

# OGDEN INSTRUCTION MANUAL

## 1/32 DIN TEMPERATURE INDICATOR MODEL ETR-3100

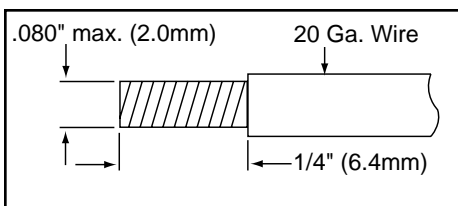
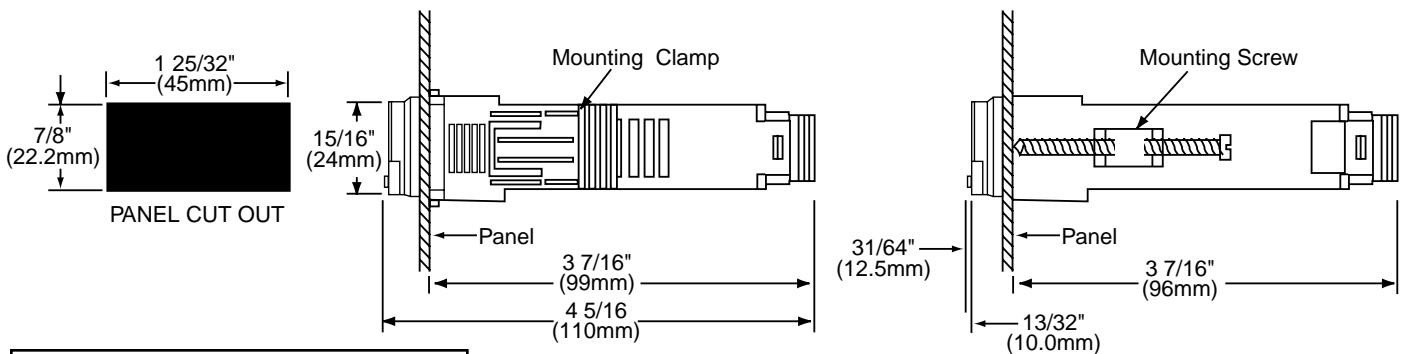
All temperature indicators in this series are made to fit into a panel cut out which measures 1<sup>25</sup>/<sub>32</sub>" x 7/8" (45mm x 22mm). A minimum of 4 1/2" (114mm) in depth is required for electrical clearances of rear terminal connections. The following specifications are common to all models:



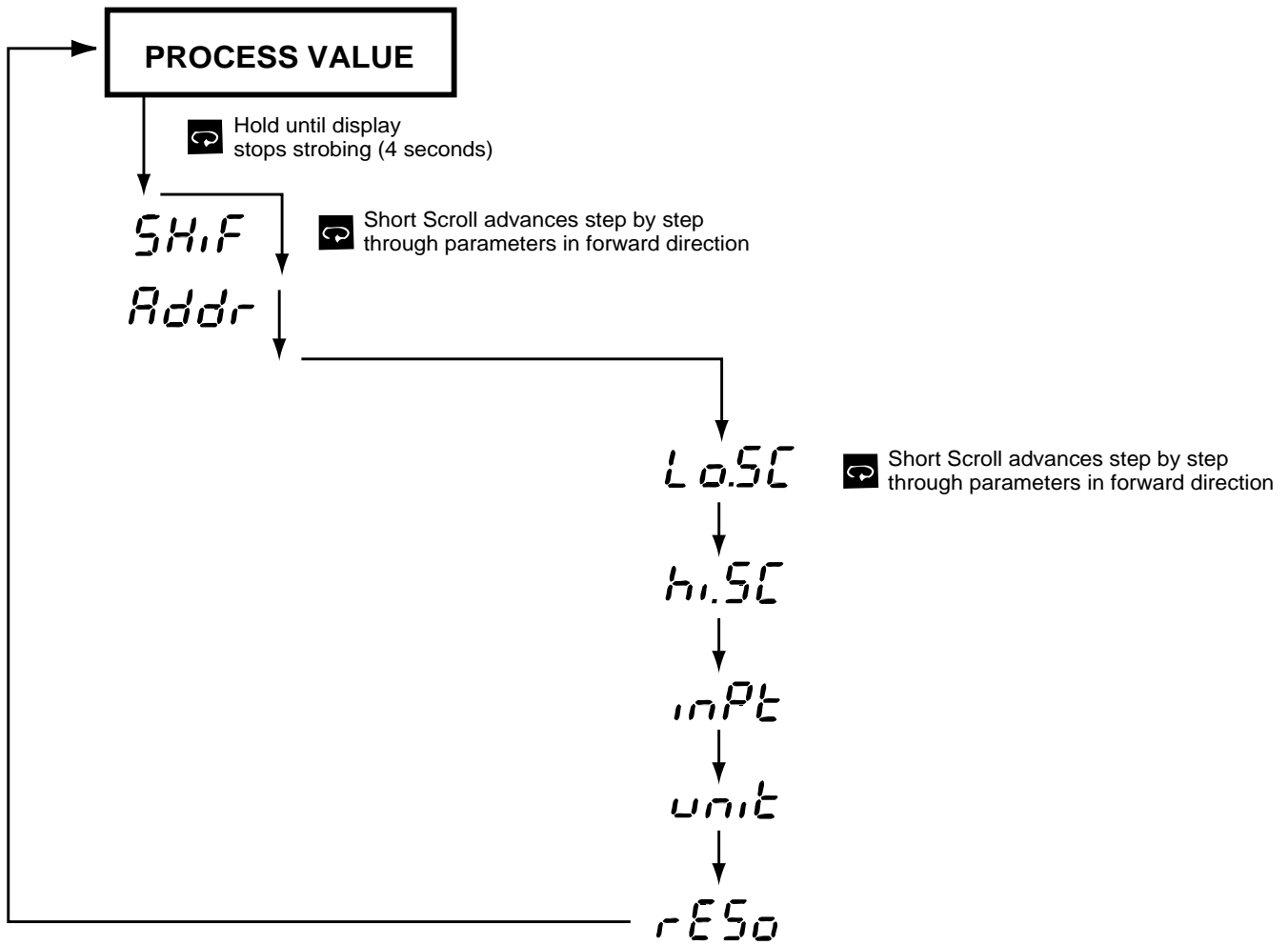
**Line Voltage:** 90-264VAC, 50-60Hz, 20-32VAC/DC optional  
**Consumption:** Less than 5VA.  
**Input:** Thermocouple Type: J, K, T, E, B, R, S, N  
 RTD 2 or 3 wire PT-100  
 DIN @ = .00385 or  
 JIS @ = .00392  
 0 - 1V, 0 - 5V, 1 - 5V, 0 - 10V, 0 - 20mA, 4 - 20mA

**Linear Voltage Input Impedance:** 100k ohms  
**Cold Junction Compensation:** .1°C/C ambient typical  
**External Resistance:** 100 ohms max.  
**Sample Rate:** 5 samples per second  
**Accuracy:** ±.1%, ±least significant digit  
**Normal Mode Rejection:** 60db  
**Common Mode Rejection:** 120db  
**Operating Ambient for Rated Accuracy:** 14 - 122°F (-10 - 50°C)  
**Storage Temperature:** -4 - 160°F (-20 - 70°C)

**Humidity:** 5 - 90% RH (non-condensing)  
**Insulation:** 20M ohms min. (500VDC)  
**Breakdown:** 2000V (AC), 50/60Hz, 1 minute  
**Shock:** 200m/s<sup>2</sup> (20g)  
**Weight:** 4 oz. (110 grams)  
**EMC Emission:** EN50081-1, EN55011  
**EMC Immunity:** IEC801-2, 801-3, IEC801-4  
**Dimensions:** Front Panel H - 1<sup>5</sup>/<sub>16</sub>" (24mm)  
 W - 1 7/8" (48mm)  
 D - 4 5/16" (110mm)  
 Depth Behind Panel:  
 3 7/16" (99mm)  
**Panel Cutout:** 7/8" x 1<sup>25</sup>/<sub>32</sub>" (22 x 45mm)



