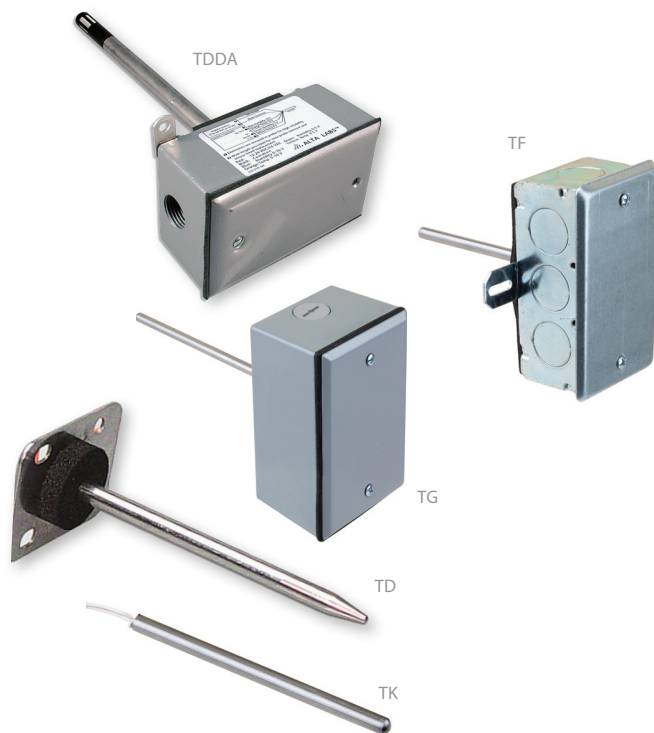


## T SERIES

Sensor Housed in Probe, Protects Against Corrosion



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

### SPECIFICATIONS

|                   |                                                      |
|-------------------|------------------------------------------------------|
| Wiring            | 22 AWG; 2-wire: RTD/Thermistor, 4 to 20 mA           |
| Mounting Location | Not suitable for wet locations. For indoor use only. |

#### TEMPERATURE TRANSMITTER OPTION

|                      |                                                                                                                                                |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Input Power          | 4 to 20 mA models: Loop powered Class 2, 12 to 30 Vdc only, 30 mA max;<br>0-5/0-10 V models: Class 2, 12 to 30 Vdc/24 Vac, 50/60 Hz, 15 mA max |
| Temp. Output         | 2-wire, loop powered 4 to 20 mA<br>3-wire, 0-5V/0-10Vdc                                                                                        |
| Sensor Type          | Solid-state, integrated circuit                                                                                                                |
| Transmitter Accuracy | ±0.5 °C (±0.9 °F) typical*                                                                                                                     |
| Ranges               | Selectable 0 to 50 °C (32 to 122 °F) or<br>-40 to 50 °C (-40 to 122 °F)                                                                        |

#### RESISTIVE OPTION

|                |                               |
|----------------|-------------------------------|
| Operating Temp | -25 to 105 °C (-13 to 221 °F) |
|----------------|-------------------------------|

#### WARRANTY

|                  |         |
|------------------|---------|
| Limited Warranty | 5 years |
|------------------|---------|

#### AGENCY APPROVALS



\*Room temperature offset documented on each unit.

## Cost effective

Cost-effective, high accuracy thermistors or RTDs available with or without a junction box

