

Freezer Series | Platinum RTD

Remote Freezer, Platinum RTD



Automation Components
a DwyerOmega brand

The ACI RTD Freezer Series features a 4.76 mm (3/16 in) diameter stainless steel probe with a 3.05 m (10 ft) or 9.14 m (30 ft), 3 Conductor, 0.51 mm (24 AWG) Plenum rated jacketed Teflon cable. The sensors in this series are manufactured using ACI's proven encapsulation process to eliminate the effects of moisture upon the sensors. The sensor is designed to be used in Pharmaceutical, Liquid Nitrogen, Freezers, Refrigerators and Hydronic applications where a remote sensor is required due to the extreme temperature ranges and presence of ice and moisture. An optional "-GD" galvanized or "-4X" NEMA 4X weather proof enclosure and NIST Certificates are available as referenced in the ordering grid on the product data sheet. The Freezer RTD sensors can be used with any of the Single or Triple Point Thermal Buffers for when slower response time is desired.

Applications

Pharmaceutical, Liquid Nitrogen, Refrigerators, Freezers, Hydronic Heating, Remote Sensor Applications, Hospital, Agricultural

Warranty

The ACI RTD Platinum Freezer Series is covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, workaci.com.

Specifications

Sensor Type: Platinum RTD

Sensor Curve: PTC (Positive Temperature Coefficient)

Number Sensing Points: One

Number Wires: Three Conductors (White and Two Red Wires); Polarity Sensitive (Tie Red wires together)

Sensor Output at 0 °C (32 °F)

A/100-LTS Series: 100 Ω nominal

A/1K-LTS Series: 1000 Ω nominal

Sensor Tolerance Class

Class B Accuracy Formula: $\pm \text{ }^\circ\text{C} = (\pm 0.30 \text{ }^\circ\text{C} + (0.005 \times |t|))$ where t is the Absolute Value of temperature in °C above or below 0 °C

-200°C (-328°F): $\pm 1.30 \text{ }^\circ\text{C} (\pm 2.34 \text{ }^\circ\text{F})$

0°C (-32°F): $\pm 0.30 \text{ }^\circ\text{C} (\pm 0.54 \text{ }^\circ\text{F})$

Din Standard: DIN EN 60751 (IEC 751)

Temperature Coefficient: 3850 ppm / °C

Response Time (63 % Step Change)

A/100-LTS Series: In still air: 3:40 (minutes:seconds)

In water: 19 seconds

A/1K-LTS Series: In still air: 3:50 (minutes:seconds)

In water: 22 seconds

Sensor Operating Temperature Range: -198 °C to 150 °C (-324 °F to 302 °F)

Enclosure Operating Temperature Range

"-GD" Enclosure: -40 °C to 100 °C (-40 °F to 212 °F)

"-4X" Enclosure: -40 °C to 70 °C (-40 °F to 158 °F)

Storage Temperature Range: -40 °C to 80 °C (-40 °F to 176 °F)

Operating Humidity Range: 10 % to 100 % RH



Enclosure Material | Flammability Rating

"-GD" Enclosure: Galvanized Steel

"-4X" Enclosure: Polystyrene I UL94-V2

Enclosure NEMA/IP Ratings

"-GD" Enclosure: NEMA 1 (IP10)

"-4X" Enclosure: NEMA 4X (IP 66)

Cable Gland (Fitting) Size | Hole Size: PG7 I 15 mm (0.591 in)

Cable Gland Material | Sleeve Material: Polyamide 6 I Neoprene

Cable Gland Wire Clamping Size | IP Rating: 2.5 mm (0.098 in) to 6.5 mm (0.256 in) I IP 68 (NEMA 6P)

Cable Gland Torque Rating: 2.5 Nm (22.127 lb-in)

Probe Material | Length | Diameter: 316 Stainless Steel I 50.8 mm (2 in) I 4.76 mm (0.1875 in) nominal

Lead Length | Cable Diameter: 3.05 m (10 ft) or 9.15 m (30 ft) I 2.69 mm (0.106 in) nominal

Conductor Size | Conductor Material: 0.51 mm (24 AWG) I Silver Plated Copper

Lead Wire Insulation | Jacket Color: FEP/FEP (Teflon) Jacketed Cable I White

Product Weight

A/xx-LTS-10': 0.073 kg (0.16 lb)

A/xx-LTS-4X-10': 0.181 kg (0.40 lb)

A/xx-LTS-GD-10': 0.322 kg (0.71 lb)

A/xx-LTS-30': 0.163 kg (0.36 lb)

A/xx-LTS-4X-30': 0.272 kg (0.60 lb)

