁾ Detector slightly dirty - alarm level is compensated
²⁾ Detector dirty - alarm level is compensated
³⁾ Detector must be replaced - drift limit reached

4.2.3.2 Module

Value	Meaning	Indication on the BC216
0	Alarm relay activated	
8	Fault, air flow too low	Fault
25	Fault, air flow too high	
42	Fault, fan defective	
87	Idle	

4.2.4 RF Interface M500RFE-AS

Value	Meaning	Indication on the BC216
0	Detector / module defective or removed, short circuit on the loop	Fault
8	Fault, power supply or external input	
92	Idle	

4.2.4.1 Optical-Thermal Detector 2100RFT-AS

Value	Meaning	Indication on the BC216
0	Detector defective, no radio link	Fault

12	Sensitivity too low, sabotage, battery low	
25	Detector dirty	Technical message
66	Detector OK	
250	Alarm - optical unit, manual call point	
283	Alarm - thermal unit	

4.2.4.2 Manual Call Points M400DKMR-AS and M400DKMB-AS

Value	Meaning	Indication on the BC216
0 - 8	Module defective, no radio link	Fault
75	Module OK	
146	Alarm	

4.2.5 RF Gateway M200G-RF

Value	Meaning	Indication on the BC216
0	Detector / module defective or removed, or short circuit on the loop	
3	Element defective	
3	Radio connection error	
3	Data synchronisation between wireless elements	Fault
3	Programming required	
3	Programming is being carried out right now	
3	At least one radio connection experiences a fault	
73	Programming not yet completed	
99	Idle	

4.2.5.1 RF Repeater M200F-RF

Value	Meaning	Indication on the BC216
0	Detector defective or removed, or short circuit on the loop	
12	Element defective	
12	Battery not inserted	
25	Battery empty < 1 month	Fault
12	Element removed	
12	Radio connection error	
25	Battery empty < 1 month	
38	Battery almost empty < 6 months	
84	Idle	Normal condition

4.2.5.2 Optical Detector – 22051E-RF

Value	Meaning	Indication on the BC216
0	Detector defective or removed, or short circuit on the loop	
12	Detector defective	
12	Chamber defective	
12	Battery not inserted	Fault
12	Element removed	
12	Radio connection error	
25	Battery empty < 1 month	
38	Battery almost empty < 6 months	
66 - 115	Detector OK	Normal condition
120 - 200	Alarm	
250	Activation via operating field	
250	Activation by means of magnet	

4.2.5.3 Multicriteria Detector – 22051TLE-RF

Value	Meaning	Indication on the BC216
0	Detector defective or removed, or short circuit on the loop	Fault
12	Detector defective	
12	Chamber defective	
12	Battery not inserted	
12	Element removed	
12	Radio connection error	
25	Detector dirty	Technical message
25	Battery empty < 1 month	
38	80% of the drift limit reached	
38	Battery almost empty < 6 months	
58	IR ambient light error	Alarm evaluation according to the setup
66	Detector OK	
116	Alarm level 1	
150	Alarm level 2	
183	Alarm level 3	
216	Alarm level 4	
251	Alarm level 5	
284	Alarm level 6	
251	Activation via operating field	
251	Activation by means of magnet	

4.2.5.4 Heat Detector - 52051E-RF

Value	Meaning	Indication on the BC216
0	Detector defective or removed, or short circuit on the loop	Fault
12	Detector defective	
12	Battery not inserted	
12	Element removed	
12	Radio connection error	
25	Battery empty < 1 month	
38	Battery almost empty < 6 months	Normal condition
74	Detector OK (at ambient temperature of 25°C)	
> 166	Alarm	
251	Activation via operating field	
251	Activation by means of magnet	

4.2.5.5 Heat Detector – 52051RE-RF

Value	Meaning	Indication on the BC216
0	Detector defective or removed, or short circuit on the loop	Fault
12	Detector defective	
12	Battery not inserted	
12	Element removed	
12	Radio connection error	
25	Battery empty < 1 month	
38	Battery almost empty < 6 months	Normal condition
74	Detector OK (at ambient temperature of 25°C)	
> 166	Alarm	
251	Activation via operating field	
251	Activation by means of magnet	

4.2.5.6 Manual Call Points DKMCPx-RF and R5A-RF

Value	Meaning	Indication on the BC216
0	Detector defective or removed, or short circuit on the loop	Fault
12	Detector defective	
12	Battery not inserted	
12	Element removed	
12	Radio connection error	
25	Battery empty < 1 month	
38	Battery almost empty < 6 months	Normal condition
84	Idle	
> 182	Alarm	

4.2.5.7 M211-E-RF (input)

Value	Meaning	Indication on the BC216
0	Module defective or removed, or short circuit on the loop, broken wire	Fault
12	Module defective	
12	Battery not inserted	
12	Module cover removed	
12	Radio connection error	
25	Battery empty < 1 month	
38	Battery almost empty < 6 months	Normal condition
98	Normal condition	
104 - 166	Alarm	Alarm
> 166	Short circuit	Fault

4.2.5.8 M211-E-RF (output)

Value	Meaning	Indication on the BC216
0	Normal condition	Normal condition
0	Module defective or removed, or short circuit on the loop	Fault
12	Module defective	
12	Battery not inserted	
12	Module cover removed	
12	Radio connection error	
25	Battery empty < 1 month	
38	Battery almost empty < 6 months	Normal condition

