An OMEGA Technologies Company

DP18 Series
Models DP18-M1F
RTD Input Temperature Indicator

INSTRUCTION SHEET

M2314/0995

TEMPERATURE METERS FOR 100 Ω Pt RTD (Resistance Temperature Detector) INPUT DIN 43760, α =0.00385.

Provided with built-in current excitation and linearization for direct readout in degrees Fahrenheit. Accept sensors with 2 or 3 wires and automatic maximum lead resistance compensation is 10 Ω.

This model can accept additional boards for analog output and upper boards for digital or control outputs.

SPECIFICATIONS

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

INPUT CONFIGURATION ............. Bipolar single
SPAN ADJUSTMENT .................. ± 5 %
CONVERTER .......................... Dual slope, average value
POLARITY ................................ Automatic ±
SIGNAL INTEGRATION PERIOD .... 80 ms.
READ RATE ............................ 3.12 / sec.
RANGES .............................. See table, fig. 3
HOLD .................................. Optional

NOISE REJECTION (NMR) ............ 50 dB, 50/60 Hz.
ACCURACY ............................. See table, fig. 3
WARMUP TO RATED ACCURACY ...... 2 minutes
SPAN TEMPCO ....................... 150 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 ................. 110 Vac. ± 10 %, 50/60 Hz.
POWER CONSUMPTION ............. 5.5 VA for AC.
ELECTRICAL CONNECTIONS ...... Push-in cable connectors
BURN-IN .............................. 24 h.

3 WIRE CONNECTION

FIG. 3

2 WIRE CONNECTION

FIG. 4

MODEL TEMPERATURE RANGE ACCURACY RESOLUTION MAXIMUM COMPENSATION
DP18-M1F -200 to +400 °F 1 °F ±1 1 °F 10 Ω

3 WIRE CONNECTION

PT1 ZERO ADJUST COMPONENTS VIEW
PT2 SPAN ADJUST

SIGNAL CONDITIONER

2 WIRE CONNECTION

PT1 ZERO ADJUST COMPONENTS VIEW
PT2 SPAN ADJUST

SIGNAL CONDITIONER

FIG. 1

FRONT VIEW

SPAN: ADJUST THE MAXIMUM READING.
OFFSET: NOT IN SERVICE.
SPAN ADJUSTMENT IS ACCESSIBLE BEHIND THE LOW DOOR.

FIG. 2

REAR VIEW

Isolated digital output (option)
HOLD, latch the reading display, while these pins are linked
POWER SUPPLY see instrument label

FIG. 4

COMPONENTS VIEW
SIGNAL CONDITIONER

MODEL TEMPERATURE RANGE ACCURACY RESOLUTION MAXIMUM COMPENSATION
DP18-M1F -200 to +400 °F 1 °F ±1 1 °F 10 Ω

MHD0995LSSA
OPTIONS AND POWER SUPPLIES AVAILABLE FOR DP18 Series

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

<table>
<thead>
<tr>
<th>OPTION</th>
<th>DESCRIPTION</th>
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</tr>
</thead>
<tbody>
<tr>
<td>8CD</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>DUAL SETPOINT, 3 Amp, Relays</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>
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</tbody>
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POWER SUPPLY OPTIONS

<table>
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<tr>
<th>POWER SUPPLY OPTIONS</th>
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<tbody>
<tr>
<td>230 Vac</td>
</tr>
<tr>
<td>115 Vac</td>
</tr>
<tr>
<td>24 Vac</td>
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<tr>
<td>48 Vac</td>
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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. The unit should not 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, missaplacation; 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.

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SELECTING A DECIMAL POINTS AND SPECIAL OPTIONS

JUMPERS SELECTION FOR SPECIAL OPTIONS

FIG. 4

FIG. 5

FIG. 6

MECHANICAL DIMENSIONS mm (in)

SOLDER SIDE

COMPONENTS