AutoPulse

Isolated Loop Circuit Protector, Part No. 430685 (Z-10)

Features

- **Isolated Loop Circuit Protector (ILCP) for up to 5 A of DC or audio current:**
  - Low impedance design minimizes voltage drop
  - For internal or external applications (refer to page 2 for external wiring requirements)
  - Refer to specific panel field wiring diagrams for additional application information
- **Operation is compatible with**:**
  - DC notification appliance circuits (NACs)
  - Speaker circuit NACs (25 VRMS)
- **Multiple stages of protection for DC and audio circuits:**
  - Line-to-Line Protection
  - Line-to-Earth Protection
- **Rugged epoxy encapsulated package**

Description

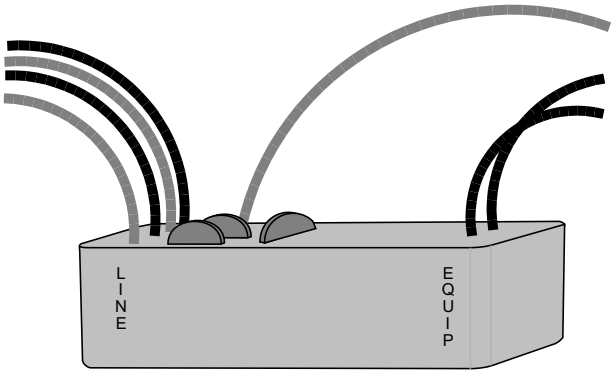
Electrical transients caused by lightning or by disturbances on high voltage power lines are conditions that require low voltage wiring circuits to be adequately protected. This protection is most effective when placed at the location where such circuits leave or enter the building.

The Isolated Loop Circuit Protector (ILCP) (Part No. 430685) is designed to protect Fire Alarm circuits from those electrical transients induced on wire runs that are routed external to the building. Because of its small package size, it can be easily mounted at the location that achieves maximum protection.

** Performance of this device has been quantified for use with other circuit types for specific applications where its low resistance is desired.

Listings and Approvals

UL Listed E197916



Isolated Loop Circuit Protector (Part No. 430685)

Operating Specifications

Line-to-Line Rating	38 VDC, 28 VAC RMS
Line-to-Ground Rating	
Shield-to-Ground Rating	48 VDC, 33 VAC RMS
Continuous Current Rating	5 A
Series Resistance	0.1 Ω/line
Series Inductance	68 μH/line
Shunt Capacitance	0.017 μF
Response Time	<1 Nanosecond (10^{-9}) line-to-line and line-to-earth
Maximum Current Line-to-Line and Line-to-Earth	2000 A (8 x 20 μsec pulse)
Maximum Current Shield-to-Earth	5000 A (10 x 50 μsec)
Mechanical Specifications	
Dimensions	3 3/8 in. W x 2 in. D x 1 in. H (86 mm x 50 mm x 25 mm)
Package	Epoxy encapsulated, beige
Electrical box requirement	4 in. (102 mm) square box, 2 1/8 in. (54 mm) minimum depth
Wire Leads	Color coded, #18 AWG, 8 in. long (203 mm)

External Wiring Requirements

Fire alarm system wiring that is run external to the building and is protected by the use of ILCPs shall be installed in accordance with the individual system component's installation instructions including properly grounded, twisted and shielded pairs, and observance of the following precautions.

Location. To ensure optimized protection, the ILCPs shall be located as close as possible to the point at which the circuits leave or enter the buildings and installed in dedicated metallic electrical boxes.

Wiring Distance. Wiring is limited to one contiguous property. The total maximum wire length is determined by the individual application's allowable limit as specified with ILCPs, but must not exceed 3270 ft (996.7 m).