4.2.5.9 WSO-xx-RF (Sounder)

Value	Meaning	Indication on the BC216
12	Element defective or removed, or short circuit on the loop, Normal condition 'Relay mode'	Fault
12	Battery not inserted	
12	Element removed	
12	Radio connection error	
25	Battery empty < 1 month	
38	Battery almost empty < 6 months	Normal condition
84	Normal condition	

4.2.5.10 WSF-xx-RF (Sounder-Strobe)

Value	Meaning	Indication on the BC216
12	Element defective or removed, or short circuit on the loop, Normal condition 'Relay mode'	Fault
12	Battery not inserted	
12	Element removed	
12	Radio connection error	
25	Battery empty < 1 month	
38	Battery almost empty < 6 months	Normal condition
84	Normal condition	

4.3 Modules on the Series BC216

4.3.1 Manual call points HxM/x/22/xx/xx, HxM/x/25/xx/xx, HME/FFFF/25/TT/LL

Value	Meaning
0	Module defective or removed, or short circuit on the loop
51 - 103	Idle
104 - 166	Activation (alarm, technical message, etc.)

4.3.2 Monitor module M503ME, M501MEA, M210E, M220E, M221E (input), IM-10, IM-10EA, EDS500-1, EDS200AP-1, ÜMB500-1, ÜMB200AP-1, MEA244-1 (input), MEA244-1/FS (input)

Value	Meaning
0	Module defective or removed, or short circuit on the loop
1 - 50	Wire breakage
51 - 103	Idle
104 - 166	Activation (alarm, technical message, etc.)
> 166	Short circuit
250	Fault, power supply (MEA244-1 input)

4.3.3 Monitor module/M2xx/VdS (M210E, M220E, M221E (input))

Value	Meaning
0	Module defective or removed, or short circuit on the loop
1 - 80	Wire breakage
81 - 103	Idle
104 - 166	Activation (alarm, technical message, etc.)
> 166	Short circuit

4.3.4 Monitor module – M210EA, M220EA

Value	Meaning
0	Module defective or removed, or short circuit on the loop
1 - 50	Wire breakage
51 - 103	Idle
104 - 166	Activation (alarm, technical message, etc.)
> 166	Short circuit

4.3.5 Monitor module M2xx/VdS – M210EA, M220EA

Value	Meaning
0	Module defective or removed, or short circuit on the loop
1 - 50	Wire breakage
51 - 103	Idle
104 - 166	Activation (alarm, technical message, etc.)
> 166	Short circuit

4.3.6 Control module without supervision M221E (output), M201E, M201E-240, CR-6, CR-6EA

Value	Meaning
0	Module defective or removed, or short circuit on the loop
4	Idle

4.3.7 Monitor module – M221EA (input)

Value	Meaning
0	Module defective or removed, or short circuit on the loop
1 - 80	Wire breakage
81 - 103	Idle
104 - 166	Activation (alarm, technical message, etc.)
> 166	Short circuit

4.3.8 Control module without supervision M221EA (output)

Value	Meaning
0	Module defective or removed, or short circuit on the loop
4	Idle

4.3.9 Control module with supervision M201E

Value	Meaning
0	Module defective or removed, or short circuit on the loop
1 - 50	Wire breakage
51 - 166	Idle
> 166	Short circuit

4.3.10 Control module/M201/VdS M201E

Value	Meaning
0	Module defective or removed, or short circuit on the loop
104	Wire breakage
121	Idle
138	Short circuit

4.3.11 Control module with supervision M201EA

Link between the terminals 6 and 7

Value	Meaning
0	Module defective or removed, or short circuit on the loop
1 - 50	Wire breakage
51 - 166	Idle
> 166	Short circuit

4.3.12 Control module without supervision M201EA

Diode between the terminals 5 and 6

Value	Meaning
0	Module defective or removed, or short circuit on the loop
4	Idle

4.3.13 Control module without supervision M201EA-HC

Link between the terminals 5 and 6

Value	Meaning
0	Module defective or removed, or short circuit on the loop
1 - 50	Wire breakage
51 - 166	Idle
> 166	Short circuit

4.3.14 Control module with supervision M201EA-HC – supervision 47kOhm

Link between the terminals 6 and 7

Value	Meaning
0	Module defective or removed, or short circuit on the loop
1 - 50	Wire breakage
51 - 166	Idle
> 166	Short circuit

4.3.15 Control module M201/VdS M201EA – HC – supervision 470hm

Link between the terminals 6 and 7 as well as between the terminals 3 and 5

Value	Meaning
0	Module defective or removed, or short circuit on the loop
104	Wire breakage
121	Idle
138	Short circuit

4.3.16 Control module M201EA240

Value	Meaning
0	Module defective or removed, or short circuit on the loop
1 - 50	Wire breakage
51 - 166	Idle
> 166	Short circuit

4.3.17 Conventional module M210E-CZR, M210E-CZ

Value	Meaning
0	Module defective or removed, or short circuit on the loop
1 - 16	Fault (short circuit, wire breakage, power supply)
83	Idle
> 150	Alarm condition

4.3.18 Conventional module M210EA-CZR, M210EA-CZ

Value	Meaning
0	Module defective or removed, or short circuit on the loop
1 - 16	Fault (short circuit, wire breakage, power supply)
83	Idle
> 150	Alarm

4.3.19 MEA244-1 (output)

Value	Meaning
0	Module defective or removed, or short circuit on the loop
25	Wire breakage
100	Idle
200	Short circuit
250	Fault, power supply

