

Thermistor Temperature Sensors



ACI/2252 Series
ACI/3K Series
ACI/5K Series
ACI/10K-AN Series
ACI/10K-CP Series



Product Description

The ACI/2252, ACI/3K, ACI/5K, ACI/10K-AN, and ACI/10K-CP Series temperature sensors are thermistor type sensors. These sensors provide a predictable output over a specified temperature range to meet each manufacturers required input values.

Thermistors offer high accuracy and interchangeability over a wide temperature range.

The thermistors's high resistances relative to Platinum RTD's create a larger signal with the same measuring current, negating most lead wire resistance problems and eliminating the need for signal conditioners.

These units are offered in Room, Room with Set Point, Room with Override, Room with Setpoint and Override, and Room with Setpoint, Override, and RJ11 Jack; Duct, Duct without Box, Immersion,

Stainless Plate, Raw, Averaging, Strap-On, Bullet Probe, Averaging, and Outside Air Configurations.

Setpoint options include a linear 400 Ohm, 1K, 2K, 5K, 10K, 20K, or 100K potentiometer. An optional series resistor allows for any offset of the setpoint potentiometer. These may be either Direct or Reverse Acting.

Indication stickers for setpoint include Cool/Warm, 55 to 85, and 10 to 30°C. Others are available upon request.

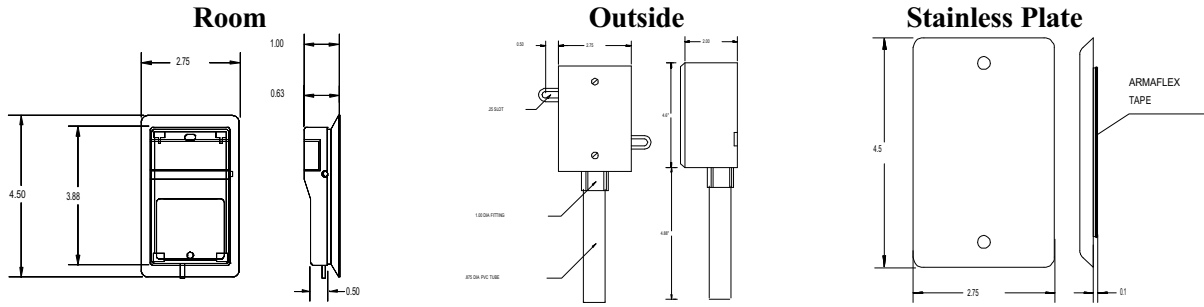
Override options include a N/O switch in parallel with the sensor or a separate 2 pole terminal block for tenant override.

All ACI sensors also come with optional 4 or 6 pin RJ11 communication jacks with terminal blocks for remote programming.

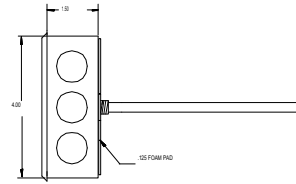
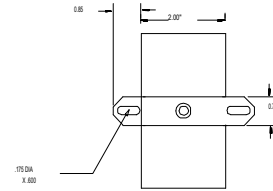
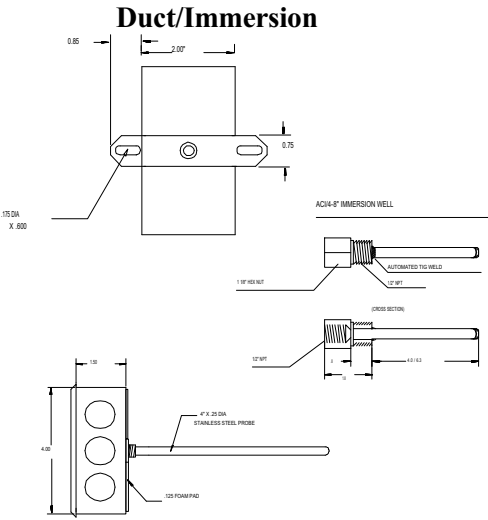
Product Specifications

| | | | |
|---------------------------|---|-----------------------------|-----------------------------|
| Output | 2,252 Ohms @ 77°F (25°C) 3,000 Ohms @ 77°F (25°C) 5,000 Ohms @ 77°F (25°C) 10,000 Ohms @ 77°F (25°C) | Dissipation Constant | 3 mW / °C |
| Temperature Range | -40 to 302°F (-40 to 150°C) | Accuracy | +/- 0.2°C (0 to 70°C) |
| Interchangeability | +/- 0.2°C (0 to 70°C) | Operating Humidity | 10 to 90% RH non-condensing |

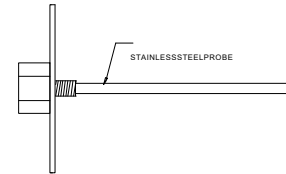
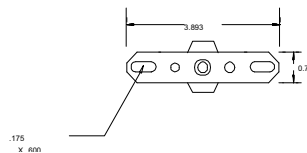
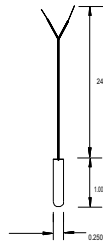
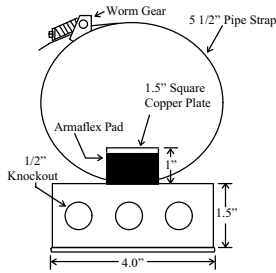
Dimensions



Averaging - 12', 24'