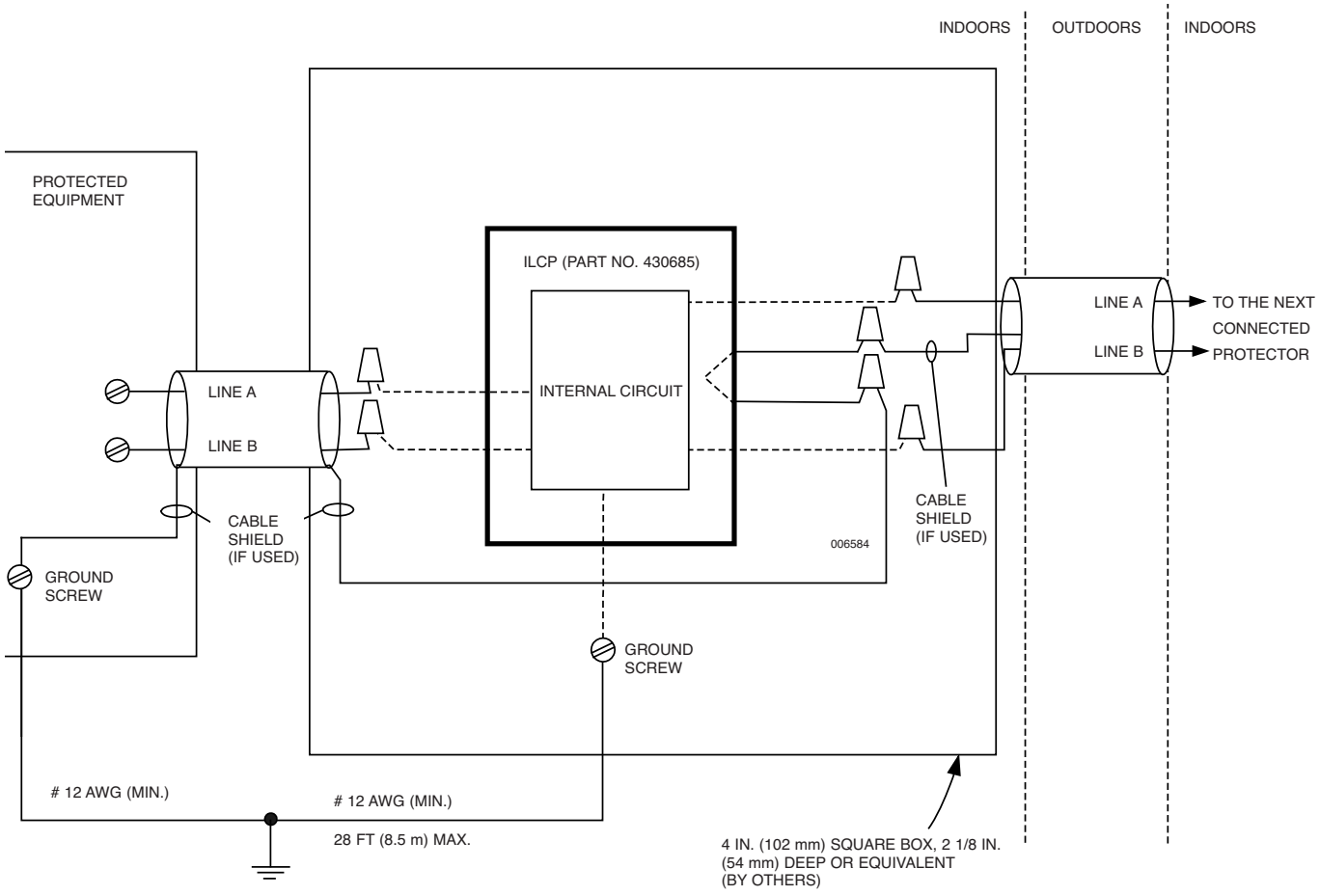
Underground Wiring. Wiring must be in a wiring trough that is separate from commercial power distribution wiring.

Overhead Wiring

1. Wiring must be run on poles separate from those supporting any commercial power distribution wiring.
2. Wiring shall be run in parallel with the commercial power distribution wiring and be separated by a minimum distance of either 100 ft (30 m) or the maximum span between any two adjacent poles of either the system's circuit or the commercial power distribution circuit.

The grounding conductor shall be #12 AWG with a maximum length of 28 ft (8.5 m), run in as straight a line as possible and connected to the building grounding electrode system (unified earth ground) per Article 800-40 of NFPA 70, the National Electrical Code.

Typical Connections



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Form No. T-2007156-3