

Universal Input Temperature Transmitter

With Solid State Relay Output

TX86



- ✓ Universal Input RTD, Thermocouple, Ω , POT and mV
- ✓ Models for 100, 200, 500, 1000 Ω , 0.00385 2- or 3-Wire RTD's
- ✓ Field Scalable
- ✓ Programming by Push-Buttons on Front
- ✓ Isolation 1000 VRMS Between Input and Output
- ✓ Self-Diagnostic With Temp Drift Compensation
- ✓ LED Display—High Brightness
- ✓ Sensor O/C and S/C Detection
- ✓ Solid State Relay Output

The TX86 is a 2-wire loop-powered, galvanic-Isolated, programmable universal input temperature transmitter that is designed to be head-mounted, but can be standalone as well. It uses 16 bits A/D and D/A converters offering high accuracy with Linearized 4 to 20 mA or 20 to 4 mA outputs. Being a user-friendly rugged instrument, it displays the measured variable and has a SSR output.

The TX86 has 3 push buttons on its front keyboard and a 4-digit 7-segment bright LED display module that indicates the values of the measured parameters during the Measuring Mode while also providing prompting and programming instructions during the setup and calibration mode routines. The 1000V AC galvanic isolation removes all ground loop effects. Three different engineering units ($^{\circ}\text{C}$, $^{\circ}\text{F}$ and %), can be displayed and the chosen unit is highlighted by an associated LED lamp when in the measuring mode.



TX86 shown actual size.



PSR-24L shown smaller than actual size.

PSR-24S shown smaller than actual size.

Specifications

Input Sensors	Measured Range ($^{\circ}\text{C}$)	Minimum Span ($^{\circ}\text{C}$)
K	-100 to 1372	50
J	-100 to 750	50
T	-100 to 400	50
E	-100 to 750	50
R	0 to 1700	50
N	-100 to 1300	50
S	0 to 1700	50
B	400 to 1800	50
100PT	-200 to 850	50
200PT	-200 to 500	50
500PT	-200 to 200	25
1000PT	-200 to 200	25
Ni120	-80 to 260	50
Cu10	-100 to 260	50
Resistance	0 to 2000 Ω	50 Ω
Potentiometer	0 to 2000 Ω	50 Ω
mV (millivolts)	-5 to 60	2 mV

General Performance:

(@ 24 Vdc, 25°C ±2°C)

Loop Power: 12 to 30 Vdc, LED indicator reverse polarity protected 60 Vdc

Output: 4/20 mA calibrated; 3.8 to 20.5 mA linear

Resolution: 2 µA

RTD Excitation Current: 30/150 µA ± 2%

Input Impedance: 1 MΩ, nominal

Maximum Load: 50 x (Vsupply – 12V) Ω

Accuracy: ± 0.2% of full scale input

Long-Term Stability: ± 0.15%/ year

Temp. Coefficient: ± 0.01%/°C (5 to 50°C)

Dampening Constant: Programmable

Configuration: Via 3 pushbuttons on front

Solid State Relay Output:

30 mA maximum

Cold Junction Comp:

± 2°C max (5 to 50°C)

Power Supply Effect: Less than 0.01%/V

Input Protection: 40 Vdc maximum

Sensor Burnout: Upscale >21 mA, downscale <3.8 mA

Isolation Rating: 1000V RMS continuous

Response Time: 1 second with dampening off

Power-on Response: Within 5 seconds

Ambient Temps: -20 to 70°C

(-4 to 158°F) (storage and operation)

Relative Humidity: 20 to 90%, non-condensing

Dimensions: 62 Dia x 42 mm H (2.44 x 1.65")

Mounting: Head-mounted

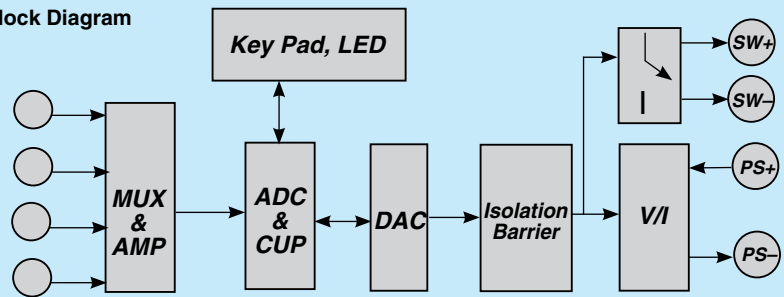
Housing: Plastic, polycarbonate

Weight: 80 g (0.18 lb)