*Controls are supplied with mounting clamp and mounting screws. Release the mounting clamp by depressing the ends of the clamp together. The mounting screws are to be used in applications that require NEMA 4X rating.*



**Index Code (Menu) Descriptions (OPERATOR LEVEL)**

Security Levels	Display Code:	Description:	Adjusting Range:	Default Setting:
0		Set point Value of Control	Low scale to high scale value. (LoSC, hiSC). Press the  or  key to display set point.	212
	SHIF	Display Shift	-199° to 199°F (-111 - 111°C)	0
Display Value can be offset to compensate for temperature variances.				
1	Addr	Interface Address	0 - 40	0
2	LoSC	Low Scale of Range. Adjust for your process	Minimum value for the selected Input (INPT) to High Scale (HISC)	0
	hiSC	High Scale of Range. Adjust for your process	Low Scale (LOSC) to maximum value for the selected Input (INPT)	999
	inPt	Input Type Selection	J-tC = J Type T/C    K-tC = K Type T/C    t-tC = T Type T/C E-tC = E Type T/C    b-tC = B Type T/C    r-tC = R Type T/C S-tC = S Type T/C    n-tC = N Type T/C    Ptdn PT100 DIN Pt15 = PT100 JIS    4-20 = 4-20 mA    0-20 = 0-20 mA 0-1V = 0 - 1V    0-5V = 0-5V    1-5V = 1 - 5V 0-10V = 0 - 10V	J-tC
	unit	Display Units	°C = degree C   °F = degree F   P_u = process units (Engineering Units)	°F
	rESo	Resolution	nodP = No decimal point used   1dP = 1 Digit decimal 2dP = 2 Digit decimal (only for Linear Voltage or Current Input)	nodP

### Power Wiring:

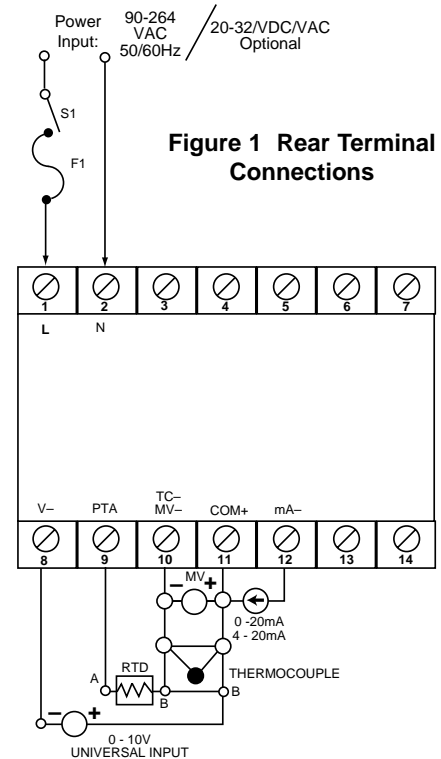
Connect terminals as shown in Figure 1.

### Input Wiring:

Connect the appropriate sensor to terminals 8, 9, 10, 11 or 12 as illustrated in Figure 1. Verify that the instrument is selected for the correct sensor and the correct polarity is observed at both the sensor-end and instrument-end of the cable. Do not run sensor cables in the same conduit or wiring trough as the power lines, because the low level signal is noise sensitive.

When wiring the thermocouple, check the thermocouple and extension wire (compensating cable) to make sure they conform to the appropriate thermocouple type specified by the instrument. Extension wires must be the same alloy and polarity as the thermocouple. The total lead resistance should not exceed 100 ohms for accurate measurements. One hundred ohms of lead resistance will introduce a 1°F (0.5°C) error.

For wiring 3 wire RTD (Resistance Temperature Detector) all leads connecting the RTD to the controller must be the same gauge and material. If the RTD is a 3 wire device, install the two common wires of the RTD to terminals 10 and 11. If a 2 wire RTD is to be used, install a jumper between terminals 10 and 11. See Back Page for Typical Wiring Diagram.



**Figure 1 Rear Terminal Connections**

### Keypad Operation

TOUCHKEYS	FUNCTION	DESCRIPTION
	Scroll Key	Advances the display to the desired parameter. Parameters advance continuously and cyclically by pressing this key. The value of the parameter will be displayed after 2 seconds.
	Up Key	Increases the value of a numerical parameter.
	Down Key	Decreases the value of a numerical parameter.

