



# INSTRUCTION MANUAL

MANUAL #24

## 1/16 DIN Solid State Temperature Indicator Model ETR-900

All temperature indicators in this series are made to fit into panel cut-outs which measure 1.775" (45mm) square. A minimum of 4" in depth is required for electrical clearances of rear terminal connections. The following specifications are common to all models:

### INPUT

Thermocouple (T/C)	Type K, J. Specified on Control Label.
RTD	PT 100 ohm ( $\alpha = .00385$ ) DIN ( $\alpha = .003992$ ) JIS
Cold Junction Compensation	Automatic
Input Break	Built-in, upscale on open sensor.
Input Impedance	10M ohm.
Common Mode Rejection (CMR)	CMRR 120dB, Min.
Normal Mode Rejection (NMR)	NMRR 60dB, Min. (60Hz)

### POWER

Rating	90 - 260VAC, 50/60Hz. 20-32VAC/DC models available on special order.
Accuracy	0.2% of SPAN.
Consumption	Less than 3VA

### ENVIRONMENTAL & PHYSICAL

Operating Temperature	10° to 125°F (-12 to 52°C).
Humidity	10 to 90% RH (non-condensing).
Insulation Breakdown	20M ohm Min., (5000VDC).
	2000VAC, 50/60Hz, 1 minute.
Vibration	10 - 55Hz, Amplitude 1.0mm.
Shock	660 ft./S <sup>2</sup> (20g.)
Weight	4½ oz. (128 grams)



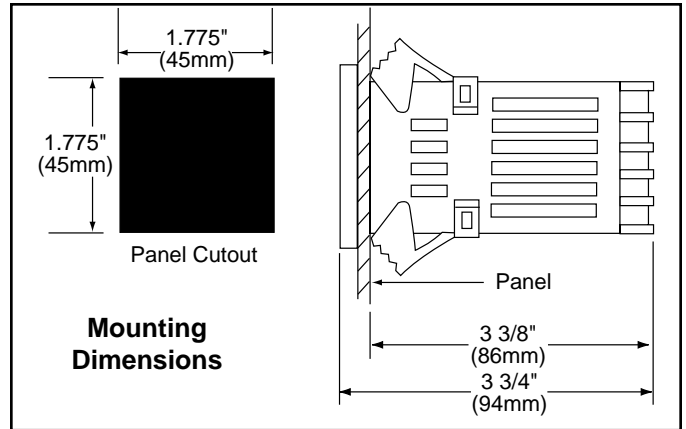
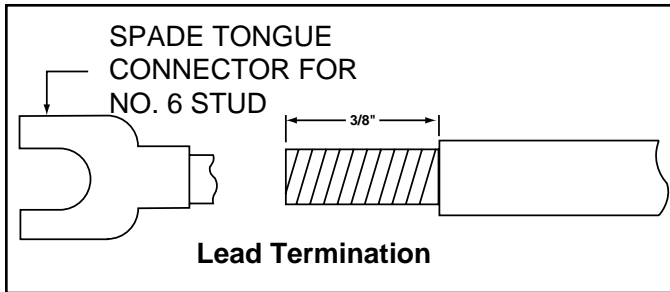
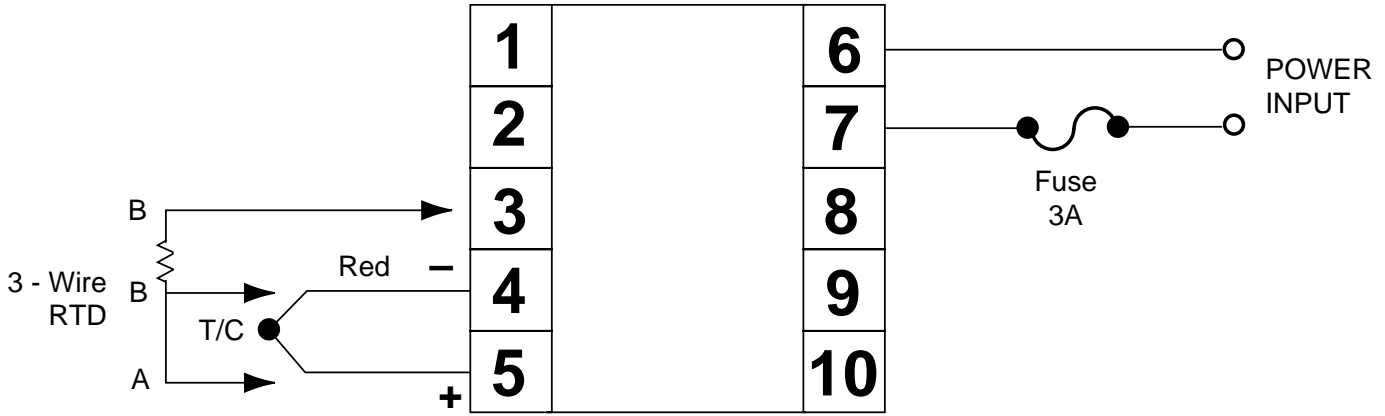
### DIMENSIONS

