Surge Protective Devices

STV25K Series

SOLAHD™

EMERSON™

Safety Information

Important Information

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service or maintain it. The following special messages may appear throughout this bulletin or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury. The safety alert symbol shall not be used with this signal word.

Please Note

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Appleton Grp LLC d/b/a Appleton Group for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E, NOM-029-STPS or CSA Z462.
- This equipment must only be installed and serviced by qualified electrical personnel.
- Turn off all power supplying this equipment before working on or inside equipment.
- Always use a properly rated voltage sensing device to confirm power is off.
- Replace all devices, doors and covers before turning on power to this equipment.
- This equipment must be effectively grounded per all applicable codes. Use an equipment-grounding conductor to connect this equipment to the power system ground.
- Do not supply more than 24VDC / 24VAC and no more than a current of 2A to contacts.
- Confirm that the Surge Protective Device voltage rating on the module or nameplate label is not less than the operating voltage.
- This equipment must be installed inside an enclosure and located so, as to prevent accidental contact with terminals during maintenance or servicing.
- Do not install in areas with excessive dust, corrosive vapors, flammable materials, or explosive atmospheres.

Failure to follow these instructions will result in death or serious injury.

⚠ **WARNING:** This product can expose you to chemicals including DINP, which is known to the State of California to cause cancer, and DIDP which is known to the State of California to cause birth defects or other reproductive harm. For more information go to: www.P65Warnings.ca.gov.

NOTICE

LOSS OF SURGE SUPPRESSION

- Make certain that Surge Protective Device is disconnected from the circuit it is protecting before conducting high potential insulation testing.

Failure to follow these instructions can result in equipment damage..

1.0 Installation & Operation

The SolaHD STV25K Series Surge Protective Device is a high-quality transient diversion system designed to protect sensitive equipment from damaging transient voltage surges resulting from load switching, lightning strikes, and other sources.

The installer should perform the following steps to ensure a quality installation. Please read all instructions before starting the installation of this product. These instructions do not replace national or local electrical codes. Check applicable codes to ensure compliance.

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Only qualified personnel should install or service this system.
- Electrical safety precautions must be followed when installing or servicing this equipment.
- To prevent risk of electrical shock, turn off and lock out all power sources to the unit before making electrical connections or servicing.

Failure to follow these instructions will result in death or serious injury.

1.1 Environment

The unit is designed for indoor operation in an ambient temperature range of -40°C to +60°C (-40°F to +140°F), with a relative humidity of 0% to 95% non-condensing.

