

# HW™ PROTECTOR SERIES

**SURGE  
PROTECTION FOR  
HARD WIRED INTERFACES**

INSTRUMENTATION  
PROCESS CONTROL  
NETWORK INTERFACES  
DATA  
VOICE  
SIGNAL  
AUDIO  
ETHERNET  
RS-232  
RS-422  
RS-485



## COMMUNICATION PORT SURGE PROTECTION

The ZapTech HW series protection devices were specifically designed to protect communication interfaces from damage caused by lightning storms, Static Discharge, secondary effects of power surges and transient ground potential energies.

As a significant measure to prevent electrical damage to your system, surge suppression also extends the life of sensitive circuits at the component level while improving system reliability. Zap-Tech protectors are best applied as near as physically practical to sensitive electronic equipment, components and system ground references. HW series devices are specifically configured for installation directly at the communication port on your equipment. The devices provide protection for Hard wired communication interfaces including RS422, RS485, RS232, 4–20 mA, audio, Data, Instrumentation and most other applications using 26 to 12 AWG wire. Versions are available for 4 wire, 12 wire, 24 wire and 36 wires.

The HW series grounding wire must be connected to earth, Ideally, Via the chassis ground of the protected equipment. It is important that the equipment's chassis is properly grounded to electrical safety ground via a standard 3-prong power cord.

P.O. BOX 10996  
LAKE TAHOE, NV, USA 89448-2996  
888-727-1951 ♦ 775-588-4040 ♦ FAX: 775-588-9278  
WWW.Zap-Tech.Com

**Zap-Tech**  
Corporation™

# ZAP-TECH

## Electrical Specifications

**MAXIMUM REPETITIVE SELF RESET SURGE:**  
3500Volts,1750 Amps for 100 pulses using 2 Ω source.  
per: EN61000-4-5 Specification.

**\*MAXIMUM FAIL SAFE SURGE:**  
4000 Volts 2000 Amps for 100 pulses using 2Ω source.  
per EN61000-4-5 Specification. Exceeds EN6100-4-5, level 4.

**CLAMPING VOLTAGES:**  
Common Mode - Line to line  
Differential Mode - Line to ground

**\*CAPACITANCE:**  
Line/line: <40pF  
Line/Ground: <40pF

**COMPONENT RESPONSE TIME:**  
Less than 10 Nanoseconds

**OPERATING TEMPERATURE:**  
(-40°C TO +85°C)

**PART NUMBER SELECTION:**

Format:

**HW-( # of wires: 4, 12, 24 or 36 )-(clamp voltage)**

APPLICATION	MODEL	MAX OPERATING VOLTAGE	CLAMP VOLTAGE
RS422, RS423,RS485	HW(-)-7	5.5V	07V
RS232, DIGITAL CURRENT LOOP	HW(-)-18	16.0V	18V
ANALOG CURRENT LOOP	HW(-)-27	25.5V	27V
LEASED LINE, ISDN, T-1, DDS	HW(-)-62	60.0V	62V
DIAL UP – POTS LINE	HW(-)-260	250V	260V

### OPERATION:

The Zap-Tech protector will repetitively protect and reset without degradation up to it's maximum repetitive self-reset surge. If it is subjected to more than it's maximum repetitive self-reset surge, the device will remain in a clamped mode indicating that it should be removed or replaced while keeping the equipment safe from subsequent surges.

### INSTALLATION:

Zap-Tech protectors should be installed in series with the incoming communication line at the port of the equipment being protected. The protector's grounding wire must be connected to the chassis ground of the protected equipment.

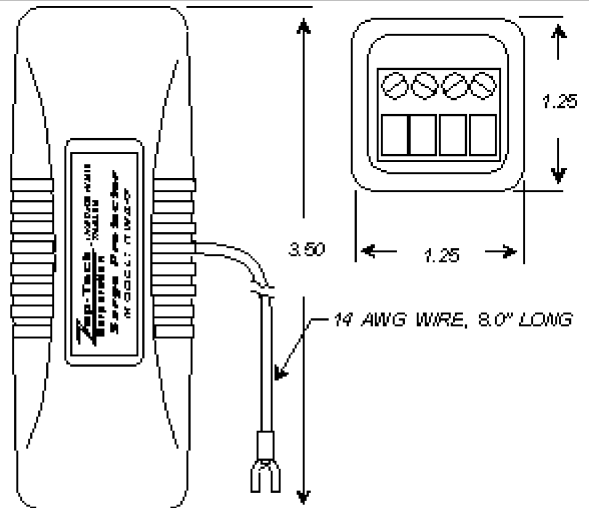
### IMPORTANT!

It is important that the protector and the chassis of the equipment to be protected are both properly grounded to a properly earthed electrical safety ground via the equipment's 3-prong power cord and/or a ground wire of 14 AWG or larger. Protectors should be installed at both ends of communication lines to ensure equipment protection at each end.

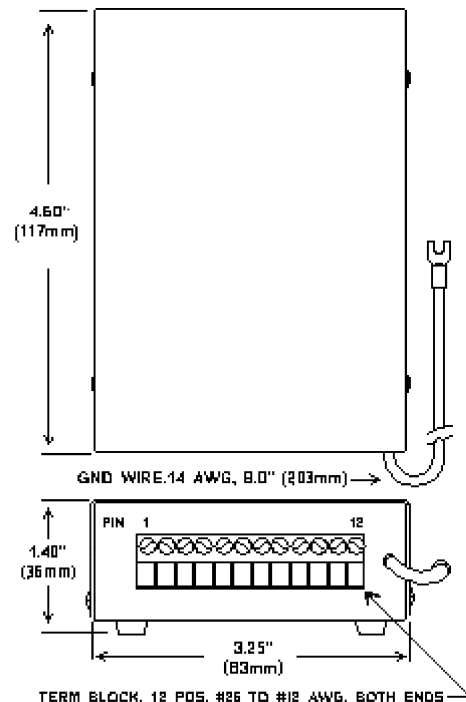
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# HW SERIES

## Mechanical Specifications



**HW 4 SERIES**



**HW 12 SERIES**

**Custom variations are available including mixed or special voltages, different connectors or pin outs. Contact your supplier for details.**

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\* Applies to all units except 62V and 260V Devices.  
All specifications are subject to change without notice.  
Detailed specifications for specific versions Available on request.