

ML-2180 MAXLOGIC CONVENTIONAL ASPIRATING SMOKE DETECTOR



The ML-2180 Maxlogic conventional aspirating smoke detectors are **designed to monitor smoke changes in the environment, enabling the detection of fires in their very early stages and providing a fire alarm signal.**

The air in the environment is continuously monitored, and a fire alarm signal is generated when the smoke level exceeds the threshold level. The threshold levels of other dust and/or particles that could cause false alarms are detected using **mathematical modeling technology,** preventing false alarms.

GENERAL SPECIFICATIONS

- Compliant with **EN 54-20** standard
- Compatible with **EN 54-20 Class A, Class B, and Class C** sensitivity classes
- Wide operating range: **0 – 20 obs/m**
- High sensitivity resolution: **0.0001 obs/m**
- Ability to distinguish between dust and smoke using **mathematical modeling technology,** preventing false alarms
- Installation options for different areas with **single, dual, and quadruple tubing choices**
- **4 different alarm levels (Warning, Pre-Alarm, Fire 1, Fire 2)**
- **Remote control functions (Silence, Fault, Reset, Alarm)**
- **IP30** Protection rating
- **Stable and high** operational performance
- Compatible with **MAXLOGIC series conventional panels**

TECHNICAL SPECIFICATION

		ML-2180
Supply Voltage		Nominal: 24V DC, Operating: 18VDC – 30VDC
Current		Quiescence: Maks. 925mA @24V DC (Fan Speed 10) / Alarm: Maks. 945mA @24V DC (Fan Speed 10)
Power		Quiescence: 22.2 W @24V DC (Fan Speed 10) / Alarm: 22.7 W @24V DC (Fan Speed 10)
Dimensions		320x240x150mm (Width x Depth x Height)
Weight		3.8 kg
IP Protection Class		IP30
Mounting		Wall Type
Working Temperature Range		(-10°C) - (+55°C)
Working Humidity Range		0 – 95% (+40°C, non-condensing)
Sampling Pipe	Length	Single Pipe: 150m (Max 60 holes) / Dual Pipe: 250m (Every pipe is 125m and max 30 holes) / Quad Pipe: 400m (Every pipe is 100m and max 15 holes)
	Diameter	In: 21mm / Out: 25mm
	Entrance	1 input (Pipes should be compatible with EN 61386-1 and classified at least at Class 1131.)
Alarm Relay Outputs		4 Programmable Alarm Relay (it can be programmed by Loop Manager+): 100mA @30V (Warning, Pre Alarm, Alarm 1, Alarm 2)
Fault Relay Output		2 Programmable Fault Relay (It can be programmed by Loop Manager+): 100mA @30V (1 Fault, 2 Fault)
Cable Type		JE-H(St)H 1x2x0.8 + 0.8mm ² / JE-H(St)H 1x2x1.0 + 0.8mm ² JE-H(St)H 1x2x1.5 + 0.8mm ²
Programming		Via USB-PC connection
Alarm Levels		Warning: 0.005% – 2.0% obs/m / Pre Alarm: 0.005% – 2.0% obs/m Alarm 1: 0.010% – 2.0% obs/m / Alarm 2: 0.020% – 20.0 obs/m
Alarm Delayed Times		Warning, Pre Alarm, Alarm 1, Alarm 2: 0-255s (Delay can be assigned separately to all levels.)
Measurement Range		0.005% obs/m - 20% obs/m
Smoke Detection Resolution		0.0001% obs/m
Detection Principle		Light scattering principle
Dust Separation Principle		Mathematical Modelling Technology
Sampling Holes per Each Pipe (EN-54-20 Sensitivity Class)		Class A: 60 Holes (most sensitive) / Class B: 60 Holes / Class C: 60 Holes (Least Sensitive)
Fan Speed		Adjustable (1-10 Level)
Remote Control Functions		Silence, Fault