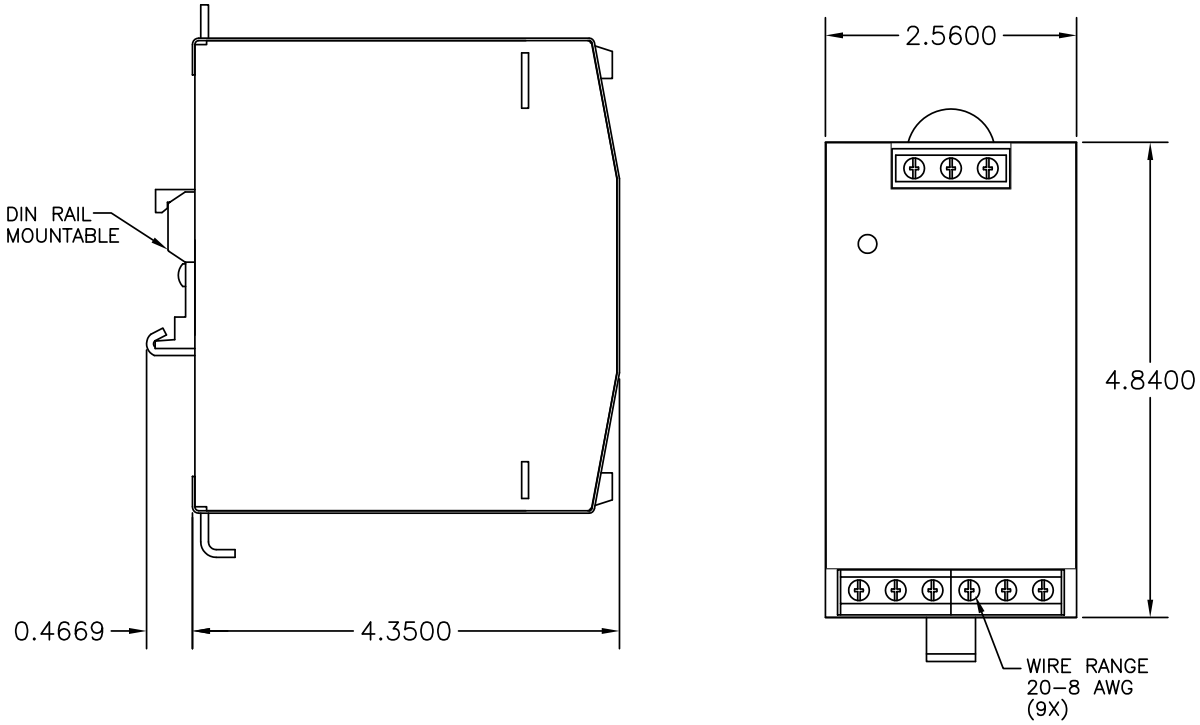
NOTICE

LOSS OF SURGE SUPPRESSION

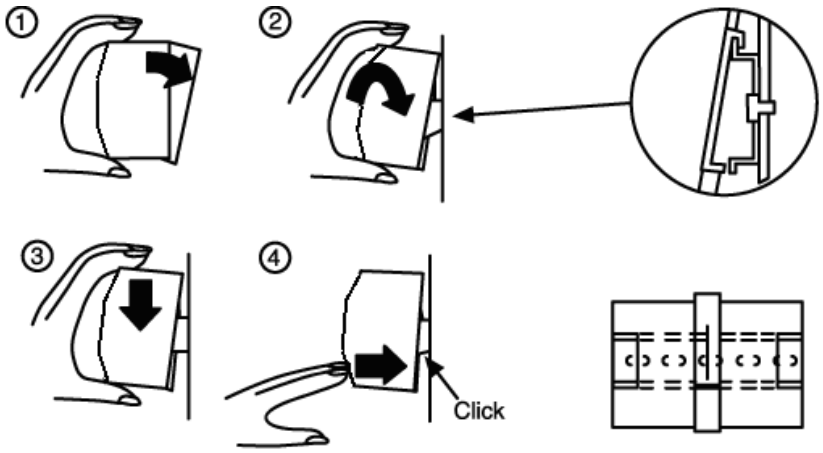
- Do not install in areas with excessive dust, corrosive vapors, flammable materials, or explosive atmospheres.

Failure to follow these instructions can result in equipment damage.

1.2 Mechanical Dimensions



1.3 DIN Rail Mounting



1. Tilt unit as illustrated.
2. Put unit onto the DIN rail.
3. Push unit downward until it stops.
4. Push at the lower front edge to lock.
5. Gently shake the unit to ensure that it is secure.

NOTE: Press the button located at the top (rear) of the enclosure to unlock and remove from the DIN rail.

1.4 Supplemental Enclosures

The STV25K must be installed inside an enclosure and located to prevent accidental contact with terminals during maintenance and service.

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- This equipment must be installed inside an enclosure and located so, as to prevent accidental contact with terminals during maintenance or servicing.

Failure to follow these instructions will result in death or serious injury.

1.5 Maximum Current Capability

The total current draw in which the STV25K may continuously handle is 20 A.

NOTICE

LOSS OF SURGE SUPPRESSION

- Overloading the unit can cause permanent damage.

Failure to follow these instructions can result in equipment damage.

1.6 Recommended Fuse

Bussman type SC-25 Class G, rated 250 V ac minimum; 25 A maximum or equivalent.

1.7 Nominal Voltage

The maximum continuous operating voltage (MCOV) for model STV25K10S is 150 V ac; 300 V ac for model STV25K24S.

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Confirm the surge protective device voltage rating on the module or nameplate label is not less than the operating voltage.

Failure to follow these instructions will result in death or serious injury.

1.8 Summary Alarm Contacts

Summary alarm Form C (1 N.O. and 1 N.C.) relay contacts rated 125 VAC, 5 A maximum are provided for remote indication of protection status. Connections can be made to these terminals using #18 AWG conductors.

1.9 Conductor Size

The conductor size to the input and output of the STV25K ranges from #14 AWG to #10 AWG.

1.10 Grounding

Input and output ground terminals must be connected for proper operation. This grounding is not only required for safety, but also for equipment performance. Incorrect grounding can reduce or impede the operation of the unit.

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- This equipment must be effectively grounded per all applicable codes. Use an equipment-grounding conductor to connect this equipment to the power system ground.

Failure to follow these instructions will result in death or serious injury.

1.11 Voltage Protection Ratings (VPRs)

To maintain the voltage protection ratings marked on these products, as obtained by Underwriters Laboratories, Inc. in accordance with ANSI/UL 1449, the Standard for Safety, Surge Protective Devices (SPDs), #12 AWG wire must be utilized to connect the STV25K to your protected load. Connections made with conductors other that #12 AWG may result in different VPRs.

