

DISCONTINUED!!!! SEE MODEL: NTM-0

HI-REL/HEAVY DUTY INDUSTRIAL DIGITAL PANEL METER

To Mil-Spec (NSN: 711-1220-01-144-3867) 3½ or 4½ Digits
VDC and Current Loop

**MODEL
100/101**

Features

- EMI/RFI Filter
- Sub D Connector
- 4 X 7 Dot Matrix LED
- Aluminum Extrusion Case
- Aluminum Machined Bezel
- Serial BCD Output
- High Reliability



Features

- 150 Hour Burn-in
- VDC Multirange
- 4-20, 1-5 & 10-50mA Current Loops

DESCRIPTION: High reliability through simple design, extensive testing and component selection makes the 100 Series ideal for critical applications such as nuclear, air, ground, space and water vessels. The Heavy Duty Industrial Model 101 is being successfully used in petrochemical installations, biomedical and other applications where reliability is of utmost importance. The 100 differs from the 101 in component selection and testing. The 100 has 883B REV. D Component Rating; the 101 does not. The 100 is subjected to applicable Mil Testing for shock, vibration, radiation, temperature and others. The 102 uses all ceramic & metal can components (not 883B) and EMI/RFI shield/gaskets and it is not subjected to all the tests that the 100 is.

CURRENT LOOP OPTION: This option converts typical current loop signals (1-5, 4-20 & 10-50 mA) into a 0-2 VDC signal for the mainframe. Zero and span controls allow a wide range of engineering units calibration.

MULTIRANGE: When this option is ordered, a high precision voltage divider is included and all that is required is an external 5 position Dual Deck Switch for Range and Decimal Point Selection. The ranges are (for VDC input only): 2, 20, 200 & 500 VDC .

DISPLAY: 4 1/2 or 3 1/2 digit 0.6" LED

CONNECTOR: A 37 Pin "Sub D" Connector M24308/24-40F is used. Customer to supply mating connector.

HOUSING: Aluminum Extrusion and machine parts are per Mil-Specs. Customer to insure proper electrical contact on panel surface area for effective operation of RFI/EMI Shielding. Electrical conductive paint is used on all parts.

EXPANSION: Interface (internal to the unit) was designed to allow for future inclusion of functions such as RS232/422/485, Temperature, Strain Gage and other functions that customers might require. Please contact OTEK for your special needs.

I/O PORTS: Such as Under-range, Over-range, Busy, Clock, Strobe, Hold, Display Blank and Multiplexed BCD are included.

SPECIFICATIONS @ 25°C

Industrial Version (Model 101, mainframe only)
 Accuracy and Linearity ±0.008% ±1 digit
 Common Mode Rejection Ratio..... 90dB
 Common Mode Voltage <±2 (Analog gnd. to digital gnd.)
 Noise Rejection 80 dB at 50/60 Hz
 Overvoltage Protection..... up to 750 VDC
 Bias Current 7 pA maximum
 Temperature Coefficient..... ±30 PPM/°C
 Sample Rate 3/second nominal
 Zero and Polarity..... automatic
 Power Consumption..... ½ Watt maximum
 Digital Inputs/Outputs..... 1 low power TTL load
 Input Impedance 2V Range 1000M
 Input Impedance Multirange..... 10M
 Operating Temperature..... -10° to +60°C
 Storage Temperature..... -20° to +70°C

CURRENT LOOP OPTION

Accuracy and Linearity ±0.01% of F.S. ±1 digit
 Input Type..... single ended
 Termination Impedance..... 10 ohms (4-20 mA range)
 Zero and Span Adjustment Range . ±500 (5000) counts
 Temperature Coefficient..... 50 ppm/°C

ORDERING INFORMATION (6/05)

VERSION	MODEL	POWER INPUT	NUMBER OF DIGITS (RESOLUTION)
0 HI-REL to 5499620 DRWG	0	0 10VRMS	0 3½ Digits
1 Industrial Grade	1	1 5VDC	1 4½ Digits
2 To MIL-38510	2	2 7-15VDC	
FUNCTION & RANGE			
0 Multirange VDC only			
1 2VDC Full Scale			
3 4-20mADC			

(1) Other ranges available

(2) For Mil Spec and 38510 versions, request "Mil-Spec-100" specs

(3) Specifications subject to change without notice

TERMINAL DESCRIPTION

(NOTE: Do Not Connect To Pins Not Listed)

Description is given for all terminals, however, some do not apply to certain models.

Please contact OTEK if any questions.