## Durable

Corrosion resistant stainless steel probe design

## No calibration

No calibration required

### APPLICATIONS

- Duct systems
- Industrial

### ORDERING INFORMATION

RTD/Thermistor Models

| Enclosure                                                                                                                | Immersion Probe Length "L"                                                                                                              | Sensor Type                                                                                                                                                                                                                                                                                                                                                                                                      | Output             | Calibration Certificate                  |
|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------------------|
| T                                                                                                                        |                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                                          |
| D = Duct<br>K = Probe only (no mounting hardware)<br>F = Duct with mounting box<br>G = Duct with water resistant housing | B = 4" (102mm)*<br>C = 6" (152mm)<br>D = 8" (203mm)<br>E = 12" (305mm)**<br>F = 18" (457mm)**<br>G = 24" (610mm)**<br>K = 36" (914mm)** | B = 100R platinum, RTD<br>C = 1k platinum, RTD<br>D = 10k T2, Thermistor<br>E = 2.2k, Thermistor<br>F = 3k, Thermistor<br>H = 10k T3, Thermistor<br>I = 1k Balco (Nickel-iron) RTD<br>J = 10k Dale, Thermistor<br>K = 10k w/11k shunt, Thermistor<br>M = 20k NTC, Thermistor<br>N = 1800 ohm, Thermistor<br>T = 100k, Thermistor<br>W = 10k T2 high accuracy, Thermistor<br>Y = 10k T3 high accuracy, Thermistor | = Resistive Output | 0 = None<br>2 = 3-point NIST calibration |
| * TK model is 4 1/2" (115 mm)<br>** Not available with TK model                                                          |                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                                          |
| Example:<br>T                                                                                                            |                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                                          |

### Transmitter Models

| Output                      | Range                                                             | Cal Certificate                            | Example: |
|-----------------------------|-------------------------------------------------------------------|--------------------------------------------|----------|
| TDDA                        |                                                                   |                                            | TDDA     |
| M = 4 to 20mA<br>V = 5/10 V | 1 = -40 to 50 °C (-40 to 122 °F)<br>2 = 0 to 50 °C (32 to 122 °F) | 0 = None<br>2 = 3-point NIST certification |          |

### ACCESSORIES

AA64 Klipet Mounting Clip



800.354.8556 | +1 503.598.4564 | sales@veris.com | intl@veris.com | veris.com

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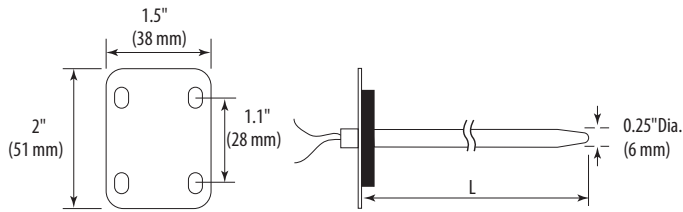
1.800.561.8187