4.3.20 MEA244-1/FS (output)

Value	Meaning
0	Module defective or removed, or short circuit on the loop
19	Maintenance mode
25	Wire breakage
116	Idle
> 225	Fault, power supply

4.3.21 M510E-4-20

Value	Meaning	Indication on the BC216
0	Module defective or removed, or short circuit on the loop	Fault
< 26	Wire breakage	
> 268	Short circuit	
26 - 268	Message according to the parameter setup	

Value	Current [mA]	Value	Current [mA]	Value	Current [mA]
51	4.0	121	9.5	191	15.0
57	4.5	128	10.0	198	15.5
64	5.0	134	10.5	204	16.0
70	5.5	140	11.0	210	16.5
77	6.0	147	11.5	217	17.0
83	6.5	153	12.0	223	17.5
89	7.0	159	12.5	230	18.0
96	7.5	166	13.0	236	18.5
102	8.0	172	13.5	242	19.0
108	8.5	179	14.0	249	19.5
115	9.0	185	14.5	255	20.0

4.4 Standard detectors on the Series BC600

4.4.1 Ionisation smoke detector

The table below applies to the detector 1251E:

Value	Meaning	Indication on the BC600
0	Loop element does not answer	Fault
1 - 32	Loop element defective	
33 - 112	Detector OK	Technical message
113 - 150	Loop element dirty	
> 150	Alarm condition	

4.4.2 Optical smoke detectors AP

The table below applies to the detectors ND22051E / ND22051EI:

Value	Meaning	Indication on the BC600
0	Loop element does not answer	Fault
1 - 10	Loop element defective	
11-112	Detector OK	Technical message
113-182	Detector dirty	
183-252	Alarm	Alarm
253	Activation via operating field	
254	Activation by means of magnet	
255 - 283	Alarm	

4.4.3 Optical laser smoke detector

The table below applies to the detector 7251:

Value	Meaning	Indication on the BC600
0	Loop element does not answer	Fault
13	Loop element defective	
25	Loop element dirty ¹⁾	Technical message
38	Compensation level 2 reached ²⁾	
50	Compensation level 1 reached ³⁾	
57 - 115	Detector OK	Alarm evaluation according to the parameter setup
116	Alarm level 1	
133	Alarm level 2	
150	Alarm level 3	
167	Alarm level 4	
183	Alarm level 5	
200	Alarm level 6	
217	Alarm level 7	
233	Alarm level 8	
250	Alarm level 9	

- ¹⁾ Detector must be replaced - drift limit reached
- ²⁾ Detector dirty - alarm level is compensated
- ³⁾ Detector slightly dirty - alarm level is compensated

The following values apply to the detectors 72051EI and F-SEN-SSE:

Value	Meaning	Indication on the BC600
0	Loop element does not answer	Fault
1 – 39	Loop element defective	
40	Detector dirty	Technical message
41	90% of the drift limit reached	
42	80% of the drift limit reached	
43	70% of the drift limit reached	
44	60% of the drift limit reached	
45	50% of the drift limit reached	
46	40% of the drift limit reached	
47	30% of the drift limit reached	
48	20% of the drift limit reached	
49	10% of the drift limit reached	
50	Detector clean	
41 - 119	Detector OK	Alarm evaluation according to the parameter setup
120	Alarm level 1	
130	Alarm level 2	
140	Alarm level 3	
150	Alarm level 4	
160	Alarm level 5	
170	Alarm level 6	
180	Alarm level 7	
190	Alarm level 8	
200	Alarm level 9	
253	Activation via operating field	
254	Activation by means of magnet	

4.4.4 Multisensors

4.4.4.1 Optical-thermal detectors

◆ DV22051TE / DV22051TEI

Value	Meaning	Indication on the BC600
0	Detector defective or removed, short circuit on the loop	Fault
1 - 9	Detector defective	
10	Chamber or thermistor defective	
40	Detector dirty	Technical message
41	90% of the drift limit reached	
42	80% of the drift limit reached	
43	70% of the drift limit reached	
44	60% of the drift limit reached	
45	50% of the drift limit reached	
46	40% of the drift limit reached	
47	30% of the drift limit reached	
48	20% of the drift limit reached	
49	10% of the drift limit reached	
50	Detector OK	
120	Alarm level 1	Alarm evaluation according to the BC600 setup
140	Alarm level 2	
150	Alarm level 3	
160	Alarm level 4	
170	Alarm level 5	
200	Alarm level 6	
253	Activation via operating field	
254	Activation by means of magnet	

4.4.4.2 3 criteria multisensors

◆ 22051TLE / 22051TLEI

Value	Meaning	Indication on the BC600
0	Detector defective or removed, short circuit on the loop	Fault
1 - 10	Detector defective	
11	Chamber defective	
13	IR ambient light fault	
39	IR ambient light	
40	Detector dirty	Technical message
41	90% of the drift limit reached	
42	80% of the drift limit reached	
43	70% of the drift limit reached	
44	60% of the drift limit reached	
45	50% of the drift limit reached	
46	40% of the drift limit reached	
47	30% of the drift limit reached	
48	20% of the drift limit reached	
49	10% of the drift limit reached	
50	Detector OK	
120	Alarm level 1	Alarm evaluation according to the BC600 setup
140	Alarm level 2	
150	Alarm level 3	
160	Alarm level 4	
170	Alarm level 5	
200	Alarm level 6	
253	Activation via operating field	
254	Activation by means of magnet	

4.4.4.3 4 criteria multisensor

The table below applies to the following detectors:

◆ 2251CTLE (Series 200AP)



For information about how to distinguish between Series 200 and Series 200AP, see the Chapter 3.6.2.1: "Overview of automatic detectors" on page 211.