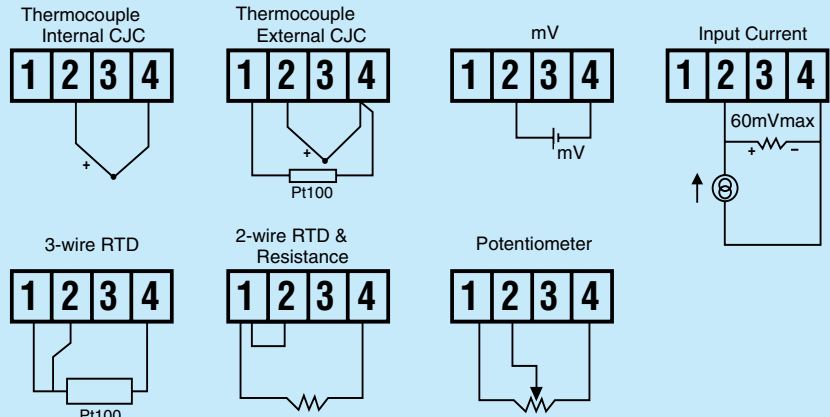


OMEGACARESM extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARESM covers parts, labor and equivalent loaners.

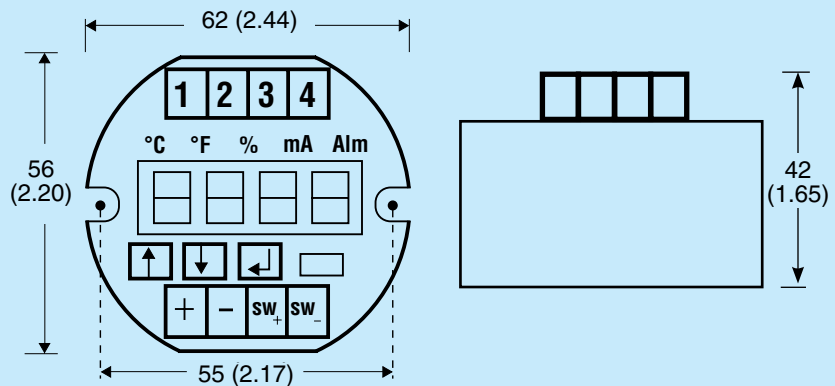
Block Diagram



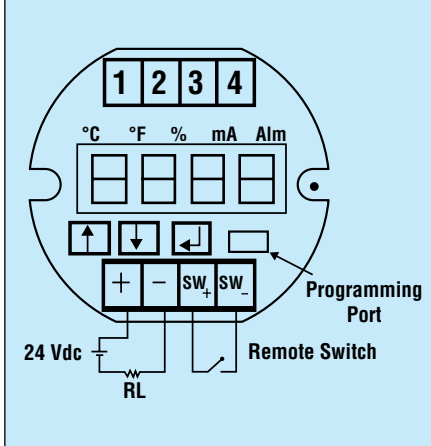
Input Connections



Dimensions: mm (inch)



Electrical Connections



To Order

Model No.	Description
TX86	Universal input transmitter
PSR-24S	Regulated power supply, 24 Vdc, 400 mA, screw terminal
PSR-24L	Regulated power supply, 24 Vdc, 400 mA, UL, stripped leads
PSR-24L-230	Regulated power supply, 24 Vdc, 400 mA, stripped leads, 230 Vac input, CE
PSU-93	Unregulated power supply, 16 to 23 Vdc, 300 mA max, screw terminal

Ordering Example: TX86, universal transmitter, and PSR-24S, regulated power supply. OCW-3, OMEGACARESM extends standard 1-year warranty to a total of 4 years.