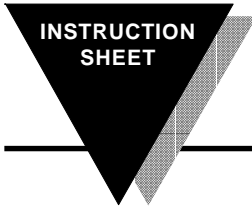




# DP18 Series

## Model DP18-L1

### Strain Gauge/Load Cell Indicator



M2115/1294



STRAIN METER PROVIDED WITH A PROGRAMMABLE DC PREAMPLIFIER FOR RESOLUTION OF 5 MICROVOLTS/COUNT PLUS EXTENSIVE NOISE REJECTION CIRCUIT AND A PROGRAMMABLE BRIDGE EXCITATION SUPPLY FROM 10 TO 24 Vdc.(STANDARD DELIVERED AT 10 Vdc). LIKE PROCESS METERS, PROVIDES EXTENSIVE ZERO SUPPRESSION, SPAN ADJUSTMENT, SELECTABLE DECIMAL POINT. ALL THESE CAPABILITIES ALLOW READOUT IN ENGINEERING UNITS. GAIN IS SET IN DISCRETE STEPS BY JUMPERS AND FINE CALIBRATION IS PERFORMED WITH A MULTITURN POTENTIOMETER.

### SPECIFICATIONS

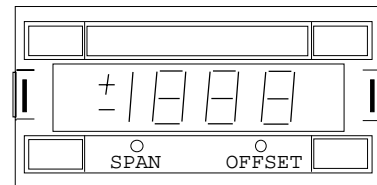
DISPLAYS ..... 3½ digits, 7 segment, red LED  
 HEIGHT ..... 0.56" (14.2 mm.)  
 SYMBOLS ..... ± 1.8.8.8  
 DECIMAL POINTS ..... Selectable by jumpers  
 OVERRANGE INDICATION ..... Display flashes 1999

INPUT CONFIGURATION ..... Bipolar single  
 ZERO ..... Automatic  
 SPAN ADJUSTMENT ..... ± 5 %  
 CONVERTER ..... Dual-slope, average value  
 POLARITY ..... Automatic ±  
 SIGNAL INTEGRATION PERIOD ... 80 ms.  
 READ RATE ..... 3.12 / sec.  
 RANGES ..... See table selection fig. 3  
 HOLD ..... Optional  
 NOISE REJECTION NMR ..... 50 dB, 50/60 Hz.  
 ACCURACY ..... 0.15 % ± 1 count  
 WARMUP TO RATED ACCURACY ... 2 minutes  
 SPAN TEMPCO ..... 100 ppm  
 ZERO TEMPCO ..... 2.5 µV/°C.

OPERATING TEMPERATURE ..... 0 to 50 °C (32 to 122 °F)  
 STORAGE TEMPERATURE ..... -40 to 80 °C (-40 to 176 °F)  
 WEIGHT ..... 310 gr. (0.68 lb)  
 CASE MATERIAL ..... ABS, DIN 43700 black color  
 STANDARD POWER ..... 115 Vac. ± 10 %, 50/60 Hz.  
 POWER CONSUMPTION ..... 5.5 VA for AC.  
 ELECTRICAL CONNECTIONS ..... Push-in cable connectors  
 BURN-IN ..... 24 h.  
 AUXILIARY VOLTAGE ..... 10 to 24 Vdc regulated  
 Max. current ..... 50 mA.  
 Ripple at 50/60 Hz. .... 0.2% @ 20 mA maximum

FIG. 1

### FRONT VIEW



**SPAN** : ADJUST THE MAXIMUM READING.  
**OFFSET** : FINE DEADLOAD ADJUST

SPAN AND OFFSET ADJUSTMENT ARE ACCESSIBLE BEHIND THE LOW DOOR.

