

SPECIFICATIONS AND ORDERING INFORMATION MODELS: 100, 101, 102

JANUARY 31, 2002



**MIL-SPEC DPM
NSN: 711-1220-01-144-3867**

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**HI-REL/HEAVY DUTY INDUSTRIAL DPM
TO MIL-SPEC (NSN: 711-1220-01-144-3867) 3 1/2 OR 4 1/2 DIGITS
VDC/VRMS/CURRENT LOOP/FREQUENCY INPUTS**

FEATURES

- EMI/RFI Filter •Sub D Connector •4 X 7 Dot Matrix LED •High Reliability •Aluminum Casting Bezel
- Serial BCD Output •Aluminum Extrusion Case •150 Hour Burn-In •VRMS to 20KHz
- Frequency to 20KHz •Microprocessor I/O •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 REVC Component Rate; the 101 does not. The 100 is subjected to applicable Mil Testing for shock, vibration, radiation, temperature and others. The 102 uses all ceramic and metal can components (not 883B) and EMI/RFI shield/gaskets and it is not subject to all the tests that the 100 is.

TRUE VRMS OPTION: When this option is ordered, it converts the AC signal (Sine, Triangular, Pulsed, etc.) to its VDC equivalent to be digitized by the mainframe. Typical applications include: AC Volts/Amps, AC ripple measurements, transformers, generators, rectifiers, SCR measurements, etc.

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

FREQUENCY OPTION: When ordered, this option converts via a highly stable, accurate F-V. signals in the 200-20 kHz F.S. range with amplitudes from 1-300 VRMS to a 0-2 VDC F.S. signal for the main-frame. Internal span adjustment allows for wide calibration range.

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.

MULTIFUNCTION: Incorporates VDC, RMS, frequency and current loop in one.

DISPLAY: 4 X 7 Dot Matrix LED for error free reading.

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 are 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 others that customers might require. Please contact the factory for your special needs.

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

TERMINAL DESCRIPTION

The description is given for all pins; however, some of them do not apply to certain models. Pin 1, Digital Common (5VDC or UR VDC return); Pin 2, +5VDC I/O; Pin 3, unregulated D.C. I/O; Pin 4, UDR will switch to Logic 1 when reading is below (180) counts; Pin 5, OVR will be at Logic 1 when reading exceeds (1,999) counts; Pin 6, Vac Low; Pin 7, Strobe, five negative pulses (one for each digit select at the end of the

SPECIFICATIONS@ 25°C - HI-REL VERSION PER NAVSEA DRAWING NO. 5499620 (specs. on request)

Industrial Version at 25°C (Model 101, mainframe only)

Accuracy & 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	7pA maximum
Temperature Coefficient	+30 PPM/°C
Sample Rate	3/second nominal
Zero and Polarity	Automatic
Power Consumption	1/2 Watt maximum
Digital Inputs/Outputs	1 low power TTL load
Input Impedance 2V Range	1000M
Input Impedance Multi-range	10M
Operating Temperature	-10 to +60°C
Storage Temperature	-30 to +70°C

SPECIFICATIONS FOR OPTIONS (25°C

Ambient)NOTE: These specifications govern the specs of the mainframe, other specs not listed are same as main-frame.

RMS OPTION

Accuracy and Linearity ...	+0.1% of F.S.+1 digit (SCR+1%)
Frequency Response	DC to 20KHz at rated accuracy
Input Impedance	100KΩ/0.1μF
Input Type	Single Ended
Input Bias Current	40 pA
Input Protection	350VRMS
Temperature Coefficient	50 ppm/°C

CURRENT LOOP OPTION

Accuracy and Linearity	+0.01% of F.S. +1 Digit
Input Type	Single Ended
Termination Impedance	10 OHMS (4-20mA Range)
Zero and Span Adjustment Range	+500 (5000) Counts
Temperature Coefficient	50 ppm/°C

