



**Automation
Electronics**

TTAP RS-485 Signal Protector

Overview

This sacrificial field wiring termination board diverts destructive induced voltage spikes on the RS-485 communications wiring to earth ground to prevent damage to equipment.

There are protection devices for 2 separate communications pairs. The signal ground termination allows different ground levels to tie together with 100 Ω resistors when there is a large difference in ground potential. It can be used on all nodes in a RS-485 communications network. Two wire networks can use either pair.

The board uses transient voltage suppressors to clamp fast rising signals levels above 12 volts and below -7 volts to earth ground. Larger disturbances may cause the gas tubes to fire in addition to the transient suppressors. If the disturbance energy level is sufficient, the in line fuses will open, isolating the equipment from the communications lines. Extremely large disturbances may actually destroy the circuit board, in the process of minimizing damage to the device it connects to the communications lines.

Specifications

Mechanical

<i>Size:</i>	2-1/2" x 3" PC board
<i>Mounting:</i>	Snap track
<i>Connections:</i>	Plug on screw type terminal blocks

Environmental

<i>Operating temperature:</i>	-40 to 158 °F (-40 to 70 °C)
<i>Relative humidity:</i>	5 to 90% non-condensing

Signal level	+12 V _{DC} to -7 V _{DC}
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Protection

<i>Transient suppressors:</i>	Four 600 W
<i>Gas tubes:</i>	Two 230 V (20 kA - 8/20 μ S)
<i>Fuses:</i>	Four replaceable .5 A

Automation and Electronics, Inc.
111 Big Horn Road
PO Box 3319
Casper, Wyoming 82601

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Contact Information
Phone (307) 234-9311
FAX (307) 234-9438
or www.autoelect.com