Value	Meaning	Indication on the BC600
0	Detector defective or removed, short circuit on the loop	Fault
1 - 6	Detector defective	
7	CO detector expired	
8	CO self test fault	
9	IR self test fault	
10	Thermistor fault	
11	Chamber defective	
13	IR ambient light fault	Technical message
20	CO cell < 6 months	
39	IR ambient light	
40	Detector dirty	
41	90% of the drift limit reached	
42	80% of the drift limit reached	
43	70% of the drift limit reached	
44	60% of the drift limit reached	
45	50% of the drift limit reached	
46	40% of the drift limit reached	
47	30% of the drift limit reached	
48	20% of the drift limit reached	
49	10% of the drift limit reached	
50	Detector OK	
120	Alarm level 1	Alarm evaluation according to the BC600 setup
140	Alarm level 2	
150	Alarm level 3	
160	Alarm level 4	
170	Alarm level 5	
200	Alarm level 6	
253	Activation via operating field	
254	Activation by means of magnet	

4.4.5 Thermal detectors

The table below applies to the following detectors:

◆ 52051RE / 52051REI

◆ 52051E / 52051EI

◆ 52051HTE / 52051HTEI

Value	Meaning	Indication on the BC600
0	Detector defective or removed, short circuit on the loop	Fault
1 - 5	Detector defective	
typ. 59	Detector OK (at an ambient temperature of 25°C)	
> 125	Alarm condition	
253	Activation via operating field	
254	Activation by means of magnet	

4.5 Special detectors on the Series BC600

4.5.1 Beam smoke detectors 6500AP

The table below applies to the following detectors:

- ◆ 6500S AP and 6500 AP

Value	Meaning	Indication on the BC600
0	Detector defective or removed, short circuit on the loop	Fault
1	Detector defective	
15	Light beam interrupted	
16	Alignment not correct	
20	Alignment in progress	
30	Initialisation mode	
31	Local obscuration test failed	
32	Panel obscuration test failed	
33	Panel obscuration test failed	
34	Local test failed without obscuration test	
36	IR ambient light	
40	Detector dirty	Technical message
41	90% of the drift limit reached	
42	80% of the drift limit reached	
43	70% of the drift limit reached	
44	60% of the drift limit reached	
45	50% of the drift limit reached	
46	40% of the drift limit reached	
47	30% of the drift limit reached	
48	20% of the drift limit reached	
49	10% of the drift limit reached	
50	Detector OK	
200	Alarm	Alarm evaluation according to the BC600 setup
251	Test activation – local ¹⁾	
252	Test activation – operating field ¹⁾	
253	Test activation – local ²⁾	
254	Test activation – operating field ²⁾	

¹⁾ 6500S AP

²⁾ 6500 AP

4.5.2 Beam smoke detectors 6500

The table below applies to the following detectors:

◆ 6500S and 6500

Value	Meaning	Indication on the BC600
0	Detector defective or removed, or short circuit on the loop	Fault
0	Fault, light beam interrupted	
12	Fault (alignment not correct)	
25	Fault (alignment in progress)	
73	>10% drift compensation	
78	>20% drift compensation	
84	>30% drift compensation	
89	>40% drift compensation	
96	>50% drift compensation	
101	>60% drift compensation	
106	>70% drift compensation	Technical message
114	>80% drift compensation – detector dirty	
118	>90% drift compensation – detector dirty	
125	>100% drift compensation – detector dirty	Alarm evaluation according to the BC600 setup
225	Alarm at 25% sensitivity	
233	Alarm at 30% sensitivity	
240	Alarm at 40% sensitivity	
248	Alarm at 50% sensitivity	
68	Detector OK	
> 225	Alarm condition	

4.5.3 Beam smoke detector OSI-RIE-00

Value	Meaning	Indication on the BC600
0	Detector defective or removed, or short circuit on the loop	Fault
1	Detector defective	
15	Light beam interrupted	
16	Alignment not correct	
20	Alignment in progress	
30	Initialisation mode	
31	Local obscuration test failed	
32	Panel obscuration test failed	
33	Panel obscuration test failed	
34	Local test failed without obscuration test	
36	IR ambient light	
40	Detector dirty	
41	90% of the drift limit reached	
42	80% of the drift limit reached	
43	70% of the drift limit reached	
44	60% of the drift limit reached	
45	50% of the drift limit reached	
46	40% of the drift limit reached	
47	30% of the drift limit reached	
48	20% of the drift limit reached	
49	10% of the drift limit reached	
50	Detector OK	Alarm evaluation according to the BC600 setup
200	Alarm	
253	Local test activation ¹⁾	
254	Test activation via operating field ¹⁾	

4.5.4 Aspirating smoke detectors A211E-LSR and A222E-LSR

4.5.4.1 Detector

Value	Meaning	Indication on the BC600
0	Detector defective or removed, short circuit on the loop	Fault
4	Chamber defective	
67	Aspirating smoke detector OK	Technical message
100	Drift alert 1 ¹⁾	
117	Drift alert 2 ²⁾	
133	Drift alarm ³⁾	Technical message
> 192	Alarm	Alarm

¹⁾ Detector slightly dirty - alarm level is compensated
²⁾ Detector dirty - alarm level is compensated
³⁾ Detector must be replaced - drift limit reached

4.5.4.2 Module

Value	Meaning	Indication on the BC600
0	Alarm relay activated	Fault
8	Fault, air flow too low	
25	Fault, air flow too high	
42	Fault, fan defective	
87	Idle	

4.5.5 Aspirating smoke detector FL20xx AP

4.5.5.1 Detector

See the Chapter 4.4.3: "Optical laser smoke detector" on page 494.

