

CURRENT LOOP POWERLESS ANALOG METER REPLACEMENT DPM No Power Supply Required!

**MODEL
593**

U.S. Patent No.
4,908,569

Features

- 1-5, 4-20 & 10-50mA Ranges
- Loop Powered
- Wide Zero & Span
- 3½" Standard Meter Case
- .5" High LCD Display
- Rugged
- High Accuracy & Resolution
- Low Cost
- Same Connections as Most Analog Meters
- Optional Backlight
- 80,000 Hours MTBF

DESCRIPTION: Model 593 has an internal clamping protection circuit to limit the voltage across (burden on the loop) to 5VDC. The "compliance" power supply needs not be regulated but it must be capable of providing a minimum of 36mADC (for 100% over-range) at the minimum "compliance" voltage required by the transmitter (12V typically) plus the Powerless DPM® (4V typically) plus the drop in the line (10 milliohms/foot for 22 ga. wire) plus any other "drop" in the line.

BACKLIGHT: Standard display is reflective black digits over silver background. An optional backlight is available at the time of ordering. When ordered, the digits are black over an illuminated green background. Externally powered backlight is optional and requires 5VDC (±20%) at 70mA max.

LIGHT SOURCE: Electroluminescent (E.L.) requiring 120VAC @ 400Hz to operate. If ordered an internal DC-AC converter is installed and requires 5VDC @ 70mA. The E.L. has uniform light output, and its life expectancy is in excess of 15,000 hours.

POWER SUPPLIES (for backlight): When required and ordered it will be externally mounted. Two types are available, the "Open Frame" style accepts 120/240VAC and delivers 5VDC at up to 400mADC. The "Power Pack" is a wall plug in module available only for 120VAC input and delivers 5VDC at up to 100mADC.

DECIMAL POINTS: Installed at Otek and must be specified at the time of ordering.



CURRENT LOOP

SPECIFICATIONS AT 25°C

Accuracy and Linearity	±0.05% ±1 count
Resolution	0.05% of F.S.
Minimum Input Signal	4VDC/0.5mADC
Maximum Input Voltage	30VDC (clamped to 4.3VDC)
Maximum Input Current	50 mADC
Polarity	Limited bipolar
Temperature Coefficient	100PPM/°C
Span Adjustment Range	±50% of specified range
Zero Adjustment Range	Factory set (see note 1 in ordering info.)
Backlight Operating Range (for DC-AC)	70mA at 4-6VDC
Operating/Storage Temperature	-10° to +60°C/-20° to +70°C
Display5" Reflective LCD
MTBF	80,000 Hours

CASE MATERIAL: U.L. approved ABS Polycarbonate 94VO rated. Black matte finish with clear window.

ORDERING INFORMATION (11/1/00)

MODEL **5** **9** **3-1**

INPUT RANGE (1)

- 00 4-20mADC
- 01 1-5mADC
- 02 10-50mADC

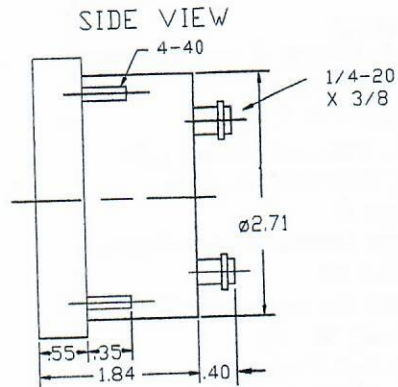
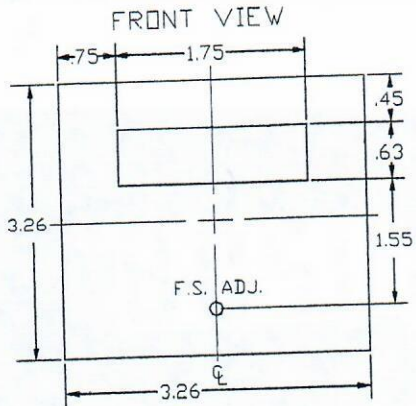
BACKLIGHT(2) & DECIMAL POINT

- 0 No and No D.P.
- 1 No and 1.XXX D.P.
- 2 No and 1X.XX D.P.
- 3 No and 1XX.XD.P.
- 4 Bklt 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) Standard calibration is 0-1000 counts for specified range. All others on request.
- (2) Backlight must be externally powered. See mechanical information on back page. Ordered separately.

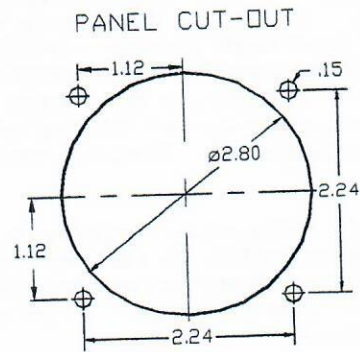
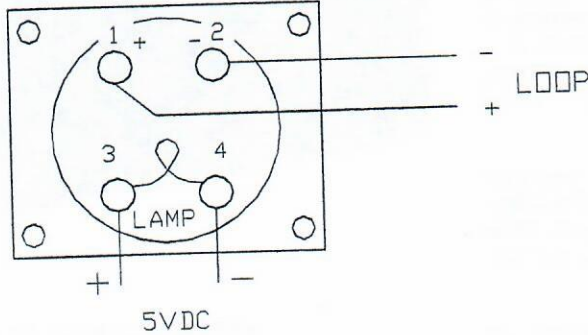
593 MECHANICALS & TYPICAL CONNECTIONS

MECHANICALS



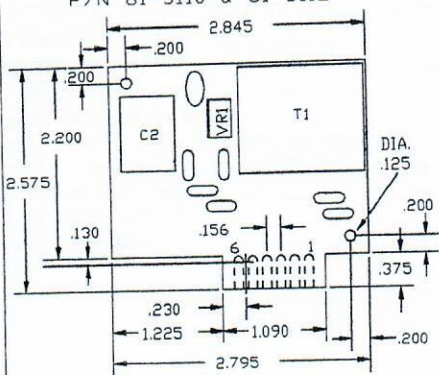
MOD. 593 POWERLESS CURRENT LOOP TYPICAL CONNECTIONS (REAR VIEW)

593 CURRENT LOOP

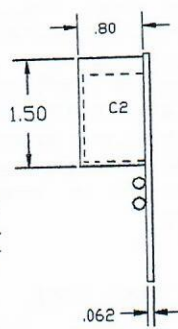


OPTIONAL BACKLIGHT OPEN FRAME STYLE

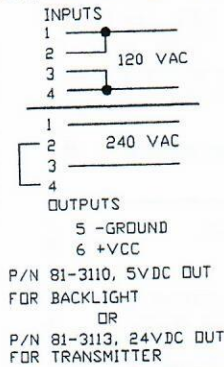
P/N 81-3110 & 81-3112



SIDE VIEW

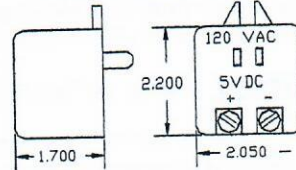


OPEN FRAME POWER SUPPLY TYPICAL CONNECTIONS



F#87MC593.DWG

POWER PACK STYLE



ORDER P/N 75-3110 FOR 5VDC FOR BACKLIGHT OR ORDER P/N 75-2400 FOR 24VDC FOR TRANSMITTER

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