

HW SERIES SURGE PROTECTORS

ELECTRICAL SPECIFICATIONS

MAXIMUM REPETITIVE SELF RESET SURGE:
3500 Volts, 1750 Amps for 100 pulses using 2 V source.
per: EN61000-4-5 Specification (all lines common mode).

***MAXIMUM FAIL SAFE SURGE (all lines common mode):**
4000 Volts 2000 Amps for 100 pulses using 2V 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).

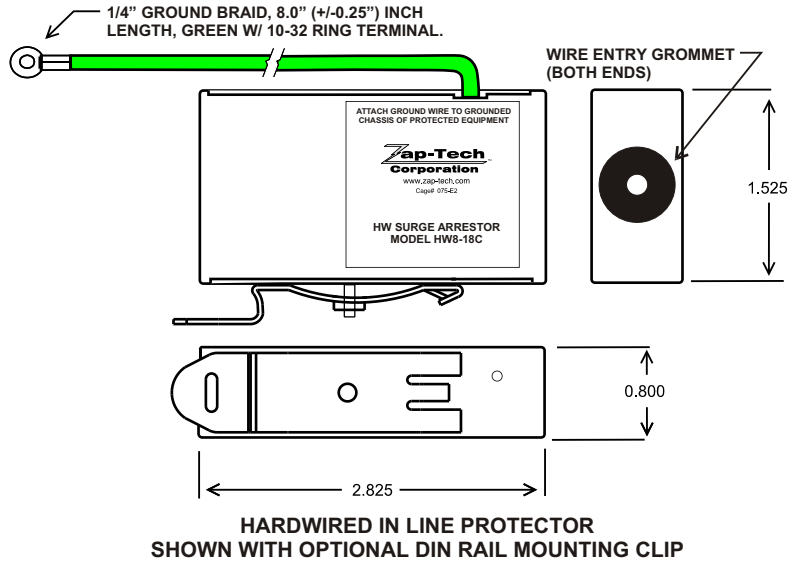
*Applies to all devices except 62V and 260V.

PART NUMBER SELECTION: FORMAT: HW4-18C

HW(# of wires)-(clamp voltage)(C for optional DIN Clip)

APPLICATION	MODEL	MAX OPERATING VOLTAGE	CLAMP VOLTAGE
RS422, RS423,	HW()-7	5.5V	7V
RS232, RS485 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

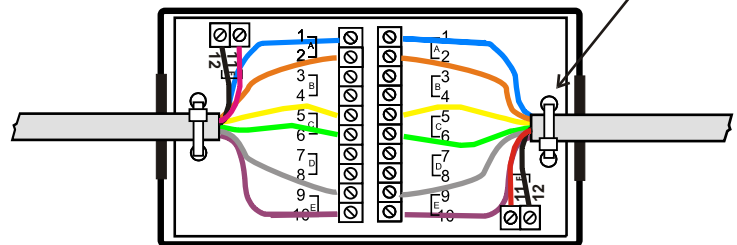
MECHANICAL SPECIFICATIONS



INSTALLATION

Just splice the HW series unit in line with your existing cable.

STRAIN RELIEF ZIP TIES (BOTH ENDS)



UNIT WITH COVER REMOVED
TO SHOW WIRE INSTALLATION

PROTECTION PAIRING ASSIGNMENTS:

PAIR A: 1,2
PAIR B: 3,4
PAIR C: 5,6
PAIR D: 7,8
PAIR E: 9,10
PAIR F: 11,12

Custom Surge protection is our specialty. Custom versions are available including mixed or special voltages, different connectors or wiring options. Contact us for details.

OPERATION:

The Zap-Tech protector will repetitively protect and reset without degradation up to its maximum repetitive self-reset surge. If it is subjected to more than its 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.

All specifications are subject to change without notice.

Detailed specifications for specific versions available on request.

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**Zap-Tech
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INSTALLATION OF P/N: 40-422-120 ONTO TRIMBLE ACUTIME SYNCH INTERFACE:

CAUTION, BEFORE STARTING, MAKE SURE THAT EQUIPMENT TO BE PROTECTED IS NOT ENERGIZED.

1. Pre-determine the installation location of the protector to minimize wire length (<5 inches) between the protector and the port of the equipment being protected.

NOTE: Connectorized protectors that can be installed directly onto the equipment port are available and may be more suitable and easier to install.

Please consult the Zap-Tech GPS series Datasheet or contact us with your connector type and pin outs..

2. Pry open the cover of the protector.

3. Remove 2 screws with PC board assembly and end grommets from enclosure

4. Feed both cable ends through end grommets.

5. Terminate pairs to terminal block positions per the diagram below.

CAUTION: MAKE SURE THAT THERE ARE NO LOOSE WIRE STRANDS THAT CAN SHORT TO ADJACENT CIRCUITRY OR BOARD TRACES.

6. Install and tighten zip ties for cable strain relief using two holes at each end of board assembly.

7. install PC board cables and grommet assembly into enclosure.