FREQUENCY OPTION

Accuracy and Linearity	+0.1% of F.S. +1 Digit
Input Signal Range (Must Cross Zero)	1 to 300 VRMS
Input Protection	To 500 VRMS
Input Range	20 to 2 KHz
Input Type	Square, Sine, Pulsed (30% minimum)
Input Impedance	500 KΩ
Temperature Coefficient	50 ppm/°C

conversion); Pin 8, hold open for conversion; connect to Pin 1 to hold last reading; Pin 9, D1 (LSD); Pin 10, D3; Pin 11, D4; Pin 12, BCD4; Pin 13, BCD1; Pin 14, BCD2; Pin 15, BCD8; Pin 17, Busy, Logic 1 = conversion in progress; Pin 20, -5VDC out (5mA maximum); Pin 23, Decimal Point common, connect to desired digit select (D1-D5) see diagram in instruction manual; Pin 24 + signal input; Pin 26, VAC high (10 VRMS maximum); Pin 27, D2; Pin 30, D5 (MSD); Pin 31, -Signal Input (see External Switch Diagram in instruction manual); Pin 33, Oscillator Clock Out (100KHz Nominal); Pin 34, Display/Blank Power, normally connected to Pin 2 (-5VDC/150mA) open for Display Blank; Pin 35, + Sign, High for +, Low for -.



INTRODUCTION:

NOTE 1: The Series 100 consists of several models identified by the three most significant digits. The only models that have Mil approval are the 100, 102 and 103. The 101 is the industrial grade version of the 100 and its specs are published by OTEK in its general catalog.

The Series 100 (all models) has internal provisions for future signal conditioners and/or communication ports. If you require any of these, OTEK will be happy to quote you on engineering and manufacturing of the same, either for Industrial or Mil-Spec versions. Please contact OTEK for input signal conditioners such as; RS232-C, RS-422, Strain-Gage, RTD Temperature, Thermistor, Resistance, Integration, etc.

New Options Added: RMS Volts and Amps, Frequency & Current Loop (see previous page).

NOTE 2: Copied from original with permission of D.O.D. General Contractor.

TERMINAL DESCRIPTION FOR MODELS 10X0XX (X= ANY OPTION) ONLY
FOR OTHER MODELS SEE PREVIOUS PAGE

PIN NO.	SIGNAL NAME	PIN NO.	SIGNAL NAME	PIN NO.	SIGNAL NAME
1	DIGIT COM	14	BCD 2	27	D2
2	+5VDC I/O	15	BCD 8	28	DIVIDE BY 1K
3	UR DC I/O	16	SPARE	29	DIVIDE BY 10
4	UDR	17	BUSY	30	D5 (MSD)
5	OVR	18	SPARE	31	ANALOG COM.
6	10 VRMS IN	19	DIVIDE BY 1	32	-100
7	STROBE	20	-5VDC I/O	33	CLOCK
8	RUN/HOLD	21	REFERENCE	34	DISPLAY BLANK
9	D1 (LSD)	22	SPARE	35	+SIGN OUT
10	D3	23	DECIMAL POINT	36	SPARE
11	D4	24	+ SIGNAL IN	37	SPARE
12	BCD 4	25	DIVIDE BY 10K		
13	BCD 1	26	10 VRMS IN		

PIN CONNECTORS

RANGE SELECT	ANALOG	DECIMAL POINT	DISPLAY BLANK
0 TO 1.999 VDC	24 TO 19	23 TO 30	34 TO 2
0 TO 19.99 VDC	24 TO 29	23 TO 11	34 TO 2
0 TO 199.9 VDC	24 TO 32	23 TO 10	34 TO 2
0 TO 1999. VDC	24 TO 28	23 TO 27	34 TO 2
DISPLAY BLANK	-	-	34 N/C

NOTES TO TABLE:

1. Voltage displayed is applied between Pin 19 (Positive) and Pin 31 (Negative).
2. The appropriate range selection is accomplished by connector pin interconnections as described in table.
3. The display is blanked by disconnection of Pin 34 from Pin 2.
 1. Scope
 - 1.1 This specification covers the requirement for a solid state digital volt meter for use in Military Equipment.
 2. Applicable Documents
 - 2.1 The following documents, of the latest issue in effect on date, Form A Part of this specification to the extent specified herein.