Terminal 1	Digital Common (5VDC or URVDC return)	Terminal 17	Busy, Logic 1 = conversion in progress
Terminal 2	+5VDC I/O +0.5V	Terminal 20	-5VDC Out (5mA maximum).
Terminal 3	Unregulated D.C. I/O >7 <12VDC	Terminal 23	Decimal Point Common. Connect desired digit select (D1-D5) to this terminal. See diagram in Instruction Manual.
Terminal 4	UDR will switch to Logic 1 when reading is below 180 counts.	Terminal 24	+Signal Input
Terminal 5	OVR will be at Logic 1 when reading exceeds 1999 counts.	Terminal 26	VAC High (10V RMS maximum)
Terminal 6	VAC Low (See Pin 26)	Terminal 27	D2
Terminal 7	Strobe, five negative pulses (one for each digit select at the end of the conversion).	Terminal 30	D5 (MSD)
Terminal 8	Hold open for conversion. Connect to terminal 1 to hold last reading.	Terminal 31	-Signal Input (see External Switch diagram in Instruction Manual).
Terminal 9	D1 (LSD)	Terminal 34	Display/Blank Power. Normally connected to terminal 2 (+5VDC/150mA). Open for Display Blank. Use resistor 10 - 1K for dimming
Terminal 10	D3	Terminal 35	+Sign, High for +, Low for -.
Terminal 11	D4		
Terminal 12	BCD		
Terminal 13	BCD 1		
Terminal 14	BCD 2		
Terminal 15	BCD 8		

FIG. 1. VDC MULTIRANGE

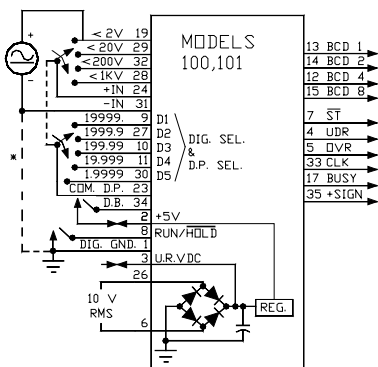


FIG. 2. VDC SINGLE RANGE

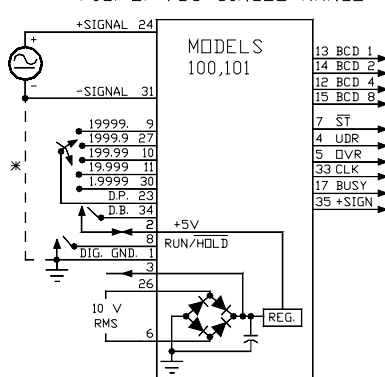
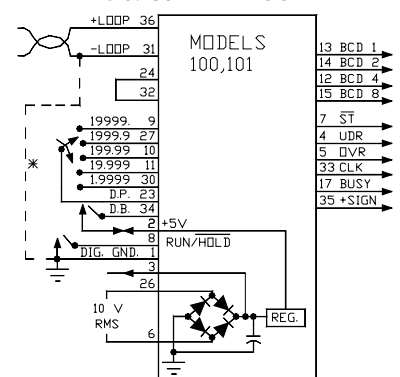
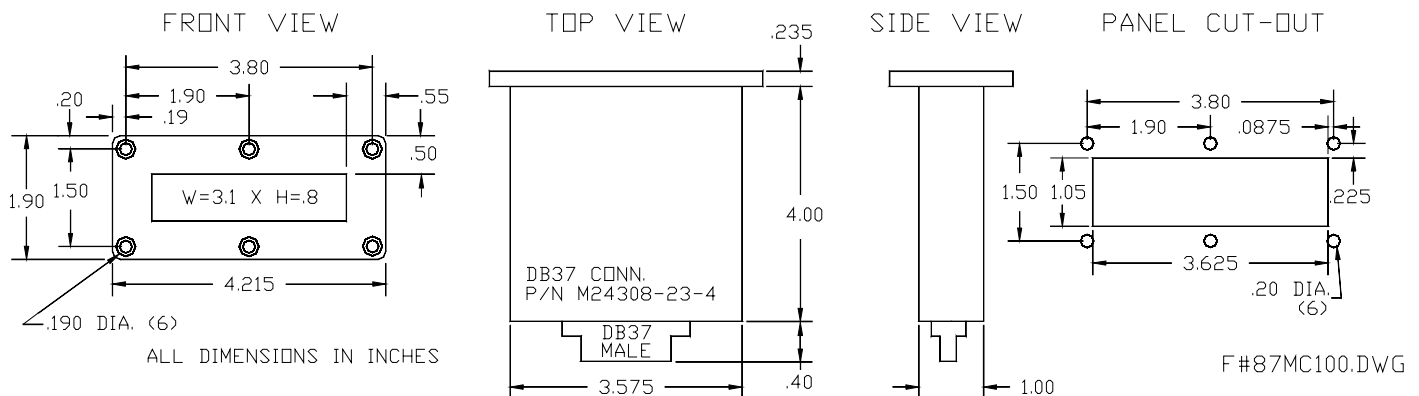


FIG. 3. CURRENT LOOP



MECHANICAL DIMENSIONS FOR 100 SERIES



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