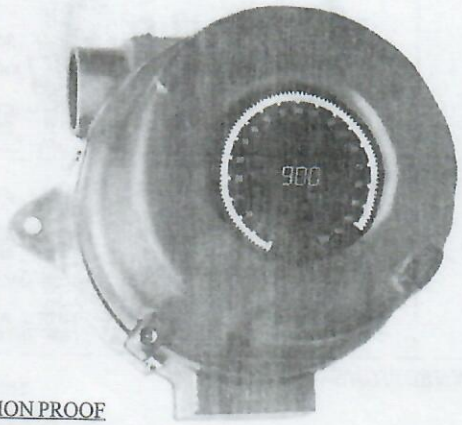
CURRENT LOOP TRANS-CEIVER POWERLESS DPM®
In an Explosion Proof Case for Class I, II, III, NEMA 3, 4, 7, 9, FM, CSA & BASEEFA. Meets CENELEC 50018

MODEL 500



EXPLOSION PROOF

Features

RECEIVER:
- Loop Powered
- 4-20 & 10-50mA Loops
- Low Loop Burden

TRANS-CEIVER:
- *Transmits 4-20mA*
- RTD, TC, S-G & mV Inputs
- 16-40VDC Compliance
- Wide Zero & Span

COMMON:
- 101 Segment Bargraph
- 1000 Count LCD Digital Display
- Optional Backlight

CURRENT LOOP

DESCRIPTION: The Series **500** can be ordered as a current loop receiver (loop powered) only or as a current loop transmitter. When ordered as a "receiver" the "500" is loop powered by a 4-20 or 10-50mA loop signal generated by a remote transmitter and is connected in series with the loop. When ordered as a "transmitter" (models 5002 thru 5009), the 500 conditions, amplifies, and transmits (4-20mA) the signal from a transducer (sensor) at the same time as it displays its value. When used as a transmitter, the "500" is powered from the "compliance voltage" and supplies the current loop (4-20mA) output.

BACKLIGHT: Standard display is reflective black segments and digits over silver background. When the backlight option is ordered the background is illuminated (green) and the segments are black. The backlight is powered externally (see Specifications).

CONNECTIONS: A screw terminal barrier strip is located at the bottom of the aluminum barrel assembly. Inside the explosion proof housing, it accepts 16-22GA wires that can be routed through the "NPT" ports.

EXPLOSION PROOF CASE: 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. FM, CSA & BASEEFA certified CENELEC (Euronorm) standard 50018. 0.375" thick tempered glass, color: safety blue.

ORDERING INFORMATION (1/1/97)

MODEL 5 0 0 - □ □ □

RECEIVER INPUT RANGE
- 0 ..... 4-20mADC
- 1 ..... 10-50mADC

TRANS-CEIVER INPUT TYPE (2)
- 2 ..... ±100mV(3)
- 3 ..... RTD PT100, °F
- 4 ..... TC Type "J", °F
- 5 ..... TC Type "K", °F
- 6 ..... S-G (±20mV)
- 7 ..... TC Type "J", °C
- 8 ..... TC Type "K", °C
- 9 ..... RTD PT100, °C

POWER SUPPLY(4)
- 0 ..... None
- 1 ..... Open Frame 120/240VAC

BACKLIGHT and DECIMAL POINT (1)
- 0 ..... No Backlight and No D.P.
- 1 ..... No Bklt and 1.XXX D.P.
- 2 ..... No Bklt and 1X.XX D.P.
- 3 ..... No Bklt and 1XX.X D.P.
- 4 ..... Backlight and No D.P.
- 5 ..... Bklt and 1.XXX D.P.
- 6 ..... Bklt and 1X.XX D.P.
- 7 ..... Bklt and 1XX.X D.P.

(1) Backlight must be externally powered.
(2) Standard calibration is 0-100%/0-1000 counts (see Specifications)
(3) -100mV = 4mA; +100mV = 20mA (0-100% scale)
(4) For trans-ceivers models

SPECIFICATIONS AT 25°C

LOOP RECEIVER (Models 500-0 & 500-1)

Loop Burden	4VDC
Maximum Voltage (clamped to 4VDC)	30VDC
Input Signal	4-20mA and 10-50mA
Maximum Current	200% of full scale
Display	0-100%; 0-1000 count Reflective LCD
Special Scales	yes
Accuracy and Linearity*	±0.05% of full scale
Polarity	Unipolar
Span & Zero Adjustment	±50% of scale
Backlight Power Requirement	100mA at 5VDC
Operating/Storage Temp.	-10° to +60°C/-20° to +70°C
Humidity	5-95% RH non-condensing
MTBF	80,000 Hours

LOOP TRANS-CEIVER (Models 500-2 thru 500-9)

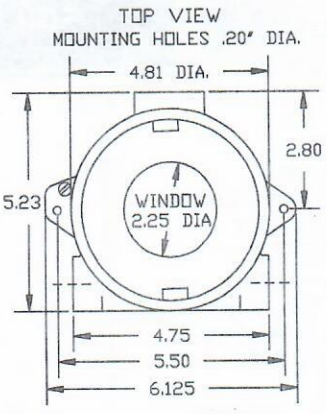
Compliance Voltage	16-40VDC
Output	4-20mADC
Accuracy and Linearity*	±0.1% of full scale
Millivolt DC Input (500-2)	±100mVDC
RTD Input (500-3)	PT100 (0.00385 α) 0-1000°F
Excitation	1mA
TC Input (500-4)	Type "J" 0-1000°F
TC Input (500-5)	Type "K" 0-1000°F
S-G Input (500-6)	20mV F.S. (adjustable)
TC Input (500-7)	Type "J" -200 +800°C
TC Input (500-8)	Type "K" -200 +1000°C
RTD Input (500-9)	PT100 (0.00385α) -200 +800°C