SPECIFICATIONS:

MILITARY

MIL-M-10304	Meters, Electrical Indicating, Panel Type, Ruggedized, General Specification For
MIL-S-19500	Semiconductor Devices, General Specification For
MIL-M-38510	Microcircuits, General Specification For

STANDARDS

MILITARY

MIL-STD-285	Attenuation Measurement For Enclosures, Electromagnetic Shielding, For Electronic Purposes, Method Of
MIL-STD-461	Electromagnetic Interference Characteristics, Requirement For Equipment.
MIL-STD-883	Test Methods And Procedures For Microelectronics
MIL-STD-1399	Interface Standard For Shipboard
MIL-STD-130	Identification Marking Of U.S. Military Property

OTHER

760840	Polyester Film, Metal Clad, Grid Pattern, RFI Shielding
3.	Requirements
3.1	Meters Supplied Under This Drawing Shall Meet The Requirements Of 3.2, 3.3 And Tables I and II Of This Document. The Tables Indicate The Requirements In Section 3 of MIL-M-10304 Which Apply, With The Supplementary Or Complementary Information As Required. When MIL-M-10304 Is Not Referenced, The Requirement Indicated Is An Additional One Or A Substitute For One In MIL-M-10304. In The Event Of Any Conflict Between The Requirements Of MIL-M-10304 And This Document, The Latter Shall Govern.

3.2 **DESIGN EVALUATION** Meters Supplied To This Document Shall Be Capable Of Passing Design Evaluation Inspection (See 6.1)

3.3 **MECHANICAL**

3.3.1 **CONFIGURATION AND DIMENSIONS** See Figure 1 (See Page 10)

3.3.1.1 **RANGES** The Unit Shall Be Able To Measure From 0 To + 19.99V (+/- 10mV Resolution) To +/- 199.9 V (+/- 100mV Resolution) To +1999 V (+/- 1.0V Resolution).

3.3.1.2 **POLARITY** The Polarity Of The DC Voltage Input Shall Be Automatically Sensed And Displayed.

3.3.1.3 **WINDOW** Meter Shall Be Provided With A Window Of A Transparent Material, Free From Detrimental Defects That Would Prevent The Meter From Being Easily Read. Such Defects Include Scratches, Chips, Cracks, Electrostatic Effect, Or Craze. This Requirement Applies Both Before And After The Tests Specified Herein.

3.3.1.4 **CONNECTOR TYPE** M24308/24-40 With M4308/26-1 Locking Stud.

3.4 **ELECTRICAL**

3.4.1 **ACCURACY** The Initial Accuracy Error Of Ranges Shall Be A Maximum Of +/- Count For A Temperature Range Of 20 Degrees C To 40 Degrees C.

3.4.2 **RESPONSE TIME** The Unit Shall Respond To A Change From 0 V To Any Reading In Less Than 1 Second To +/- 1% Of Final Value Within One Range. A Maximum Of 1 Second May be Allowed For Each Range Change.

3.4.3 **DISPLAY** The Unit Shall Have Red LED Displays, Minimum 0.25 Inch, Maximum 0.60 Inch High With Decimal Points, Also Red LEDs. Decimal Point Position Shall Indicate Range Of Display. Light Intensity Matching, With Nominal VCC Applied And Numeric Five Lighted, Shall Be +/- 30% Between Segments/Dots And Between Digits.

3.4.3.1 **LUMINOUS INTENSITY** The Minimum Luminous Intensity Per LED, With Nominal Vcc Applied And At +25 Degrees C Shall Be 40 Micro Candela Minimum. (No Contrast Enhancement Filter)

3.4.3.2 **DISPLAY CONTRAST** Maximum On/Off Contrast Shall Be Provided By Placing The LED Display Behind An Appropriate Contrast Enhancement Filter, Ruby Red 60 Or Equivalent.

3.4.3.3 **DISPLAY BRIGHTNESS** The Numeral Five Shall Be Measured To Be 24.8 Microcandela When Displayed With The Contrast Enhancement Filter, RFI Screen And The Window Properly Installed.

3.4.4 **READING RATE** The Unit Shall Take A New Reading AT A Rate Of 2 Hz To 5 Hz And Shall Be Capable Of Being Blanked By Opening The V Line To The Display V Through The Connector.

