

# DC SURGE PROTECTOR

**P/N:** TSP-WG6-xxxVDC-10A-01  
**Where:** xxx = Input Voltage

**Features:**

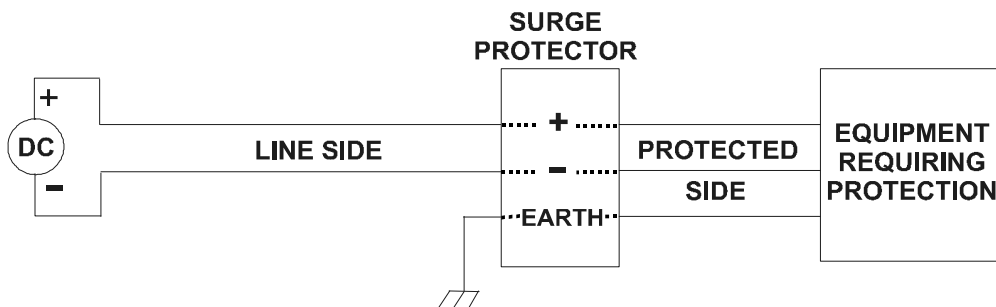
- Handles large current surges and voltage spikes without wear and tear to the circuitry of the protector
- Protection against closer (stronger) lightning strikes
- Hybrid design features reflection of surge energy as well as MOV suppression
- LED indicator ensures continued protection and avoids unnecessary replacement costs
- 100% redundancy
- Compact WEG 6 pin DIN rail mount
- CE marking



**Application:** Transient surge protectors provide common and differential mode protection for toll booths, drawbridges, street light controllers and railroad crossing gates/signals. Electronic equipment is extremely susceptible to transient voltages and surge currents due to its relatively fragile semiconductor construction. A surge protector is a cost effective method of ensuring that equipment will have maximum life.

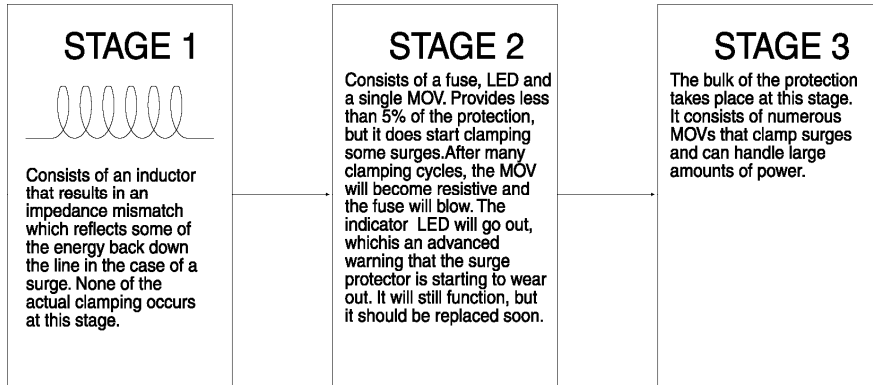
**Function:** The module has a PROTECTED - POSITIVE, COMMON and EARTH side which is connected to the equipment supply lines requiring protection. It also has a LINE - POSITIVE, COMMON and EARTH side which is connected to the DC supply power conductors. The EARTH connection of the modules must be terminated to earth by low impedance heavy gauge wire.

**Description:** The TSP-WG6-xxxVDC-10A-01 is a three stage transient protection module which provides over-voltage and surge current protection for 2 wire DC supply lines. The first stage provides transient rise time reduction. The second stage provides the primary transient voltage clamping and a LED circuit to indicate that the device is still fully functional. Under normal operating circumstances, the LED will automatically be extinguished before the useful life of the device has expired. This will provide ample time for the device to be replaced ensuring continued protection



of the connected equipment. The third stage is the most rugged and provides the bulk of the protection.

- Ordering Part Number:**
- 13.8V .... TSP-WG6-13.8VDC-10A-01
  - 24V ..... TSP-WG6-24VDC-10A-01
  - 32V .....TSP-WG6-32VDC-10A-01
  - 48V ..... TSP-WG6-48VDC-10A-01
  - 110V ..... TSP-WG6-110VDC-10A-01
  - 125V .... TSP-WG6-125VDC-10A-01

