Universal Input -- Temperature Transmitter
Model LW-1000-H

- **Universal Input RTD, T/C, Ohm, POT & mV**
- **Programming by Push-Buttons on front**
- **Isolation 1000 VRMS between Input & Output**
- **Self-diagnostic with Temp Drift Compensation**
- **LED Display – high brightness**
- **Sensor O/C & S/C detection**
- **Solid State Relay output**

Overview:

The Model LW-1000-H 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 & D/A converters offering high accuracy with Linearized 4/20mA or 20/4mA outputs. Being a User-Friendly rugged instrument, it displays the measured variable and has a SSR output. The LW-1000-H has 3 push buttons on its front keyboard & 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 & Calibration Mode routines. The 1000V AC Galvanic Isolation removes all ground loop effects. Three (3) different engineering units (Celsius, Fahrenheit & %), can be displayed and the chosen unit is highlighted by an associated LED lamp when in the measuring mode.

Specifications:

INPUT SENSORS	Measured Range	Min. Span
(α=385) 2 or 3-wire		
PT100	-200 – 850°C	50°C
PT200	-200 – 500°C	25°C
PT500, PT1000	-200 – 200°C	25°C
(α=385) 2 or 3-wire		
PT100	-100 – 650°C	50°C
Ni120 (DIN43760)	-80 – 260°C	50°C
Cu10	-100 – 260°C	50°C
Resistance	0 – 2000 Ohms	50 Ohms
Potentiometer	0 – 2000 Ohms	50 Ohms

INPUT SENSORS		Measured Range	Min. Span
K	IEC584-1	-100 – 1372°C	50°C
J	IEC584-1	-100 – 750°C	50°C
T	IEC584-1	-100 – 400°C	50°C
R	IEC584-1	0 – 1700°C	50°C
N	IEC584-1	-100 – 1300°C	50°C
S	IEC584-1	0 – 1700°C	50°C
E	IEC584-1	-100 – 750°C	50°C
B	IEC584-1	400 – 1800°C	50°C
mV (Millivolts)			2 mV

General Performance: (@ 24Vdc, 25°C +/-2°C)

Loop Power: 12 to 30Vdc, LED indicator
Reverse Polarity protected 60Vdc
Output: 4/20mA Calibrated; 3.8 -- 20.5mA Linear
Resolution: 2uA

RTD Excitation Current: 30/150 uA ± 2%
Input Impedance: 1Mohm, nominal
Maximum Load: 50 x (Vsupply – 12 V) ohm

Accuracy: ± 0.2% of full scale input

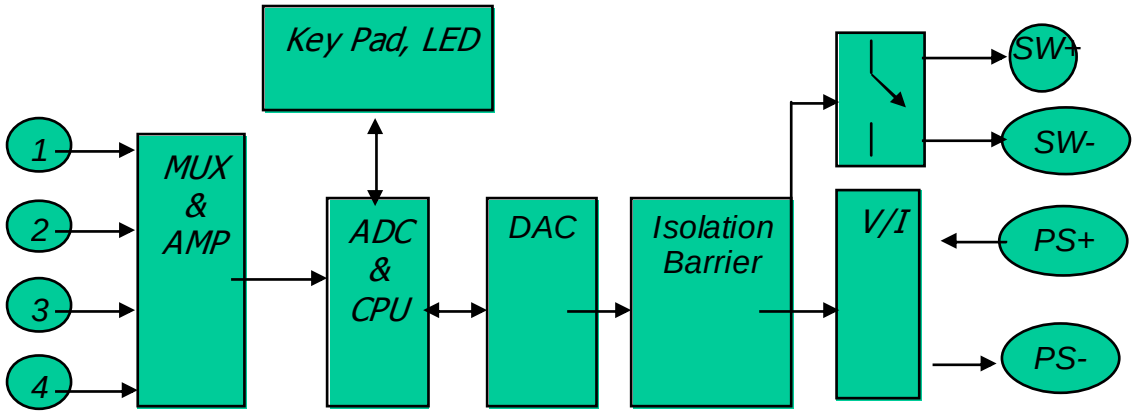
Long-term Stability: ± 0.15%/year

Temp. Coefficient: ± 0.01%/°C, (5 to 50°C)
Dampening Constant: Programmable
Configuration: via 3 Push Buttons on front
Solid State Relay output: 30mA maximum

