Simplex®

*UL, ULC, CSFM Listed**

System Accessories

Circuit Protection; Model 2081-9028 Isolated Loop Circuit Protector (ILCP)

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
- Listed as an Isolated Loop Circuit Protector to UL 497B, *Protectors for Data Communications and Fire Alarm Circuits*
- Listed as a Surge Suppressor to ULC-S527, *Control Units for Fire Alarm Systems*
- See Note 1 below for additional application reference
- For lower current ILCP applications (up to 200 mA), refer to Model 2081-9027 on data sheet S2081-0007

Operation is compatible with:

- DC notification appliance circuits (NACs)
- Speaker circuit NACs (25 VRMS)
- IDNAC SLCs, IDNAC SLCs, and TrueAlert SLCs
- Other circuit types (see Note 2 below)

Multiple stages of protection for DC and audio circuits:

- Line-to-Line Protection
- Line-to-Earth protection

Rugged epoxy encapsulated package

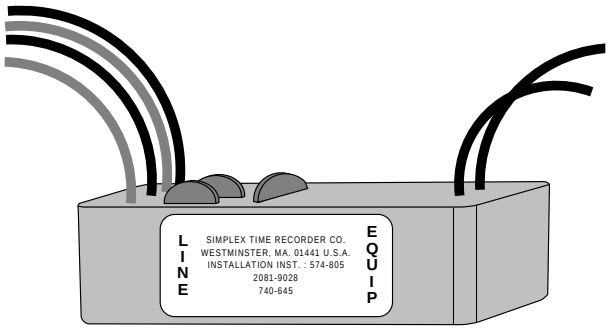
Description

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.

Transient Protection. The 2081-9028 Isolated Loop Circuit Protector (ILCP) is designed to protect Simplex® 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.

Note 1: Overvoltage Protector Applications. Model 2081-9028 is for use as an Isolated Loop Circuit Protector which is different from operation as an Overvoltage Protector. For Overvoltage Protector applications, refer to Overvoltage Protector model 2081-9044 which is listed to UL 864, rated for up to 200 mA, and documented on data sheet S2081-0016.

Note 2: Operation with other Circuit Types. Performance of the 2081-9028 ILCP has been quantified for use with other circuit types for specific applications where its low resistance is desired. Contact your local Simplex product supplier for application guidance.



2081-9028 Isolated Loop Circuit Protector

Specifications

Operating Specifications	
Line-to-Line Rating Line-to-Ground Rating	38 VDC, 28 VAC RMS
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)
Application Reference	
IDNAC SLCs and TrueAlert SLCs	Length is limited to 1000 ft (305 m) with a maximum of two (2) 2081-9028 ILCPs per branch
Mechanical Specifications	
Dimensions	3 ⅜" W x 2" D x 1" H (86 mm x 50 mm x 25 mm)
Package	Epoxy encapsulated, beige
Electrical box requirement	4" (102 mm) square box, 2 ⅛" (54 mm) minimum depth
Wire Leads	Color coded, 18 AWG (0.82 mm^2), 8" long (203 mm)
Installation Instructions	574-805

* 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. This product was not FM or MEA (NYC) approved as of document revision date. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Safety Products Westminster.

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External Wiring Requirements

Fire alarm system wiring that is run external to the building and is protected by the use of 2081-9028 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 2081-9028 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 (1 km).

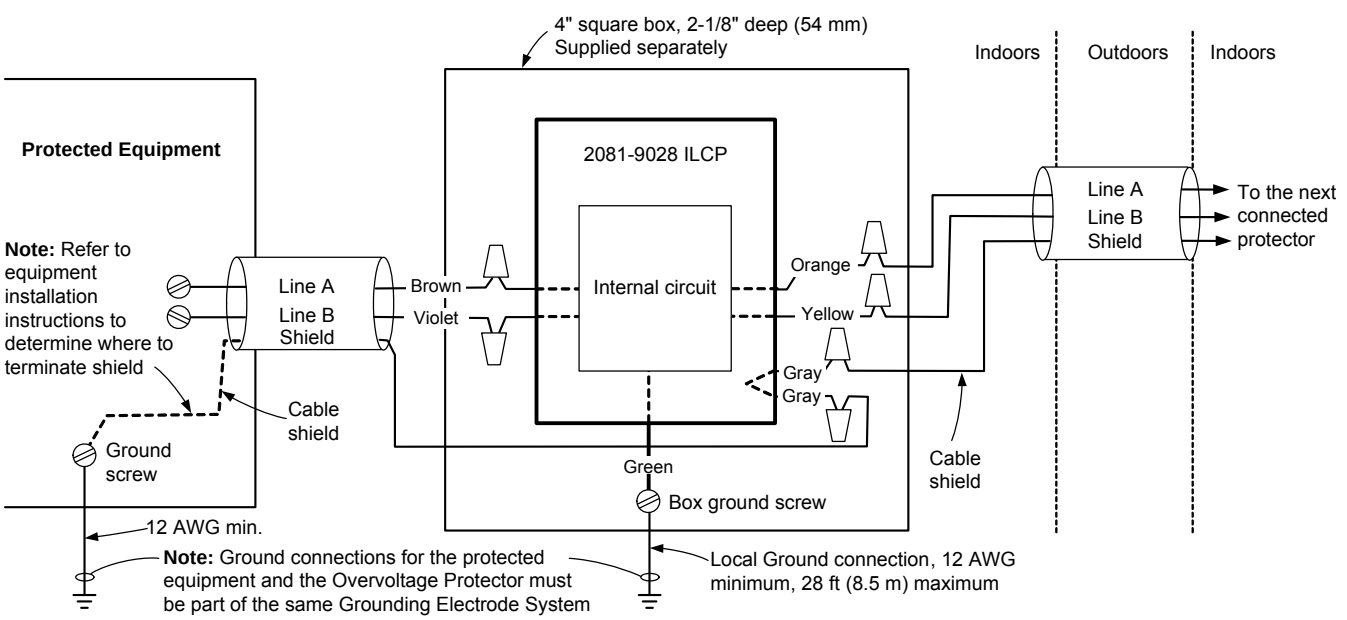
Underground Wiring. Wiring must be in a wiring trough that is separate from commercial power distribution wiring.

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.

Grounding Conductor. The grounding conductor shall be 12 AWG (3.31 mm^2) 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 NFPA 70, the *National Electrical Code*.

Typical Connection Reference (refer to Installation Instructions 574-805 for additional information)



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