



STRAP ON

Non-Intrusive Pipe Mount, Transmitter

The ACI Transmitter Strap-On Series features a standard two-wire, 4 to 20 mA loop powered output signal with optional 3-Wire voltage output signals available. The Strap-On transmitter should be used in retrofit applications where an immersion style sensor can't be inserted into the pipe or in applications where high accuracy is not required. For best results, ACI recommends cleaning the pipes with a brush or small piece of sand paper before applying thermal grease to the top of the copper plate and securing to the pipe. Be sure not to over tighten before insulating the transmitter from the effects of the ambient air. For best results the sensor should be mounted on the top or sides of the pipe such that moisture and condensation will not cause the transmitter to fail prematurely. All transmitters must be ordered with the

temperature span that you require, since the boards are tuned to give you the best performance characteristics for the temperature span specified. Zero and Span adjustments are available for recalibration in the field when using NIST Certified equipment. ACI recommends the use of an 18 to 22 AWG shielded cable for all temperature transmitter installations to protect against the introduction of noise onto the signal lines.

Applications: Hot Water Systems, Chilled Water Systems, Hydronic Systems, Chillers, Boilers

PRODUCT SPECIFICATIONS

Transmitter Supply Voltage Supply Current:	+8.5 to 32 VDC (Reverse Polarity Protected) 25 mA minimum
	250 Ohm Load: +13.5 to 32 VDC 500 Ohm Load: +18.5 to 32 VDC
Maximum Load Resistance:	(Terminal Voltage - 8.5 V) 0.020 A
Transmitter Output Signals:	Current: 4-20 mA (2-Wire, Loop Powered) Voltage: 1-5 VDC or 2-10 VDC (3-Wires)
Calibrated Accuracy Linearity¹:	Temp. Spans < 500°F (260°C): +/- 0.2% Temp. Spans > 500°F (260°C): +/- 0.5%
Temperature Drift²:	Temp. Spans < 100°F (38°C): +/- 0.04%/°F Temp. Spans > 100°F (38°C): +/- 0.02%
Calibrated Temperature Spans:	Minimum Temp. Span: 50°F (28°C) Maximum Temp. Span: 300°F (538°C)
Transmitter Warm Up Time Warm Up Drift:	10 Minutes +/- 0.1%
Transmitter Operating Temperature Range:	-40°F to 185°F (-40 to 85°C)
Connections Wire Size:	Screw Terminal Blocks 16 AWG (1.31 mm ²) to 26 AWG (0.129 mm ²)
Terminal Block Torque Rating:	0.37 ft-lb (0.5 Nm) nominal
Sensor Type Sensor Curve:	Platinum RTD PTC (Positive Temperature Coefficient)
Nominal Sensor Resistance @ 32°F (0°C):	A/TT/TTM100 Series: 100 Ohms A/TT/TTM1K Series: 1000 Ohms
RTD Tolerance Class Accuracy:	+/- 0.06% Class A (Tolerance Formula: +/- °C = (0.15°C + (0.002 * t))) where t is the absolute value of Temperature above or below 0°C in °C
Sensor Din Standard Temperature Coefficient:	DIN EN 60751 (IEC 751) 3850 ppm / °C
Enclosure Specifications (Operating)	A/XX-S-GD: Galvanized Steel, -40 to 93°C (-40 to 200°F), NEMA 1 (IP 10)
Temp. Range, Flammability, NEMA/IP Ratings:	A/XX-S-PB: ABS Plastic, -30 to 85°C (-22 to 185°F), UL94-HB, Plenum Rated A/XX-S-4X: Polystyrene Plastic, -40 to 70°C (-40 to 158°F), UL94-V2, NEMA 4X (IP 66)
Storage Temperature Range:	-40 to 75°C (-40 to 167°F)
Operating Humidity Range:	10 to 90% RH, non-condensing
Sensing Plate Material:	Copper
Fits Pipe Sizes:	1 1/4" (32 mm) to 4" (100 mm)
Foam Material Flammability Rating	Neoprene/EPDM/SBR Polymer UL94-HF1; MIL-R-6130C; FMVSS-302
Lead Length Conductor Size:	14" (35.6cm) 22 AWG (0.65mm)
Lead Wire Insulation Wire Rating:	Etched Teflon (PTFE) Colored Leads MIL-W-16878/4 (Type E)
Conductor Material:	Silver Plated Copper
Product Weight:	A/XX-S-GD: 0.83 lbs. (0.38kg) A/XX-S-PB: 0.43 lbs. (0.20kg) A/XX-S-4X: 0.58 lbs. (0.27kg)
Agency Approvals:	RoHS2, WEEE

Note¹: Transmitter's calibrated at 71°F (22°C) nominal | **Note²:** Temperature Drift is referenced to 71°F nominal calibration temperature





DIMENSIONAL DRAWING

<p>Plastic Box Enclosure [PB]</p>		
<p>Galvanized Enclosure [GD]</p>		
<p>NEMA 4X Enclosure [4X]</p>		
Front View	Right View	Top View

CUSTOM ORDERING		MODEL #
A. Sensor Series <i>No Selection Required</i>	A/	A/
B. Model Series <i>Select One (1)</i>	TT100 = 100Ω TTM100* = Matched 100Ω TT1K = 1KΩ TTM1K* = Matched 100Ω	
C. Configuration <i>No Selection Required</i>	S = Strap-On (1.25" to 4" Pipe Size)	S
D. Analog Output <i>Select One (1)</i>	1 = 1 to 5 VDC 2 = 2 to 10 VDC 4 = 4 to 20 mA	
E. Enclosure <i>Select One (1)</i>	GD = Galvanized PB = Plastic 4X = NEMA 4X Weather Proof	
F. Calibrated Span	Specify Span in °F or °C (Best Accuracy in 100°F Increments)	

Note*: Must specify a 3 or 5 Point NIST Certificate with the TTM100 or TTM1K Transmitter above

ACCESSORIES ORDERING		HARDWARE, 2-5" HOSE CLAMP -OR- 100244
Model #	Item #	Description
HARDWARE, 2-5" HOSE CLAMP	100244	Hardware, 2-5" Hose Clamp, Quick Release Worm Gear, 201/301 Stainless Steel
HARDWARE, 2-12.25" HOSE CLAMP	142966	Hardware, 2-12" Hose Clamp, Quick Release Worm Gear, 201/301 Stainless Steel
NSG HEAT TRANSFER PASTE 2OZ	102595	Thermal Grease, 2 oz. Tube, Silicone Free, -40 to 320°F (-40 to 160°C)
NSG HEAT TRANSFER PASTE 16OZ	140574	Thermal Grease, 16 oz. Jar, Silicone Free, -40 to 390°F (-40 to 198°C)

