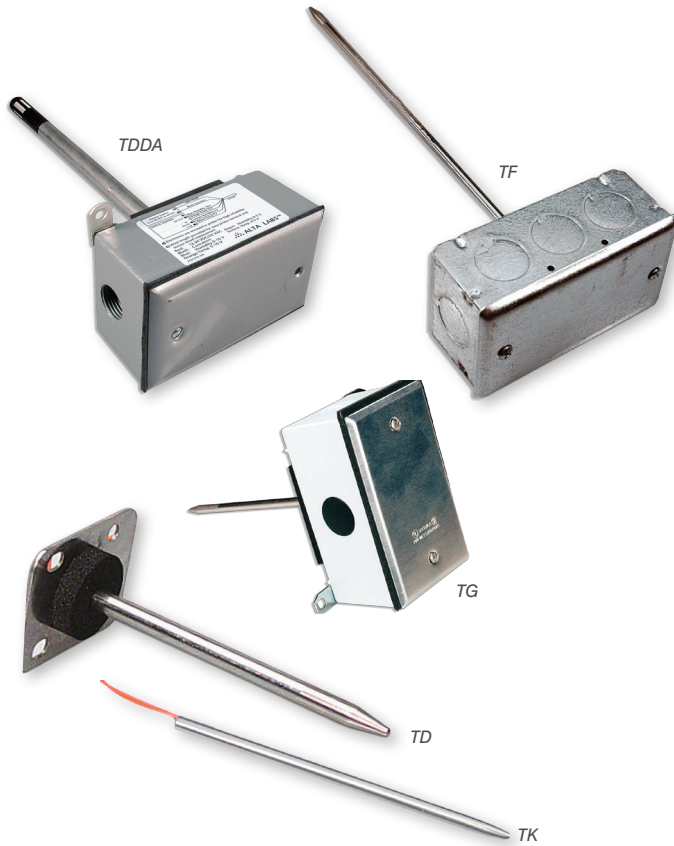




T Series



SENSOR HOUSED IN PROBE, PROTECTS AGAINST CORROSION

FEATURES

- Cost-effective, high accuracy thermistors or RTDs available with or without a junction box
- No calibration required
- Stainless steel probe

DESCRIPTION

Veris' duct mount temperature sensors are pre-calibrated and housed in sturdy stainless steel probes. The devices are easy to install, durable, and highly accurate.

To compute Linitemp Temperature
 $mV \text{ reading} / 10 - 273.15 = \text{Temperature in } ^\circ\text{C}$

SPECIFICATIONS

Wiring	22 AWG; 2-wire: RTD/Thermistor, 4 to 20 mA; 3-wire: Linitemp
TEMPERATURE TRANSMITTER OPTION	
Input Power	4 to 20 mA models: Loop powered Class 2, 12 to 30 Vdc only, 30 mA max; 0-5/0-10 V models: Class 2, 12 to 30 Vdc/24 Vac, 50/60 Hz, 15 mA max
Temp. Output	TF, TG, TDDA: 2-wire, loop powered 4 to 20 mA TDDA only: 3-wire, 0-5V/0-10VDC
Sensor Type	TDDA: Solid-state, integrated circuit TF, TG: Thermistor/RTD
Transmitter Accuracy	TDDA: $\pm 0.5^\circ\text{C}$ ($\pm 0.9^\circ\text{F}$) typical** TF/TG: $\pm 1^\circ\text{C}$ *
Ranges	TDDA: Selectable 0 to 50°C (32 to 122°F) or -40 to 50°C (-40 to 122°F)** TF/TG: -25 to 105°C (available ranges; model number specifies exact range)
LINITEMP OPTION	
Input Power	5 to 30 Vdc
Output	10 mV/ $^\circ\text{C}$
Operating Temp	-25 to 105°C (-13 to 221°F)
Calibration Offset	1.5°C (2.7°F) typical; 2.5°C (4.5°F) max. at 25°C (77°F)***
Offset over Temp	1.8°C (3.24°F) typical; 3.0°C (5.4°F) max. over 0 to 70°C (32 to 158°F) range 2.0°C (3.6°F) typical, 3.5°C (6.3°F) max. over -25 to 105°C (-13 to 221°F) range
RESISTIVE OPTION	
Operating Temp	-25 to 105°C (-13 to 221°F)
RTD/Thermistor	See table below
WARRANTY	
Limited Warranty	5 years

* Add the transmitter accuracy to the RTD/thermistor accuracy to get the total product accuracy.

