Simplex®

*UL, ULC, CSFM Listed**

System Accessories

Circuit Protection; Model 2081-9027 Isolated Loop Circuit Protector (ILCP)

Features

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 2 for application details
- 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*
- For higher current ILCP applications (up to 5A), refer to Model 2081-9028 on data sheet S2081-0008

Multiple stages of protection include:

- Line-to-Line protection
- Line-to-Earth protection
- Rugged epoxy encapsulated package

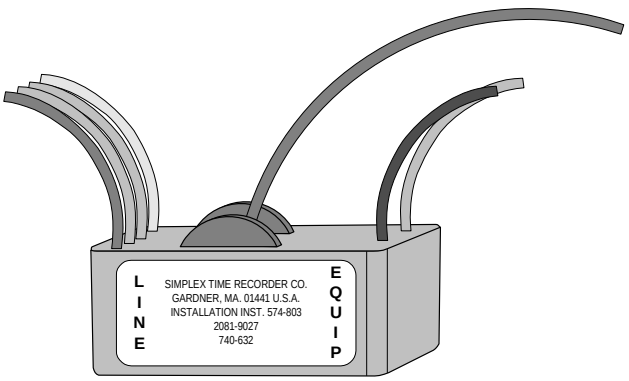
Description

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 2081-9027 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 2081-9027 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.



2081-9027 Isolated Loop Circuit Protector

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 μF 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 μsec pulse)
	Line-to-Earth	2000 A (8 x 20 μsec pulse)
	Shield-to-Earth	5000 A (10 x 50 μsec)
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 (0.82 mm^2), 10" long (245 mm)
Ground Lead		Green, 14 AWG, 10" long (254 mm)
Installation Instructions		574-803

* 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 Fire Protection Products.

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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 2081-9027 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 2081-9027 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:

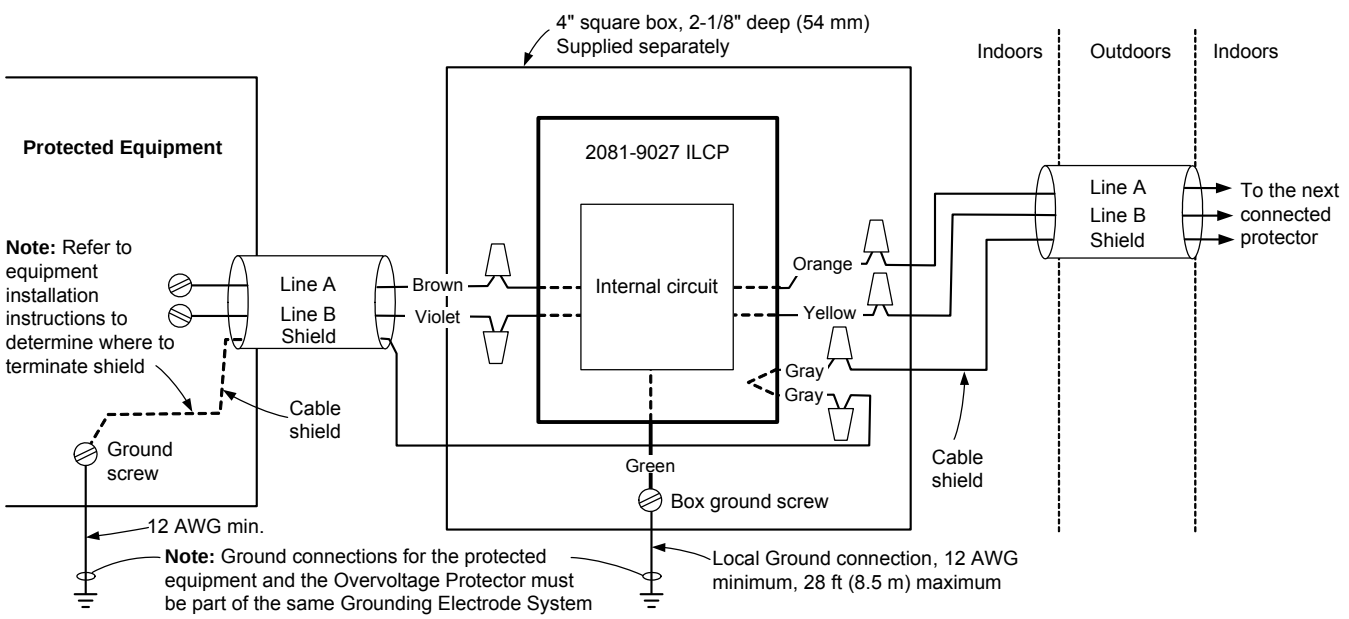
1. Wiring must be run on poles separate from those supporting any commercial power distribution wiring.
2. Wiring shall be run in parallel with the commercial power distribution wiring and be separated by a minimum distance of either 100 ft (30 m) or the maximum span between any two adjacent poles of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

Application Reference

Control Panel	Circuit Type	Wiring Distance and Notes
4100ES, 4100U, 4100, and 4120 Series	Audio Riser	3270 ft (1 km) maximum
	Firefighter Telephone Riser	
4007ES, 4010ES, 4100ES, 4100U, 4100, 4020, 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
	IDNet and MAPNET II Monitor ZAM Zone Connections	2000 ft (610 m) maximum or 10 Ω maximum, whichever is shorter

Typical Connection Reference (refer to Installation Instructions 574-803 for additional information)



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