

## STC Series – Data/Signal Line Surge Protection Devices for Transient Data

The rapid development of automated controls, telecommunications and fire/security systems has made it imperative to have properly coordinated low-voltage protection. Modern networked industrial facilities require error free transmission of information for maximum productivity and integrity of data.

The SolaHD STC series protects all susceptible low-voltage cable routes entering a facility and at key points within the building. These devices can be used as part of a multi-stage protection strategy which involves clamping the initial high-energy impulse, filtering any remaining noise or transients to the PLC or sensitive equipment and finally, protecting the Data/Signal lines entering and leaving the control panel. Modern, networked industrial facilities require error free transmission of information for maximum productivity and data integrity.

The hybrid design of these Data/Signal Line surge suppressors allows them to respond quickly with high energy absorption. These units are available in a variety of application specific voltage levels and packaging configurations. The STC series is used to protect network signal lines entering or leaving control panels including PLCs, universal remote I/O, DeviceNet™ and Data Highway Plus.



Select Models E175287

### Related Products

- Single and Three Phase Power Conditioners
- Uninterruptible Power System
- Transient Voltage Surge Protective Devices
- Active Tracking® Filters
- Power Supplies

### Low Voltage - Data/Signal, STC Series

Series	Application
<b>STC-POE</b>	Power-over-Ethernet, Category 5 and Category 6
<b>STC-DRS</b>	DIN Rail mountable, single pair surge protection
<b>STC-642</b>	Two-Pair Data/Signal Protection
<b>STC-CCTV</b>	High-Frequency Coaxial protection for head and camera ends

### STC-642 Series, Data/Signal Line Protection

The STC-642 series of surge suppressors are dual pair (four wire) modules using three-stage hybrid technology. This module addresses over voltage transients with gas tubes and silicon avalanche components. In addition, sneak and fault currents are mitigated with resettable fuses (PTCs). The PTCs increase resistance several orders of magnitude when over currents exceed safe levels. A normal state resumes when over currents are removed. The ability to self restore in this manner significantly increases suppressor performance and survivability.

The STC-642 card edge module is gold-plated, double sided and is designed to mate with the STC-642 gold-plated female terminal connector (sold separately). When snapped together, the data circuits pass thru the protector in a serial fashion from the four Field Side terminals to the four Electronics Side terminals. Terminals 1 or 10 of the STC-PCB1B must be attached to building approved ground.

#### Application

- Intended for indoor use on communication loop circuits which have been isolated from the Public Switch Telephone Network.
- RS232 applications used with STC642-020 and STC-PCB1B
- 4-20 ma signal applications used with STC642-036 and STC-PCB1B
- For use in service capable of supplying less than 150 milliamperes continuously.

#### Features

- Lightning protection for low voltage data
- Signal lines
- Three-stage protection
- Sneak/fault current protection
- Resettable solid-state fuses - PTCs
- Low capacitance option for high speed data
- Plug-in module / Requires PCB1B base
- Hybrid design of includes series resistance
- Fast response time
- Five year limited warranty

#### Certifications and Compliances

- Listed  
- UL 497B
- RoHS Compliant



#### Selection Table

Catalog Number	Description
STC642-020	20 Volt Clamp
STC642-036	36 Volt Clamp
STC-PCB1B	Base for all STC-642 models. Designed to accommodate up to 10 AWG wire. It offers Flat/Phillips screws and can be mounted using 2 #6 size screws. Must be ordered separately.
STC-FM4-DRC	Optional DIN Rail Mounting Clip for STC-PCB1B

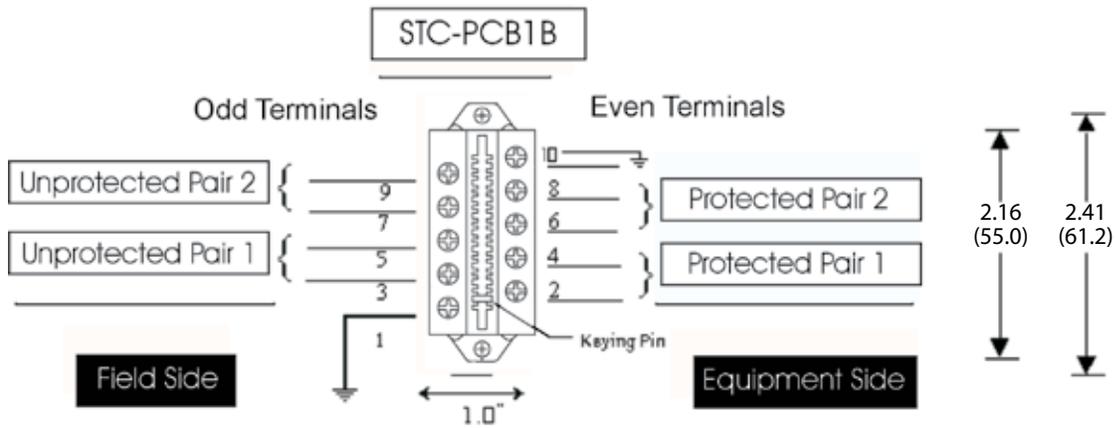
#### Specifications

Description	STC642-020 *	STC642-036 *
Peak Surge Current (10 times)	8x20 s .. 10kA 10x700 s 500A per line	
Life Expectancy	8x20 s (2000A) .. >100 occurrences 10x700 s (400A)	
Response Time	<1ns	
Voltage Clamp	20	36
Technology	SAD Hybrid	
Resistance	5 (typical)	
Capacitance (typical)	1500pf	
Operating Temperature	-40°C to +85°C	
Weight	2 oz.	
Dimensions H x W x L – in (mm) STC-642 & PCB1B	2.05 x 1.00 x 2.40 (52.1 x 25.4 x 61.0)	
Warranty	5 year limited warranty	

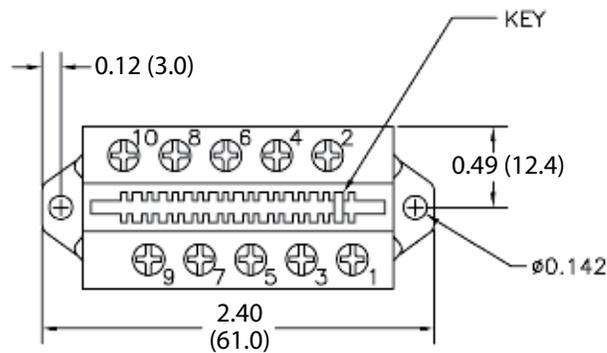
\* Part number STC-PCBIB sold separately

STC-642 Series, Data/Signal Line Protection

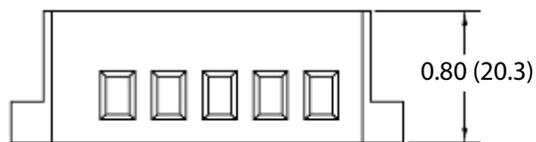
Wiring Diagram (PIN Assignments)



Ground Terminal 1 or 10 (internally tied together) to building approved ground. The STC-PCB1B accommodates 24 to 10 AWG wire.



Top View



Side View

# Mouser Electronics

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