4.5.5.2 Module

Value	Meaning	Indication on the BC600
0	Module defective or removed, short circuit on the loop	Fault
1	Module defective	
2	Aspiration fault channel 1	
4	Aspiration fault channel 2	
8	Flow fault 1	
16	Flow fault 2	
32	Internal fault	
64	Module OK	

4.5.6 RF Interface M500RFE-AS

Value	Meaning	Indication on the BC600
0	Detector / module defective or removed, short circuit on the loop	Fault
8	Fault, power supply or external input	
92	Idle	

4.5.6.1 Optical-Thermal Detector 2100RFT-AS

Value	Meaning	Indication on the BC600
0	Detector defective, no radio link	Fault
12	Sensitivity too low, sabotage, battery low	
25	Detector dirty	Technical message
66	Detector OK	
250	Alarm - optical unit, manual call point	Alarm
283	Alarm - thermal unit	

4.5.6.2 Manual Call Points M400DKMR-AS and M400DKMB-AS

Value	Meaning	Indication on the BC600
0 - 8	Module defective, no radio link	Fault
75	Module OK	
146	Alarm	Alarm

4.5.7 RF Gateway M200G-RF

Value	Meaning	Indication on the BC600
0	Detector / module defective or removed, or short circuit on the loop	Fault
1 - 10	Element defective	
19	Radio connection error	
20	Data synchronisation between wireless elements	
30	Programming required	
31	Programming is being carried out right now	
32	Programming not yet completed	
49	At least one radio connection experiences a fault	
50	Idle	

4.5.7.1 RF Repeater M200F-RF

Value	Meaning	Indication on the BC600
0	Detector defective or removed, or short circuit on the loop	Fault
1 - 5	Element defective	
16	Battery not inserted	
17	Battery empty < 1 month	
18	Element removed	
19	Radio connection error	
32	Programming not yet completed	
38	Battery almost empty < 6 months	Normal condition
62	Idle	

4.5.7.2 Optical Detector – 22051E-RF

Value	Meaning	Indication on the BC600
0	Detector defective or removed, or short circuit on the loop	Fault
1 - 9	Detector defective	
11	Chamber defective	
16	Battery not inserted	
17	Battery empty < 1 month	
18	Element removed	
19	Radio connection error	
32	Programming not yet completed	
38	Battery almost empty < 6 months	Normal condition
40	Detector dirty	Technical message
41	90% of the drift limit reached	Normal condition
42	80% of the drift limit reached	
43	70% of the drift limit reached	
44	60% of the drift limit reached	
45	50% of the drift limit reached	
46	40% of the drift limit reached	
47	30% of the drift limit reached	
48	20% of the drift limit reached	
49	10% of the drift limit reached	
50	Detector OK	
120 - 200	Alarm	
253	Activation via operating field	
254	Activation by means of magnet	

4.5.7.3 Multicriteria Detector – 22051TLE-RF

Value	Meaning	Indication on the BC600
0	Detector defective or removed, or short circuit on the loop	Fault
1 - 10	Detector defective	
11	Chamber defective	
12	Frost warning	
16	Battery not inserted	
17	Battery empty < 1 month	
18	Element removed	
19	Radio connection error	
32	Programming not yet completed	Normal condition
38	Battery almost empty < 6 months	
39	IR ambient light error	Fault
40	Detector dirty	Technical message
41	90% of the drift limit reached	Normal condition
42	80% of the drift limit reached	
43	70% of the drift limit reached	
44	60% of the drift limit reached	
45	50% of the drift limit reached	
46	40% of the drift limit reached	
47	30% of the drift limit reached	
48	20% of the drift limit reached	
49	10% of the drift limit reached	Alarm evaluation according to the BC600 setup
50	Detector OK	
120	Alarm level 1	
140	Alarm level 2	
150	Alarm level 3	
160	Alarm level 4	
170	Alarm level 5	
200	Alarm level 6	
253	Activation via operating field	
254	Activation by means of magnet	

4.5.7.4 Heat Detector – 52051E-RF

Value	Meaning	Indication on the BC600
0	Detector defective or removed, or short circuit on the loop	Fault
1 - 10	Detector defective	
16	Battery not inserted	
17	Battery empty < 1 month	
18	Element removed	
19	Radio connection error	
32	Programming not yet completed	Normal condition
38	Battery almost empty < 6 months	
50	Detector OK (at ambient temperature of 25°C)	
> 125	Alarm	
253	Activation via operating field	
254	Activation by means of magnet	

4.5.7.5 Heat Detector – 52051RE-RF

Value	Meaning	Indication on the BC600
0	Detector defective or removed, or short circuit on the loop	Fault
1 - 10	Detector defective	
16	Battery not inserted	
17	Battery empty < 1 month	
18	Element removed	
19	Radio connection error	
32	Programming not yet completed	Normal condition
38	Battery almost empty < 6 months	
50	Detector OK (at ambient temperature of 25°C)	
> 125	Alarm	
253	Activation via operating field	
254	Activation by means of magnet	