To change the value of a parameter, tap the or key quickly. This will brighten the individual digit of the display. Once the desired digit is brighter, simply hold down the or key to increase or decrease the value.

Press  for 4 seconds	Long Scroll/Enter Key	Selects the parameters in higher security level.
Press  and	Reverse Scroll/Calibration Verification Key	1. Selects the parameters in a reverse direction during parameter scrolling. 2. Verifies the display accuracy for various input types during calibration.
Press  and  for 4 seconds.	Lock Key	Disables keypad operation to protect all parameters from being tampered with.
Press  and	Reset (Exit) Key Unlock Key	1. Resets the control to its normal status. 2. Unlocks keypad operation.

### ETR-3200 TOUCH KEY DESCRIPTIONS:

To move from one level of parameters to another. Scroll to the end of the level. Hold down the key, the display will flash, once the display stops flashing, release the key.

To return from any parameter to the process value, press the and keys simultaneously.

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## TROUBLESHOOTING

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**WARNING!** THIS PROCEDURE REQUIRES ACCESS TO THE CIRCUITRY OF A LIVE POWER UNIT. DANGEROUS ACCIDENTAL CONTACT WITH LINE VOLTAGE IS POSSIBLE. ONLY QUALIFIED PERSONNEL ARE TO PERFORM THESE PROCEDURES. POTENTIALLY LETHAL VOLTAGES ARE PRESENT.

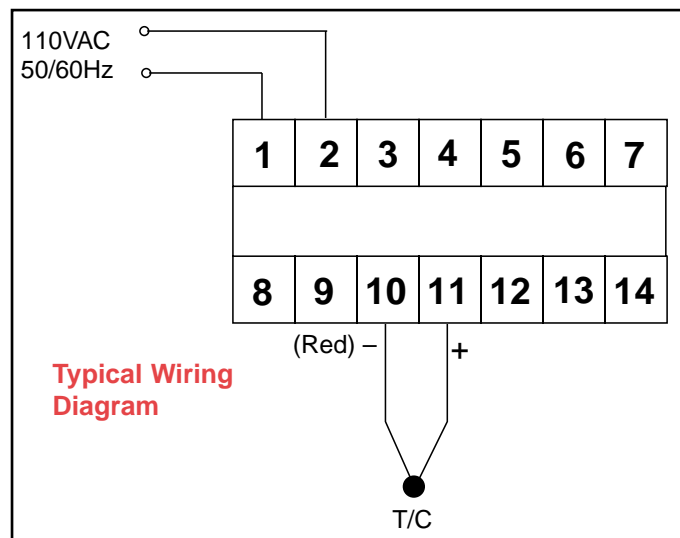
Experience has proven that many control problems are not caused by a defective instrument. See chart below for some of the other common causes of failures:

- |  |                                       |
|--|---------------------------------------|
| Incorrect parameters entered in menu.                | Thermocouple (or RTD) lead is broken. |
| Excessive electrical interference.                   | Shorted thermocouple (or RTD) leads.  |
| Line wires are improperly connected.                 | Short across terminals.               |
| No voltage between line terminals.                   | Burned out line fuses.                |
| Incorrect voltage between line terminals.            | Defective line switches.              |
| Connections to terminals are open, missing or loose. | Defective circuit breakers.           |
| Thermocouple (or RTD) is open at tip.                |                                       |

If the points listed on the chart have been checked and the Indicator 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 Indicator to:  
**OGDEN MANUFACTURING COMPANY**  
ATTN: REPAIR DEPARTMENT  
64 W. SEEGER ROAD  
ARLINGTON HEIGHTS, ILLINOIS 60005



**Peak Process Values** - This instrument stores the high and low peak process values until the power has been disconnected. To read these stored values, press the and buttons together. The indicator will read "hand cont". Press the buttons again. The indicator will read "read peak". Press the button to read the high peak (hi-pv) value and press the button again to read the low peak (Lo-pv) value. Press the keys together to return to the normal process display.



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