Description
The DPG1100L is a 2-wire pressure transmitter with digital display. It is powered by the 4-20 mA current loop and produces a true analog output signal. The output is filtered to improve noise immunity. The temperature compensated piezoresistive transducer features 316 stainless steel wetted parts.

Installation Precautions
Tighten/remove with wrench on hex fitting only. Do not attempt to rotate gauge by turning housing. Use fittings appropriate for the pressure range of the gauge. Do not apply vacuum to gauges not designed for vacuum operation. NEVER insert objects into the gauge port or blow out with compressed air. Permanent damage not covered by warranty will result.

Electrical Connection
Connection to the DPG1100L is made with the 2-wire cable at the gauge rear. Connect the loop (+) supply to the RED lead and the loop (–) supply to the BLACK lead. Reversing the connections will not harm the gauge but the gauge will not operate with incorrect polarity.

Loop Voltage
Select a loop power supply voltage and total loop resistance so that when the loop current is 20 mA, the gauge will have at least 8 VDC at its terminals. Too large a loop resistance will cause the gauge output to “limit” or saturate before reaching its full 20 mA output. See graph below.

The minimum loop supply voltage may be calculated from the formula:

\[ V_{\text{min}} = 8 + (20 \text{mA} \times \text{Total loop resistance}) \]

Voltage Compliance for 4-20 mA Current Loop

<table>
<thead>
<tr>
<th>Max Loop Resistance (Ohms)</th>
<th>Loop Supply Voltage (DC)</th>
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<tbody>
<tr>
<td>8</td>
<td>30</td>
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<tr>
<td>16</td>
<td>120</td>
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<tr>
<td>32</td>
<td>140</td>
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</tbody>
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SPECIFICATIONS

Ranges & Resolution
30.0 inHg vacuum, ±15.00, 3.00, 5.00, 15.00, 30.0 psig
100.0, 199.9, 300, 500, 1000 psig
Absolute reference: 15.00, 100.0 psig

Optional Units
Most engineering units such as kPa, atm, bar, mbar, inHg, mmHg, inH2O, ftH2O, torr, kg/cm², cmH2O, oz/in²

Display
(type, size, update rate)
3½ digit LCD, 1½ digit height
3 readings per second nominal display update

Accuracy
(linearity, hysteresis, repeatability)
±0.25% of full scale or better, ±1 least significant digit

Loop Supply Voltage
Any DC supply/loop resistance that maintains 8 to 32 VDC at gauge terminals. Reverse polarity protected.

Output Characteristics
True analog output, 50 milliseconds typical response time

Low Loop Warning
(below approximately 7.8 VDC)
Colon appears on display

Controls & Location
TEST button sets output to test level, 0-100% range
Front zero, span & test potentiometers
Non-interactive zero & span, ±10% range

Temperature Stability
(relative to 77°F or 25°C)
±1% F5 for zero & span, 32 to 158°F (0 to 70°C) typical
±2% F5 for offset & span, 32 to 158°F (0 to 70°C) typical
3 and 5 psi ranges

Weight (approximate)
Gauge: 9 ounces, shipping weight: 1 pound

Housing
NEMA 4X
UV stabilized polycarbonate/ABS case, light gray color
Clear polycarbonate window to protect display

Pressure/Vacuum Connection & Material
1/4” NPT male, all wetted parts are 316 SS

Overpressure & Burst
5000 psig for metric units equivalent to 3000 psig
7500 psig for metric units equivalent to 5000 psig
All others 2x rated pressure minimum
Burst: 4x rated pressure minimum or 10,000 psi, whichever is less

Storage Temperature: −40 to 203°F (−40 to 95°C)
Operating Temperature: −4 to 185°F (−20 to 85°C)
Compensated Temperature: 32 to 158°F (0 to 70°C)
WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of 13 months from date of purchase. OMEGA’s 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. OMEGA’s Warranty does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. 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 are not warranted, including but not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, neither verbal or written. OMEGA warrants only that the parts manufactured by it will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive and the total liability of OMEGA is limited to the purchase price and any damages resulting from the purchase of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a “Basic Component” under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS / INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA 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.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

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.