

### Surge Protective Device

### Technical Documentation



The **ASCO Model 175** Series surge protective device, (SPD) is a two-pair (four wire) module implementing three-stage hybrid technology. This SPD addresses over-voltage transients with gas tubes and silicon avalanche components. In addition, sneak and fault currents are mitigated with self 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 Model 175 card edge is gold-plated, double sided and is designed to mate with the base accessory (PCB1B) gold-plated female terminal connector. 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 PCB1B must be attached to Building-Approved Ground.

#### General Technical Specifications

Operating Voltage	5, 24, 36 VDC
Clamping Voltage	8, 30, 43 VDC
Operating Current	0.15 A
Peak Surge Current	10 kA (8 x 20 $\mu$ s)
Frequency Range	0 to 20 MHz
Insertion Loss	< 0.1 dB at 50 MHz
SPD Technology	GDT, SAD, with Series PTC
Connection Type	Terminal Block, with compression lugs Terminals accept up to 10 AWG
Operating Temperature	-40°C to +85°C
Dimensions (in / mm)	2.0" H x 1.0" W x 2.5" L [50.8 x 25.4 x 63.5 mm] (175 + PCB1B Base)
Weight (oz / kg)	1 oz [0.03 kg]
Certifications	UL 497B

#### Caution

Do not place this product in service on any signal line capable of supplying more than 150 mA continuously.

#### Attention

Ne pas placer ce produit dans le service sur une ligne de signal capable de fournir en permanence plus de 150 mA.

#### Key Specs

- **Voltage:** 0-36 VDC
- **Current:** 150mA
- **Connection:** Modular;  
Hardwire into base
- **Mounting:** Punch into  
keyed base PCB1B

#### Features

- Three-stage hybrid protection
- Sneak/fault current protection
- Self resettable fuses – PTCs
- Low capacitance option
- Plug-in module
- Fast response time
- 5 year warranty

#### Certifications

- UL 497B

#### **⚠ DANGER!**

Only qualified personnel should install or service this system. Electrical safety pre-cautions 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.

Seulement le personnel qualifié doit installer ou maintenir ce système. Des précautions de sécurité en électricité doivent être suivies lors de l'installation ou de la maintenance de cet équipement. Pour éviter tout risque de choc électrique, débranchez et verrouillez toutes les sources d'alimentation de cet équipement avant de.

## Ordering Information

### MODEL

Former Model Name

### APPLICATION

<b>175D008S10KDPCNO</b> <i>Edco PC642C-008D</i>	8 VDC (1-5 VDC Operating Voltages) 3 Stage L-L Hybrid Module Only
<b>175D008S10KDPCB0</b> <i>Edco PC642C-008DKIT</i>	8 VDC (1-5 VDC Operating Voltages) 3 Stage L-L Hybrid PCB1B Base Included
<b>175D008S10KLPCNO</b> <i>Edco PC642C-008LC</i>	8 VDC (1-5 VDC Operating Voltages) 3 Stage L-L & L-G Hybrid (Low Capacitance) Module Only
<b>175D008S10KLPCB0</b> <i>Edco PC642C-008LCKIT</i>	8 VDC (1-5 VDC Operating Voltages) 3 Stage L-L & L-G Hybrid (Low Capacitance) PCB1B Base Included
<b>175D030S10KLPCNO</b> <i>Edco PC642C-030LC</i>	30 VDC (6-24 VDC Operating Voltages) 3 Stage L-L & L-G Hybrid (Low Capacitance) Module Only
<b>175D030S10KLPCB0</b> <i>Edco PC642C-030LCKIT</i>	30 VDC (6-24 VDC Operating Voltages) 3 Stage L-L & L-G Hybrid (Low Capacitance) PCB1B Base Included
<b>175D043S10KLPCNO</b> <i>Edco PC642C-043LC</i>	43 VDC (25-36 VDC Operating Voltages) 3 Stage L-L & L-G Hybrid (Low Capacitance) Module Only
<b>175D043S10KLPCB0</b> <i>Edco PC642C-043LCKIT</i>	43 VDC (25-36 VDC Operating Voltages) 3 Stage L-L & L-G Hybrid (Low Capacitance) PCB1B Base Included