Duct without Box



Ordering Information

| | | | | | | |
|------|--------|--|---------------|---------|-------------|---------|
| ACI/ | [] | - [] | - [] | - [] | - [] | - [] |
| | 2252 | R - Room | RJ11 - 4 Pin | 400 | Cool Warm | DA |
| | 3K | RS - Room w/ Setpoint | 6 Pin | 1K | 55 to 85 | RA |
| | 5K | RO - Room w/ Override | 6 Pin 4 Cond. | 2K | 10 to 30°C | |
| | 10K-AN | RSO - Room w/ Setpoint & Override | | 5K | | |
| | 10K-CP | RSO RJ11 - Room w/ Setpoint & Override | | 10K | | |
| | | D - Duct 4", 8", 12", 18" | | 20K | | |
| | | DO - Duct without box 4", 8", 12", 18" | | 100K | | |
| | | I - Immersion 4", 8" | | | | |
| | | A - Averaging 8', 12', 24' | | | | |
| | | S - Strap-On | | | | |
| | | O - Outside Air | | | | |
| | | SP - Stainless Plate | | | | |
| | | BP - Bullet Probe | | | | |

Example: ACI/10K-AN -RSO -RJ11 6 Pin -20K -55 to 85 - DA

Thermistor R/T Curve Table

| ACI Temp Deg C | ACI Temp Deg F | ACI/2252 Resistance Ohms | ACI/3K Resistance Ohms | ACI/5K Resistance Ohms | ACI/10K-AN Resistance Ohms | ACI/10K-CP Resistance Ohms |
|----------------------|----------------------|--------------------------------|------------------------------|------------------------------|----------------------------------|----------------------------------|
| -40 | -40 | 75,593 | 100,701 | 167,835 | 239,831 | 335,671 |
| -35 | -31 | 54,542 | 72,658 | 121,097 | 179,280 | 242,195 |
| -30 | -22 | 39,789 | 53,005 | 88,342 | 135,233 | 176,683 |
| -25 | -13 | 29,331 | 39,073 | 65,122 | 102,890 | 130,243 |
| -20 | -4 | 21,839 | 29,092 | 48,487 | 78,930 | 96,974 |
| -15 | 5 | 16,416 | 21,868 | 36,447 | 61,030 | 72,895 |
| -10 | 14 | 12,453 | 16,589 | 27,649 | 47,549 | 55,298 |
| -5 | 23 | 9529.2 | 12,694.4 | 21,157.3 | 37,316 | 42,314.6 |
| 0 | 32 | 7,353.0 | 9,795.2 | 16,325.4 | 29,490 | 32,650.8 |
| 5 | 41 | 5,719.1 | 7,618.7 | 12,697.8 | 23,462 | 25,395.5 |
| 10 | 50 | 4,482.3 | 5,971.1 | 9,951.8 | 18,787 | 19,903.5 |
| 15 | 59 | 3,538.8 | 4,714.2 | 7,857.0 | 15,136 | 15,714.0 |
| 20 | 68 | 2,813.6 | 3,748.1 | 6,246.8 | 12,268 | 12,493.7 |
| 25 | 77 | 2,252 | 3,000 | 5,000 | 10,000 | 10,000 |
| 30 | 86 | 1,814.2 | 2,416.8 | 4,028.0 | 8,197 | 8,056.0 |
| 35 | 95 | 1,470.6 | 1,959.0 | 3,265.1 | 6,754 | 6,530.1 |
| 40 | 104 | 1,199.2 | 1,597.5 | 2,662.4 | 5,594 | 5,324.9 |
| 45 | 113 | 983.42 | 1,310.1 | 2,183.45 | 4,656 | 4,366.9 |
| 50 | 122 | 810.94 | 1,080.3 | 1,800.49 | 3,893 | 3,601.0 |
| 55 | 131 | 672.24 | 895.52 | 1,492.54 | 3,271 | 2,985.1 |
| 60 | 140 | 560.09 | 746.12 | 1,243.53 | 2,760 | 2,487.1 |
| 65 | 149 | 468.94 | 624.69 | 1,041.15 | 2,339 | 2,082.3 |
| 70 | 158 | 394.47 | 525.49 | 875.81 | 1,990 | 1,751.6 |
| 75 | 167 | 333.32 | 444.04 | 740.06 | 1,700 | 1,480.1 |
| 80 | 176 | 282.89 | 376.85 | 628.09 | 1,458 | 1,256.2 |
| 85 | 185 | 241.09 | 321.17 | 535.29 | 1,255 | 1,070.6 |
| 90 | 194 | 206.31 | 274.83 | 458.06 | 1,084 | 916.11 |
| 95 | 203 | 177.23 | 236.10 | 393.49 | 939.6 | 786.99 |
| 100 | 212 | 152.83 | 203.59 | 339.32 | 817.2 | 678.63 |
| 105 | 221 | 132.26 | 176.19 | 293.65 | 713.0 | 587.31 |
| 110 | 230 | 114.87 | 153.02 | 255.03 | 624.1 | 510.06 |
| 115 | 239 | 100.10 | 133.34 | 222.24 | 547.9 | 444.48 |
| 120 | 248 | 87.511 | 116.578 | 194.30 | 482.5 | 388.59 |
| 125 | 257 | 76.752 | 102.246 | 170.41 | 426.0 | 340.82 |
| 130 | 266 | 67.520 | 89.946 | 149.91 | 377.2 | 299.82 |
| 135 | 275 | 59.575 | 79.363 | 132.27 | 334.9 | 264.54 |
| 140 | 284 | 52.715 | 70.225 | 117.04 | 298.1 | 234.08 |
| 145 | 293 | 46.774 | 62.309 | 103.85 | 266.0 | 207.70 |
| 150 | 302 | 41.614 | 55.436 | 92.393 | 238.0 | 184.79 |