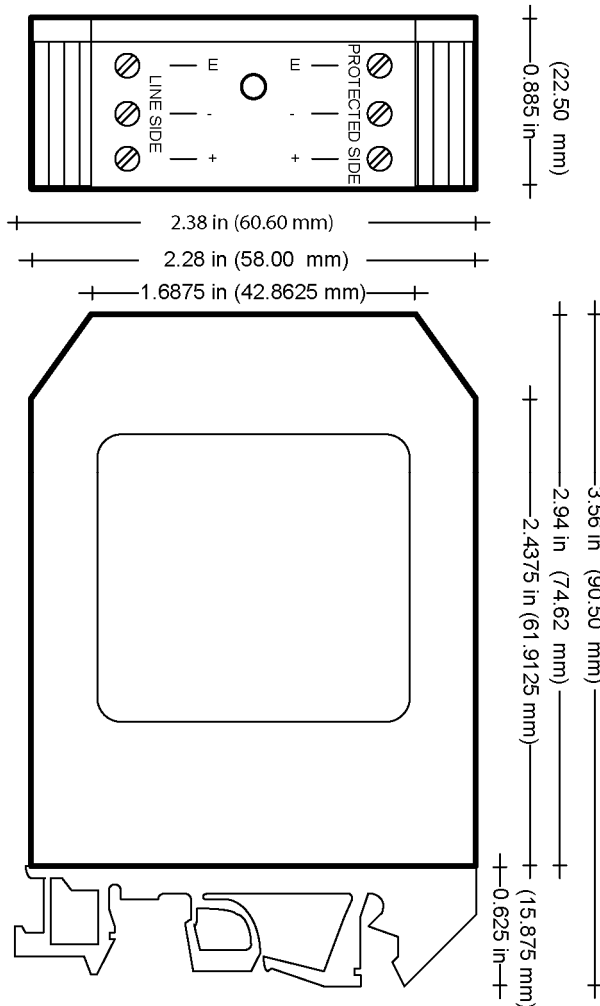


**Technical Specifications:** All voltages are RMS unless otherwise specified.  
 All specifications are typical at nominal input voltage and 25 degrees C unless otherwise specified.

<b>Operating Voltage:</b>	<b>13.8VDC</b>	<b>24VDC</b>	<b>32VDC</b>	<b>48VDC</b>	<b>110VDC</b>	<b>125VDC</b>
LINE Side Max. Input Voltage	18V	26V	38V	56V	125V	150V
PROTECTED Side Voltage Level Suppression Begins:						
Stage Two	20V	30V	41.5V	61V	140V	160V
Stage Three	25V	35V	50V	73V	160V	185V
Max. Clamp Volts for Max. Transients on Line:						
Stage Two	43V	65.0V	93.0V	135V	250V	300V
Stage Three	53V	77.0V	110.0V	135V	300V	340V
Surge Current:						
8/20µSec Pulse						
+ TO -	9000A	9000A	9000A	27000A	27000A	36500A
+ TO E	4000A	4000A	4000A	13000A	13000A	16000A
- TO E	4000A	4000A	4000A	13000A	13000A	16000A
2mSec Pulse						
+ TO -	60J	94J	141J	131J	265J	326J
+ TO E	28J	44J	66J	54J	120J	148J
- TO E	28J	44J	66J	54J	120J	148J
Maximum Load	10A	10A	10A	10A	10A	10A
Response Time	<5 nSec	<5 nSec	<5 nSec	<5 nSec	<5 nSec	<5 nSec
Resistance to Earth:						
Max Over-Voltage	0.01 Ohm	0.01 Ohm	0.01 Ohm	0.01 Ohm	0.01 Ohm	0.01 Ohm
Operating Voltage	> 1 MOhm	> 1 MOhm	> 1 MOhm	> 1 MOhm	> 1 MOhm	> 1 MOhm

**Packaging/Dimensions:** WEG 6 terminal modular housing, #12 to #22 AWG terminals  
 Size: 60.6 mm x 90.5 mm x 22.5 mm (2.39" x 3.56" x 0.89")  
 (W x H x D excluding DIN Rail)

**TSP-WG6-XXXVDC-XXA-01**



**Operating Conditions:** -40 to +85°C (-40 to 185°F), 0 to 93% Relative Humidity

**Storage Temperature:** -55 to 125°C (-67 to 257°F)

**Compliance:** CE marking

**Weights:** 125Vdc model: 81.8 g; 110Vdc model 82 g; 48Vdc model: 84.2 g; 32Vdc model: 91.8 g; 24Vdc model: 87 g; 13.8Vdc model: 86.8 g

**Indicator:** LED ON indicates the device is fully functional. If the LED turns OFF, this means the unit has experienced a surge and provided the protection it was designed to do. This indicates it is time to replace the protector.

Specifications are subject to change without notice.

Form: TD0101AX-10/02/18