### ACCESSORIES *Former Accessory Name*

<b>PCB1B</b> <i>PCB1B-WKEY</i>	Wiring Base, Plug-in Socket
<b>PCDIN</b> <i>11604KIT-PC</i>	DIN Mounting Kit for PCB1B
<b>PTU</b> <i>PC642PTU</i>	Pass Through Module for Troubleshooting

### APPLICATIONS

### MODELS

<b>RS485, RS422</b>	175D008S10KLPCNO & PCB1B
<b>RS423, Token Ring</b>	175D008S10KLPCNO & PCB1B
<b>RS232</b>	175D043S10KLPCNO & PCB1B
<b>E-Net, 10 Base T</b>	175D030S10KLPCNO & PCB1B
<b>4-20 ma</b>	175D043S10KLPCNO & PCB1B

## Read and Understand These Instructions

### Note:

- These protectors are intended for indoor use on communication loop circuits which have been isolated from the Public Switch Telephone Network.
- The communication loop circuits shall not be exposed to accidental contact with the electric light or power conductors.
- The protectors shall be installed per the applicable requirements of the National Electric Code, ANSI/NFPA 70.
- Measure DC operating voltage of system to insure it does not exceed the rating of the selected surge device (5-36 VDC depending on the device).

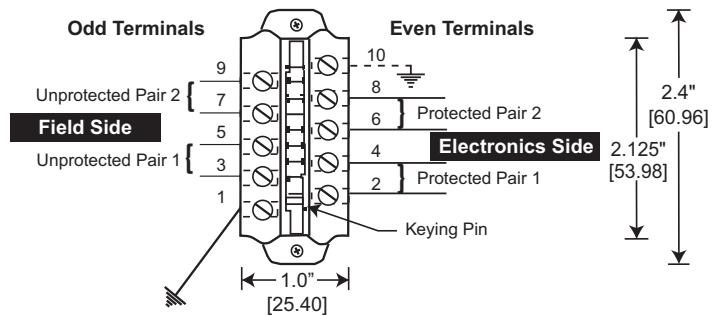
### Installation:

1. Turn off power to circuit to be protected prior to installation.
2. Screw mounting base PCB1B (accessory) in desired location preferably as close as possible to protected equipment and a building approved grounding point using (2) #4 screws. PCB1B may also be DIN rail mounted using optional DIN clip accessory PCDIN.
3. Attach field side pairs (26-10 AWG) to positions 2/4 and 6/8. Attach electronics side pairs (26-10 AWG) to positions 3/5 and 7/9. Attach ground wire (10 AWG) to positions 1 or 10 on base. See Drawing 1. Torque wires to 7 lb-in [0.791 N-m].
4. Insert 175 module into keyed PCB1B base. See Drawing 2.
5. Apply power to protected circuit.

## Installation Instructions

### DRAWING 1

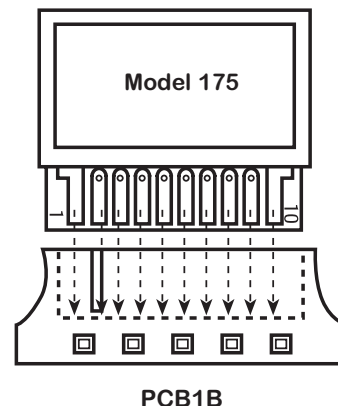
PCB1B Accessory Terminal Assignments



Ground Terminal 1 or 10 to Building Approved Ground (preferably AC Power safety ground).

NOTE: DO NOT daisy chain grounds. NOT intended for shield termination. Install ground in accordance with all applicable codes.

### DRAWING 2



PCB1B