

MODEL PD682 3¹/₂ DIGIT 1/8 DIN LOOP-POWERED METER

The PD682 is a low cost digital panel meter that can be mounted in hazardous locations to provide on the spot display of important process variables in engineering units. And its 1 volt drop means the PD682 won't overload a loop that's protected by intrinsic safety barriers.

The PD682 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 PD682 fits in a standard 1/8 DIN panel cutout.

SPECIFICATIONS

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

APPROVAL: FM Approved as intrinsically safe with entity, for use in Class I, Division 1, Groups A, B, C, D hazardous locations.

FM approved as intrinsically safe with entity, for use in Class II and III, Division 1, Groups E, F, and G hazardous locations when installed in Precision Digital enclosures PDA2407, PDA2408, PDA2409, or PDA2410.

Non-incendive for use in Class I, Division 2, Groups A, B, C, and D hazardous locations when installed in an enclosure capable of accepting one of the Division 2 wiring methods specified in the National Electric Code (NFPA 70), including Precision Digital enclosures PDA2407, PDA2408, PDA2409, or PDA2410.

Suitable for use in Class II and III, Division 2, Group F and G hazardous locations when installed in Precision Digital enclosures PDA2407, PDA2408, PDA2409, or PDA2410.

MAX. ENTITY PARAMETERS: $V_{\max} = 30 \text{ V}$,

$I_{\max} = 175 \text{ mA}$, $C_i = 0 \mu\text{F}$, $L_i = 0 \mu\text{H}$.

DISPLAY: Sharp, large 0.5" (12.7 mm) high LCD.
 $\pm 1999(0)$, (0) may be switched on to display to 19,990.

INPUT: 4-20 mA.

CALIBRATION: 4 mA input: -500(0) to +500(0);

20 mA input: between 20(0) to 2000(0) > 4 mA.

ACCURACY: $\pm 0.1\%$ of span, ± 1 count.

CONVERSION RATE: 2.5 conversions/second.

MAXIMUM INPUT CURRENT: 30 mADC.

MAXIMUM VOLTAGE DROP: 1 V at 20 mA.

OPERATING TEMPERATURE RANGE: -40° to + 70°C.

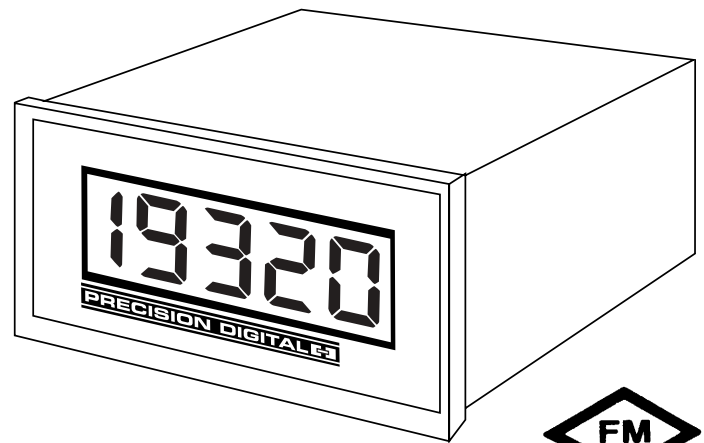
ENCLOSURE: 1/8 DIN, high impact plastic, UL 94V-0, color: black.

CONNECTIONS: Removable screw terminal block.

WARRANTY: 1 year parts and labor.

EXTENDED WARRANTY: May be extended an additional 12 months by returning the Product Registration Form within 2 months from date of purchase. Go to www.predig.com for online registration.

DISCLAIMER: The information contained in this document is subject to change without notice. Precision Digital 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.

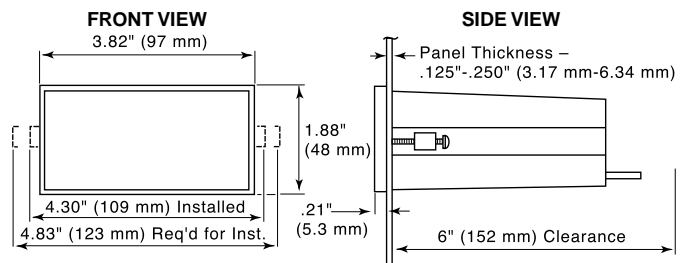


- Loop-Powered
- 1 Volt Drop
- Easy Two-Step Non-Interactive Calibration

ORDERING INFORMATION

Model	Description
PD682	Loop-Powered Panel Meter
PDA2405	NEMA 4X Front Panel PDA2405 is not FM approved as NEMA 4X

Mounting Dimensions



Notes:

1. Panel cutout required: 1.772" x 3.622" (45 mm x 92 mm) 1/8 DIN
2. Panel thickness: 0.125" - 0.250" (3.17 mm - 6.34 mm)
3. Clearance: 6" (152 mm) behind the panel
4. Weight: 8 oz (227 g)

YOUR LOCAL DISTRIBUTOR IS:

Please visit the Precision Digital website at
www.predig.com
for complete information on the entire line of Precision Digital products, technical information and much more.