**For RTD and thermistor accuracies and ranges, see tables below.

***Room temperature offset documented on each unit.

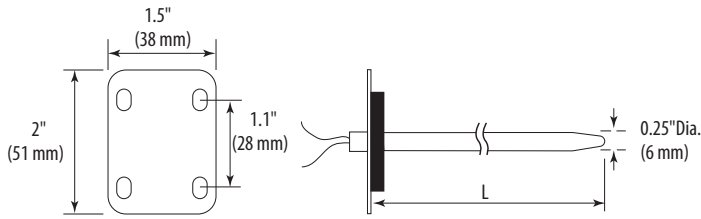
Class	Pt RTD		Balco RTD		THERMISTOR										10k Type 2	10k Type 3
	Type	100 Ohm	1000 Ohm	1000 Ohm	2.2k	3k	10k Type 2	10k Type 3	10k Dale	10k 3A221	10k "G" US	20k	20k "D"	100k		
Accuracy	$\pm 0.3^\circ\text{C}$	$\pm 0.3^\circ\text{C}$	$\pm 0.3^\circ\text{C}$	$\pm 1\%$ @ 70°C	$\pm 0.2^\circ\text{C}$	$\pm 0.2^\circ\text{C}$	$\pm 1.0^\circ\text{C}$	$\pm 0.2^\circ\text{C}$	$\pm 0.2^\circ\text{C}$	$\pm 1.1^\circ\text{C}$	$\pm 0.2^\circ\text{C}$	Consult	Consult	Consult	$\pm 0.1^\circ\text{C}$ 20/ 70°C	$\pm 0.1^\circ\text{C}$
Temp. Response*	PTC	PTC	PTC	PTC	NTC	NTC	NTC	NTC	NTC	NTC	NTC	NTC	NTC	NTC	NTC	NTC