4.5.7.6 Manual Call Points DKMCPx-RF and R5A-RF

Value	Meaning	Indication on the BC600
0	Detector defective or removed, or short circuit on the loop	Fault
1 - 5	Detector defective	
16	Battery not inserted	
17	Battery empty < 1 month	
18	Element removed	
19	Radio connection error	
32	Programming not yet completed	Normal condition
38	Battery almost empty < 6 months	
62	Detector OK	
137	Alarm	

4.5.7.7 M211-E-RF (Input)

Value	Meaning	Indication on the BC600
0	Module defective or removed, or short circuit on the loop	Fault
1 - 10	Modul defective	
16	Battery not inserted	
17	Battery empty < 1 month	
18	Module cover removed	
19	Radio connection error	
38	Battery almost empty < 6 months	Normal condition
48 - 60	Broken wire	Fault
61 - 78	Normal condition	Normal condition
79 - 118	Alarm	Alarm
> 118	Short circuit	Fault

4.5.7.8 M211-E-RF (Output)

Value	Meaning	Indication on the BC600
0	Module defective or removed, or short circuit on the loop	Fault
1 - 10	Modul defective	
16	Battery not inserted	
17	Battery empty < 1 month	
18	Module cover removed	
19	Radio connection error	
22, 28	Supply voltage faulty	
38	Battery almost empty < 6 months	Normal condition
39 - 45	Broken wire	Fault
46 - 105	Normal condition	Normal condition
> 105	Short circuit	Fault

4.5.7.9 WSO-xx-RF (Sounder)

Value	Meaning	Indication on the BC600
0	Element defective or removed, or short circuit on the loop	Fault
1 - 8	Element defective	
16	Battery not inserted	
17	Battery empty < 1 month	
18	Element removed	
19	Radio connection error	
38	Battery almost empty < 6 months	Normal condition
50	Normal condition	

4.5.7.10 WSF-xx-RF (Sounder-strobe)

Value	Meaning	Indication on the BC600
0	Element defective or removed, or short circuit on the loop	Fault
1 - 8	Element defective	
16	Battery not inserted	
17	Battery empty < 1 month	
18	Element removed	
19	Radio connection error	
38	Battery almost empty < 6 months	Normal condition
50	Normal condition	

4.6 Modules on the Series BC600

4.6.1 Manual call points HxM/x/22/xx/xx

Value	Meaning	Indication on the BC600
1	Module defective	Fault
53	Detector OK	
100	Alarm	Alarm

4.6.2 Manual call point HxM/x/25/xx/xx, monitor module ÜMB200AP-1

Value	Meaning	Indication on the BC600
1	Module defective	Fault
53	Detector OK	
100	Alarm	Alarm

4.6.3 Manual call point HME/FFFF/25/TT/LL

Value	Meaning	Indication on the BC600
1	Module defective	Fault
53	Detector OK	
100	Alarm	Alarm

4.6.4 Monitor module EDS200AP-1

Value	Meaning	Indication on the BC600
1	Module defective	Fault
56	Detector OK	
93	Alarm	Alarm

4.6.5 Monitor module AP (M210E, M220E, M221E (input), IM-10EA)

Value	Meaning	Indication on the BC600
1 - 5	Module defective	Fault
6 - 59	Wire breakage	
60 - 77	Module OK	
78 - 117	Alarm	Alarm
118 - 254	Short circuit	Fault

4.6.6 Monitor module M210EA, M220EA

Value	Meaning	Indication on the BC600
1 - 5	Module defective	Fault
6 - 59	Wire breakage	
60 - 77	Module OK	
78 - 117	Alarm	Alarm
118 - 254	Short circuit	Fault

4.6.7 Monitor module M501MEA

Value	Meaning	Indication on the BC600
1	Module defective	Fault
2 - 24	Wire breakage	
25 - 40	Module OK	
41 - 63	Alarm	Alarm
64 - 254	Short circuit	Fault

4.6.8 Monitor module MEA244-1 (input), MEA244-1/FS (input)

Value	Meaning	Indication on the BC600
0	Module defective or removed, short circuit on the loop	Fault
1 - 50	Wire breakage	

51 - 103	Idle	
104 - 166	Activation (alarm, technical message, etc.)	Alarm
> 166	Short circuit	
250	Fault, power supply (MEA244-1 input)	Fault

4.6.9 MEA244-1 (output)

Value	Meaning	Indication on the BC600
0	Module defective or removed, short circuit on the loop	
25	Wire breakage	Fault
100	Idle	
200	Short circuit	
250	Fault, power supply	Fault

4.6.10 MEA244-1/FS (output)

Value	Meaning	Indication on the BC600
0	Module defective or removed, short circuit on the loop	
19	Maintenance mode	
25	Wire breakage	Fault
116	Idle	
> 225	Fault, power supply	Fault

4.6.11 M221EA (input)

Value	Meaning	Indication on the BC600
1 - 5	Module defective	
6 - 59	Wire breakage	Fault
60 - 77	Module OK	
78 - 117	Alarm	Alarm
118 - 254	Short circuit	Fault

4.6.12 M221EA (output)

Value	Meaning	Indication on the BC600
1 - 5	Module defective	Fault
50	Module OK	

4.6.13 M201E AP, supervision 470hm

Value	Meaning	Indication on the BC600
1 - 5	Module defective	
12	Fault – power supply or supervision: "relay"	
13 - 76	Wire breakage	Fault
77 - 103	Module OK	
104 - 254	Short circuit	Fault