www.itm.com

information@itm.com

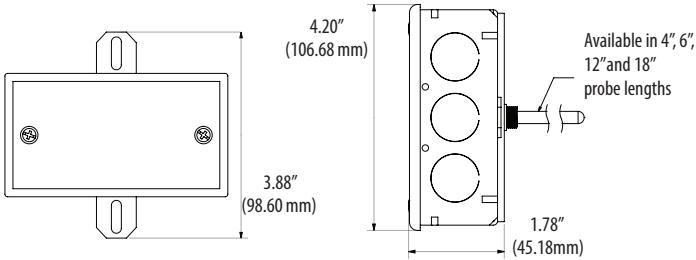
## TD

### Dimensional Drawing



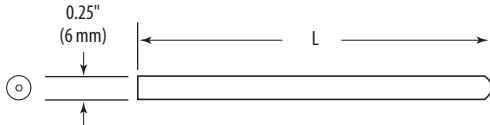
## TF

### Dimensional Drawing



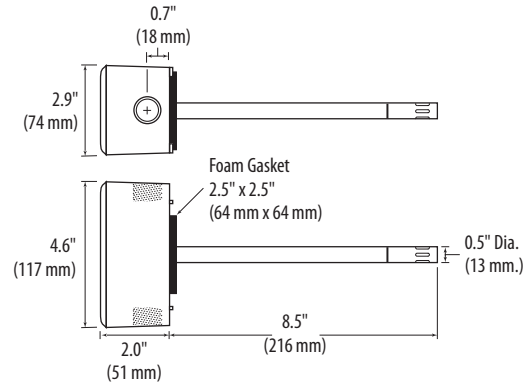
## TG

### Dimensional Drawing



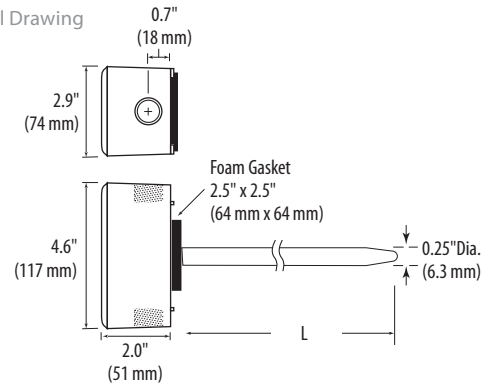
## TDDA

### Dimensional Drawing



## TG

### Dimensional Drawing



## STANDARD RTD AND THERMISTOR VALUES

| Class                                  | Pt RTD        |               | Balco RTD | THERMISTOR |        |            |            |          |         |         |                |            |
|----------------------------------------|---------------|---------------|-----------|------------|--------|------------|------------|----------|---------|---------|----------------|------------|
| Type                                   | 100 Ohm       | 1000 Ohm      | 1000 Ohm  | 2.2k       | 3k     | 10k Type 2 | 10k Type 3 | 10k Dale | 20k     | 100k    | 10k Type 2     | 10k Type 3 |
| Accuracy                               | ±0.3°C        | ±0.3°C        | ±1% @70°C | ±0.2°C     | ±0.2°C | ±1.0°C     | ±0.2°C     | ±0.2°C   | Consult | Consult | ±0.1°C 20/70°C | ±0.1°C     |
|                                        | 0.00385 curve | 0.00385 curve |           | 0/70°C     | 0/70°C | -50/150°C  | 0/70°C     | -20/70°C | Factory | Factory | ±0.2°C 0/20°C  | 0/70°C     |
| Temp. Response*                        | PTC           | PTC           | PTC       | NTC        | NTC    | NTC        | NTC        | NTC      | NTC     | NTC     | NTC            | NTC        |
| *PTC: Positive Temperature Coefficient |               |               |           |            |        |            |            |          |         |         | High Accuracy  |            |

\*PTC: Positive Temperature Coefficient

\*NTC: Negative Temperature Coefficient

### STANDARD RTD AND THERMISTOR VALUES (Ohms Ω)

| °C           | °F  | 100 Ohm | 1000 Ohm | 1000 Ohm | 2.2k    | 3k      | 10k Type 2 | 10k Type 3 | 10k Dale | 20k NTC   | 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  | 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  | 643,800   | 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  | 342,000   | 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   | 189,080   | 971,200   | 98,320     | 79,729     |
| -10          | 14  | 96.086  | 960.86   | 877.46   | 12,519  | 16,674  | 55,790     | 47,843     | 55,340   | 108,380   | 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   | 64,160    | 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   | 39,440    | 199,000   | 19,930     | 18,813     |
| 20           | 68  | 107.794 | 1,077.94 | 991.82   | 2,814   | 3,750   | 12,500     | 12,272     | 12,490   | 24,920    | 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   | 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    | 16,144    | 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    | 10,696    | 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    | 7,234     | 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    | 4,992     | 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    | 3,512     | 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    | 2,516     | 12,560    | 1,258      | 1,462      |
| 90           | 194 | 134.707 | 1,347.07 | 1,301.17 | 207.4   | -       | 919        | 1,088      | 917      | 1,833     | 9,164     | 919        | 1,088      |
| 100          | 212 | 138.506 | 1,385.06 | 1,348.38 | 153.8   | -       | 682        | 821        | 679      | 1,356     | 6,792     | 682        | 821        |
| 110          | 230 | 142.293 | 1,422.93 | 1,397.13 | 115.8   | -       | 513        | 628        | 511      | 1,016     | 5,108     | 513        | 628        |
| 120          | 248 | 146.068 | 1,460.68 | 1,447.44 | 88.3    | -       | 392        | 486        | 389      | 770       | 3,894     | 392        | 486        |
| 130          | 266 | 149.832 | 1,498.32 | 1,496.28 | 68.3    | -       | 303        | 380        | 301      | 591       | 3,006     | 303        | 380        |
| Sensor Codes |     | B       | C        | I        | E       | F       | D          | H          | J        | M         | T         | W          | Y          |

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