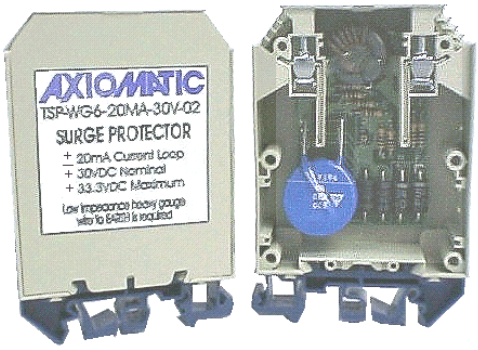
Technical Datasheet# TD0103AX

Two wire
4 to 20mA CURRENT LOOP SURGE PROTECTOR



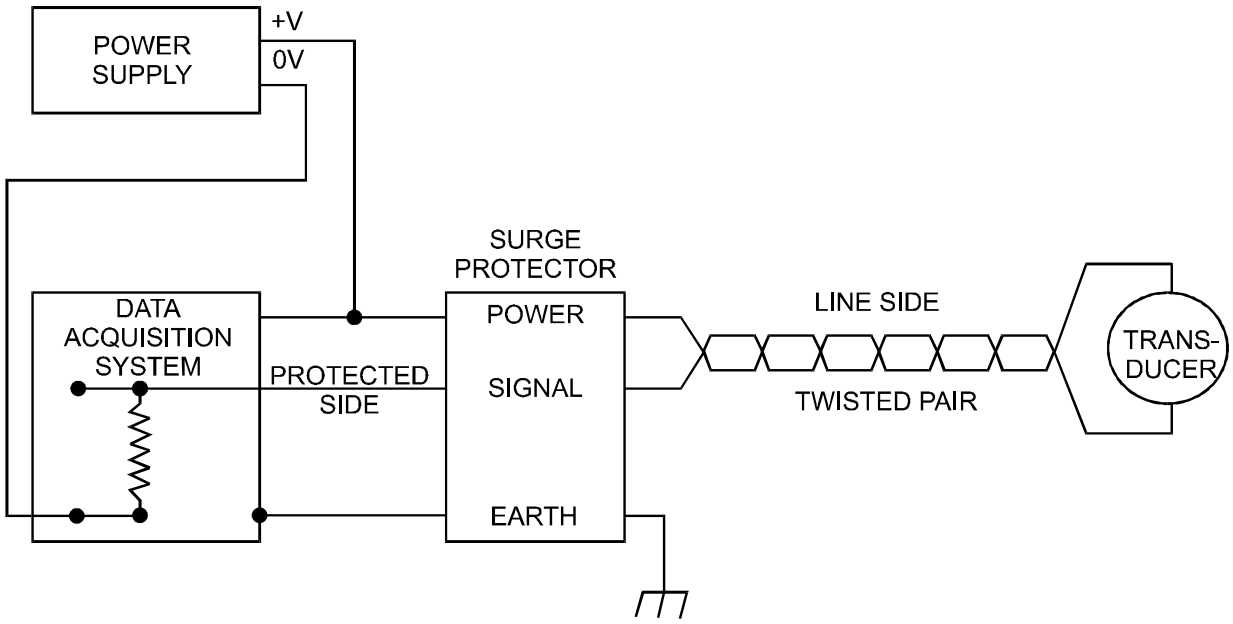
Type: TSP-WG6-20MA-xxxV-02 (Unipolar)
Type: TSP-WG6-20MA-xxxV-04 (Bipolar)
Where: xxx = Compliance Voltage

Features:

- Handles large current surges and voltage spikes (up to 10kV) 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 TRANZORB and MOV suppression
- 100% redundancy
- Compact WEG 6 pin DIN rail mount

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 SIGNAL and POWER side which is connected to the data acquisition system input and power supply. It also has a LINE SIGNAL and POWER side which is connected to the transmission wire. The EARTH connection of the modules must be terminated to earth by low impedance heavy gauge wire.



Description: The transient surge protector features a protection mechanism which provides over-voltage and surge current protection for 2 wire +/- 4-20mA current loops. The module provides two stages of protection for the power path and three stages of protection for the signal path. Internally, the module has 100% redundancy to safeguard the system and prevent nuisance failures. This series of modules is for systems using a power supply at the data acquisition system end of the twisted pair, to power the transducer.

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

Operating Voltage*:	**+(+/-)15V**		**+(+/-)30V**		**+(+/-)60V**		**+(+/-)200V**	
	Signal	Power	Signal	Power	Signal	Power	Signal	Power
LINE Side Max. Input Voltage	17.1VDC	17.1VDC	33.3VDC	33.3VDC	70.1VDC	70.1VDC	256VDC	256VDC
Over-Voltage Level PROTECTED Side Suppression Begins	19VDC TRANZORB 20VRMS MOV	20VRMS MOV	37.1VDC TRANZORB 42VRMS MOV	42VRMS MOV	77.9VDC TRANZORB 89VRMS MOV	89VRMS MOV	285VDC TRANZORB 330VRMS MOV	330VRMS MOV
Maximum Clamp Volts For Max. Transients on Line	27.7VDC TRANZORB 43VRMS MOV	43VRMS MOV	53.9VDC TRANZORB 93VRMS MOV	93VRMS MOV	113VDC TRANZORB 165VRMS MOV	165VRMS MOV	414VDC TRANZORB 595VRMS MOV	595VRMS MOV
Surge Current: 8/20µSec Pulse 2mSec Pulse	4000A 24 Joules	4000A 24 Joules	4000A 52 Joules	4000A 52 Joules	13000A 66 Joules	13000A 66 Joules	8000A 130 Joules	8000A 130 Joules
Series Resistance	15 Ohms	5 Ohms	15 Ohms	5 Ohms	15 Ohms	5 Ohms	15 Ohms	5 Ohms
Resistance to Earth: Max. Over-Voltage Operating Voltage	0.01 Ohm >1 MOhm	0.01 Ohm >1 MOhm	0.01 Ohm >1 MOhm	0.01 Ohm >1 MOhm	0.01 Ohm >1 MOhm	0.01 Ohm >1 MOhm	0.01 Ohm >1 MOhm	0.01 Ohm >1 MOhm
Suppression Threshold Voltage Derating ($mV/^oC$)	19.0	19.0	36.0	36.0	86.0	86.0	315.0	315.0

***NOTE:** **Unipolar = +VDC; Bipolar = +/-VDC or AC RMS**

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)

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

Ordering Part Number:

+ 15V ..... TSP-WG6-20MA-15V-02 (Unipolar)
+ 30V TSP-WG6-20MA-30V-02
+ 60V TSP-WG6-20MA-60V-02
+200V TSP-WG6-20MA-200V-02
+/-15V….. TSP-WG6-20MA-15V-04 (Bipolar)
+/-30V..... TSP-WG6-20MA-30V-04
+/-60V..... TSP-WG6-20MA-60V-04
+/-200V ... TSP-WG6-20MA-200V-04

Variations are available by special order.

Specifications are subject to change without notice. Form: TD0103AX-12/01/98

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