

RTD INPUT THERMOMETER METER RELAY

For PT100, PT1000, ANSI & 10Ω Cu
3½ Digits LCD or LED

MODEL
6090

Features:

- Detects Open/Shorted RTD
- .5" High LCD or .6" High LED Display
- Built-in Alarm Relay
- Optional Backlight
- PT100 (0.00385Ω/Ω/°C) Standard
- 1000Ω RTD (PT100), ANSI & Copper on Request
- Bridge Network for High Accuracy
- Inverse Reading on Request



SNAP RING



CONDUIT



EXPLOSION PROOF

DESCRIPTION: The 6090 consists of a main A/D display board and the signal conditioner board which contains a high accuracy constant current source that powers a bridge configuration circuit with the external RTD being one of the arms of the bridge. A linearizing amplifier is used to amplify the signal to about 200mVDC = 2000 counts (100μV/count). This input to the A/D is also made available at the connector for external use such as recorders, PLC, etc. The constant current is kept below 500μA to avoid shelf heating effects at the RTD.

CALIBRATION: All units are calibrated per ordering information. To recalibrate, substitute the RTD with a .01% or better accuracy and resolution resistance box, dial 100.0Ω and adjust zero potentiometer. For either 0°C or 32°F, dial F.S. Range + (190.0° or 800°C) (172.16Ω or 375.51Ω) and adjust F.S. pot for correct display (190.0 or 800°). For °F, 190.0°F=133.86Ω; 1120°F=315.08Ω.

POWER: A mere 1mA at 5VDC is required by the LCD model (6091) and 160mA for the LED version (6090). Model 6091 is ideal for crane/portable applications.

CONNECTIONS: Simple and secure with our screw terminal connector.

ALARM RELAY (positive signals only): An S.P.D.T Relay & LED will turn on when the signal exceeds the limit set. To set the limit simply apply the signal to desired value on the display and adjust the pot on the rear until the LED turns on. Contact's Rating: 100mA at 28VDC/120VAC maximum resistive load.

BACKLIGHT: For LCD (6091) requiring only 20mA max at 5VDC. Segments are black over an illuminated background.

HOUSING: All 6000 series available in "Snap Ring" case(U.L.

approved ABS Polycarbonate 94VO rated), "Conduit" for those harsh environments or "Explosion Proof" case that meets Class I, Div. 1 & 2 Groups B, C, D; Class II Div. 1 & 2 Groups E, F, G; Class III, NEMA 3, 4, 7, 9 & 12; FM, CSA, Cenelec and Baseefa!

SPECIFICATIONS AT 25°C

Accuracy	±0.1° ±1 Digit
Drift vs. Temperature	±.005%/°C
Samples/Second	4 Nominal
Input Bias Current	5pA
Common Mode Voltage	2 Volts (Diff. Type)
Operating/Storage Temp	-10° to +60°C/-20° to +70°C
Decimal Points	Selectable
Power Requirements LCD Type	1mA at 5VDC
Power Requirements LED Type	160mA at 5VDC
Power Requirements Backlight	20mA at 5VDC
Display Type LED Version	0.6" High Red
Display Type LCD Version	0.5" High Reflective
LCD MTBF	80,000 Hours
LED MTBF	100,000 Hours

NOTE: Transmissive is used when backlight option is ordered. (Black segments over an illuminated background).

Zero Tempco	±0.05%/°C
Span Tempco	±0.005%/°C
Current Source	500μA max; ±0.005%/°C
NMR	105dB, 50/60Hz
CMRR	110db

TERMINAL

DESCRIPTION

1	1XX.X Decimal Point. On LED connect to terminal 6. On LCD connect to terminal 7.
2	+ Signal output ≈ 100μV/LSD
3	+ RTD (white wire)
4	+ 5VDC Power Input
5	-RTD (red) & signal common
6	Ground (+5V return)
7	Decimal Point common (LCD Only). Connect desired decimal point to this terminal.
8	1X.XX Decimal Point. On LED connect to terminal 6. On LCD connect to terminal 7.
10	1.XXX Decimal Point. On LED connect to terminal 6. On LCD connect to terminal 7.

NOTE: Connect a 100μF/10V Electrolytic or greater between 4(+) and 6(-) as close to the meter as possible.

