

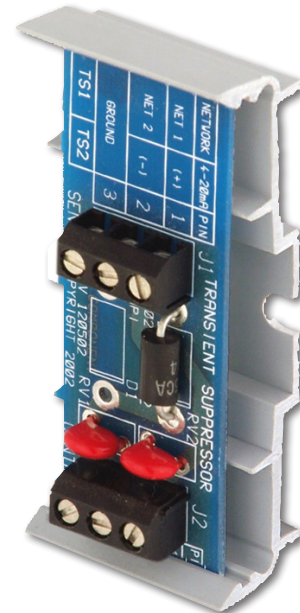


### Overview

HVAC control systems can be subjected to electrical transients (temporary excess voltage) from various sources. Damage to control systems can occur if static electricity, lightning or contractors produce transients of sufficient magnitude and duration to overwhelm the protection built into the control system components. The TS1 and TS2 can significantly increase the transient protection and reduce the possibility of damage to the control system. Both modules fit in standard 2.75" snaptrack

The TS1 is specifically designed for network communications between control system components. The TS1 clamps voltages to 10 VAC or  $\pm 14$  VDC Line to ground and 7.5 VDC line to line. *Note: The added capacitance of the TS1 may be unsuitable for some combinations of communications line length and high speed data. For best operation you may have to reduce line lengths and add data repeaters.*

The TS2 is designed to protect 4 to 20 mA current loops. The TS2 clamps the signal return line to 5 volts above ground and 1 volt below ground. The voltage supply line is clamped to  $\pm 39$  VDC Line to ground.



**TS1 or TS2 Transient Suppressor with optional 2.75" snaptrack**

### Ordering Information

Part Number	Description
BA/TS1.....	TS1 Transient Suppressor (voltage)
BA/TS2.....	TS2 Transient Suppressor (current)
BA/TS1-TRK .....	TS1 Transient Suppressor (voltage) with 1.25" piece of 2.75" Snaptrack
BA/TS2-TRK .....	TS2 Transient Suppressor (current) with 1.25" piece of 2.75" Snaptrack

See end of Section F for list pricing.

### Specifications

#### TS1 Clamping Voltage:

10 VAC or  $\pm 14$  VDC Line to Ground,  
 $\pm 7.5$  VDC Line to Line

#### TS2 Clamping Voltage:

5 VDC Above Ground, Signal Return Line  
1 VDC Below Ground, Signal Return Line  
 $\pm 39$  VDC Line to Ground, Power Supply Line