4.6.14 M201E AP, supervision 47kOhm

Value	Meaning	Indication on the BC600
1 - 5	Module defective	
12	Fault – power supply or supervision: "relay"	
13 - 44	Wire breakage	Fault
45 - 104	Module OK	
105 - 254	Short circuit	Fault

4.6.15 M201E AP, without supervision, CR-6EA

Value	Meaning	Indication on the BC600
1 - 5	Module defective	Fault
50	Module OK	

4.6.16 M201EA, without supervision

Diode between the terminals 5 and 6

Value	Meaning	Indication on the BC600
1 - 5	Module defective	Fault
50	Module OK	

4.6.17 M201EA, with supervision 47 kOhm

Link between the terminals 6 and 7

Value	Meaning	Indication on the BC600
1 - 5	Module defective	Fault
12	Fault – power supply or supervision: "relay"	
13 - 44	Wire breakage	
45 - 104	Module OK	Fault
105 - 254	Short circuit	

4.6.18 M201EA-HC, without supervision

Link between the terminals 5 and 6.

Value	Meaning	Indication on the BC600
1 - 5	Module defective	Fault
50	Module OK	

4.6.19 M201EA-HC, supervision 47 kOhm

Link between the terminals 6 and 7.

Value	Meaning	Indication on the BC600
0	Module defective or removed, or short circuit on the loop	Fault
19	Maintenance mode	
25	Wire breakage	
116	Idle	Fault
> 225	Fault – power supply	

4.6.20 M201EA-HC, supervision 470 Ohm (VdS)

Link between the terminals 6 and 7 as well as between the terminals 3 and 5

Value	Meaning	Indication on the BC600
0	Module defective or removed, or short circuit on the loop	Fault
19	Maintenance mode	
25	Wire breakage	
116	Idle	Fault
> 225	Fault – power supply	

4.6.21 M201EA-240

Value	Meaning	Indication on the BC600
1 - 5	Module defective	Fault
50	Module OK	

4.6.22 Conventional module AP M210E-CZR, M210E-CZ

Value	Meaning	Indication on the BC600
1 - 2	Module defective	Fault
3	Fault (short circuit, wire breakage, power supply)	
62	Module OK	Alarm
137	Alarm	

4.6.23 Conventional module AP M210EA-CZR, M210EA-CZ

Value	Meaning	Indication on the BC600
1 - 2	Module defective	Fault
3	Fault (short circuit, wire breakage, power supply)	
62	Module OK	
137	Alarm	Alarm

4.6.24 M510E-4-20

Value	Meaning	Indication on the BC600
0	Module defective or removed, or short circuit on the loop	Fault
< 26	Wire breakage	
> 268	Short circuit	
26 - 268	Message according to the parameter setup	

The table below shows the relation between the current measured by the module and the analogue value of the control panel.

Value	Current [mA]	Value	Current [mA]	Value	Current [mA]
51	4.0	121	9.5	191	15.0
57	4.5	128	10.0	198	15.5
64	5.0	134	10.5	204	16.0
70	5.5	140	11.0	210	16.5
77	6.0	147	11.5	217	17.0
83	6.5	153	12.0	223	17.5
89	7.0	159	12.5	230	18.0
96	7.5	166	13.0	236	18.5
102	8.0	172	13.5	242	19.0
108	8.5	179	14.0	249	19.5
115	9.0	185	14.5	255	20.0

4.7 Signalling devices AP

Value	Meaning	Indication on the BC600
1 - 4	Module defective	Fault
50	Module OK	

4.8 Behaviour of loop elements Series 200AP on the Series BC600

If there are both Series 200 and Series 200AP elements on a loop, the fire detection control panel recognises the individual elements and communicates with each element in the respective protocol. However, in order to be able to use the new functions of the Series 200-Advanced protocol, it is necessary that the fire detection control panel knows the exact type of each loop element. Therefore, for every Series 200AP element the exact type has to be specified in the **Type** column of the parameterisation. Any differences between parameterised and installed detector will be evaluated as fault.

With the introduction of the System Sensor 200-Advanced protocol, new functions of the LED display of the loop elements are available. This information will also be included in the next release of the User Manual "Connection of detectors System Sensor".

Condition of the Series 200AP element	red LED	green LED	yellow LED
Normal condition		off or flashing ¹⁾	
Activation of an automatic detector	illuminated or blinking ¹⁾		
Activation of an HxM/x/25/xx/xx	illuminated		
Activation of an HME/FFFF/25/TT/LL	illuminated or blinking ¹⁾		
Activation of a module input	illuminated		
Activation of a module output		illuminated	
Test condition of a detector or module input		flashing	
Detector: - Test alarm - Activation through the menu - Activation by means of magnet - First alarm in case of alarm verification - Pre-alarm of interdependence of two detectors	illuminated or blinking ¹⁾		
Module input: - Test alarm - Activation through the menu - First alarm in case of alarm verification - Pre-alarm of interdependence of two detectors	illuminated		
Disablement of a detector or module		off or flashing ¹⁾	
Isolator of a detector or module activated			illuminated
Input or output module: - Wire breakage or short circuit on the input or output - Power supply fault			illuminated
Detector or module: No address set	illuminated		
Detector or module: Address > 99 set and element not parameterised	illuminated		

¹⁾ Depending on the parameter setup on the BC600

5 Checking the loop lines

After completion of the installation work on the loop it is recommended that the entire loop cabling should be checked by means of the Loop Tester LTG30-1.