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SETUP

All setup and calibration of the PD682 may be performed with the instrument in its case. The only tools needed are a calibrated current source with integral loop power supply and a screw driver.

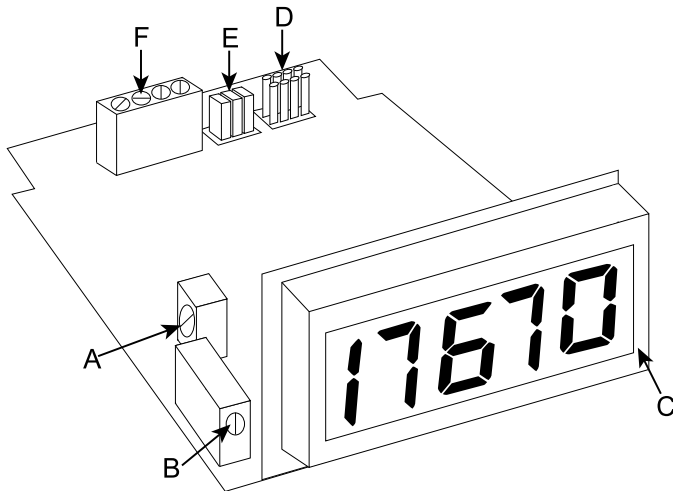
Decimal Point or Extra Zero

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.

Calibration

Calibration of the PD682 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 to the input and adjust the LO control for the desired reading. Then apply a signal between 16 and 20 mA and adjust the HI control for the desired reading. Complete the calibration by making any minor adjustments to the LO and HI displays.

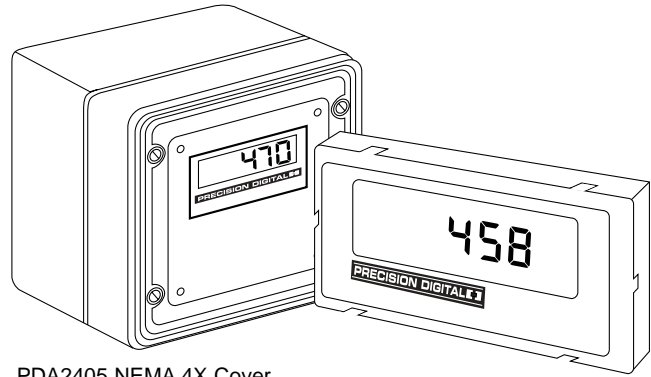


PD682

- A. Balance control; (factory adjust only)
- B. HI calibration control
- C. LO calibration control
- D. Decimal point and extra zero pin array
- E. All jumpers must be installed
- F. Removable screw terminal block

ENVIRONMENTAL PROTECTION

The PD682 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 enclosures that will house 1, 2, 3, or 4 PD682s.



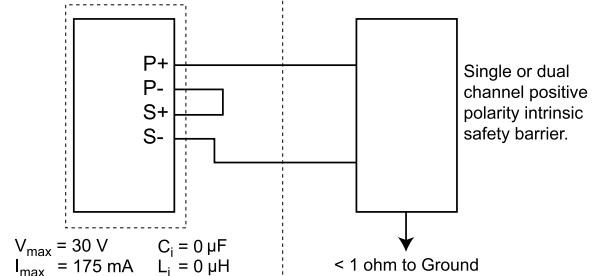
- PDA2405 NEMA 4X Cover
- PDA2407 NEMA 4X Enclosure for 1 Meter
- PDA2408 NEMA 4X Enclosure for 2 Meters
- PDA2409 NEMA 4X Enclosure for 3 Meters
- PDA2410 NEMA 4X Enclosure for 4 Meters

Installation Wiring Diagram Using Single or Dual Channel Intrinsic Safety Barrier (1066/C)

HAZARDOUS AREA

- Class I, Div 1, 2, Groups ABCD
- Class II, Div 1, Groups EFG
- Class II, Div 2, Groups FG
- Class III, Div 1, 2

NON-HAZARDOUS AREA



Application Notes:

1. $V_{max} > V_{oc}$ of single barrier or V_i of dual channel barrier.
2. $I_{max} > I_{sc}$ of single channel barrier or I_i of dual channel barrier.
3. I_i plus interconnecting wiring $< L_a$ of single or dual channel barrier.
4. C_i plus interconnecting wiring $< C_a$ of single or dual channel barrier.
5. The PD682 must be mounted in a PDA2407, 2408, 2409, or 2410 enclosure if it is to be installed in Class II, III, Division 1, 2 Groups E, F, G only.
6. It is not necessary to use intrinsic safety barriers when installing the PD682 in Class I, II, III, Division 2, Groups ABCDFG when installed in an enclosure capable of accepting one of the Division 2 wiring methods specified in the National Electrical Code (NFPA 70), including Precision Digital enclosure PDA2407, PDA2408, PDA2409 or PD2410, maximum input voltage = 25 VDC.
7. Installation must be in accordance with ANSI/ISA RP 12.6

Note: FMRC CONTROLLED DOCUMENT, NO CHANGES WITHOUT PRIOR FMRC APPROVAL.

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