- 3.4.5 **INPUT VOLTAGE** The Input Voltage Shall Be Per Section 300 Of MIL-STD-1399, Table 1, Except For Column Type III And Line "F". The Meter Shall Operate With An Input Voltage Of A Single Phase, 10 VRMS +/- 10% Or +/- 20% For 2 Seconds Maximum, 47 Hz To 440 Hz. Momentary Interruption Of Voltage Or Low Line Voltage Shall Not Cause Damage To The Meter.
- 3.4.6 **SPIKE VOLTAGE** A Spike Voltage Of 40V Peak Amplitude And A Duration Of 200 Micro Seconds At The 50% Point Shall Not Cause Damage To The Meter.
- 3.4.7 **CAPACITANCE TO CHASSIS** The Capacitance From Each Of The Input AC Lines To Chassis Shall Be No Greater Than .01 Micro Farads.
- 3.4.8 **INPUT ISOLATION DC** The AC Input Lines Shall Be Isolated From The Chassis And The Controls Such That The Insulatoin Resistance Is 10 MEGOHMS Minimum When Measured At 1000 VDC Minimum.
- 3.4.9 **INPUT IMPEDANCE** Input Impedance Shall Be Greater Than 1.0 MEGOHMS.
- 3.4.10 **INPUT PORT** The Signal Input Port To The Meter Shall Be A Floating Differential Type. Maximum Common Mode Voltage To Ground Shall Be Less Than 2.0 V.
- 3.4.11 **EFFECTIVE COMMON MODE REJECTION** The Common Mode Rejection Ration Shall Be Greater Than 120dB At 50 Hz With A 1K OHM Resistor From Chassis Ground To Circuit Ground.
- 3.4.12 **POWER CONSUMPTION** Power Consumption Shall Be 8 Watts Maximum.
- 3.4.13 **ELECTROMAGNETIC INTERFERENCE** ElectroMagnetic Interference (Emission And Susceptibility Requirements) Shall Be Per MIL-STD-461D As Follows:
- | REQUIREMENT | DESCRIPTION |
|-------------|---|
| CS01 | Conducted Susceptibility, Power Leads, 30Hz To 50 MHz |
| CS02 | Conducted Susceptibility, Power Leads, 0.05 MHz To 400 MHz |
| CS06 | Conducted Susceptibility, Spikes, Power Leads |
| RS02 | Radiated Susceptibility, Magnetic Inductive Field, Spikes And Power Frequencies |
| RS03 | Radiated Susceptibility, Electrical Field, 14 KHz To 40 GHz |
- 3.4.13.1 **RADIO FREQUENCY INTERFERENCE** Radiation Protection Shall Be Provided By RFI Screen Material In The LED Window Mounted Between Contrast Enhancement Filter And The Transparent Window Material. The RFI Screen Material Shall Be As Specified In 760840 Specification Or Equivalent.

- 3.5 **TEMPERATURE RANGE** The Temperature Range Shall Be As Follows:
- (A) **OPERATING:** The Unit Shall Meet The Performance Requirements Specified Herein When Ambient Temp. Varies Over The Range Of 0 Degrees C To 70 Degrees C
 - (B) **NON-OPERATING:** The unit shall meet the performance requirements specified herein after being subjected to storage temperatures from -40 Degrees C to +71 Degrees C.
- 3.6 **PARTS SELECTION** Electrical/Electronic parts shall meet the following minimum requirements:
- (A) All transistors shall be metal type hermetically sealed packages.
 - (B) All integrated circuits shall be ceramic packages.
- 3.7 **SHELF LIFE** The unit and component parts shall, when properly prepared for storage, have a minimum shelf life of 5 years without refurbishment. The useful shelf life shall be extendable to at least 20 years if refurbishment is accomplished once every five years.
- 3.7.1 **MTBF** The Mean Time Between Failure shall be 25,000 hours minimum.
- 3.8 **MARKING** The following information shall be legibly marked on each part in accordance with MIL-STD-130:
- (A) Manufacturer's name or symbol and part number
 - (B) NAVSEA part number
 - (C) Serial number
- 3.9 **WATERTIGHTNESS** requirement per paragraph 3.23 of MIL-M-10304 IS NOT APPLICABLE.
4. **QUALITY ASSURANCE PROVISIONS:**
- 4.1 **ACCEPTANCE PROVISIONS** Group A inspection is mandatory on all lots manufactured to this document. Group B inspection is not required unless specified on the purchase order. Tests comprising of Groups A and B inspections shall be those listed in Tables I and II of this document. Inspection shall be conducted in accordance with the sampling procedures, criteria for acceptance or rejection and other related inspection details as specified in Section 4 of MIL-M-10304.
- 4.2 **RESPONSIBILITY FOR INSPECTION** The supplier is responsible for the performance of Group A inspection and, in addition, other acceptance inspection stated on the purchase order. The supplier may utilize his own or any other inspection facilities and services acceptable to purchaser.
- 4.3 **TEST PROCEDURES** The test procedures shall consist of those specified in Tables I and II of this document. The tables reference the procedures in Section 4 of MIL-M-10304 which apply, with supplementary of complementary information as required. When MIL-M-10304 is not referenced, the procedure is an additional one or a substitute for one in MIL-M-10304. In the event of any conflict between Section 4 of MIL-M-10304 and this document, the latter shall govern.
5. **PREPARATION FOR DELIVERY**
- 5.1 Parts shall be prepared for delivery in a manner that will insure safe delivery to destination by common carrier.

