Stack Temperature Sensor

Designed for single point monitoring of exhaust stack temperatures. It is available with various probe lengths to fit any application.

Specifications

Standard Lengths	**8", 12", 18"**
Operating Temperature Range	**-70 to 600 ºC (-94 to 1112 ºF)**
Cable Type	**Fiberglass insulated wire**
Wiring Connections	**Pig Tail (3 wire)**
Enclosures	**Weatherproof**
Sensor Types	**100 Ω, 1K RTD's**

Installation

The stack type probes are installed through a 1/4" hole in the side of the stack to monitor a single point temperature within the stack. Since the probes are tip sensitive, select a probe length that places the sensor well into the stack to avoid errors due to laminar flow. Secure the probes using the heat shield provided with the unit.

Typical Wire Resistance Values

When using low resistance sensors (i.e. 100 ohm RTD), long wire runs can add significant error to the readings. Use the following chart to determine errors due to wire resistance or consider using a 1000 ohm sensor or a transmitter for better accuracy. Locate the type of wire being used. Multiply the total length of the wire (distance from the controller to the sensor and back) by the number found in the following chart for total resistance.

GAUGE WIRE TYPE	18 AWG	22 AWG	24 AWG
STRANDED (OHMS/FOOT)	**5.85 mΩ**	**14.75 mΩ**	**23.29 mΩ**
SOLID (OHMS/FOOT)	**6.4 mΩ**	**15.85 mΩ**	**25.72 mΩ**

Wiring & Color codes

All two-wire sensors are polarity insensitive. The three-wire sensors have the following color code:

Connection	Stack Wire Color
EXCitation	RED or BLACK
SENse	RED or BLACK
NEGative	WHITE or YELLOW

To connect a three-wire sensor as a two-wire, tie the EXCitation and SENse lines together. All connections should be made using either butt-splices or soldering. The use of wire nuts is not recommended.