

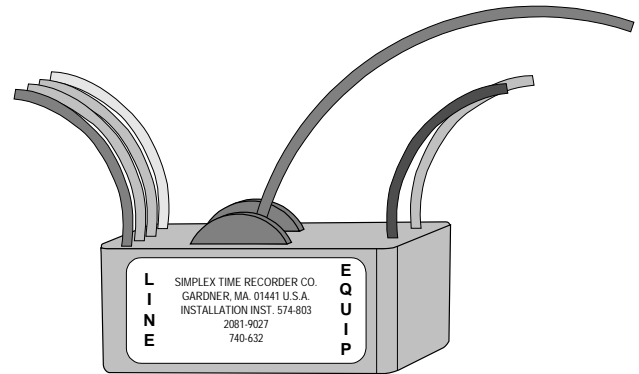
UL, ULC Listed;
CSFM Approved*

Circuit Protection
2081-9027

Isolated Loop Circuit Protector

FEATURES

- **UL listed to Standard 497B, *Protectors for Data Communications and Fire Alarm Circuits***
- **Designed specifically for protection of fire alarm circuits including:**
 - DC power (200 mA maximum)
 - Monitor circuits
 - Audio riser circuits
 - Firefighter telephone riser circuits
 - Refer to page two for application details
- **Multiple stages of protection include:**
 - Line-to-Line protection
 - Line-to-Earth protection
- **Rugged epoxy encapsulated package**



2081-9027 Isolated Loop Circuit Protector

DESCRIPTION

Circuit Protection. Electrical transients caused by lightning or by disturbances on high voltage power lines are conditions that can cause damage to low voltage fire alarm circuits. Proper application of 2081-9027 Isolated Loop Circuit Protectors (ILCP) can minimize the energy from those electrical transients to a level that can be safely handled by the circuits requiring protection. This protection is most effective when placed at the locations where the circuits leave and enter buildings.

The 2081-9027 ILCP provides multiple stages of protection against electrical transients. It has a small package size allowing it to be easily mounted at the location that achieves maximum protection.

Other Circuit Types. Protection for other circuit types is available, contact your local Simplex representative.

* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7300-0026:171 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. Listings shown are inclusive, contact Simplex for any additional information.

Operating Specifications

| | |
|---------------------------------------|--|
| Line-to-Line Voltage Rating | Continuous: 38 VDC, 28 VAC RMS Clamping: 47 V typical |
| Line-to-Earth Voltage Rating | Continuous: 45 VDC, 35 VAC RMS Clamping: 56 V typical |
| Shield-to-Earth Voltage Rating | Continuous: 48 VDC, 33 VAC RMS Clamping: 75 V typical |
| Line-to-Line Capacitance | 0.006 μ F typical |
| Continuous Current Rating | 200 mA maximum |
| Series Resistance | 3 Ω /line |
| Response Time | Line-to-Line <1 Nanosecond (10^{-9}) |
| | Line-to-Earth <25 Nanosecond (10^{-9}) |
| Maximum Current | Line-to-Line 2000 A (10 x 50 μ sec pulse) |
| | Line-to-Earth 2000 A (8 x 20 μ sec pulse) |
| | Shield-to-Earth 5000 A (10 x 50 μ sec) |

Mechanical Specifications

| | |
|-----------------------------------|---|
| Dimensions | 2 7/16" W x 1 3/8" D x 1 1/16" H (62 mm x 35 mm x 27 mm) |
| Package | Beige epoxy encapsulated |
| Electrical box requirement | 4" (102 mm) square box, 2 1/8" (54 mm) minimum depth |
| Temperature Rating | 32° F to 120° F (0° C to 49° C) |
| Humidity Rating | 10-95% RH, at 30° C |
| Signal Leads | Color coded, 18 AWG, 10" long (245 mm) |
| Ground Lead | Green, 14 AWG, 10" long (245 mm) |

2081-9027 ILCP, Simplex Fire Alarm Control Panel Application Reference

| Control Panel | Circuit Type | Wiring Distance and Notes |
|-----------------------------|--|--|
| 4100 and 4120 Series | Audio Riser | 3270 ft (1 km) maximum |
| | Firefighter Telephone Riser | |
| 4020, 4100, and 4120 Series | Monitor Points | For 2-Wire Detectors: 50 Ω maximum For Dry Contacts: 800 Ω maximum or 3270 ft (1 km) maximum, whichever is shorter |
| | MAPNET II [®] Monitor ZAM Zone Connections | 2000 ft (610 m) maximum or 10 Ω maximum, whichever is shorter |

EXTERNAL WIRING REQUIREMENTS

Fire alarm system wiring that is run external to buildings and is protected by 2081-9027 ILCP 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 2081-9027 ILCP 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 (1 km).

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

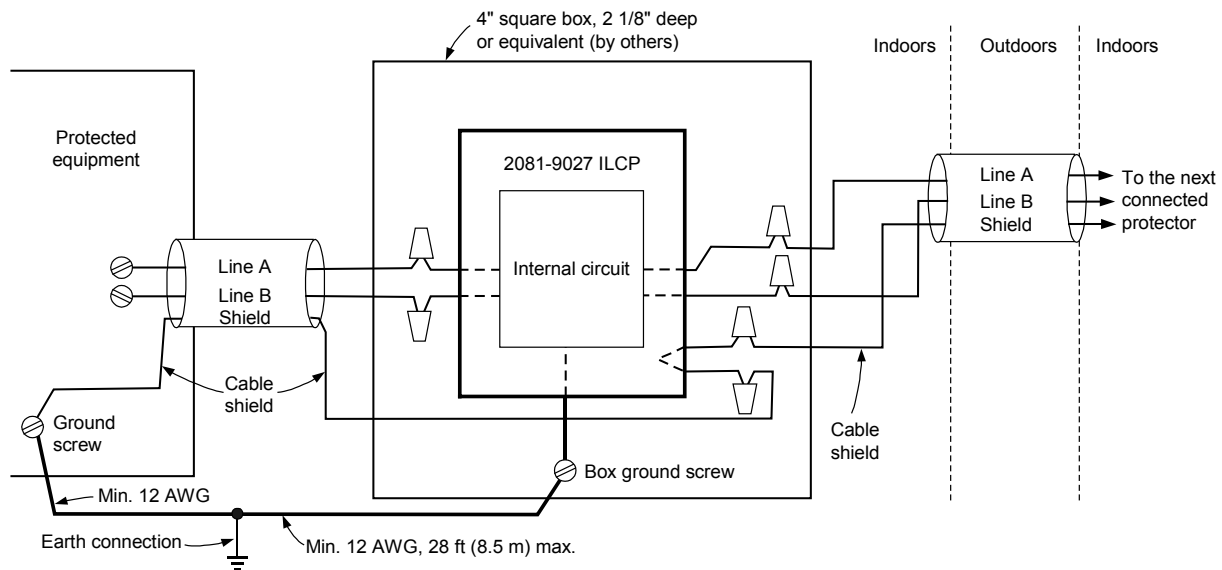
Overhead Wiring.

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 per Article 800-40 of NFPA 70, the *National Electrical Code*.

Further information can be found in Installation Instructions 574-832.

TYPICAL CONNECTIONS



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Visit us on the world wide web at www.simplexnet.com.

All specifications and other information shown were current as of printing and are subject to change without notice.