MODELS

Models	Description
ML-2180	Maxlogic Conventional Aspirating Smoke Detector

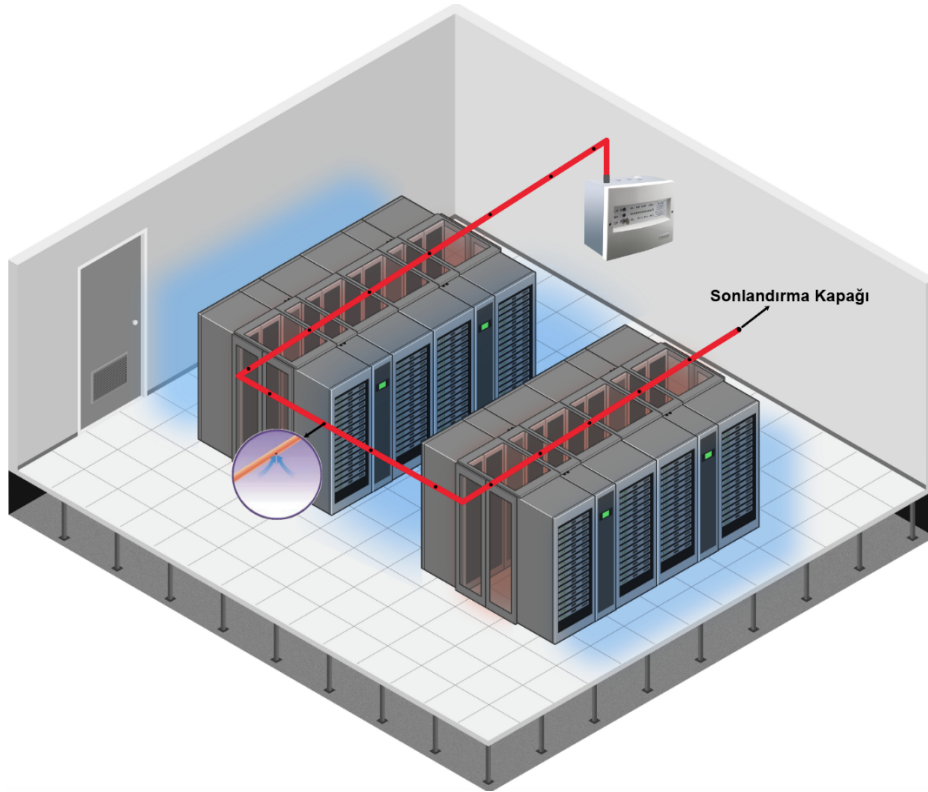
OPTIONAL ACCESSORY PRODUCT MODELS

Models	Description
ML-0181	Maxlogic Heater Device for Maxlogic Aspirating Smoke Detector, 2 Inputs / 1 Output
ML-0182	Maxlogic Heater Device for Maxlogic Aspirating Smoke Detector, 4 Inputs / 1 Output
ML-0183	Maxlogic Heater Device for Maxlogic Aspirating Smoke Detector, 4 Inputs / 2 Output
ML-0185K	Maxlogic Aspirating Smoke Detector Dirt Trap
ML-0185M	Maxlogic Aspirating Smoke Detector Magnetic Filter
ML-0185T	Maxlogic Aspirating Smoke Detector Dust Filter
ML-0185H5	Maxlogic Aspirating Smoke Detector Heavy Duty Dust Filter, 5"
ML-0185H10	Maxlogic Aspirating Smoke Detector Heavy Duty Dust Filter, 10"
ML-0187A	Maxlogic Aspirating Smoke Detector Water Trap, Type A
ML-0187B	Maxlogic Aspirating Smoke Detector Water Trap, Type B
ML-0187C5	Maxlogic Aspirating Smoke Detector Water Trap, Type C5
ML-0187C10	Maxlogic Aspirating Smoke Detector Water Trap, Type C10