H – 1½" (48mm)	
W – 1½" (48mm)	
D – 3¼" (94mm)	
Depth behind panel – 3¾" (86mm)	
Panel Cutout	1.775" sq. (45mm sq.)
DIN Case	Plastic, full plug-in construction, with screw terminals on rear, adjustable brackets for panel mounting.

### MOUNTING

When mounting the instrument, it is important the control remains within the ambient temperature range of 10 to 125°F. Mounting it in any position is permissible. After inserting the control into the panel, secure it with the two mounting brackets provided with each unit.

- Both solderless terminals or "stripped" leads can be used for power leads. Only "stripped" leads should be used for thermocouple connections to prevent compensation and resistance errors.
- Take care not to over-tighten the terminal screws.
- Unused control terminals should not be used as jumper points as they may be internally connected, causing damage to the unit. This indicator is not to be used in hazardous locations as defined in Article 500 of the National Electric Code.



**Temperature Ranges of Ogden Indicators:**

ETR-900-01	0-1200°F	Type "J" Thermocouple
ETR-900-02	0-600°C	Type "J" Thermocouple
ETR-900-03	0-2000°F	Type "K" Thermocouple
ETR-900-04	0-1100°C	Type "K" Thermocouple
ETR-900-05	0-900°F	RTD DIN
ETR-900-06	0-600°C	Type "K" Thermocouple

**WIRING**

All wiring should conform to local and national codes.

**CALIBRATION INSTRUCTIONS**

Calibration is accomplished by using the two potentiometers located on the top of the right-hand circuit board. The control is opened by unlatching the clamp

located on the bottom of the indicator. The indicator should be allowed to warm up for at least 1/2 hour before checking the calibration. The purpose of the potentiometers is as follows:

- VR1 . . . . .Low scale calibration
- VR4 . . . . .High scale calibration

VR1 and VR4 have a slight effect on each other, so be sure to calibrate low scale and high scale at least three times each.

**TROUBLE SHOOTING**

Experience has proven that many control problems are not caused by a defective instrument. See below for some of the common causes of failures:

- Line wires are improperly connected.
- No voltage between line terminals.
- Incorrect voltage between line terminals.
- Connection to terminals are open, missing or loose.
- Thermocouple is open at tip.
- Thermocouple lead is broken.
- Shorted thermocouple leads.
- Short across terminals.
- Burned out line fuses.

Defective line switches.

Defective circuit breakers.

If these points have been checked and the indicator still does not function, it is suggested that the instrument be returned to the factory for inspection.

Do not attempt to make repairs. It usually creates costly damage. Also, it is advisable to use adequate packing materials to prevent damage in shipment.

Return Control To:  
**OGDEN MANUFACTURING CO.**

ATTN: Repair Department  
719 W. Algonquin Road  
Arlington Heights, IL 60005



Telephone: (847) 593-8050 • FAX: (847) 593-8062