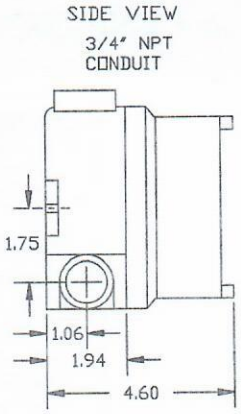
***The Series 500 DOES NOT LINEARIZE the input signals.**

NOTES:
1. RTD & TC have burn-up detection (overrange).
2. RTD is 2 or 3 lead hook up.
3. TC has built-in cold junction compensation.
4. All outputs are 0-100% & 4-20mA, for other scales contact the factory.
5. Optional excitation for S-G (1mA) available.
6. RTD & TC standard calibration is 0-1000°.
7. The 500 can be used to convert a 1-5, 4-20, 10-50mA or 1-5VDC signal to a 4-20mA current loop output. Contact Otek.

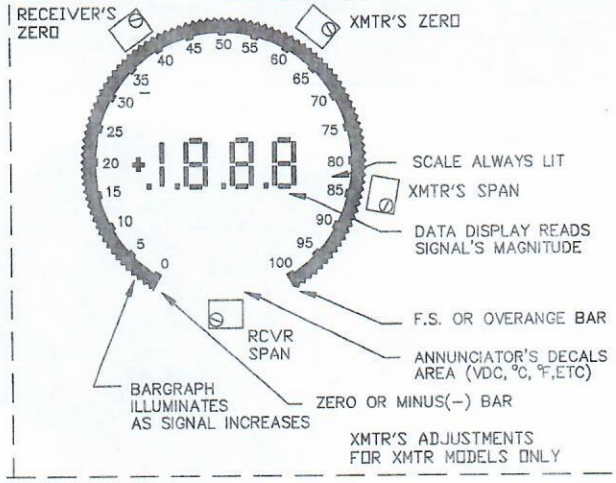
500 MECHANICALS & TYPICAL CONNECTIONS

MECHANICALS



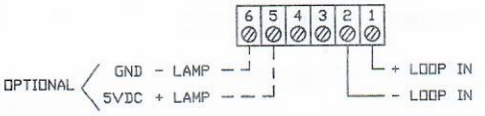


DESCRIPTION

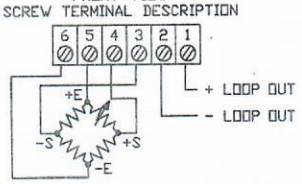


TYPICAL CONNECTIONS

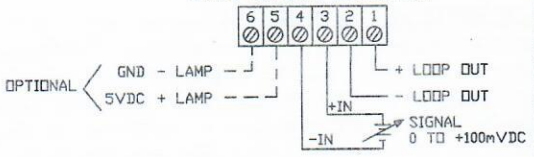
5000X & 5001X



5006X

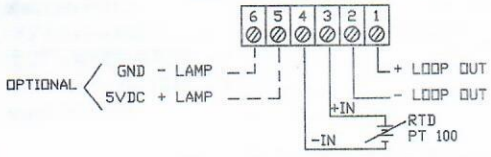


5002X



1: INTERNAL EXCITATION FOR >2500X6500 OHMS, BRIDGE IMPEDANCES.
2: IF EXTERNAL EXCITATION JUMPER TERMINALS 5 & 6.

5003X



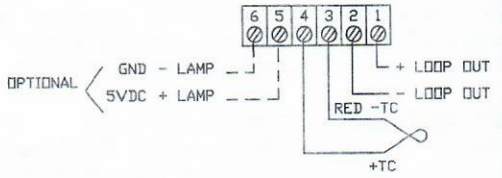
WIRE RESISTANCE	
GAUGE	OHMS/FT@25° C
12	.0016
14	.0026
16	.0041
20	.0065
22	.0103
24	.0165
26	.0416
28	.0666

LEAD RESISTANCE RANGE EQUATION:

$R_L\ (MAX) = \frac{Vcc-12V}{20ma}$

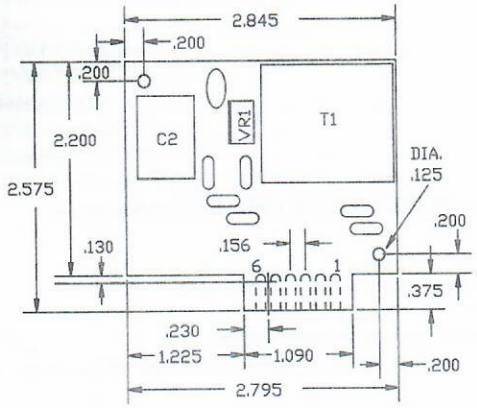
∴ 24Vcc, R_L =600ΩMAX.

5004X & 5005X

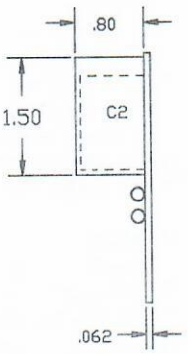


MECHANICALS FOR POWER SUPPLIES

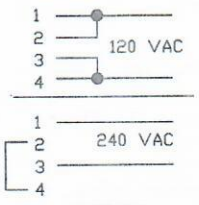
OPEN FRAME STYLE
P/N 81-2405



SIDE VIEW

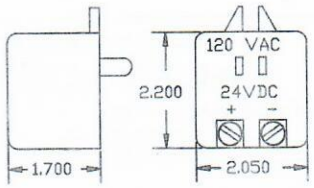


OPEN FRAME
POWER SUPPLY
TYPICAL CONNECTIONS



P/N 81-2405

POWER PACK STYLE



ORDER P/N 75-2405

F#87MC500.DWG

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