

AlarmLine

Intrinsic Safety Barriers for Conventional and Addressable AlarmLine™ Systems



A UTC Fire & Security Company

F-73-10

FEATURES

- Permits AlarmLine installation in Classified Hazardous Areas
- Compatible with Smart and Conventional control systems
- 1-Channel Operation
- Shunt-Diode Type
- Limits Energy
- Slim Packaging
- UL Listed
- FM Approved

DESCRIPTION

AlarmLine™ applications in classified hazardous areas with potentially explosive vapors, dust or fibers require the use of Intrinsic Safety Barriers so as to limit the total energy entering the hazard via the sensor wiring conductors.

Fenwal P/N 73-117068-031 shunt-diode Safety Barriers (as shown in Figures 1 and 2) are 1-channel devices that use intrinsically safe techniques to allow electrical signals to be conveyed between non-hazardous (safe) and hazardous areas. The Safety Barriers achieve this by limiting the transfer of energy in one direction to a level that cannot cause ignition of explosive atmospheres.

WIRING

Each barrier handles two conductors, so two barriers are required for each sensor cable. As shown in Figure 3 and Figure 4, two Intrinsic Safety Barriers are used for each AlarmLine Sensor which is then connected to either the conventional hardwired LHD-4 (P/N 73-117068-047) or Addressable AlarmLine Module AAM (P/N 73-10001-003) depending on the type of system (conventional or addressable). The AAM is a SmartOne® device that connects to the SLC loop of the FenwalNET™ Control Panel. Up to 255 AAM modules can be connected to an SLC loop.

The AlarmLine LHD-4 Module is a 4-wire module that connects to any FM approved fire alarm panel. One fire alarm panel can monitor several AlarmLine Interface Modules limited only by the maximum permissible cable length.

INSTALLATION

Intrinsic Safety Barriers must be enclosed in a separate weather-tight enclosure. Fenwal offers multi-barrier enclosures suitable for 2, 5, 12, and 24 barriers (see

Ordering Information for part numbers).

To determine if the need for an intrinsically safe circuit exists on a specific application, consult the National Electric Code and the local Authority Having Jurisdiction (AHJ).

REFERENCE DOCUMENTS

- Fenwal Application Guide – Intelligent LHD™ Systems: 73-300
- FenwalNET™ 2000 Data Sheet: 74-200
- FenwalNET™ 6000 Data Sheet: 74-600
- Addressable AlarmLine Module Data Sheet: 73-02
- AlarmLine LHD-4 Data Sheet: 73-01

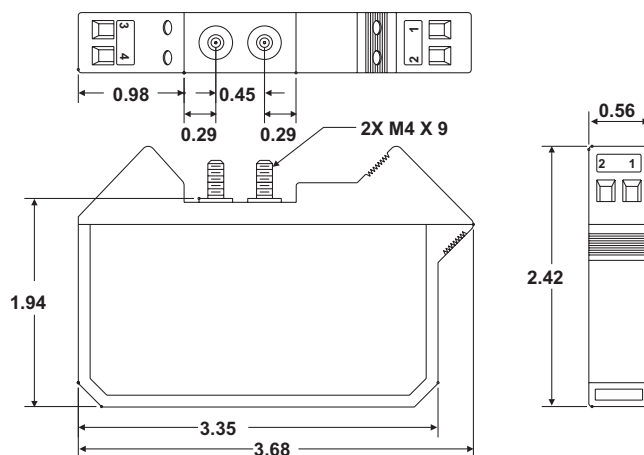


Figure 1. Intrinsic Safety Barrier Dimensions (Inches)

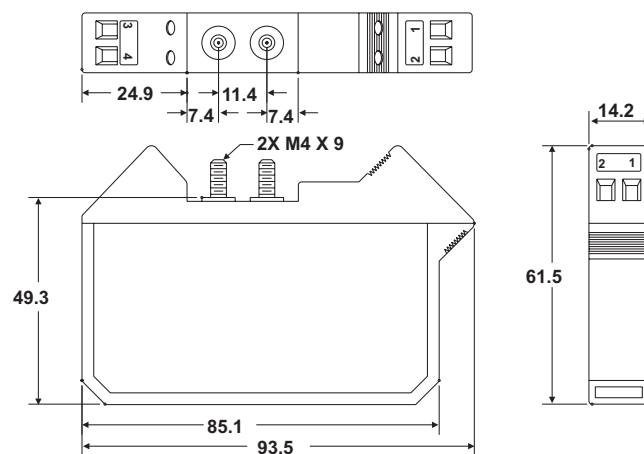


Figure 2. Intrinsic Safety Barrier Dimensions (Metric)