A/xx-LTS-GD-30': 0.413 kg (0.91 lb)

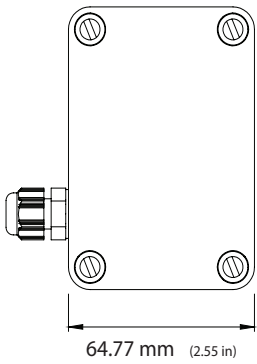
Agency Approvals: CE, UKCA, WEEE, RoHS3

Dimensions

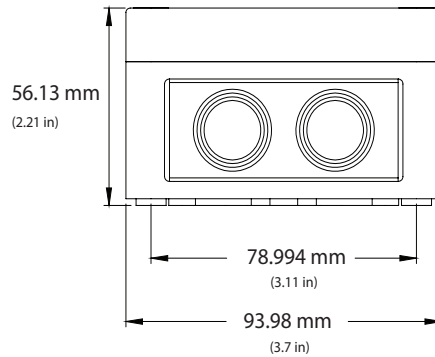


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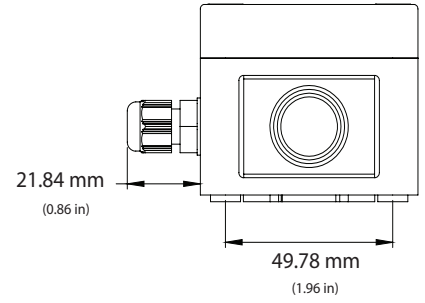
NEMA 4X Enclosure (4X)



Front View

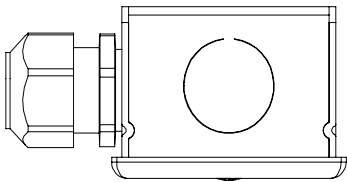


Side View

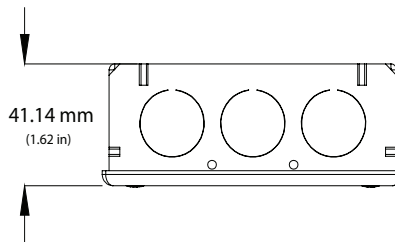


Top View

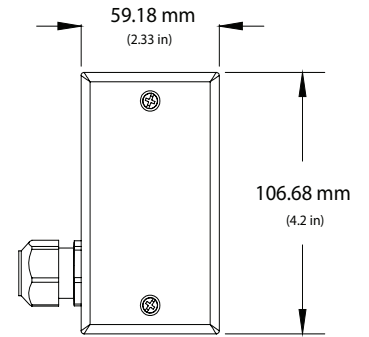
Galvanized Enclosure (GD)



Front View



Side View

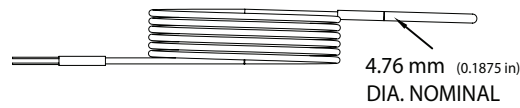


Top View

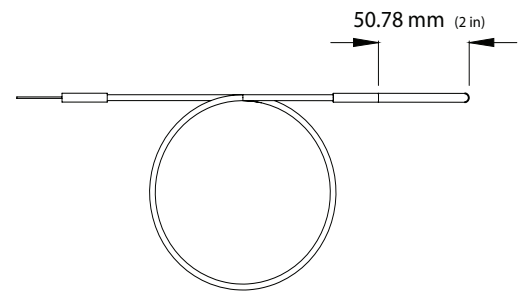
Sensor Probe



Front View



Side View



Top View



Standard Ordering

Model #	Item #	Description
A/100-LTS-10'	125169	100 Ω RTD, 50.8 mm (2 in) Probe, Freezer Sensor, 3.05 m (10 ft) Leads
A/100-LTS-GD-10'	142513	100 Ω RTD, 50.8 mm (2 in) Probe, Freezer Sensor, 3.05 m (10 ft) Leads, Galvanized Enclosure
A/100-LTS-4X-10'	142515	100 Ω RTD, 50.8 mm (2 in) Probe, Freezer Sensor, 3.05 m (10 ft) Leads; NEMA 4X Enclosure
A/100-LTS-30'	126443	100 Ω RTD, 50.8 mm (2 in) Probe, Freezer Sensor, 9.15 m (30 ft) Leads
A/100-LTS-GD-30'	142514	100 Ω RTD, 50.8 mm (2 in) Probe, Freezer Sensor, 9.15 m (30 ft) Leads, Galvanized Enclosure
A/100-LTS-4X-30'	129131	100 Ω RTD, 50.8 mm (2 in) Probe, Freezer Sensor, 9.15 m (30 ft) Leads; NEMA 4X Enclosure
A/1K-LTS-10'	125213	1 kΩ RTD, 50.8 mm (2 in) Probe, Freezer Sensor, 3.05 m (10 ft) Leads
A/1K-LTS-GD-10'	142139	1 kΩ RTD, 50.8 mm (2 in) Probe, Freezer Sensor, 3.05 m (10 ft) Leads, Galvanized Enclosure
A/1K-LTS-4X-10'	133656	1 kΩ RTD, 50.8 mm (2 in) Probe, Freezer Sensor, 3.05 m (10 ft) Leads; NEMA 4X Enclosure
A/1K-LTS-30'	125214	1 kΩ RTD, 50.8 mm (2 in) Probe, Freezer Sensor, 9.15 m (30 ft) Leads
A/1K-LTS-GD-30'	142516	1 kΩ RTD, 50.8 mm (2 in) Probe, Freezer Sensor, 9.15 m (30 ft) Leads, Galvanized Enclosure
A/1K-LTS-4X-30'	125212	1 kΩ RTD, 50.8 mm (2 in) Probe, Freezer Sensor, 9.15 m (30 ft) Leads, NEMA 4X Enclosure

