TEMPERATURE MEASUREMENT FOR DUCTED SYSTEMS **T005 Model**

the Eliminator TM Product Data Sheet

The Eliminator T005 temperature probe is designed for simple installation inside a duct or plenum. This highly accurate averaging thermistor temperature sensing probe is factory calibrated and provides the user with a linear output signal for temperature. When combined with intelligent DDC systems, the *Eliminator* affords the engineer and building manager a cost effective tool for the accurate and reliable control necessary to meet the requirements of today's air distribution systems. Maintenance free and easy to install.

Effective and Economical Measurement For:

- Accurate discharge air temperature control
- Mixed air temperature control
- Process temperature control

Features:

- Microprocessor based electronics with “watchdog” timer circuitry to assure continuous operation after power resets and brownouts
- Highly reliable and stable instrument grade thermistor probes
- Each sensing point is independent
- True average temperature output
- 1:1 isolation transformer assures a “floating” output to host control interface

Specifications

PERFORMANCE			
	Sensor Accuracy - Temperature	typ.	0.18º F
		max.	0.36º F
	Output Resolution		0.4% of F.S.
OUTPUT SIGNAL			
	Temperature	std.	linear 0-5 VDC
		opt.	linear 4-20mA
OUTPUT SCALING			
	Temperature	std.	Custom when ordered
POWER REQUIREMENT			
	AC Power Input		24 VAC @ 6.6 VA
			+- 10%
OPERATING RANGES			
	Operating Temperature Range		-20º to 160º F (sensor probe)
			30º to 160º F (remote electronics)
	Operating Humidity Range		0 to 99% RH
PRESSURE DROP			
	Pressure Drop @ 2000 ft/min	max.	0.005 in w.g.
CONSTRUCTION			
	Sensors per Probe T1X5		1 to 4
	Sensors per Probe T2X5		1 to 2
	Probe Enclosure		Aluminum 5052 & 6063-T52
	Probe Body		Aluminum 6063-T6
	Sensor Housing		Glass Filled Polypropylene
	Flow Sensor		Instrument Grade Thermistor
	Temperature Sensor		Instrument Grade Thermistor

Mechanical Construction

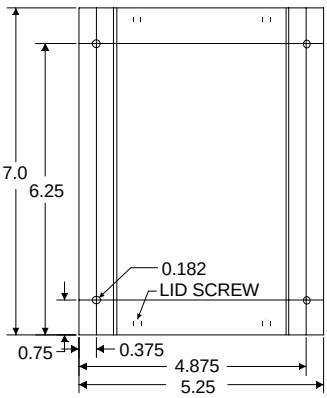
- **Enclosure and cover [1]:** Stamped, 0.04”, 5052 alloy sheet, aluminum,non rated enclosure, access for two (2) 1/2” conduit connections
- **Support Bracket [2]:** Stamped, 0.04”, 6063-T52 extruded alloy, aluminum
- **Support Bracket Hardware (to support strut) [3]:**10-24-1.5”, zinc plated steel bolt w/nylon insert stop nut and washers
- **Support Struts [4]:** Tubular, 6063-T6alloy, aluminum; 1.1” O.D.

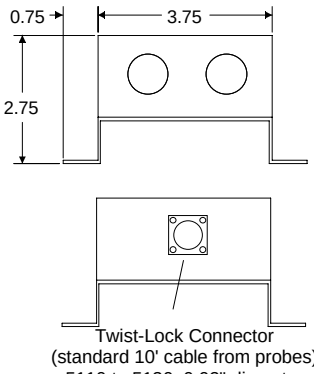
Sensor Construction

- **Temperature Sensor:**glass encapsulated, hermetically sealed, industrial grade thermistor probe
- **Sensor Housing:** Glass Filled Polypropylene
- **Sensor Assembly Compounds:** epoxy
- **Internal Wiring:** Kynar® coated copper

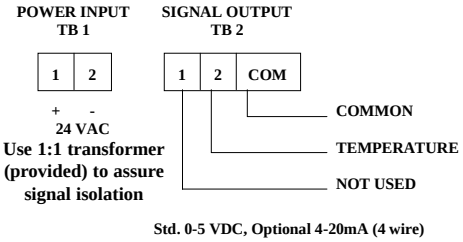
Cable Assembly

- **Cable [5]:** Plenum Rated PVC UL Standard 13, Type CL2P CSA PCC FT6, NEC Article 725 Passes Steiner Tunnel Test UL Listed, CSA Certified
- **Terminal Connectors at Electronics Enclosure [6]:** CPC Circular Connectors
  Models T115 to T135 - nominal diameter 0.92”, 1 connector
  Models T215 and T225 - nominal diameter 0.92”, 2 connectors