1.12 Wiring Connections

Before making connections to the unit, verify that the unit model number and nameplate voltage rating are appropriate for connection to the intended power source. See Table 1 for voltage rating applications with typical power source configurations.

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Confirm that the Surge Protective Device voltage rating on the module or nameplate label is not less than the operating voltage.

Failure to follow these instructions will result in death or serious injury.

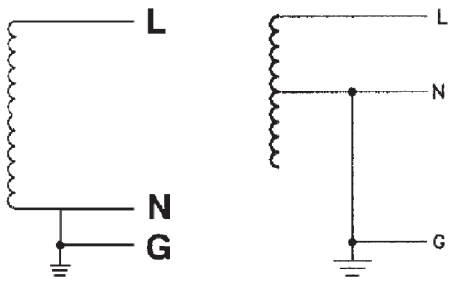
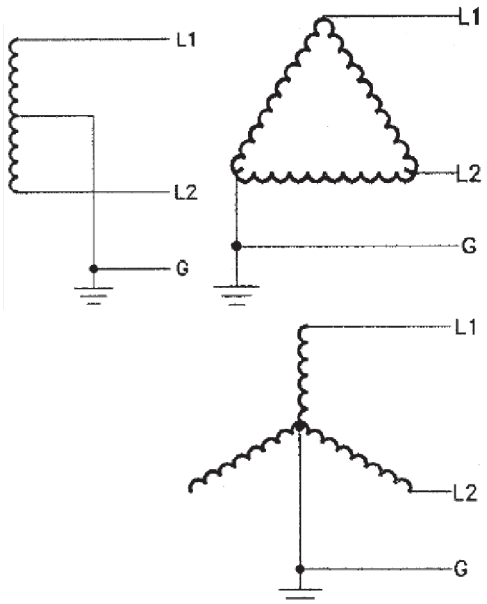
1.13 Applying Power

Apply power to the unit and ensure status indications are normal. Under normal conditions, the green LED is illuminated.

If the green LED is not illuminated, check all connections and ensure reliable and proper voltages are supplied to the unit.

For further assistance, please contact SolaHD Technical Support at 1-800-377-4384. You can also e-mail us at solahd.technicalservices@emerson.com.

Table 1: Voltage Ratings & Power Source Configurations

Model: STV25K10S **Nominal Voltage (50/60 Hz): 120 V ac** **System Configuration: Single-phase, 2W + G**	**Source Configuration:** 
Model: STV25K24S **Nominal Voltage (50/60 Hz): 240 V ac** **System Configuration: Single-phase, 2W + G**	**Source Configuration:** 

2.0 Specifications

Table 2: Technical Specifications		
Parameters	**Model**	
	STV25K10S	**STV25K24S**
Nominal Input Voltage	120 V ac	240 V ac
System Configuration	Single-phase, 2W + G	Single-phase, 2W + G
Maximum Continuous Operating Voltage (MCOV)	150 V ac	300 V ac
Operating Frequency Range	47–63 Hz	
Input Current Rating	20 A	
Short Circuit Current Rating (SCCR)	5 kAIC when protected by a listed Class G fuse rated at 25 A, 480 V ac minimum	
Surge Current Rating	25 kA per phase	
Nominal Discharge Current (I_N)	3 kA	
Response Time	<0.5 ns	
All Modes of Protection	L-N, L-G, N-G, L-L, L-G	
EMI/RFI Noise Rejection	Normal mode: 50 dB minimum Common mode: 40 dB minimum	
Operating Temperature	-40°C to +60°C (-40°F to +140°F)	
Operating Humidity	0 to 95% non-condensing	
Dimensions, D x W x H	4.35 in. x 2.56 in. x 4.84 in. (110.5 mm x 65.0 mm x 122.9 mm)	
Weight	0.83 lb. (0.38 kg)	
Enclosure	Metal, IP20	
Mounting Type	DIN rail mounting **NOTE:** Optional chassis mounting bracket is available, P/N SDN-PMBRK2	
Connections	Screw terminals, #10-14 AWG (#12 AWG recommended)	
Torque Specification	4.4 lbs-in	
Status Indication	Green LED, Form C relay contacts	
Standard Certification	UL 1449 Type 2CA Device	
Warranty	10 year limited warranty	
UL 1449 Voltage Protection Ratings (VPRs)		
Line to Neutral	500 V	N/A
Line to Line	N/A	900 V
Line to Ground	500 V	900 V
Neutral to Ground	500 V	N/A

3.0 Technical Support

Website: www.solahd.com Toll-Free: 1-800-377-4384
Technical Support E-Mail: solahd.technicalservices@emerson.com

4.0 Warranty

Please refer to the “Terms & Conditions of Sale” document.

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