



T186 Electronic Wall Sensor With Setpoint Adjustment For Use With R842 Baseboard Relay

DESCRIPTION

The T186 series remote wall sensor with setpoint adjustment capability is specifically designed to be used with Viconics' R842 electric baseboard relays. The unique design of the R842 permits solid state proportional and integral (PI) temperature control via the T186, resulting in exceptional temperature control accuracy (± 0.5 °F).

The T186 can replace conventional electro-mechanical thermostats when used with the R842. Advantages include increased comfort and energy savings. Typical savings of 3-7% is possible and is attributed to the elimination of wasted energy inherent in less accurate electromechanical thermostats. Its solid state design permits the elimination of bimetal elements and mercury bulbs, which simplifies the installation since there is no anticipator and no levelling required. In addition, it is an environmentally friendly product.

A pleasing aesthetic design ensures a harmonious blend in most room decors. The T186 can be directly mounted to any flush vertical surface or to a standard 2" x 4" electrical mounting box via two mounting screws. Celsius and Fahrenheit models are available.

Using the T186 with the R842 relay will provide unmatched performance and give years of trouble-free installation.



Fig. 1 - T186 wall sensor with setpoint adjustment



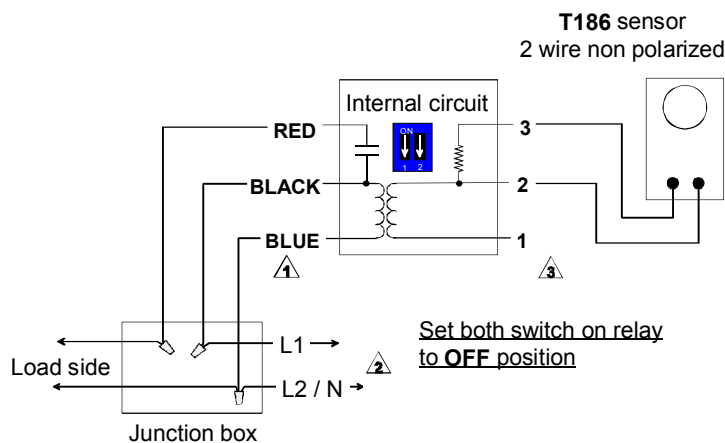
Fig. 2 - R842 baseboard relay for electric heaters

Features	Benefits
• Electronic PI performance	⇒ Increased comfort , accuracy, and energy savings
• Solid state design	⇒ Increased reliability
• No bimetal elements	⇒ No need to worry about anticipator settings
• No mercury bulbs	⇒ No levelling required; environmentally friendly
• Fahrenheit or Celsius temperature scale	⇒ Can be sold world-wide
• Elegant aesthetic design	⇒ Blends well in all environments
• Mounts on any surface or standard electrical box	⇒ Increased flexibility

TABLE 1: ORDER CODE

Scale Range	Sensor model	Replacement cover
5 °C to 30 °C	T186C-01	C186C-01
40 °F to 90 °F	T186F-01	C186F-01

WIRING DIAGRAM



APPLICATION & WIRING

- Use proper dip switch setting on R842 relay
- Refer to each wiring caution

Viconics T186 PI Wall Sensor

Refer to Fig.3 for wiring diagram of T186 with one R842 relay.

- 1 High voltage blue wire is always connected. R842 units are powered devices.
- 2 Provide overload protection and disconnect as required.
- 3 Do not use 24 Vac terminal #1 as power supply to an electronic thermostat. Use a separate transformer.

Fig.3 – Wiring diagram of T186 sensor with R842 relay

Note: refer to R842 manual for multiple relay application.

THERMOSTAT INSTALLATION

Important: All wiring must conform to local and national electrical code regulations. To avoid problems, carefully follow the procedures below.

A) Location:

- 1- Should not be installed on an outside wall.
- 2- Must be installed away from any heat source.
- 3- Should not be installed near an air discharge grill.
- 4- Should not be affected by direct sun radiation.
- 5- Nothing must restrain vertical air circulation to the thermostat.

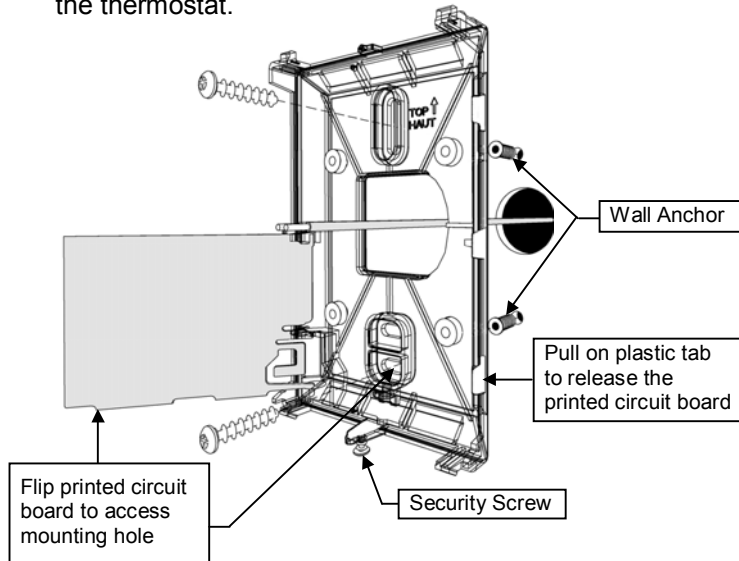


Fig.5 - T186 wall sensor installation

B) Installation:

- 1- Remove security screw on the bottom of thermostat cover.
- 2- Open up by pulling on the bottom side of thermostat.
- 3- Pull out cables 6" out of the wall.
- 4- Wall surface must be flat and clean.
- 6- Insert cable in the central hole of the base.
- 7- Flip printed circuit board to access mounting hole
- 7- Align the base and mark the location of the two mounting holes on the wall. Install proper side of base up.
- 8- Install anchors in the wall.
- 9- Insert screws in mounting holes on each side of the base.
DO NOT OVERTIGHTEN
- 10- Strip each wire 1/4 inch.
- 11- Insert each wire according to wiring diagram.
- 12- Gently push back into hole excess wiring back into the wall.
- 13- Press back printed circuit board into place
- 14- Install the cover, top side
- 15- Install security screw.

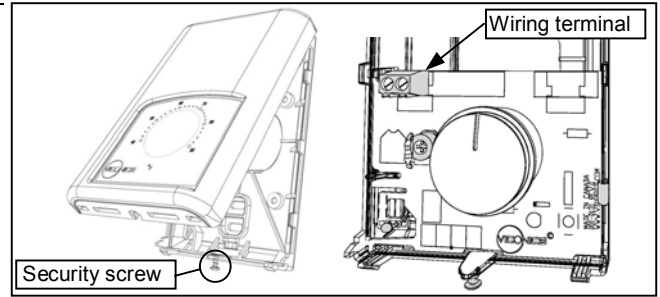


Fig. 4 - T186 wall sensor cover removal and wiring terminal location

TABLE 2: SPECIFICATIONS

Operating Conditions:	-20°C to 50°C (-4°F to 122°F) 0 % to 95 % R.H. non-condensing
Storage Conditions:	-40°C to 80°C (-40°F to 176°F) 0 % to 95 % R.H. non-condensing
Sensor:	Local 10 K NTC thermistor
Resolution:	± 0.1 °C (± 0.2 °F)
Control accuracy:	± 0.2 °C (± 0.5 °F) (calibrated)
Ranges:	5 °C to 30 °C or 40 °F to 90 °F

DIMENSIONS

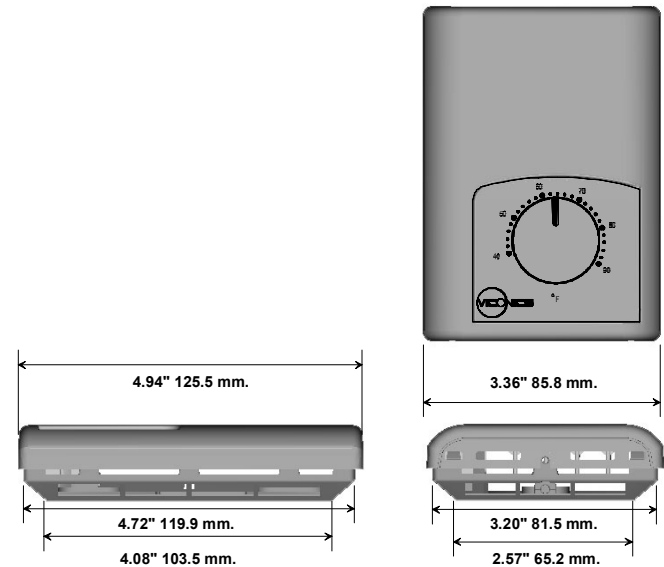


Fig.6 - T186 wall sensor dimensions



All T186 series controls are for use as operating controls only and are not safety devices. These instruments have undergone rigorous tests and verifications prior to shipment to ensure proper and reliable operation in the field. Whenever a control failure could lead to personal injury and/or loss of property, it becomes the responsibility of the user / installer / electrical panel designer to incorporate safety devices (such as relays, flow switch, thermal protections, etc...) and/or alarm systems to protect the entire system against such catastrophic failures. Any abusive use of the product will void the warranty.

NOTE: VICONICS RESERVES THE RIGHT TO MAKE MODIFICATIONS WITHOUT PRIOR NOTICE.

Viconics Electronics Inc. 9245, Langelier Blvd, St-Leonard, Quebec, Canada H1P 3K9

www.viconics.com
sales@viconics.com