### REAR VIEW

FIG. 2

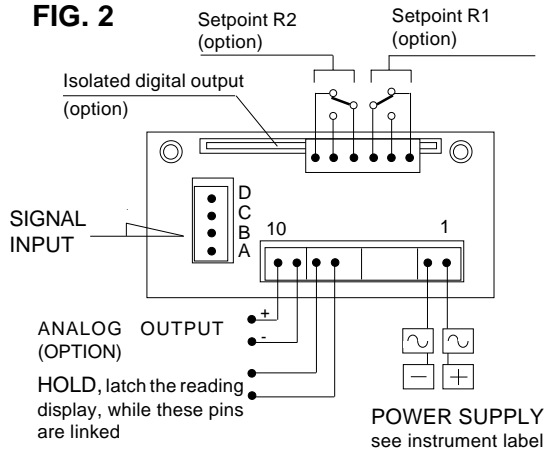
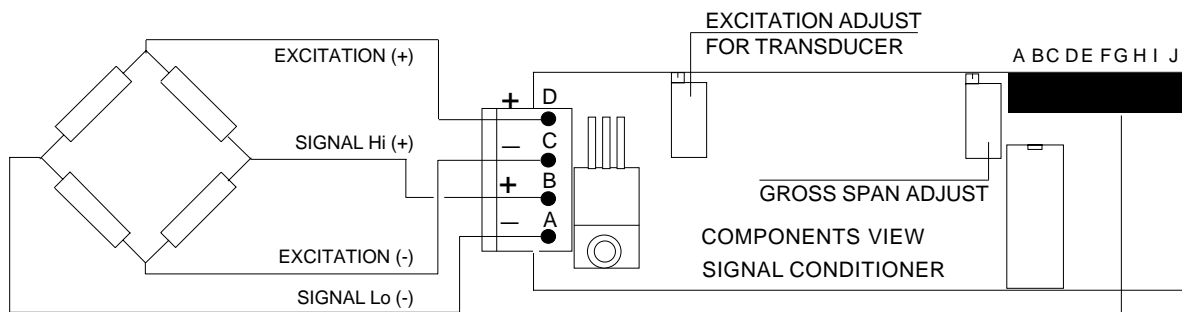


FIG. 3

### SIGNAL INPUT CONNECTIONS



LOAD CELL IMPEDANCE : 350 Ω.

### GAIN FACTOR SELECTION

$$G = \frac{\text{DISPLAY SPAN}}{\text{INPUT SPAN (mV)}}$$

DISPLAY 103.5 Kg FOR AN INPUT OF 20 mV.

$$G = \frac{1035}{20} = 51.75$$

FOR THIS GAIN FACTOR INSERT THE JUMPER IN THE POSITION "B". AND JUMPER FOR DEAD-LOAD WHERE NEEDED.

CLOSE THE APPROPRIATE DECIMAL POINT JUMPER (FIG.5), CORRESPONDING TO THE READING DESIRED. FOR READING 14.50, PLACE THE JUMPER ON THE D2 POSITION.

### SELECTOR S1: GAIN AND DEADLOAD RANGE

GAIN		DEADLOAD RANGE			
GAIN FACTOR	CLOSE JUMPER	DISPLAY	CLOSE JUMPER	+	-
1 to 40	A	0 to 650	G,J	F	H
40 to 80	B	600 to 1.000	J		
80 to 120	C	1.000 to 1.900	I,J		
120 to 160	D	-400 to 400	None	H	
160 to 200	E				

SENSITIVITY ..... : 10 mV.  
 RESOLUTION ..... : 5 µV.  
 INPUT IMPEDANCE .. : 20 MΩ.



OPTIONS AND POWER SUPPLIES AVAILABLE FOR DP18 Series

CONTROL OUTPUT/COMMUNICATIONS OPTIONS  
Select a maximum of one option from each column

OPTION	DESCRIPTION	OPTION	DESCRIPTION
BCD	PARALLEL BCD, OPTOISOLATED	A01	ANALOG OUTPUT, mA SINK
R1	SINGLE SETPOINT, 3 Amp. Relay	A02	ANALOG OUTPUT, mA SOURCE
R2	DUAL SETPOINT, 3 Amp: Relays	A03	ANALOG OUTPUT, VOLTAGE
APH1	ANALOG PEAK HOLD	APH2	ANALOG PEAK HOLD
232	ISOLATED SERIAL OUTPUT RS-232		

POWER SUPPLY OPTIONS

OPTION	POWER	OPTION	POWER
230	230 Vac 50/60 Hz	15/30 Vdc	15...30 Vdc, -10% (3.5 W) isolated
STD	115 Vac 50/60 Hz	24/65 Vdc	24...65 Vdc (4 W) isolated
24	24 Vac 50/60 Hz		
48	48 Vac 50/60 Hz		