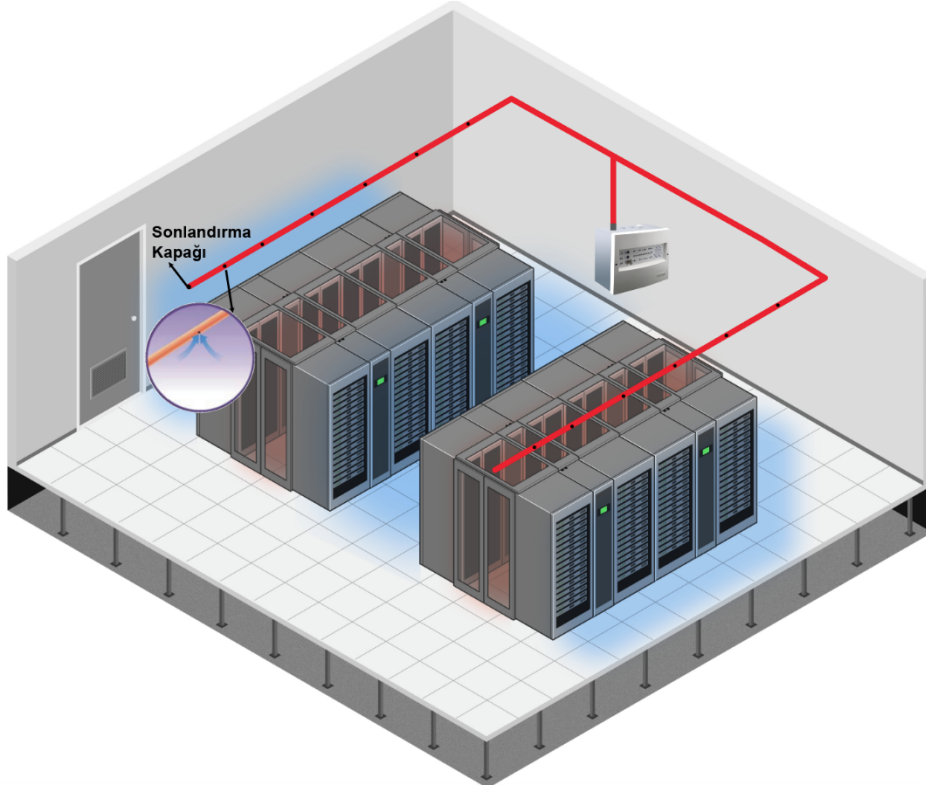
* It is provided in a separate box if ordered. The device includes an M3 allen key for removing the heater device cover

PIPING SYSTEM

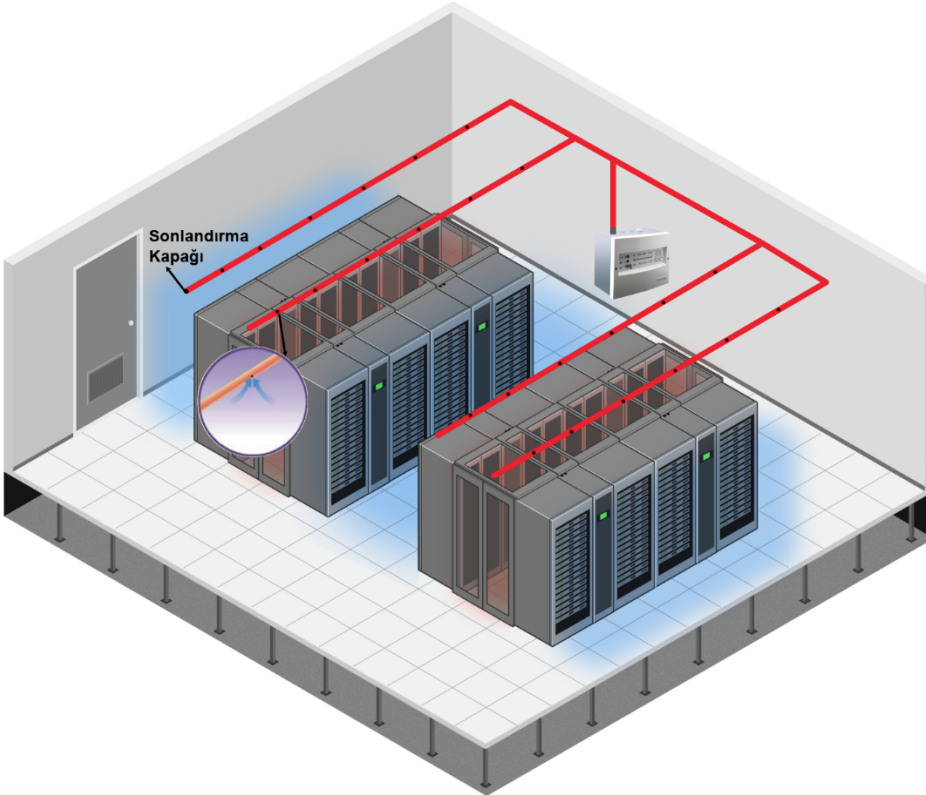
Single Pipe Design:



Dual Pipe Design:

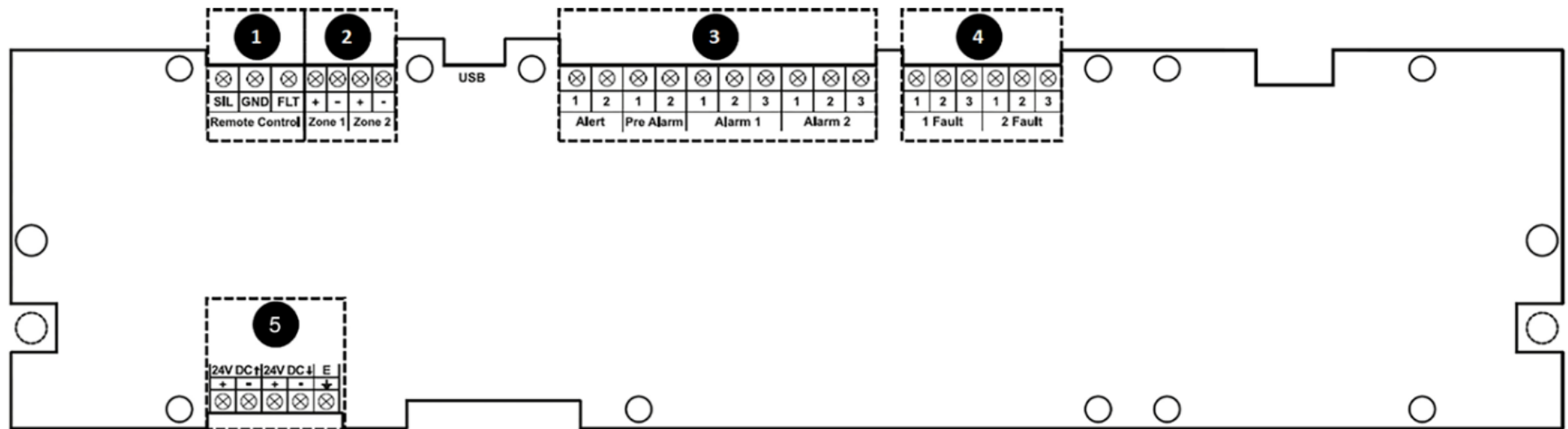


Quad Pipe Design:



ELECTRICAL CONNECTIONS

PARTS OF ASD MAIN BOARD:



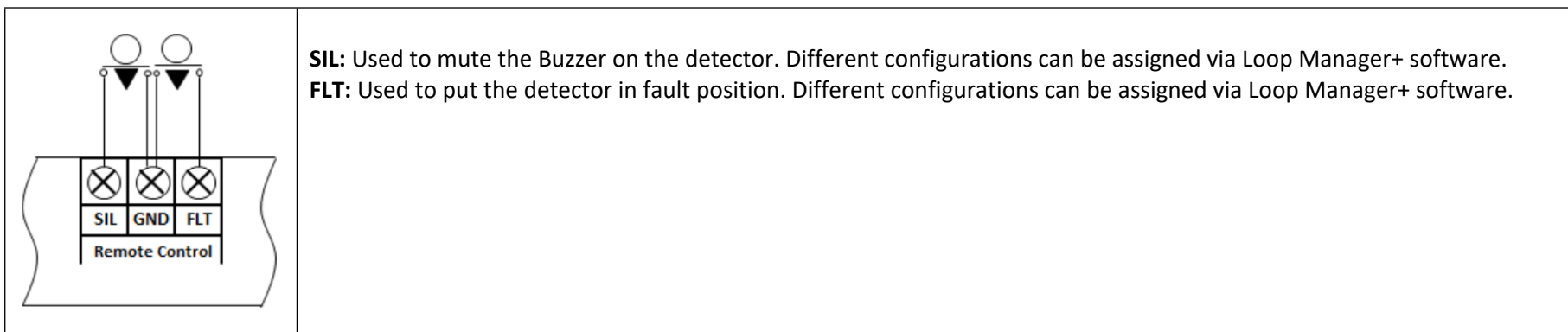
1. Remote control input connections
2. Conventional system input connections
3. Dry contact relay output connections *
4. Fault relay output connections **
5. External power supply input connections ***

* When conventional connections are made through Zone 1/Zone 2, an “Alarm” resistance is added by connecting 470 Ohm to terminals 2 and 3 on the Alarm 1/Alarm 2 lines.