*PTC: Positive Temperature Coefficient *NTC: Negative Temperature Coefficient

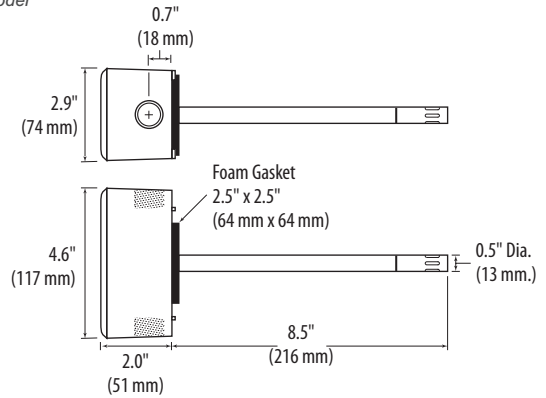
STANDARD RTD AND THERMISTOR VALUES (Ohms @)																
$^\circ\text{C}$	$^\circ\text{F}$	100 Ohm	1000 Ohm	1000 Ohm	2.2k	3k	10k Type 2	10k Type 3	10k Dale	10k 3A221	10k "G" US	20k NTC	20k "D"	100k	10k Type 2	10k Type 3
-50	-58	80.306	803.06	740.46	154,464	205,800	692,700	454,910	672,300	-	441,200	1,267,600	-	-	692,700	454,910
-40	-40	84.271	842.71	773.99	77,081	102,690	344,700	245,089	337,200	333,562	239,700	643,800	803,200	3,366,000	344,700	245,089
-30	-22	88.222	882.22	806.02	40,330	53,730	180,100	137,307	177,200	176,081	135,300	342,000	412,800	1,770,000	180,100	137,307
-20	-4	92.160	921.60	841.00	22,032	29,346	98,320	79,729	97,130	96,807	78,910	189,080	220,600	971,200	98,320	79,729
-10	14	96.086	960.86	877.46	12,519	16,674	55,790	47,843	55,340	55,252	47,540	108,380	122,400	553,400	55,790	47,843
0	32	100.000	1,000.00	913.66	7,373	9,822	32,770	29,588	32,660	32,660	29,490	64,160	70,200	326,600	32,770	29,588
10	50	103.903	1,039.03	952.25	4,487	5,976	19,930	18,813	19,900	19,901	18,780	39,440	41,600	199,900	19,930	18,813
20	68	107.794	1,077.94	991.82	2,814	3,750	12,500	12,272	12,490	12,493	12,260	24,920	25,340	124,900	12,500	12,272
25	77	109.735	1,097.35	1,013.50	2,252	3,000	10,000	10,000	10,000	10,000	10,000	20,000	20,000	100,000	10,000	10,000
30	86	111.673	1,116.73	1,035.18	1,814	2,417	8,055	8,195	8,056	8,055	8,194	16,144	15,884	80,580	8,055	8,195
40	104	115.541	1,155.41	1,077.68	1,199	1,598	5,323	5,593	5,326	5,324	5,592	10,696	10,210	53,260	5,323	5,593
50	122	119.397	1,193.97	1,120.52	811.5	1,081	3,599	3,894	3,602	3,600	3,893	7,234	6,718	36,020	3,599	3,894
60	140	123.242	1,232.42	1,166.13	561.0	747	2,486	2,763	2,489	2,486	2,760	4,992	4,518	24,880	2,486	2,763
70	158	127.075	1,270.75	1,210.75	395.5	527	1,753	1,994	1,753	1,751	1,990	3,512	3,100	17,510	1,753	1,994
80	176	130.897	1,308.97	1,254.55	284.0	378	1,258	1,462	1,258	1,255	1,458	2,516	2,168	12,560	1,258	1,462
90	194	134.707	1,347.07	1,301.17	207.4	-	919	1,088	917	915	1,084	1,833	1,542	9,164	919	1,088
100	212	138.506	1,385.06	1,348.38	153.8	-	682	821	679	678	816.8	1,356	1,134	6,792	682	821
110	230	142.293	1,422.93	1,397.13	115.8	-	513	628	511	509	623.6	1,016	816	5,108	513	628
120	248	146.068	1,460.68	1,447.44	88.3	-	392	486	389	388	481.8	770	606	3,894	392	486
130	266	149.832	1,498.32	1,496.28	68.3	-	303	380	301	299	376.4	591	456	3,006	303	380
Sensor Codes		B	C	I	E	F	D	H	J	S	R	M	U	T	W	Y