8. Install the two supplied board mounting screws.

CAUTION: THE TWO SUPPLIED SCREWS MUST BE INSTALLED TO PREVENT SHORTING AND TO SECURE THE BOARD ASSEMBLY INTO THE ENCLOSURE .

9. Replace cover onto protector, Note orientation of ground wire slot in cover

10. Connect green grounding wire to properly grounded equipment chassis ground and facility earth ground.

IMPORTANT: MAKE SURE THE INCOMING AND OUTGOING CABLE SHIELD DRAIN WIRES ARE CONNECTED COMMON WITH THE PROTECTOR GROUND WIRE AND EQUIPMENT CHASSIS AND FACILITY EARTH GROUND.

CAUTION: TO PROPERLY PROTECT THE GPS INTERFACE, ZAP-TECH PROTECTOR P/N: 40-422-001 MUST BE INSTALLED AT THE ANTENNA END OF THE INSTALLATION.

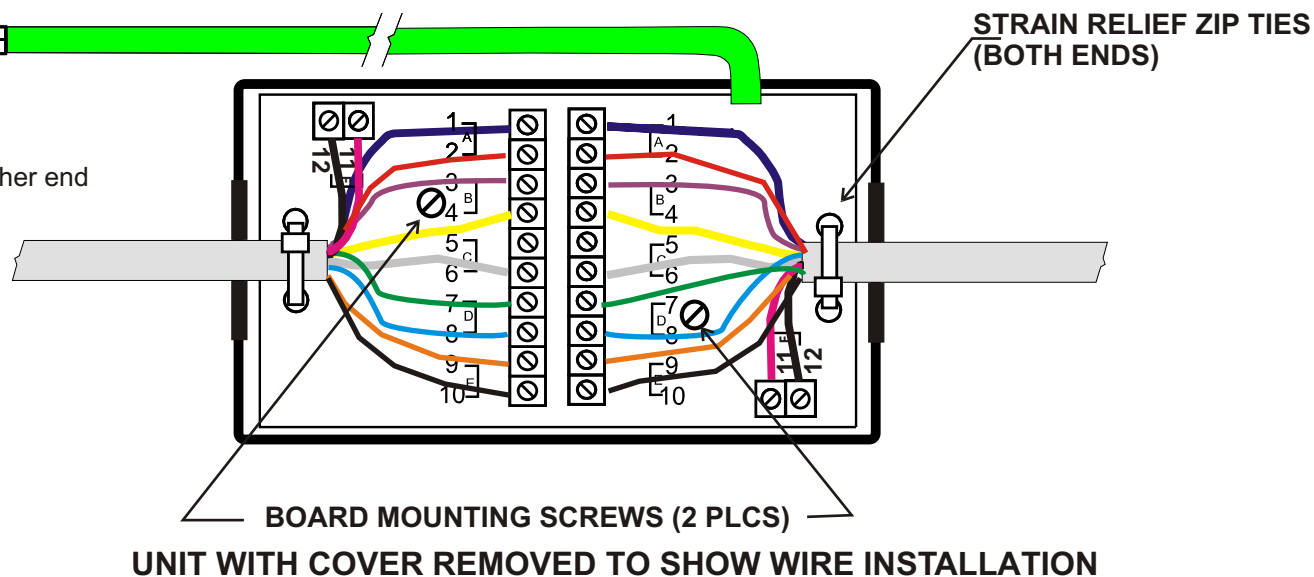
14 AWG GROUND WIRE, 8.0" (+/-0.25") INCH LENGTH, GREEN W/ 10-32 RING TERMINAL.

This protector can be installed with either end toward equipment.

PROTECTOR TERMINAL TO *ACUTIME PIN AND WIRE COLOR:

- TERMINAL 1 TO ACUTIME PIN 2 VIOLET
- TERMINAL 2 TO ACUTIME PIN 3 ORANGE
- TERMINAL 3 TO ACUTIME PIN 4 BROWN
- TERMINAL 4 TO ACUTIME PIN 5 YELLOW
- TERMINAL 5 TO ACUTIME PIN 6 WHITE
- TERMINAL 6 TO ACUTIME PIN 7 GRAY
- TERMINAL 7 TO ACUTIME PIN 8 GREEN
- TERMINAL 8 TO ACUTIME PIN 10 BLUE
- TERMINAL 9 TO ACUTIME PIN 11 ORANGE W/ WHITE STRIPE
- TERMINAL 10 TO ACUTIME PIN 12 BLACK W/ WHITE STRIPE
- TERMINAL 11 TO ACUTIME PIN 1 RED
- TERMINAL 12 TO ACUTIME PIN 9 BLACK

* Pin and wire color assignments per Trimble Acutime user Manual



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TITLE: INSTALLATION OF HW / GPS SERIES INTO TRIMBLE ACUTIME INTERFACE.	
PART NUMBER	REV
40-422-120	