** When conventional connections are made through Zone 1/Zone 2, an “End of Line” resistance is added by connecting 6K8 Ohm to terminals 2 and 3 on the 1 Fault/2 Fault lines.

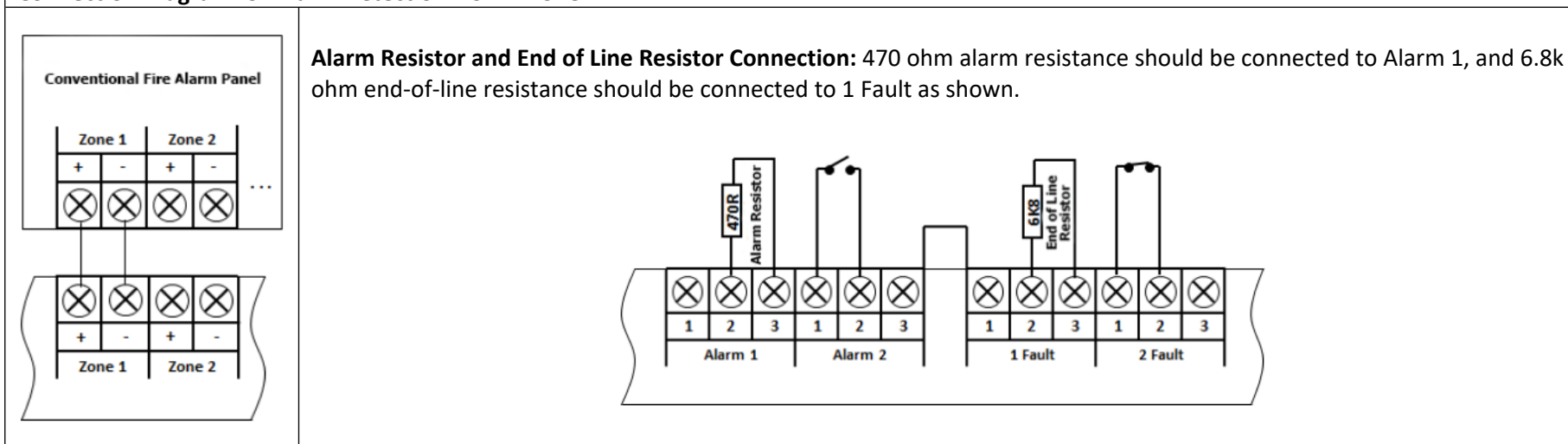
*** The ML-0515 / ML-05110 power supply, which complies with the EN 54-4 standard, should be used.

1. REMOTE CONTROLL INPUTS CONNECTIONS

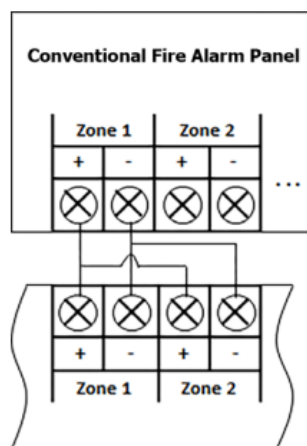


2. ZONE INPUTS CONNECTIONS WHEN CONNECTED TO CONVENTIONAL SYSTEM

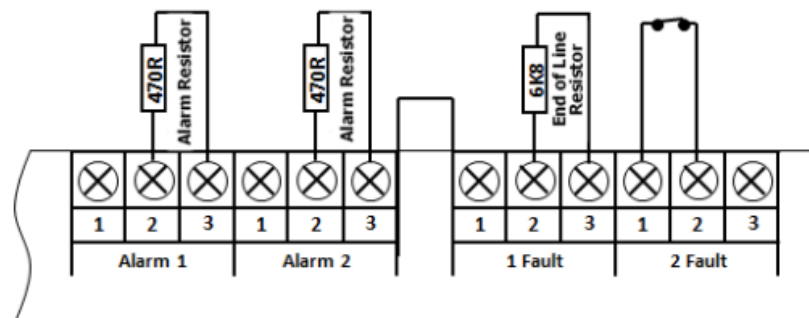
Connection Diagram for Alarm Detection from 1 Zone:



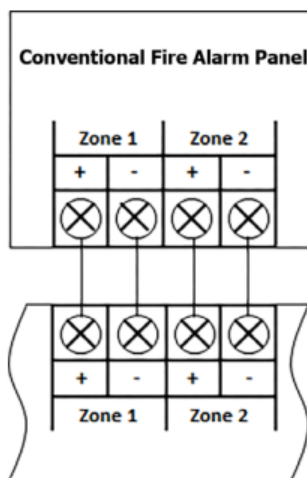
Connection Diagram for Two-Level Alarm Detection System from 1 Zone:



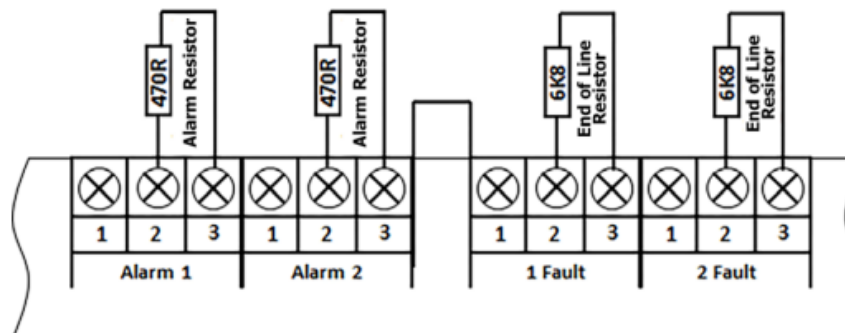
Alarm Resistor and End of Line Resistor Connection: 470 ohm alarm resistance should be connected to Alarm 1 and Alarm 2, and 6.8k ohm end-of-line resistance should be connected to 1 Fault as shown.



Connection Diagram for Two-Level Alarm Detection from 2 Different Zones:

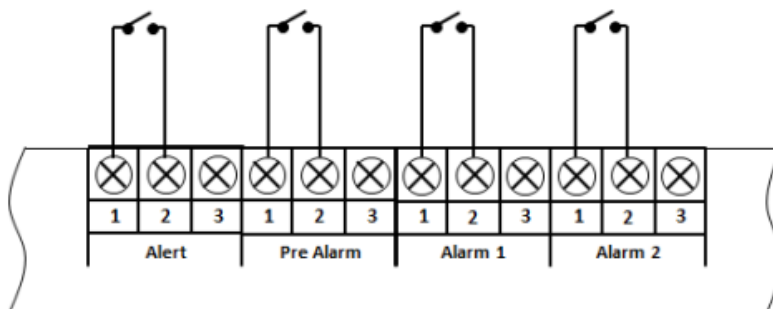


Alarm Resistor and End of Line Resistor Connection: 470 ohm alarm resistance should be connected to Alarm 1 and Alarm 2, and 6.8k ohm end-of-line resistance should be connected to 1 Fault and 2 Fault as shown.



3. DRY CONTACT RELAY OUTPUTS WHEN NOT CONNECTED TO CONVENTIONAL SYSTEM

Alarm Relays Connection Diagram:



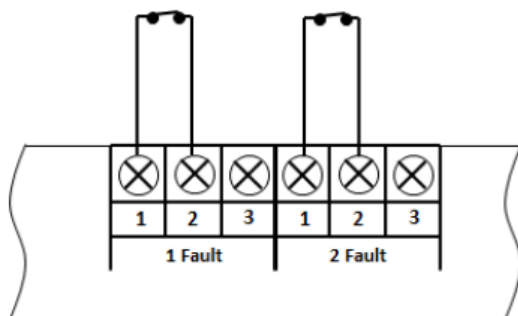
Alert: Relay output for the Alert function of the detector. Different configurations can be assigned via Loop Manager+ software.

Pre-Alarm: Relay output for the Pre-Alarm function of the detector. Different configurations can be assigned via Loop Manager+ software.

Alarm 1: Relay output for the Alarm 1 function of the detector. Different configurations can be assigned via Loop Manager+ software.

Alarm 2: Relay output for the Alarm 2 function of the detector. Different configurations can be assigned via Loop Manager+ software.

Fault Relays Connection Diagram:



1 Fault: Relay output for the Fault 1 function of the detector. Different configurations can be assigned via Loop Manager+ software.

2 Fault: Relay output for the Fault 2 function of the detector. Different configurations can be assigned via Loop Manager+ software.

4. POWER SUPPLY CONNECTION DIAGRAM

Power Supply Connection Diagram:

