

DYNISCO MODEL TX180

Smart Temperature Transmitter

Description

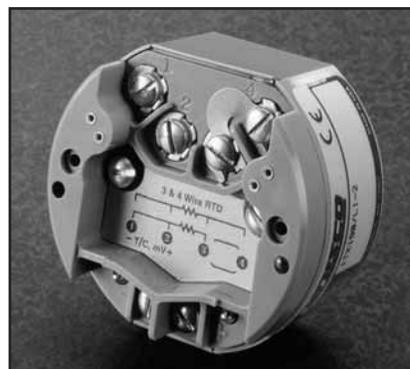
The Dynisco TX180 programmable temperature transmitter is easy to use and moderately priced – like an analog transmitter. It's also versatile, linear, and based on microprocessor logic. The TX180 can be mounted in explosion - proof and weatherproof enclosures, as well as on a DIN rail for panel mounting applications. Local indication can be added at any time by simply plugging in one of two optional displays. One transmitter on the shelf can back up the needs of an entire facility. The exceptional versatility of the TX180 not only lets you configure your transmitters exactly the way you want them, it also dramatically reduces back - up stock and spare parts.

Features

- Automatic self - calibration
- Digital temperature compensation
- Accepts thermocouples B, C, E, J, K, L, N, R, S, T and U grounded or ungrounded or mV inputs
- 2, 3 or 4 - wire RTDs (DIN, SAMA, Cu and Ni)
- 22 point custom linearization curve for non - standard inputs or sensor matching
- One or two line display for local indication (optional)
- On - line or off - line setup in minutes
- Two - year calibration warranty
- Configure and display in English, Spanish, French or German (LI - 2 option)

Benefits

- Repeatability and higher accuracy
- Long term stability
- Reduces spare inventory
- Greater versatility
- High accuracy on non - standard inputs
- Cost effective options
- Easy and quick set - up
- Lower life - cycle costs
- Greater flexibility



Specifications

Performance Characteristics

Accuracy: $\pm 0.05\%$ of reading, 100% of sensor range

RFI/EMI: Protection to 10 V/meter

Ambient temperature stability: Self - correcting over the operating temperature

Dimensions: 2.35" (6 cm) diameter, 1.55" (4 cm) height, 2.15" (5.5 cm) height with LI - 1 or LI - 2 installed

Weight: 4 oz. (electronics only)

Dynamic response:

Turn on time: Less than 5 seconds after power up

Ambient temperature gradient: Automatic compensation to 20°C/hour change

Update time: 0.15 seconds

Response to step input: 0.25 seconds, typical

Automatic diagnostics: Every 3 seconds the TX180 transmitter performs self - checks for zero, span, cold - junction temperature, open T/C, open RTD element, shorted RTD element, each open RTD lead and transmitter malfunction

Temperature Characteristics

Operating temperature range:

Electronics: -40°F to +185°F (-40°C to +85°C)

Display: -4°F to +158°F (-20°C to +70°C)

Storage temperature range: -58°F to +185°F (-50°C to +85°C)

Automatic self - calibration every 3 seconds

Cold junction compensation: Self - correction to $\pm 0.5^\circ\text{C}$

Electrical Characteristics

Input voltage: 12 to 42 Vdc

Output: 4 to 20 mA, 2 - wire

Failsafe: User settable from 3.6 mA to 23.0 mA, or OFF

Interchangeability: All units interchangeable without field calibration

EMI/RFI immunity: $< 0.5\%$ of reading (SAMA PMC 33.1c test method) 20 KHz to 1000MHz, 10 V/meter

Isolation: 250 Vac rms or 800 Vdc

Full 500 V isolation

Non - interlacing zero and full scale

Reverse polarity protection: 42 Vdc applied with either polarity

Power and load:

Supply voltage (no load resistance): 12 to 42 Vdc (30 Vdc for I/S version)

Supply voltage (with load resistance):

$V_{\text{supply}} = (12) + (R_{\text{load in Kohm}} \times 23 \text{ mA})$

Supply voltage effect: $< \pm 0.005\%$ of span per volt

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Smart Temperature Transmitter

Enhanced Process Measurement

Automatic self - calibration every three seconds to on - board reference standards increases process measurement reliability and significantly reduces ongoing maintenance costs. Digital ambient temperature compensation completely characterizes each transmitter for performance in ambient environments from -40° to +185°F (-40°C to +85°C), resulting in greatly reduced measurement drift. The TX180 offers dramatically improved performance and outstanding value over competitive analog, programmable and smart transmitters. Its stability, accuracy, versatility, reliability and ease - of - use yield real benefits in process industry applications.



Local Indication

LI - 1: One line display/keyboard. Plug - in display/keyboard for local indication and configuration, setup and re - ranging of ITX190 or TX180. One line numeric display with integral two button keyboard. 4 digit indication in engineering units

LI - 2: Two line display/keyboard. Plug - in display/keyboard for local indication and configuration, setup and re - ranging of ITX190 or TX180. 2 line numeric display with integral 5 digit upper line indication in engineering units. Bar graph shows percent loop output. Local indicators are interchangeable

Approvals

FM/CSA Non - Incentive Rating; Intrinsic Safety - optional; CE approved

Configuration/Setup Software

Dynisco's SmartLink is a Windows - based program for configuration and setup of the Dynisco TX180 and ITX190 temperature transmitters

Ordering Guide

Model	Options		Accessories	
	Code	Description	Code	Description
TX180	I/S	Intrinsic safety	PY - 2	2" pipe yoke for XP - F series housing
	LI - 1	Local indicator with one line display and integral keyboard	DIN - KIT	DIN rail mounting adapter for ITX190 and TX180 series transmitters
	LI - 2	Local Indicator with two line display and integral keyboard	SS - TAG	Stainless steel tag
	XP - FG	NEMA 7, explosion - proof: NEMA 4x low dome housing with window	PS - TAG	Plastic tag
	XP - FN	NEMA 7, explosion - proof: NEMA 4x low dome housing	PS - 2412	Power supply, 115/230 Vac to 24/28 Vdc regulated 1.2/0.8A
	XP - HEAD	NEMA 7, explosion - proof: raintight head mount housing	PS - 2405	AC adapter, 115 Vac to 24 Vdc, 0.5A, plug - in
	WP - HEAD	Weatherproof (IP66) head mount housing	Smartlink - LSK	Smartlink software with LSK modem cable

Ordering Example: TX180 - LI - 2 - XP - FG - PY2 - PS - 2405