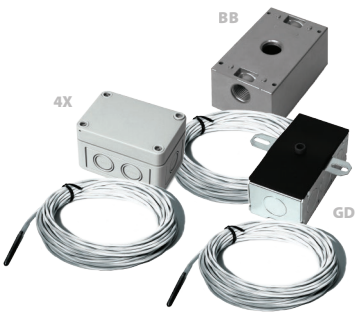


FREEZER

Remote Freezer Transmitters

The ACI RTD Freezer Series features a 3/16" diameter stainless steel probe with a 10 Foot or 30 Foot, 3 Conductor, 24 AWG Plenum rated jacketed Teflon cable. The sensor is designed to be used in Pharmaceutical, Liquid Nitrogen, Freezers, Refrigerators and Hydronic applications where a remote sensor is required. Optional "-GD" galvanized, "-BB" Aluminum, or "-4x" NEMA 4X weather proof plastic enclosures are available as well as NIST Certificates as referenced on the back of the product data sheet. A/TT Series transmitter accuracies must be calculated using both the calibration accuracy of the transmitter and the sensor accuracy over your applications operating temperature range. For higher accuracies, the A/TTM Series includes a secondary calibration process designed to eliminate most of the sensor error from the overall system accuracy. Any Freezer Transmitter can be used with the Single or Triple Point Glycol Kits when a Thermal Buffer (slower) response time is desired.

Applications: Pharmaceutical, Liquid Nitrogen, Refrigerators, Freezers, Hydronic Heating, Remote Sensor Applications

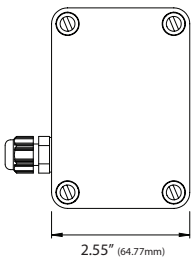
PRODUCT SPECIFICATIONS

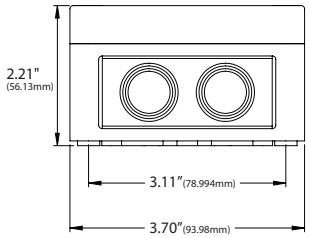
Transmitter Supply Voltage | Current:	+13.5 to 32 VDC into 250 Ohm Load (Reverse Polarity Protected) | 25 mA minimum +18.5 to 32 VDC into 500 Ohm Load
Maximum Load Resistance:	(Terminal Voltage - 8.5 V) | 0.020 A | (775 Ohms @ 24 VDC)
Output Signals:	**Current:** 4-20 mA (2-Wire Loop Powered) | **Voltage:** 1-5 VDC or 2-10 VDC (3-Wires)
Calibrated Transmitter Accuracy | Linearity:	**Temp. Spans < 500°F (260°C):** +/- 0.2% | **Temp. Spans > 500°F (260°C):** +/- 0.5%
Temperature Drift:	**Temp. Spans < 100°F (38°C):** +/- 0.04%/°F | **Temp. Spans > 100°F (38°C):** +/- 0.02%
Warm Up Time | Warm Up Drift:	10 Minutes | +/- 0.1%
Operating | Storage Temperature Range:	-40°F (-40°C) to 185°F (85°C)
Operating Humidity Range:	0 to 90%, non-condensing
Calibrated Temperature Spans[1]:	**Minimum Temp. Span:** 50°F (28°C) | **Maximum Temp. Span:** 1000°F (538°C)
Connections | Wire Size:	Screw Terminal Blocks (Non-Polarity Sensitive) | 16 AWG (1.31mm²) to 26 AWG (0.129mm²)
Terminal Block Torque Rating:	0.5 Nm nominal
Sensor Type | Sensor Curve:	Platinum RTD | Linear, PTC (Positive Temperature Coefficient)
Number Wires:	Three Conductors (White and Two Red Wires); Polarity Sensitive (Red wires tied together)
Sensor Output @ 0°C (32°F):	**A/TT/TTM100-LTS Series:** 100 Ohms nominal | **A/TT/TTM1K-LTS Series:** 1000 Ohms nominal
RTD Tolerance Class[2]:	Class B | **Accuracy Formula:** +/- °C = (+/- 0.30°C + (0.005 x |t|))
Sensor Accuracy:	**-200°C (-328°F):** +/- 1.30°C (+/- 2.34°F) | **0°C (-32°F):** +/- 0.30°C (+/- 0.54°F)
Temperature Coefficient | Din Standard:	3850 ppm / °C | DIN EN 60751 (IEC 751)
Stability:	< 0.04% @ 1000 hours @ 400°C (752°F)
Response Time (63% Step Change):	15 Seconds nominal
Pressure Test:	20 PSI (1.38 Bars) maximum
Sensor Operating Temperature Range:	-200 to 200°C (-328 to 392°F)
Enclosure Specifications (Operating Temperature, Material, Flammability, NEMA/IP Ratings):	**"-GD" Enclosure:** -40 to 100°C (-40 to 212°F); Galvanized Steel; NEMA 1 (IP10) **"-BB" Enclosure:** Aluminum, -40 to 121°C (-40 to 250°F), Plenum Rated, NEMA 3R (IP 14) **"-4X" Enclosure:** -40 to 70°C (-40 to 158°F); Polystyrene Plastic; UL94-V2; NEMA 4X (IP 66)
Storage Temperature Range:	-40 to 80°C (-40 to 176°F)
Operating Humidity Range:	10 to 95% RH, non-condensing
Cable Gland (Fitting) Size | Hole Size | Material:	PG7 | 15 mm (0.591") | Polyamide 6
Cable Gland Sleeve Material | Wire Clamping Size:	Neoprene | 0.098" (2.5 mm) to 0.256" (6.5 mm)
Cable Gland IP Rating | Torque Rating:	IP 68 (NEMA 6P) | 2.5 Nm (22.127 lb. inch)
Probe Material | Length | Diameter:	316 Stainless Steel | 2" (50.8 mm) | 0.1875" (4.76 mm) nominal
Lead Length | Cable Diameter:	10' (3.05 m) or 30' (9.15 m) | 0.106" nominal (2.69 mm)
Conductor Size | Conductor Material:	24 AWG (0.51 mm) | Silver Plated Copper
Lead Wire Insulation | Jacket Color:	FEP/FEP (Teflon) Jacketed Cable | White
Product Weights:	**A/TT/TTMxxx-LTS-BB-10':** 0.84 lbs (0.39 kg) | **A/TT/TTMxxx-LTS-BB-30':** 1.04 lbs (0.48 kg) **A/TT/TTMxxx-LTS-4X-10':** 0.42 lbs (0.19 kg) | **A/TT/TTMxxx-LTS-4X-30':** 0.62 lbs (0.29 kg) **A/TT/TTMxxx-LTS-GD-10':** 0.73 lbs (0.32 kg) | **A/TT/TTMxxx-LTS-GD-30':** 0.93 lbs (0.43 kg)
Agency Approvals:	WEEE, RoHS2

