



THOR SYSTEMS, INC.

SURGE APPS SA-016: SPD MOUNTING & CONNECTION

(Guidelines and application tools to promote improved Power Quality)

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THOR SYSTEMS' SPD Installation

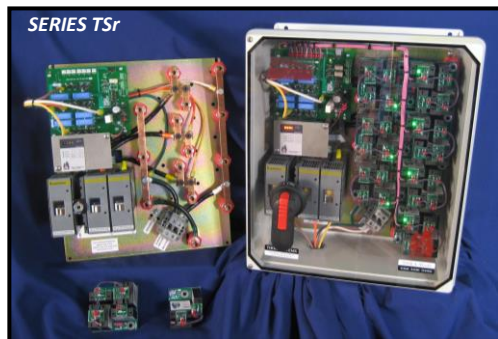
Determining Wire & Overcurrent Protective Device Sizes

All of THOR SYSTEMS UL1449 4th Edition listed Surge Protective Devices (SPDs) were tested to and passed a 100,000 AIC short circuit test without using an upstream Overcurrent Protective Device (OCPD). For a typical SPD installation, the National Electric Code (NEC) requires the SPD installation conductors be protected. Based upon the NEC Article 240, THOR SYSTEMS recommends the following for installing SPD units.

Ref. Standards:
UL 1449 4th Ed.
UL 1283 5th Ed.
C62.41.1: 2002 IEEE
C62.41.2: 2002 IEEE
C62.45: 2002 IEEE
C62.62: 2010 IEEE
C62.72: 2007 IEEE
NEMA
NEC 2014
NFPA 70
FIPS 94
MIL-STD 220A

TSr (MODULAR) Series Installation

The TSr Series is a field-serviceable modular SPD design with a standard **Input Terminal** that accepts up to a #6 AWG conductor. The TSr also offers an optional 60A **Fused Disconnect Switch**. Depending on the input option provided with the SPD, the installation should be based on the following:



Modular TSr Product Series
(50, 100,150, 200, 250 & 300kA/Mode)

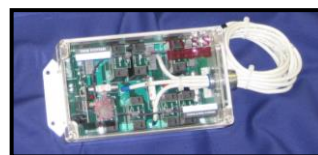
1. Mount SPD as close as possible (less than 10') to the equipment being protected.
2. Connect the SPD using a 60A OCPD *or* the TSr can be specified with the optional 60A Fused Disconnect Switch.
3. Keep wire runs as straight and short as possible; the use of low impedance, #6 "Rope-Lay" Wire is recommended to improve overall surge protection performance.

NOTE FOR FUSED DISCONNECT SWITCH OPTION: Installation with the Optional Fused Disconnect Switch with TVSS 60 fuses may provide the additional ability to handle high current impulse surges without opening as compared to standard circuit breakers and fuses. This will allow the TSr additional time to divert more of the high current impulse without the fuses opening.

TSn (NON-MODULAR) Series Installation

The TSn Series is a non-serviceable device prewired with #10 Low Impedance "Rope-Lay" Wire. Installation is based on the following:

1. Mount SPD as close as possible (less than 3') to the equipment being protected.
2. Connect the SPD using a 30A OCPD.
3. Keep wire runs as straight and short as possible; the use of low impedance, #10 "Rope-Lay" Wire is recommended to improve overall surge protection performance.



Series TSn050



Series TSn150



Series TSn100

Ref. Documents:

SA-001 Introduction: Why Thor Systems?
SA-002 Bottom Feed SPDs
SA-004 Site Risk Assessment/Sizing SPD
SA-018 Rope-Lay Wire, Low Impedance/
Increased Performance
TSI 068 Product Overview
TSI 107 Design/Build Spec
3G TSr Product Spec Sheet
3G TSn Product Spec Sheet

We would like to become an information resource for your surge protection applications. THOR SYSTEMS offers products and services that provide protection from the more *obvious external* to the more *frequent internal* transient voltage sources. Our consistent focus on improved product performance and increased value to the customer is conveyed by our products' transparent cover enclosures, showcasing the TILE Architecture, Innovative Design Configurations, and per Mode Status Indication.

Should you have any questions, please feel free to contact us (804.355.1100) or visit our Web site, www.ThorSystems.us.