DP18 Series
Models DP18-Q1 / -Q2 / -Q3 / -Q4
Ohmeter

INSTRUCTION SHEET

M2117/1294

OEHMETER, 3 1/2 DIGITS, FOUR RANGES ARE USER-SELECTABLE ON THE SIGNAL CONDITIONER BY PLUG-IN JUMPERS, EACH WITH ITS OWN CONSTANT CURRENT EXCITATION. THE UNKNOWN RESISTANCE CAN BE MEASURED WITH 4 WIRES TO ELIMINATE THE EFFECT OF LEAD RESISTANCE.

SPECIFICATIONS

DISPLAYS ......................... 3 1/2 digits, 7 segment, red LED
HEIGHT ............................ ± 1.888
DECIMAL POINTS ................. Selectable by jumpers
OVER RANGE INDICATION ......... Display flashes
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 ....................... 0.05 %, ± 1 count
SPAN TEMPCO ..................... 50 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.

FIG. 1

REAR VIEW

FIG. 2

[Diagram showing SPAN: ADJUST THE MAXIMUM READING, OFFSET: NOT IN SERVICE, SPAN ADJUSTMENT IS ACCESSIBLE BEHIND THE LOW DOOR, Setpoint R1 and R2, Isolated digital output, Analog output, Power supply, Hold, latch the reading display, while these pins are linked.]

FIG. 3

READING RANGE SELECTION

The table for reading ranges:

<table>
<thead>
<tr>
<th>MODEL</th>
<th>RANGE</th>
<th>RESOLUTION CURRENT</th>
<th>EXCITATION CONDITIONER</th>
<th>CLOSE JUMPER</th>
<th>FIG. 3 SIGNAL POINT</th>
<th>FIG. 5 DECIMAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP18-Q1</td>
<td>0-199.9</td>
<td>Ω</td>
<td>0.1 Ω</td>
<td>10 mA</td>
<td>A</td>
<td>D1</td>
</tr>
<tr>
<td>DP18-Q2</td>
<td>0-1999</td>
<td>Ω</td>
<td>1 Ω</td>
<td>1 mA</td>
<td>B</td>
<td>----</td>
</tr>
<tr>
<td>DP18-Q3</td>
<td>0-19.99</td>
<td>KΩ</td>
<td>10 Ω</td>
<td>0.1 mA</td>
<td>C</td>
<td>D2</td>
</tr>
<tr>
<td>DP18-Q4</td>
<td>0-199.9</td>
<td>KΩ</td>
<td>100 Ω</td>
<td>0.01 mA</td>
<td>D</td>
<td>D1</td>
</tr>
</tbody>
</table>

¡WARNING!

TO AVOID IRREVERSIBLE DAMAGE TO THE METER, CHECK THAT THE CIRCUIT TO BE MEASURED, IS FREE OF ELECTRICAL VOLTAGE. FOR 2 WIRE CONNECTION, LINK THE TERMINAL A TO THE TERMINAL B, AND TERMINAL C TO TERMINAL D.

SELECT THE DESIRED RANGE, CLOSE THE APPROPRIATE JUMPER (SELECTOR S1) ON THE SIGNAL CONDITIONER, CLOSE THE APPROPRIATE DECIMAL POINT JUMPER (FIG. 3), CORRESPONDING TO THE READING DESIRED. FOR READING 14.50, PLACE THE JUMPER ON THE D2 POSITION.
**OPTIONS AND POWER SUPPLIES AVAILABLE FOR DP18 Series**

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

<table>
<thead>
<tr>
<th>OPTION</th>
<th>DESCRIPTION</th>
<th>OPTION</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCD</td>
<td>PARALLEL BCD, OPTOISOLATED</td>
<td>A01</td>
<td>ANALOG OUTPUT mA SINK</td>
</tr>
<tr>
<td>R1</td>
<td>DUAL SETPOINT 3 Amp, Relays</td>
<td>A02</td>
<td>ANALOG OUTPUT mA SOURCE</td>
</tr>
<tr>
<td>R2</td>
<td>STAND ALONE</td>
<td>A03</td>
<td>ANALOG OUTPUT VOLTAGE</td>
</tr>
<tr>
<td>AP23</td>
<td>ISOLATED SERIAL OUTPUT RS-232</td>
<td>A04</td>
<td>ANALOG PEAK HOLD</td>
</tr>
</tbody>
</table>

**POWER SUPPLY OPTIONS**

<table>
<thead>
<tr>
<th>OPTION</th>
<th>POWER</th>
<th>OPTION</th>
<th>POWER</th>
<th>OPTION</th>
<th>POWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>230</td>
<td>230 Vac 50/60 Hz</td>
<td>24</td>
<td>24 Vac 50/60 Hz</td>
<td>48</td>
<td>48 Vdc 50/60 Hz</td>
</tr>
<tr>
<td>15</td>
<td>150 Vdc</td>
<td>30</td>
<td>30 Vdc</td>
<td>5</td>
<td>(&lt; 0.5 W) isolated</td>
</tr>
</tbody>
</table>

**SELECTION OF: DECIMAL POINTS AND SPECIAL OPTIONS**

**FIG. 4**

**JUMPERS SELECTION FOR SPECIAL OPTIONS**

**FIG. 5**

**MECHANICAL DIMENSIONS mm (In)**

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**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; misspecification; 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 traces.

OMEGA is pleased to offer suggestions on the use of its various products.

OMEGA’s policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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 shall be marked on the outside of the return package and on any correspondence.

**FOR WARRANTY RETURN**, 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,
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. Model and serial number of the product,
2. Repair instructions and/or specific problems relative to the product.

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