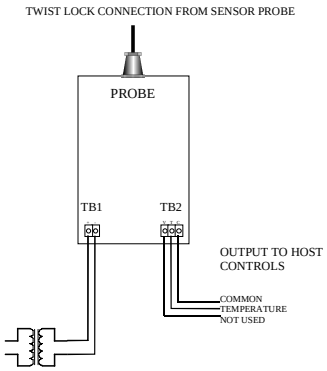
Wiring



TERMINAL CONNECTIONS

Model	VA
T115	6.6
T125	6.6
T135	6.6
T145	6.6
T215	6.6
T225	6.6

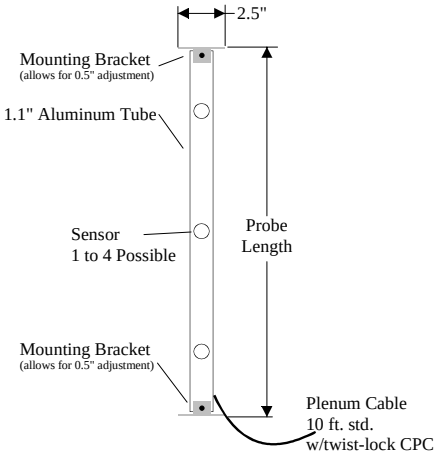
POWER REQUIREMENTS



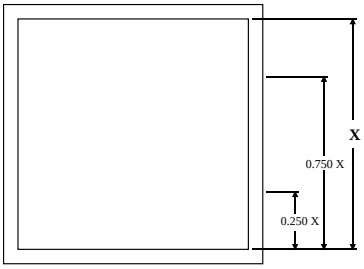
24 VAC ONLY

WIRING SCHEMATIC

Installation



SENSOR ASSEMBLY



Number of Probes	Distance From Inside Edge of Duct	
	Probe 1	Probe 2
1	0.500 X	
2	0.250 X	0.750 X

INSTALLATION IN RECTANGULAR DUCTS

Suggested Engineers Guide Specification

Insert under the temperature measurement heading in the Temperature Control Section of the Specification [optionally, T005 sensors can also appear in the AHU section of the specification]

A. Manufacturer
1. Base Bid: ***EBTRON*** Inc., Model T005
B. Temperature Measurement: Averaging temperature sensor using instrument grade thermistor temperature sensors. Measurement drift shall not exceed Manufacturers repeatability statement for the life of the equipment. Manufacturer shall provide test data for accuracy performance prior to bid date.
1. ***EBTRON*** Model T005 Duct Mounted Sensor
a) Flow Station Construction
(1) Type: Duct Mounted
(2) Sensors : One glass encapsulated thermistor temperature sensor for each sensing point.
(3) Sensor Housing: Noryl
(4) Sensors per probe: 1 to 4
(5) Support Struts: Tubular Aluminum 6063-T6 extrusion
(6) Supporting Bracket: Aluminum 5052 sheet & 6063-T52 extrusion
b) Electronics
(1) Type: Microprocessor Based, totally solid state.
(2) Power Requirement: 24 VAC. Multiple Model T005 probes wired from a single transformer must be wired in phase.
(3) Enclosure: Aluminum, indoor use only. [option, insert: NEMA 4, outdoor use]
c) Performance
(1) Electronics temperature range: 30 to 160 F
(2) Temperature sensor temperature range: -20 to 160 F
(3) Pressure drop: less than 0.005 inwc @ 2000 ft./min
(4) Humidity range: 0 to 99% RH (non-condensing)
(6) Analog output signal: 0-5VDC [option 4-20mA, 4-wire]
(a) Sensor temperature accuracy: typ. 0.18 F, max. 0.36 F
(b) Type: linear
(c) Repeatability: +- 0.2% scale
(d) Resolution: 0.4% scale
d) Warranty
(1) 36 months from shipment, parts and factory labor as described in the Company's Standard Terms & Conditions of Sale

Ordering Information

T	a	b	5	-	c	d	-	e	-	f	-	g	-	h	i

a- Probes per electronics: 1 (2 on T215 and T225 only)
b- Sensors per Probe: 1 to 4
c- Probe Length (inches)
d- Internal Insulation (inches, each side of duct)
e- Shape and Material: 1=alum. rect.
f- Cable Length (feet, 10 ft. std., up to 25 ft.)
g- Input Power: 1=24 VAC, 2=110 VAC
h- Output Signal: 1=0-5 VDC temp., 3*=4-20 mA temp.
i- Temperature Signal Range: 1=30º-80ºF, 2=Custom ºF, 3=Custom ºC
* *Optional configuration, may require additional charges*

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