6. **NOTES**

6.1 **DESIGN EVALUATION INSPECTION** At the option of the procuring activity, parts will be purchased from suppliers whose products have been subjected to and have successfully passed design evaluation inspection. This inspection is similar to qualification testing required in Military Specifications. However, shipment of parts will not depend on suppliers having completed such inspection. This inspection will be performed by procuring activity.

6.1.1 **ARRANGEMENTS FOR INSPECTION** Suppliers will be contacted by procuring activity when their products are to be evaluated. The design evaluation inspection, including quantities and types of samples and the testes to be performed are determined by the procuring activity.

TABLE I: GROUP "A" INSPECTION

EXAMINATION OR TEST	REQUIREMENT	PROCEDURE
Visual & Mechanical	Per Figure 1	Per MIL-M-10304
Examination External	Par. 3.3.1 through 3.3.1.4 & 3.8	
Accuracy	Per Par. 3.4.1	Per MIL-M-10304
Display & Reading Rate	Per Par. 3.4.3 & 3.4.4	Apply 20VDC, 200VDC & 750VDC.
Capacitance to Chassis	Per Par. 3.4.7	Use a Capacitance Bridge
Input Isolation DC	Per Par. 3.4.8	Use a Meghometer w/ 1000V Min. Capability
Response Time	Per Par. 3.4.2	Per MIL-M-10304
Input Impedance	Per Par. 3.4.9	Apply an Ohmmeter to Input Terminals
Dielectric Withstanding Voltage	Per MIL-M-10304	Per MIL-M-10304 Except the Voltage Amplitude shall be 1000V.

TABLE II: GROUP "B" INSPECTION

EXAMINATION OR TEST	REQUIREMENT	PROCEDURE
Electromagnetic Radiation	Per Par. 3.4.13	Per Field "E" of MIL-STD-285
Thermal Shock	Per MIL-M-10304	Per Method 107 of MIL-STD-202, Test Condition A Except Max. Temperature Shall be Limited to +71°C.
Moisture Resistance	Per MIL-M-10304	Per MIL-M-10304
High Temperature Cycling Low Temp. Operation & Effects of Storage at Temp. Extremes	Per MIL-M-10304	Per MIL-M-10304
Vibration	Per MIL-M-10304	Per MIL-M-10304
Shock	Per MIL-M-10304	Per Method 213 of MIL-STD-202, Test Condition I Except the Amplitude Shall be 150 G

OTEK Q.A. PROCEDURES MIL-I-45208A
Internal Test Procedure For Drawing #5499620 (100000-1)

Equipment:

1. Test Block
 - a. Supplied 5 VDC to unit under test.
 - b. Display for monitor of input voltage.
 - c. Display blank button to blank test.
 - d. Hold to test unit's hold.
 - e. Power switch to remove power.
2. Certified Voltage Reference
3. Certified Digital Volt Meter
4. Certified Frequency Meter
5. Certified Oscilloscope
6. Certified Capacitance Meter
7. Certified High Pot Tester

Accuracy

Par. 3.4.1

- a. Install meter in test block with power switch off.
- b. Connect voltage reference to test block (zero setting)
- c. Switch on power-meter should stabilize at zero reading.
- d. Select full scale value on reference for given range.
 - 1) Unit that is calibrated should read value +/- accuracy specifications.
- e. Select 3/4 scale on reference for given range.
 - 1) Unit should read to value +/- accuracy.
- f. Select 1/2 scale on reference for given range.
 - 1) Unit should read to value +/- accuracy.
- g. Select 1/4 scale on reference.
 - 1) Unit should read to value +/- accuracy.