Model # Example: **A/1K-LTS-GD-30'** or **142516**

Optional Sensor Ordering

	Options and Descriptions	Model #
A. Sensor Series <i>No Selection Required</i>	A/	A/
B. Model Series <i>Select One (1)</i>	100 = 100 Ω Platinum RTD 1K = 1 kΩ Platinum RTD	
C. Configuration <i>No Selection Required</i>	LTS = Freezer Sensor	LTS
D. Enclosure <i>Select One (1)</i>	---- = No Enclosure GD = Galvanized Enclosure 4X = NEMA 4X Enclosure	
E. Lead Length <i>Select One (1)</i>	10' = 3.05 m (10 ft) leads 30' = 9.15 m (30 ft) leads	
F. NIST <i>Select One (1)</i>	---- = No NIST Certificate NIST = NIST Certificate (3 Points)	

Model # Example:

A/	1K	LTS	4X	30'	NIST
A.	B.	C.	D.	E.	F.



Accessories Ordering

Model #	Item #	Description
A/TB-2.0-GLA	147220	Thermal Buffer, 67 ml (2 oz) Nalgene Bottle, 1 Sensing Point, Mounting Bracket, Glass Beads, Rated to -100 °C
A/TB-2.0-GLY	147221	Thermal Buffer, 67 ml (2 oz) Nalgene Bottle, 1 Sensing Point, Mounting Bracket, Food Grade Glycol, Rated to -40 °C
A/TB-2.0-XXY	147222	Thermal Buffer, 67 ml (2 oz) Nalgene Bottle, 1 Sensing Point, Mounting Bracket, Empty Bottle, Polyamide Fitting, Rated to -40 °C
A/TB-2.0-XXA	147653	Thermal Buffer, 67 ml (2 oz) Nalgene Bottle, 1 Sensing Point, Mounting Bracket, Empty Bottle, SS Fitting, Rated to -100 °C
A/TB-8.5-1-GLA	147223	Thermal Buffer, 250 ml (8.5 oz) Nalgene Bottle, 1 Sensing Point, Mounting Bracket, Glass Beads, Rated to -100 °C
A/TB-8.5-1-GLY	147225	Thermal Buffer, 250 ml (8.5 oz) Nalgene Bottle, 1 Sensing Point, Mounting Bracket, Food Grade Glycol, Rated to -40 °C
A/TB-8.5-1-XXX	147226	Thermal Buffer, 250 ml (8.5 oz) Nalgene Bottle, 1 Sensing Point, Mounting Bracket, Empty Bottle, Rated to -100 °C
A/TB-8.5-3-GLA	147227	Thermal Buffer, 250 ml (8.5 oz) Nalgene Bottle, 3 Sensing Points, Mounting Bracket, Glass Beads, Rated to -100 °C
A/TB-8.5-3-GLY	147228	Thermal Buffer, 250 ml (8.5 oz) Nalgene Bottle, 3 Sensing Points, Mounting Bracket, Food Grade Glycol, Rated to -40 °C
A/TB-8.5-3-XXX	147229	Thermal Buffer, 250 ml (8.5 oz) Nalgene Bottle, 3 Sensing Points, Mounting Bracket, Empty Bottle, Rated to -100 °C
A/GLYCOL 250ML	144021	Glycol Filled Bottle (250 ml)
A/GLA 250ML	147328	Glass Bead Filled Bottle (250 ml)

Note: 2.0 (2 oz) models are shipped with the original lid in place along with an additional lid drilled out with the sensor cord grip.