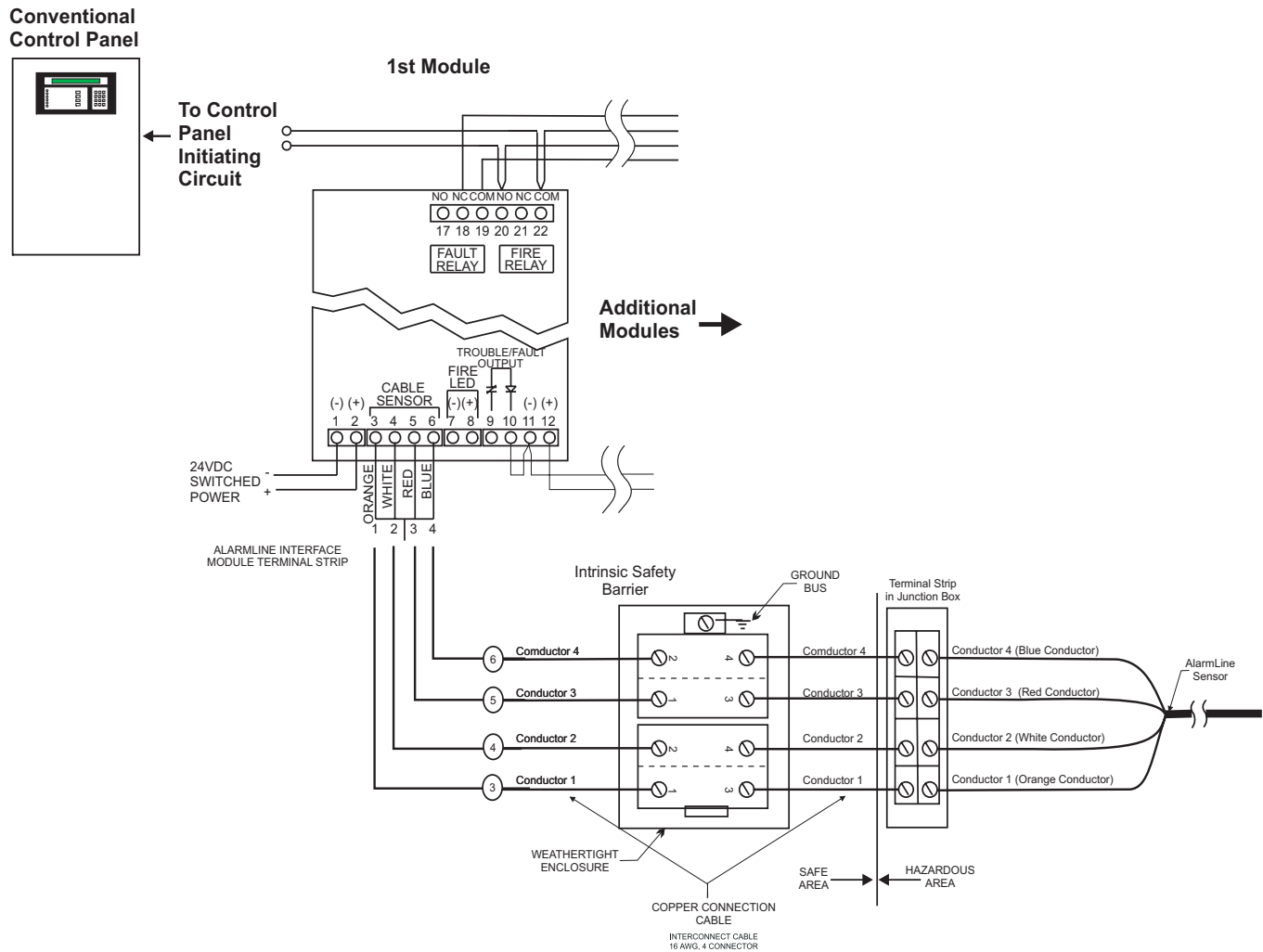


Figure 3. Typical Schematic Wiring Diagram (Conventional Hardwired)