Display Brightness Par. 3.4.4

Display brightness will be a judgement that the digits are not defective. Hewlett Packard published minimum of 32 micro candella is above specification required.

Reading Rate Par. 3.4.4

- a. The technician will process the display blank to blank the unit under test.
- b. The measurement cycle length is directly dependent on the clock frequency. The measurement cycle is 40001 clock cycles length. Therefore the Hz rate of the unit under test is clock rate divided by 40,001 = measure cycle per second.

Example: 100KHz divided by 40001 = 2.5Hz
2.5 measurement cycles/sec.

Minimum clock rate need is 80.002Hz.

Capacitance to Chassis Par. 3.4.7

- a. With Capacitance Tester
 - 1) Have tester's control switch set to stand by.
 - 2) Connect the tester's terminals to Pin 1 & chassis (metal case) negative terminal to chassis
 - I. Set multiply factor to .01
 - II. Switch from stand by to direct
 - III. With capacitance control at zero, adjust sensitivity so the balance indicator closes up.
 - IV. Advance capacitance control to point where balance indicator will open to Max. 90
 - V. Reading must not be greater than .01μF
 - 3) Repeat step 2 but between Pin 2 and chassis.

Input Isolation DC Par. 3.4.8

- a. With KVDC Calibrator
 - 1) set calibrator to 1KV range and current limit to minimum (CCW) 50μA
 - 2) Connect + terminal of tester to Pin 1, negative terminal of tester to chassis.
 - 3) Limit light must not come on.
 - 4) Repeat 1-3 for Pin 2 and chassis.