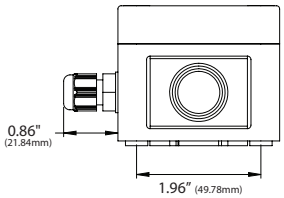
Note[1]: Transmitter's calibrated at 71°F (22°C) nominal | **Note[2]:** Where t is the Absolute Value of temperature in Centigrade above or below 0°C

DIMENSIONAL DRAWING

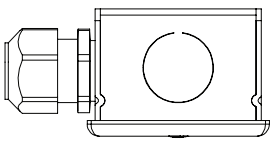
NEMA 4X Enclosure [4X]

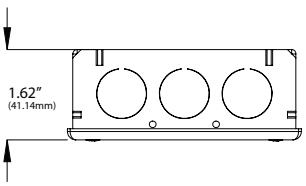


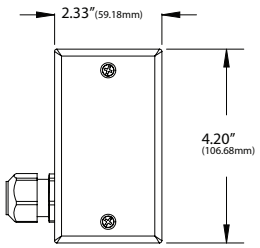




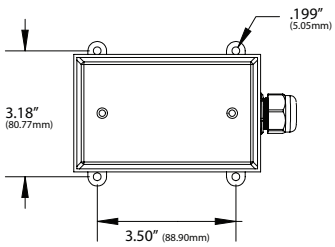
Galvanized Enclosure [GD]

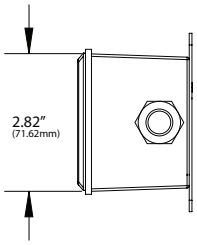


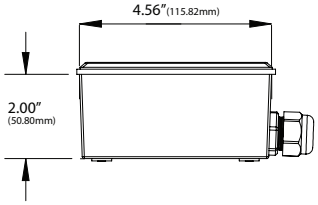




Bell Box Enclosure [BB]







Front View | **Right View** | **Top View**

OPTIONAL SENSOR ORDERING

Model # Example: A/ (A.) | TT100 (B.) | LTS (C.) | 1 (D.) | GD (E.) | 10' (F.) | (G.)

		MODEL #
A. Sensor Series *No Selection Required*	**A/** →	**A/**
B. Model Series *Select One (1)*	**TT100** = 100 Ohm RTD | **TTM100** = Matched 100 Ohm RTD (Specify 3 or 5 Point NIST) **TT1K** = 1K Ohm RTD | **TTM1K** = Matched 100 Ohm RTD (Specify 3 or 5 Point NIST)	
C. Configuration *No Selection Required*	**LTS** = Freezer Sensor →	**LTS**
D. Output Signal *Select One (1)*	**1** = 1 to 5 VDC (3-Wire) | **2** = 2 to 10 VDC (3-Wire) | **4** = 4 to 20 mA (2-Wire Loop Powered)	
E. Enclosure *Select One (1)*	**GD** = Galvanized Enclosure | **BB** = NEMA 3R Enclosure | **4X** = NEMA 4X Enclosure	
F. Lead Length *Select One (1)*	**10'** = 10 Feet Leads (3.05 m) | **30'** = 30 Feet (9.15m)	
G. Calibrated Span	**Specify Span in °F or °C (Best Accuracy in 100°F Increments)**	