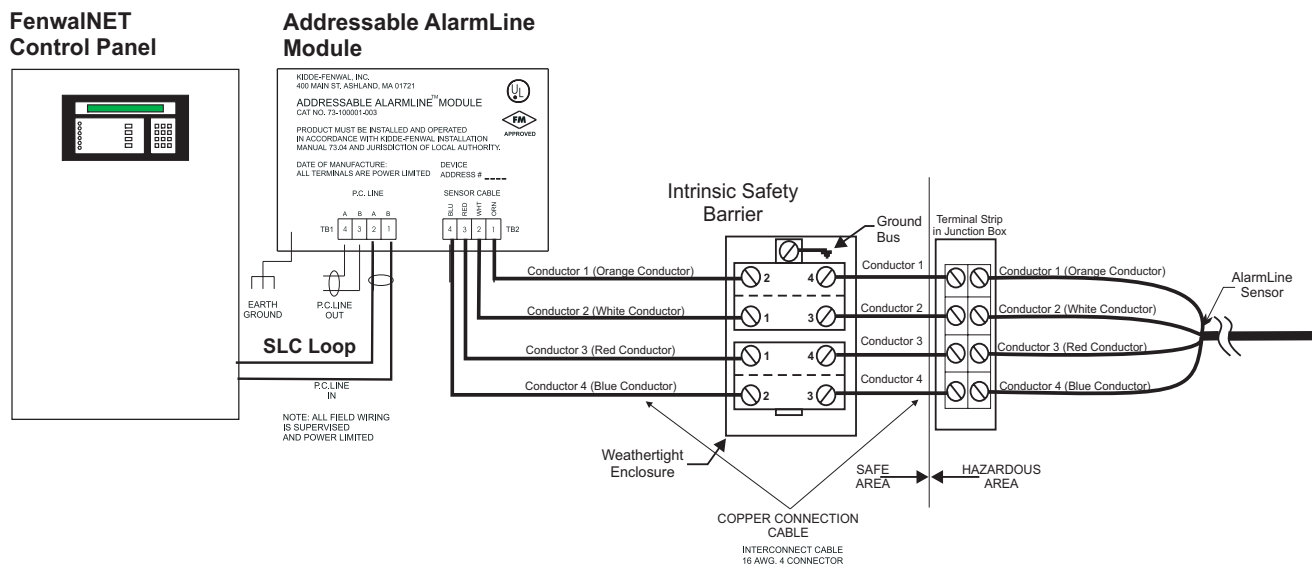


Figure 4. Typical Schematic Wiring Diagram (Addressable)

SPECIFICATION

FM Approvals	Class I, Division I, Groups A, B, C, D Class II, Division 1, Groups E, F, G Class III, Division 1
Operating Temperature Range	-4° F (-20° C) to 140° F (60° C)
Humidity	5 to 95% R.H.
Terminals	Will accept up to #12 AWG;
Working Voltage	6 V
Maximum Voltage	7.5 V
Fuse Rating	100 mA
Leakage Current	1 mA maximum at 6V
End-to-End Resistance	145 ohms maximum 90 ohm minimum
Weight	Approximately 0.275 lb. (0.125 kg)
Enclosures	73-117068-032 holds 2 barriers 73-117068-033 holds 5 barriers 73-117068-034 holds 12 barriers 73-117068-035 holds 24 barriers

ORDERING INFORMATION

Part Number	Description
73-117068-031	Intrinsic Safety Barrier for AlarmLine (need 2 per sensor)
73-117068-032	Intrinsic Safety Barrier Weathertight Enclosure. Holds two Barriers.
73-117068-033	Intrinsic Safety Barrier Weathertight Enclosure. Holds up to five Barriers.
73-117068-034	Intrinsic Safety Barrier Weathertight Enclosure. Holds up to 12 Barriers.
73-117068-035	Intrinsic Safety Barrier Weathertight Enclosure. Holds up to 24 Barriers.

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