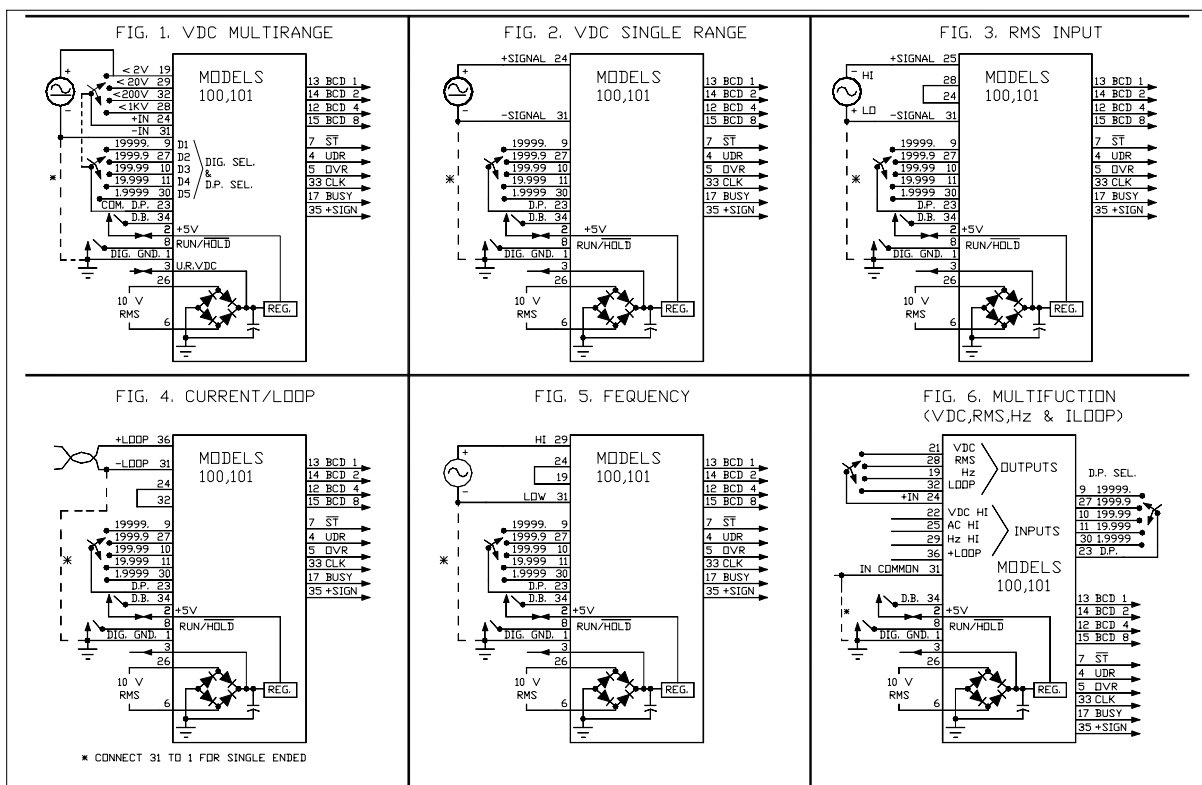
Input Isolation AC Par. 3.4.9

- a. Connect high pot tester between Pin 1 and the chassis.
- b. Rotate voltage from zero to 1K volts - back to zero.
 - 1) No alarm should come on.
- c. Repeat b with test between Pin 2 and chassis.
 - 1) No alarm should come on.

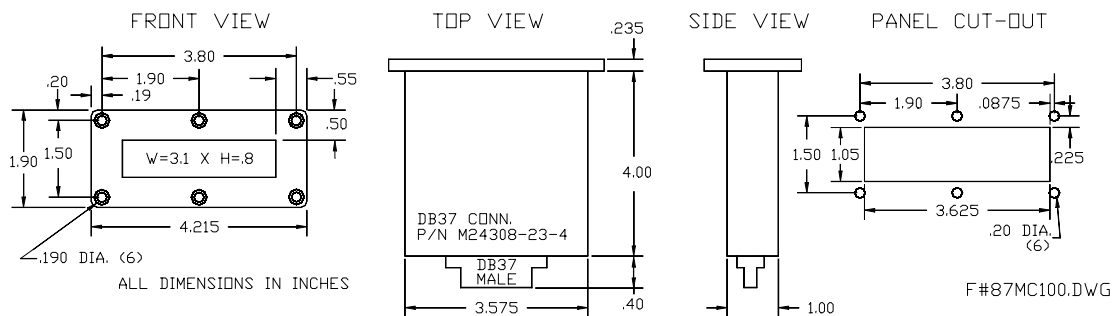
TERMINAL DESCRIPTION

Description is given for all terminals, however, some do not apply to certain models. Please contact Otek if any questions.

<p>Terminal 1 Digital Common (5VDC or UR VDC return)</p> <p>Terminal 2 +5VDC I/O</p> <p>Terminal 3 Unregulated D.C. I/O</p> <p>Terminal 4 UDR will switch to Logic 1 when reading is below 180 counts.</p> <p>Terminal 5 OVR will be at Logic 1 when reading exceeds 1999 counts.</p> <p>Terminal 6 VAC Low</p> <p>Terminal 7 Strobe, five negative pulses (one for each digit select at the end of the conversion).</p> <p>Terminal 8 Hold open for conversion. Connect to terminal 1 to hold last reading.</p> <p>Terminal 9 D1 (LSD)</p> <p>Terminal 10 D3</p> <p>Terminal 12 BCD</p> <p>Terminal 14 BCD 2</p>	<p>Terminal 11 D4</p> <p>Terminal 13 BCD 1</p> <p>Terminal 15 BCD 8</p> <p>Terminal 17 Busy, Logic 1 = conversion in progress</p> <p>Terminal 20 -5VDC Out (5mA maximum).</p> <p>Terminal 23 Decimal Point Common. Connect desired digit select (D1-D5) to this terminal. See diagram in Instruction Manual.</p> <p>Terminal 24 +Signal Input</p> <p>Terminal 26 VAC High (10VRMS maximum)</p> <p>Terminal 27 D2</p> <p>Terminal 30 D5 (MSD)</p> <p>Terminal 31 -Signal Input (see External Switch diagram in Instruction Manual).</p> <p>Terminal 33 Oscillator Clock Out (100KHz Nominal)</p> <p>Terminal 34 Display/Blank Power. Normally connected to terminal 2 (+5VDC/150mA). Open for Display Blank.</p> <p>Terminal 35 +Sign, High for +, Low for -.</p>
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MECHANICAL DIMENSIONS FOR 100 SERIES



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Section 7 - 2

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