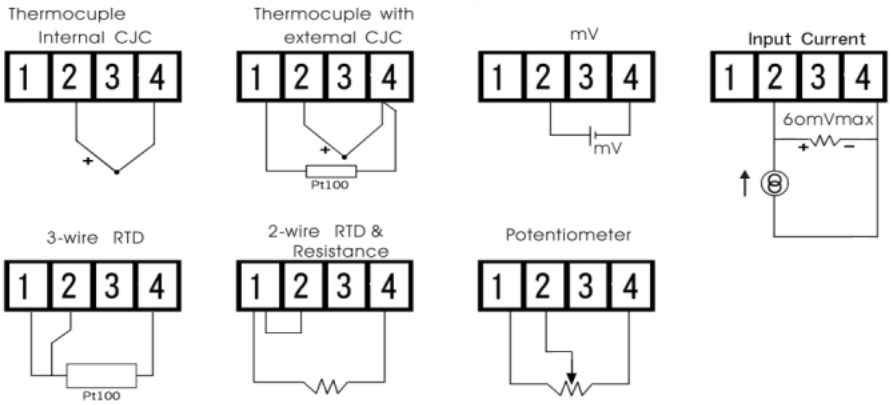
Cold Junction Comp: ± 2 °Cmax. (5 to 50°C)
Power Supply Effect: less than 0.01%/V
Input Protection: 40Vdc maximum
Sensor Burnout: Upscale>21mA, Downscale<3.8mA
Isolation rating: 1000Vrms continuous
Response Time: 1 second with dampening off
Power-on Response: within 5 seconds

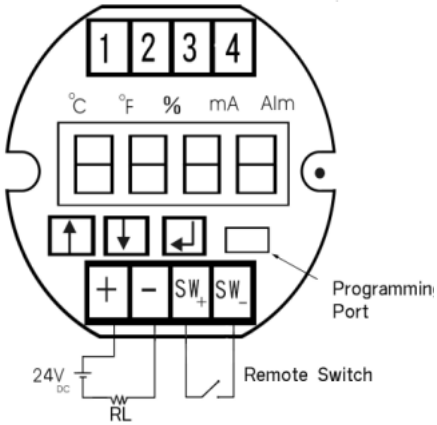
Ambient Temps: -20 to 70°C (Storage & Operation)
Relative Humidity: 20 to 90 %, non-condensing
Dimensions: 62mm Diam. x 42mm H (2.5" x 1.7")
Mounting: Head-mounted
Housing: plastic, Polycarbonate
Weight: 80 grams

Block Diagram:

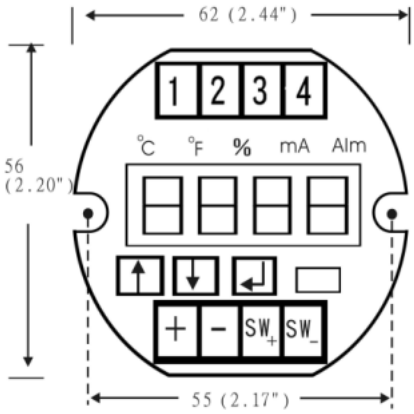


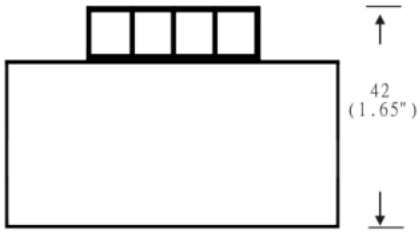
INPUT connections:
Figure 1





Electrical connections
Figure 2





Dimensions
Figure 3

Ordering: Model LW-1000-H

Unless otherwise specified, each unit will be supplied, SETUP as follows:

Input = 0—60mV **Burnout = Downscale** **Output = 4—20mA, Direct Acting**

PISOAMP, Inc

Subject to improvement & change without notice

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