

Service Protection Module (SPM) Installation and Maintenance

OVERVIEW

The Service Protection Module (SPM) connects to copper facilities to protect network equipment against lightning surges and AC power faults. The module plugs into an Engenuity SIPP chassis and provides convenient jack-based connectivity.

- Fast-acting primary protection and current limiting for broadband copper services
- Choice of front-only or front and rear jack access
- Easy installation in SIPP chassis
- Tested to Telcordia GR-974, GR-3108, and NEBS
- Operating temperature range of -40°C to +70°C

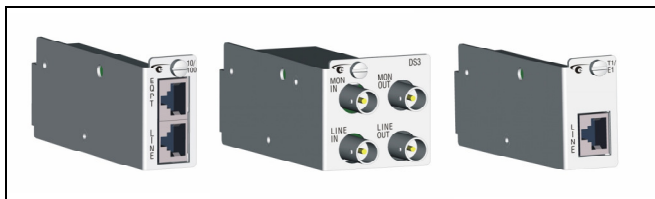


Figure 1. Example Service Protection Modules

WARNING

To avoid possible electric shock or personal injury, follow these guidelines:

- 1) Do not install, troubleshoot, or conduct maintenance on the SIPP chassis or SPM modules during lightning or thunderstorm activity.
- 2) This equipment provides primary protection and requires use of appropriate installation practices.
 - Only qualified and trained personnel should install or maintain these products.
 - Complete the installation of the protection equipment BEFORE connecting outside cable facilities.
 - A separate primary protector should not be installed in conjunction with this equipment.
 - Suitable cabling must be used for all connections.
- 3) Protection requires the use of appropriate grounding practices in order to function properly. The SIPP chassis and associated equipment should be connected to a single common ground point. Wiring must conform to applicable electrical codes and standards.

APPLICATION

This Installation and Maintenance guide applies to the following Engenuity SPM products:

MODEL	SERVICE
SPM-100-x	10/100 Base-T Ethernet
SPM-1G-R	1000 Base-T Ethernet (Gig-E)
SPM-T1-x	T1 or E1
SPM-DS3-xx	DS3

Service Protection Modules are designed for **dry loop services (no DC voltage)** in central offices, CEVs, or outside plant cabinets.

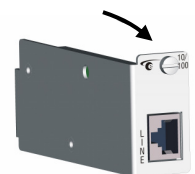
INSTALLATION

NOTE: Primary protectors shall be installed in accordance with the applicable requirements of National Electric Code ANSI/NFPA-70, Article 800 Section 800.50.

Each SPM occupies one or two slots in a SIPP chassis, depending on the chosen jack configuration. Modules can be placed in any order or combination in available positions of the chassis.

To install a module, insert it into the front of the chassis and slide it back slowly through the card guides. After fully seating the module, tighten the screw on the front of the unit to ensure proper grounding of its front panel to the chassis frame.

IMPORTANT: The module's front panel screw must be tightened securely to ensure proper grounding. Recommended screw torque is four (4) inch-pounds.



SPM Network Connections

For SPM-xx-R modules, connect network equipment to the jack(s) on the rear of the module.

NOTE: Installations with limited rear access may require cables to be fed through the chassis, from back to front, and attached to the module before inserting it into the mounting. **Be sure to provide adequate cable slack.**

For SPM-xx-F modules, connect network equipment to the EQPT jack(s) on the front of the module.

SPM Line Connections

Connect the exposed facility to the LINE jack(s) on the front of the module.

MODULE CONNECTOR	CONNECT TO
Front (EQPT) or rear	Network equipment (protected)
Front (LINE)	Exposed facility (unprotected)

SPM Removal

WARNING

When removing a module or its LINE connection:

- Visually inspect the cable and equipment for damage or exposed conductors BEFORE making contact.
- Use appropriate detection equipment to ensure that no hazardous voltages or currents are present.
- Follow local guidelines for safety.

To remove a protection module, first disconnect cables from the unit. If access is limited, rear cables can be disconnected after the module is removed from the mounting. Loosen the screw on the module's front panel and slowly slide the unit forward out of the chassis, being careful to guide any cables connected to the rear.

TESTING AND TROUBLESHOOTING

IMPORTANT

Follow all instructions and safety warnings in the installation section of this publication when testing or troubleshooting this equipment.

To test through a module toward the protected equipment, connect test equipment to the LINE jack(s) on the front of the unit. To test toward the exposed facility, connect to the equipment side jack(s) on the front or rear of the unit (jack location depends on the specific model being used).

Loss of signal, or more than 1.0 dB insertion loss through an SPM, indicates that a fail-safe condition has occurred and that the module needs to be replaced.

CUSTOMER SERVICE

If technical or customer assistance is required, please contact Engenuity at the following address or phone number:

Engenuity Communications
3545 Stern Avenue
St. Charles, Illinois 60174
Toll Free: 1-800-980-3266
St. Charles, IL 60174
www.engenuitycom.com

WARRANTY & REPAIRS

Warranty

Engenuity warrants this product for ten (10) years from date of purchase.

The Service Protection Modules contain fuses and fail-to-ground mechanisms to safely protect personnel and equipment. Operation of these fail-safe mechanisms due to high voltage or current constitutes normal operation and replacement under these conditions is not covered by this warranty.

The warranty does not cover any losses or damages resulting from shipment, improper installation, abuse, modification, or repair by other than Engenuity personnel.

Repair and Return

Engenuity equipment will be repaired or replaced without cost during the warranty period if the product is defective for any reason other than abuse, improper use, or improper installation. Before returning defective equipment, first request a Return Material Authorization (RMA) number from Engenuity. Once an RMA number is obtained, return the unit, freight prepaid, along with a brief description of the problem, to:

Engenuity Communications
3545 Stern Avenue
St. Charles, Illinois 60174
ATTN: Repair & Return Dept.

Replacements will be shipped in the fastest manner consistent with the urgency of the situation. Repair or replacement of faulty equipment beyond the warranty period is available for a nominal charge. Contact Engenuity for details.