DIMENSIONAL DRAWINGS

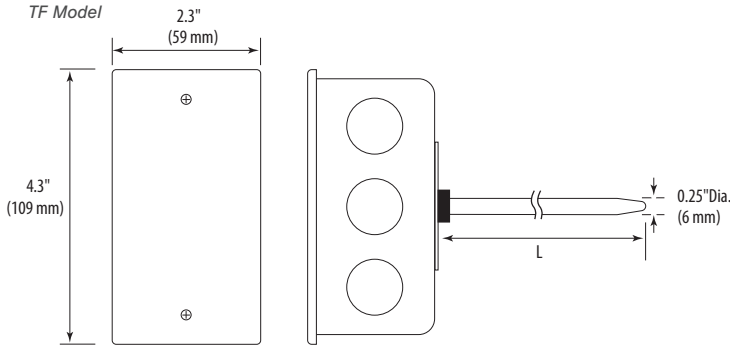
TD Model



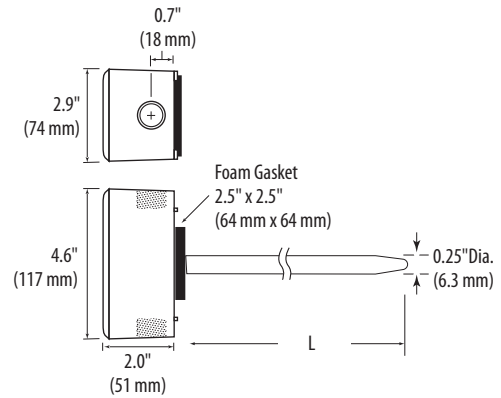
TDDA Model



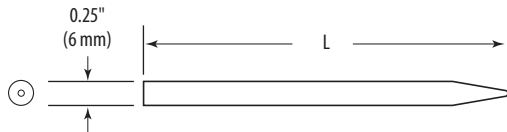
TF Model



TG Model



TK Model



ORDERING INFORMATION



RTD/Thermistor Models

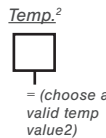
Enclosure	Immersion Probe Length "L"	Sensor Type
<input type="checkbox"/> T D = Duct K = Probe only (no mounting hardware) F = Duct w/ mounting box G = Duct w/water resistant housing *The CE mark indicates RoHS2 compliance. Please refer to the CE Declaration of Conformity for additional details. * TK model is 4 1/2" (115 mm) ** Not available with TK model	<input type="checkbox"/> B = 4" (102mm)** <input type="checkbox"/> C = 6" (152mm) <input type="checkbox"/> D = 8" (203mm) <input type="checkbox"/> E = 12" (305mm)*** <input type="checkbox"/> F = 18" (457mm)*** <input type="checkbox"/> G = 24" (610mm)*** <input type="checkbox"/> K = 36" (914mm)***	<input type="checkbox"/> B = 100R platinum, RTD <input type="checkbox"/> C = 1k platinum, RTD <input type="checkbox"/> D = 10k T2, Thermistor <input type="checkbox"/> E = 2.2k, Thermistor <input type="checkbox"/> F = 3k, Thermistor <input type="checkbox"/> G = 10k CPC, Thermistor <input type="checkbox"/> H = 10k T3, Thermistor <input type="checkbox"/> I = 1k Balco (Nickel-iron) RTD <input type="checkbox"/> J = 10k Dale, Thermistor <input type="checkbox"/> K = 10k w/11k shunt, Thermistor <input type="checkbox"/> M = 20k NTC, Thermistor <input type="checkbox"/> N = 1800 ohm, Thermistor <input type="checkbox"/> P = 10mV/°C, Linitemp <input type="checkbox"/> R = 10k US, Thermistor <input type="checkbox"/> S = 10k 3A221, Thermistor <input type="checkbox"/> T = 100k, Thermistor <input type="checkbox"/> U = 20k "D", Thermistor <input type="checkbox"/> W = 10k T2 high accuracy, Thermistor <input type="checkbox"/> Y = 10k T3 high accuracy, Thermistor <input type="checkbox"/> Z = 10k E1, Thermistor <input type="checkbox"/> CC = 15k, Thermistor

Resistive Output Option

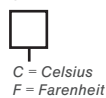


4 to 20 mA Temp. Transmitter Option¹

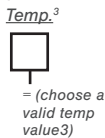
Bottom Range



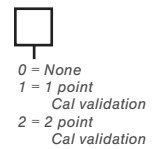
Temp Scale



Top Range



Cal Certificate



¹ Available only with TF and TG models using B, C, D, H, W, and Y sensors. For 4 to 20 mA temperature transmitter on TD and TK models, a separate AA10xxxx must be ordered.

² Value must be a whole number between -25°C and 105°C (-13°F and 221°F) and must be lower than the Top Range Temp Value.

³ Value must be a whole number between -25°C and 105°C (-13°F and 221°F) and must be higher than the Bottom Range Temp Value.

Transmitter Models

Output	Range	Cal Certificate
<input type="checkbox"/> TDDA M = 4-20mA V = 5/10V	<input type="checkbox"/> 1 = -40° to 50° C (-40° to 122°F) 2 = 0° to 50° C (32° to 122°F)	<input type="checkbox"/> 0 = None 1 = 1 point Cal validation 2 = 2 point Cal validation

Example: TDDA V 2 0

ACCESSORIES

Klipet mounting clip for TK probe (AA64)
 Temperature range converter, resistive to 4-20mA (AA10xxxx)