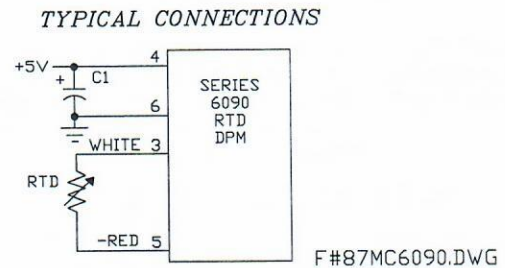
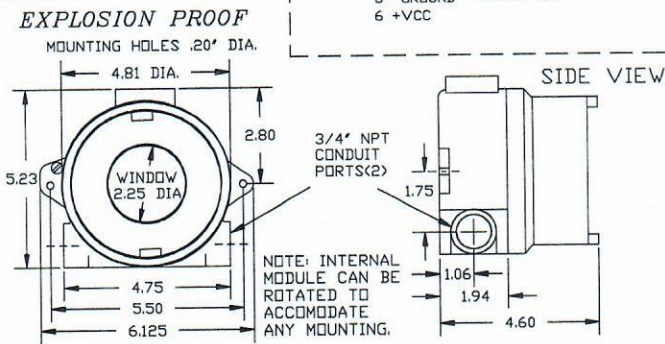
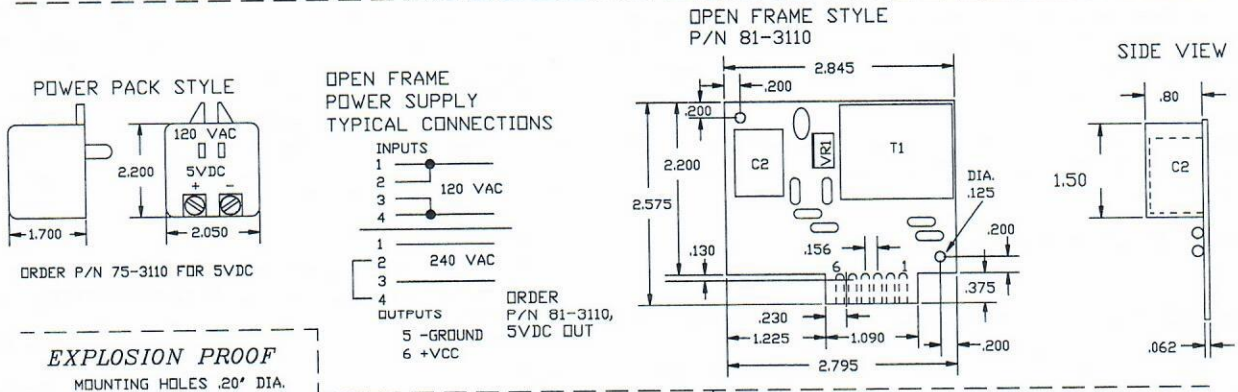
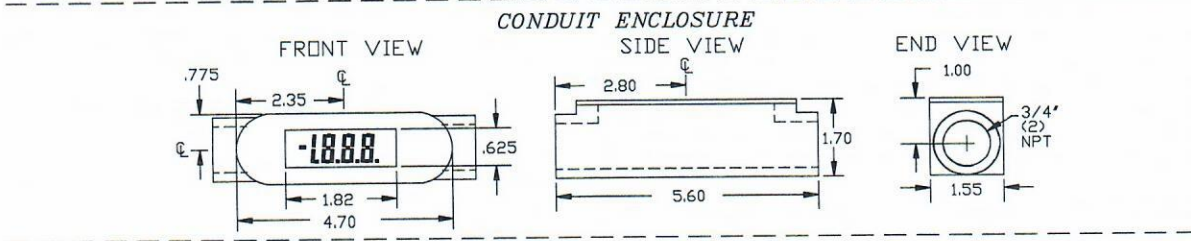
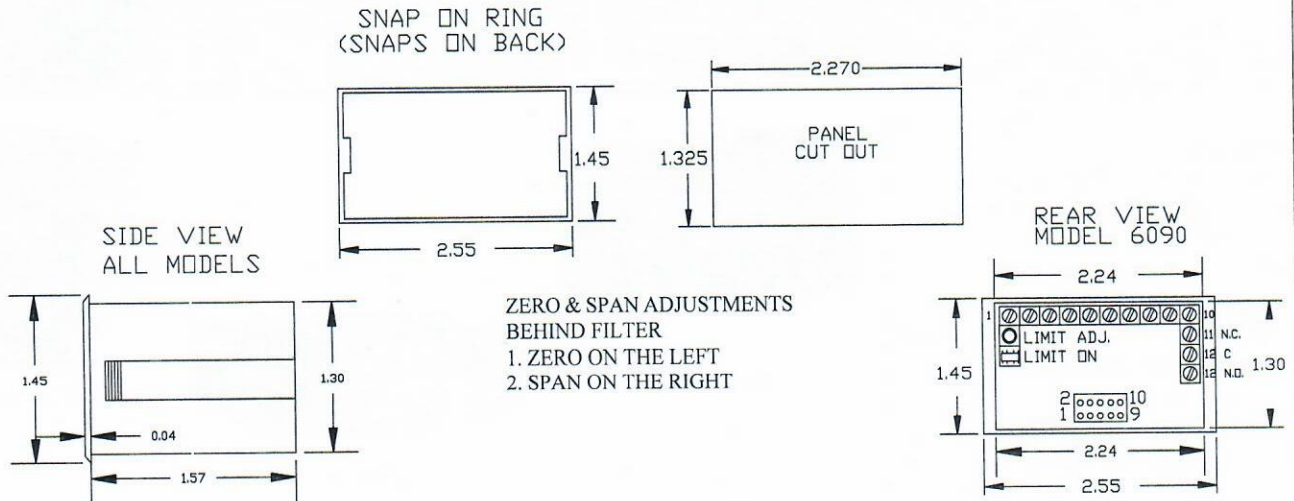
ORDERING INFORMATION (1/1/97)

MODEL 6 0 9 [] [] [] [] [] []	
DISPLAY TYPE	ALARM
0 L.E.D.	2 No Alarm
1 L.C.D.	3 Alarm
INPUT RANGE (2)	HOUSING
0 -200.0° to +200.0°C	0 Snap Ring
1 -200.0° to +200.0°F	2 Conduit
2 -200 to 800°C	3 Explosion Proof
3 -200 to +1500°F	POWER INPUT (1)
BACKLIGHT (LCD only)	0 5VDC
0 No Backlight	1 Open Frame 120/240VAC
1 Red Backlight	2 Power Pack 120VAC
2 Green Backlight	3 7-15VDC

(1) See Mechanical
(2) Other Ranges & Cal. on Request

TEMPERATURE RTD

SERIES 6090 MECHANICAL & TYPICAL CONNECTIONS



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