At that time, all loop elements should already be connected, because only then will the internal resistances of the isolators be considered as well.

The loop tester offers the advantage that the check can already be carried out prior to the connection or installation of the fire detection control panel.



The measuring method of the loop tester differs from that of the loop interfaces of the fire detection control panels. Therefore the results can be different, especially if the loop resistances exceed the permissible limit values.



If the permissible limit values of the loop lines are exceeded, it is – in spite of a fire detection system that works properly at the moment – not ensured that this trouble-free operation will also continue in the future. In this case you have to assume that even little changes can result in a huge number of fault messages.

Within the permissible values of the loop cabling, both measuring methods (the one of the loop interfaces as well as the one of the loop tester) achieve comparable measuring results.



You absolutely have to compare the indicated resistance value with the value that has been determined in the spreadsheet program. The maximum permissible loop resistance of your application can be considerably lower than the generally permissible loop resistance of 50Ω per core.

Further information about the use of the loop tester can be found in the User Manual LTG30-1, which is available in the download area of the LST website (after registration).

6 Contamination detection and maintenance prognosis

This part describes when the control panel will indicate a contamination – technical message – and how the detector replacement will be predicted.

A contamination can only be found out by elements which have an optical sensing chamber. Heat detectors and manual call points as well as modules do not provide a contamination. Furthermore, this description does not apply to detectors that are connected in conventional technology.

6.1 Series 200/200AP elements on the BC216

6.1.1 2551E, 2251EIS, FTX-P1, 2251E, ND2251EM, 1551E, 1251E, ND22051E, 22051EISE 6500, 6500AP

If the analogue value is 113 or higher, a contamination will be indicated if this value exists for more than 72 hours. The analogue values and their meaning are listed starting in Chapter 4.1.2: "Optical smoke detectors" on page 482.

6.1.2 7251, 72051EI, F-SEN-SSE

If the analogue value is in the range 25 to 50, a technical message will be output if this value exists for more than 72 hours. The analogue values and their meaning are listed in Chapter 4.1.3: "Optical laser smoke detector" on page 482.

6.1.3 2251TEM, DV22051TE, 2251TLE, 2251CTLE

If the analogue value is in the range 25 to 38, a technical message will be output if this value exists for more than 72 hours. The analogue values and their meaning are listed in Chapter 4.1.4: "Multisensors" on page 483.

6.1.4 22051TLE

In the case of this detector, contamination reduces the analogue value. If the analogue value is 37 or less, a technical message will be output if this value exists for more than 72 hours. The analogue values and their meaning are listed in Chapter 4.1.4: "Multisensors" on page 483.

6.1.5 2100RFT-AS

In the case of this detector, contamination reduces the analogue value. If the analogue value is 25 or less, a technical message will be output if this value exists for more than 72 hours. The analogue values and their meaning are listed in Chapter 4.2.4.1: "Optical-Thermal Detector 2100RFT-AS" on page 485.

6.2 Series 200/200AP elements on the BC600

The contamination of Series 200 elements on the BC600 is detected in the same way as in the case of detectors operated on a BC216. The method is described in Chapter 6.1: "Series 200/200AP elements on the BC216" from page 511 onwards.

If the sensing chamber of 200AP detectors is clean, they have a value of 50 (contamination of 0%). Contamination of the detector reduces this analogue value. A change by the value 1 (analogue value 49) corresponds to a contamination of 10%. An analogue value of 42 corresponds to a contamination of 80%. At a contamination of 100% – analogue value of 40 – a dirt message will be output immediately.

The ND22051Ex uses another method for the alarm and contamination evaluation. In the case of this detector, the analogue value rises with increasing contamination (as is the case with the ND2251EM). If the analogue value exceeds the contamination threshold (113) for more than 72 hours, a dirt message will be output.

6.3 Maintenance prognosis

The maintenance prognosis indicates a detector's degree of contamination, or rather its contamination in the past months, and calculates when it will be necessary to replace a detector, provided that the contamination will progress at the same rate.

For the BC600 or PARSOFT-3, the following holds true: the % values (this is the degree of contamination) are recorded within 7 days, for 99 elements on average. If more elements have been installed, finding out the percentage takes longer because this process is based on the polling cycles.

In the case of the BC216, every 30 days an average value is calculated based on the contamination data (analogue values), – this corresponds to the current contamination of the detector – and only after the mentioned period of time has elapsed will it be indicated on the control panel or in PARSOFT.

The above-mentioned monthly average values can be read out by means of PARSOFT and are shown in the historical columns of the read-out of analogue values. The maintenance prognosis is created when 6 historical monthly average values are available. As method the linear regression is used.

6.4 Detection of detector replacement

If a detector replacement is detected, the detector's historical analogue values will be discarded and the data for the calculation of the maintenance prognosis will also be reset. It is not necessary to confirm the detector replacement. The detector replacement is detected automatically. On the BC600, the historical course of the detector's analogue values (contamination) can be deleted individually.

6.4.1 Series 200 elements on the BC216 / BC600

Based on the current analogue values, a monthly average value is created. The detector replacement is detected based on a sudden negative change in the monthly average value. The detection of the detector replacement can take up to 72 hours.

6.4.2 Series 200 elements on the BC600

Based on the current analogue values, a monthly average value is created. The detector replacement is detected based on a sudden negative change in the monthly average value. The detection of the detector replacement can take up to 72 hours.

6.4.3 Series 200AP elements on the BC600

If the serial number has changed, the detector replacement will be detected.