SELECTION OF : DECIMAL POINTS AND SPECIAL OPTIONS

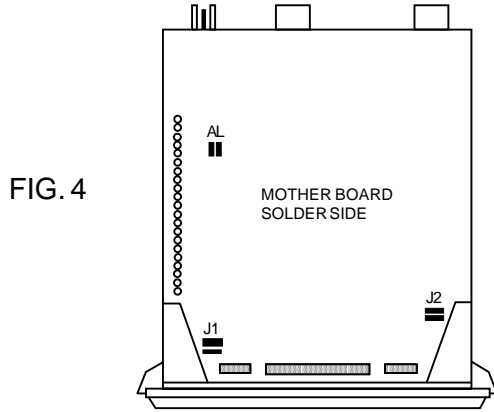


FIG. 4

JUMPERS SELECTION FOR SPECIAL OPTIONS

AL: OPEN ONLY WHEN ALARM SETPOINT CARD OPTION IS ADDED  
J1: OPEN TO ELIMINATE THE LEAST-SIGNIFICANT DIGIT (LSD)  
J2: OPEN TO ELIMINATE THE INDICATION ±

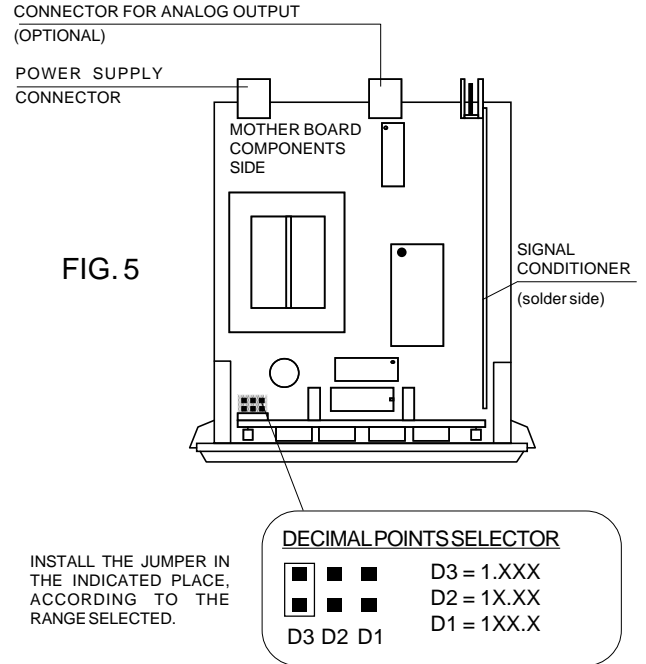


FIG. 5

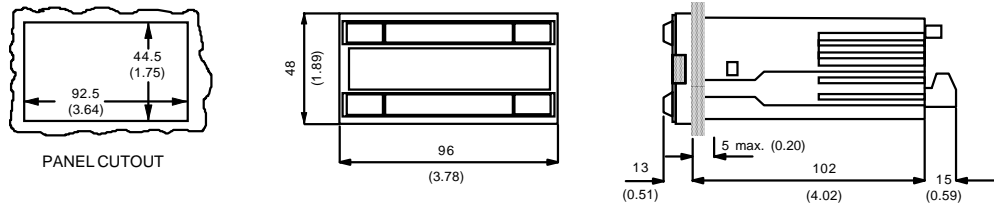
INSTALL THE JUMPER IN THE INDICATED PLACE, ACCORDING TO THE RANGE SELECTED.

DECIMAL POINTS SELECTOR

D3 = 1.XXX  
   D2 = 1X.XX  
   D1 = 1XX.X

MECHANICAL DIMENSIONS mm (in)

FIG. 6



PANEL CUTOUT

WARRANTY/DISCLAIMER

OMEGA warrants this unit to be free of defects in materials and workmanship and to give satisfactory service for a period of 13 months from date of purchase. OMEGA Warranty adds an additional one (1) month grace period to the normal one (1) year product warranty to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product. If the unit should malfunction, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective it will be repaired or replaced at no charge. However, this WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of being damaged as a result of excessive corrosion; or current; heat; moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components which wear or which are damaged by misuse are not warranted. These include contact points, fuses and triacs.

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RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA ENGINEERING Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

FOR WARRANTY RETURNS, please have the following information available BEFORE contacting OMEGA:

1. P. O. number under which the product was PURCHASED.
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR NON-WARRANTY REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. P. O. number to cover the COST of the repair,
2. Model and serial number of product, and
3. Repair instructions and/or specific problems relative to the product.

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