The PD680 control loop readout is a “go anywhere” meter. First, there is its freedom from the AC lines. You may power the PD680 directly from the 4-20 mA loop. Its 1 V drop makes the PD680 usable even in loops protected by safety barriers. Or you can power the PD680 from a low voltage DC source with transformer isolation between the DC power and the signal.

The PD680 can be installed almost anywhere because the large LCD display makes it easy to read in all kinds of lighting; from bright sunlight to dark shade. The PD680 fits in a standard 1/8 DIN panel cutout.

SPECIFICATIONS

Except where noted all specifications apply to operation at +25°C.

General
Input: User selectable: 4-20 mA, 0-20 mA, 0-5 V, or 1-5 V
Display: 0.5” (12.7 mm) LCD, 3½ digits + extra zero; extra zero may be switched on to display up to 19,990
Accuracy: ±0.1% FS ±1 count
Decimal Point: User selectable
Calibration: Two-step; non-interacting zero and span
Calibration Range: 4 mA (1 V) input: -500(0) to +500(0); 20 mA (5 V) input: between 20(0) and 2000(0) > 4 mA (1 V)
Display Update Rate: 2.5/second
Maximum Input Current: 30 mA
Maximum Voltage Drop: 1 V @ 20 mA
Operating Temperature: -40° to 70°C
Storage Temperature: -40 to 80°C
Relative Humidity: 0 to 90% non-condensing
Enclosure: 1/8 DIN, high impact plastic, UL 94V-0, color: black
Weight: 5.9 oz (166 g)
Connections: Removable screw terminals accept 12 to 22 AWG
Power: Loop-powered, 1 V maximum voltage drop; or powered by separate 5 to 25 VDC @ 6 mA supply
Isolation: 500 V between signal (S+, S-) and power (P+, P-), using separate supply
Warranty: 2 years parts & labor
Extended Warranty: 1 or 2 years, refer to Price List for details.

Disclaimer
The information contained in this document is subject to change without notice. Precision Digital Corporation makes no representations or warranties with respect to the contents hereof, and specifically disclaims any implied warranties of merchantability or fitness for a particular purpose.

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD680</td>
<td>Loop-Powered Panel Meter</td>
</tr>
<tr>
<td>PDA2405</td>
<td>NEMA 4X Cover</td>
</tr>
<tr>
<td>PDA2407</td>
<td>NEMA 4X Enclosure for 1 Meter</td>
</tr>
<tr>
<td>PDA2408</td>
<td>NEMA 4X Enclosure for 2 Meters</td>
</tr>
<tr>
<td>PDA2409</td>
<td>NEMA 4X Enclosure for 3 Meters</td>
</tr>
<tr>
<td>PDA2410</td>
<td>NEMA 4X Enclosure for 4 Meters</td>
</tr>
</tbody>
</table>

Mounting Dimensions

Notes:
1. Dimensions are in inches and millimeters (mm)
2. Panel cutout required: 1.772" x 3.622" (45 mm x 92 mm) 1/8 DIN
3. Panel thickness: 0.125" - 0.250" (3.17 mm - 6.34 mm)
4. Clearance: allow 6 inches (152 mm) behind the panel

©2005 Precision Digital Corporation. All rights reserved.
Setup
The PD680 may be powered by either of two methods: directly from the 4-20 mA loop, or by a separate DC supply between 5 and 25 VDC at 6 mA. Transformer isolation between signal and power inputs is 500 V in the DC supply mode. Refer to diagrams at right for connections.

Decimal Point or Extra Zero
Decimal point or extra zero is activated by a pin array labeled Z 1 2 3 at the back of the instrument. Place the jumper over the “Z” pins to illuminate the extra zero, the “1” pins to illuminate a decimal point in the XXX.X position, etc.

Input Signal Selection
Input signal selection is made by a pin array labeled A B C at the back of the instrument.

<table>
<thead>
<tr>
<th>Input Signal</th>
<th>Power</th>
<th>Jumper Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>S+, S-</td>
<td>ON</td>
<td>A, B, C</td>
</tr>
<tr>
<td>4-20 mA</td>
<td>ON</td>
<td>A, B, C</td>
</tr>
<tr>
<td>4-20 mA</td>
<td>OFF</td>
<td>A</td>
</tr>
<tr>
<td>5-25 VDC</td>
<td>ON</td>
<td>A, C</td>
</tr>
<tr>
<td>5-25 VDC</td>
<td>OFF</td>
<td>A, B</td>
</tr>
<tr>
<td>0-20 mA</td>
<td>ON</td>
<td>A, C</td>
</tr>
<tr>
<td>5-25 VDC</td>
<td>OFF</td>
<td>A, B, C</td>
</tr>
<tr>
<td>0-5 V</td>
<td>ON</td>
<td>A, B</td>
</tr>
<tr>
<td>5-25 VDC</td>
<td>OFF</td>
<td>A, B, C</td>
</tr>
<tr>
<td>1-5 V</td>
<td>ON</td>
<td>None</td>
</tr>
<tr>
<td>5-25 VDC</td>
<td>OFF</td>
<td>A, B, C</td>
</tr>
</tbody>
</table>

Calibration
Calibration of the PD680 is a two step process involving two front panel controls located behind the faceplate. Remove the faceplate by inserting a stiff wire in the groove at the bottom edge of the bezel and prying off the faceplate. The LO control is located on the right and the HI control on the left.

Apply 4 mA (1 V) to the input and adjust the LO control for the desired reading. Then apply a signal between 16 and 20 mA (4 and 5 V) and adjust the HI control for the desired reading. Complete the calibration by making any minor adjustments to the LO and HI displays.

Environmental Protection
The PD680 is a control panel instrument and thus requires additional protection when mounted in harsh operating environments. Precision Digital offers a NEMA 4X cover and NEMA 4X boxes that will house 1, 2, 3, or 4 PD680s.

Location of Controls, Connectors, and Jumpers
A. Balance control (factory adjust only)
B. HI calibration control
C. LO calibration control (not visible in illustration)
D. Decimal point and extra zero pin array
E. Input selection pin array
F. Removable screw terminal block