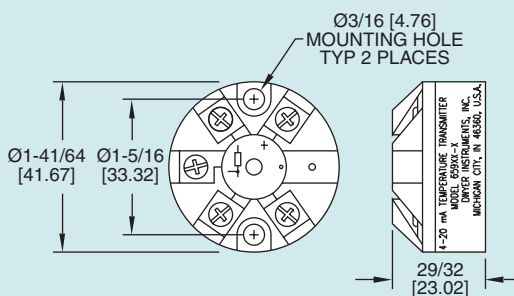
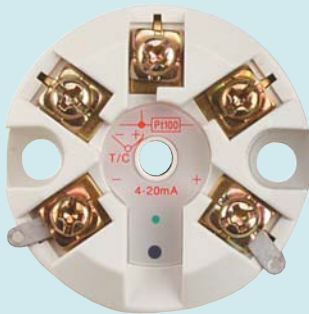




Series
659

Push-Button Temperature Transmitter

Programmable, RTD, Thermistor or Thermocouple Input, In-Head Mounting



Series 659 Push-Button Temperature Transmitters accept thermocouple (J, K, T), RTD (Pt100 Ω) or thermistor input and provide a linearized 4 to 20 mA output. The transmitter is quickly ranged and calibrated by using a single on-board switch. An LED provides visual indication of sensor fault and programming mode. Models feature reverse polarity protection. Thermocouple models are also galvanically isolated and cold junction compensated.

The compact transmitter can be mounted directly within any standard thermal head for connection to the sensor. The Series 659 Transmitters are ideal for temperature measurement in boilers, burners, ducts, furnaces, refrigeration systems, food processing, tanks, chemical processing, steam generators or any other process application.

MODELS

Model Number	Input
659TC-1	Thermocouple (Type J, K, T)
659RTD-1	(3-wire RTD Pt100 Ω)
659TH-1	Thermistor (2252 Ω)

SPECIFICATIONS

Input Range: Type J T/C: -328 to 2192°F (-200 to 1200°C); Type K T/C: -328 to 2498°F (-200 to 1370°C); Type T T/C: -328 to 752°F (-200 to 400°C); Pt100 Ω RTD: -328 to 1562°F (-200 to 850°C); Thermistor: -13 to 257°F.

Accuracy: T/C models: $\pm 0.04\%$ F.S., $\pm 0.04\%$ of reading or $\pm 0.5^\circ\text{C}$ whichever is greater; RTD: $\pm 0.2^\circ\text{C} \pm 0.1\%$ of rdg; Thermistor: $\pm 0.25^\circ\text{F} (\pm 0.1^\circ\text{C})$.

Output: Linearized 4 to 20 mA, 2-wire loop powered.

Sample Rate: 500 ms.

Loop Resistance: T/C: 700 Ω @ 24 VDC; RTD: 800 Ω @ 24VDC; Thermistor: 24 VDC.

Output Thermal Drift: Zero: 0.2 $\mu\text{A}/^\circ\text{C}$; Span: 0.5 $\mu\text{A}/^\circ\text{C}$.

Ambient Operating Temperature: -4 to 158°F (-20 to 70°C), 80% RH max.

Ambient Storage Temperature: -40 to 158°F (-40 to 70°C), 95% RH max.

Burnout: Upscale 22 mA.

Weight: 0.92 oz (26 g).

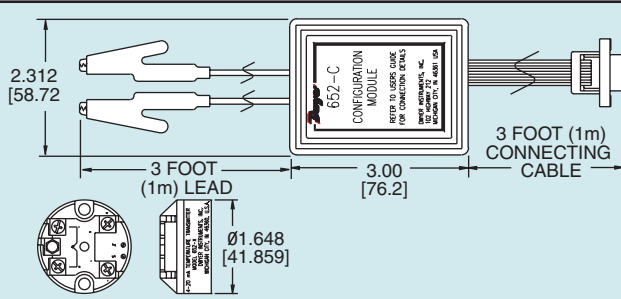
Temperature



Model
652-0

Programmable Transmitter

RTD, Thermocouple, Voltage or Potentiometer Input, Galvanically Isolated



Model 652-0 Programmable Transmitter accepts any commonly used temperature sensor, slidewire transducer or millivolt signal and produces a 4 to 20 mA output signal. Input type and range are easily programmed using a PC and the simple Windows™ based software program model 652-C sold separately. The user can completely reconfigure units of measure, high/low range, filtering factor, offset, and transmitter reference details. The model 652-0 features 500V input to output isolation to remove ground loop effects and four filter settings to remove incoming signal noise. Outstanding versatility and compact size make this unit ideal for any temperature application.

Model 652-0 Programmable Transmitter

ACCESSORIES

Model 652-C Configuration Kit (includes power adapter, configuration module, software and carrying case).

SPECIFICATIONS

Input/Output Isolation: 500 VAC RMS.

Thermocouple Input Range: J: -328 to 2192°F (-200 to 1200°C); K: -328 to 2498°F (-200 to 1370°C); T: -328 to 752°F (-200 to 400°C); R and S: -14 to 3200°F (-10 to 1760°C); E: -328 to 1832°F (-200 to 1000°C); F: -148 to 1112°F (-100 to 600°C); N: -292 to 2372°F (-180 to 1300°C).

RTD Input Range: (Pt100 Ω): -328 to 1562°F (-200 to 850°C).

Output: Linearized 4 to 20 mA.

Output Impedance: 700 Ω @ 24 VDC.

Power Requirements: 10 to 35V.

Accuracy: T/C: $\pm 0.04\%$ full range input, $\pm 0.04\%$ rdg.; RTD: ± 0.01 full range input, $\pm 0.05\%$ of rdg.; Voltage: 10 μV , $\pm 0.07\%$ rdg.;

Potentiometer: 0.1% full range input.

Thermal Drift: Zero: 0.1 $\mu\text{V}/^\circ\text{C}$ (RTD zero drift is 0.008°F/°F); Span: 100ppm/°C.

Ambient Operating Temp.: -40 to 185°F (-40 to 85°C).

Response Time: <1 second.

Update Time: 250 msec max.

Filtering: Off, 2 seconds, 10 seconds, or adaptive.

Cold Junction Error: $\pm 29^\circ\text{F} (\pm 0.5^\circ\text{C})$.

Computer Interface: RS232 via configurator 652-C, IBM compatible 386 or above with 4mB Ram and serial port.

Housing: Noryl™.

Weight: 0.92 oz (26 g).

Max. Output Load: 700 Ω @ 24 VDC.

Agency Approvals: CE.