Valley Instrument Company, Inc.
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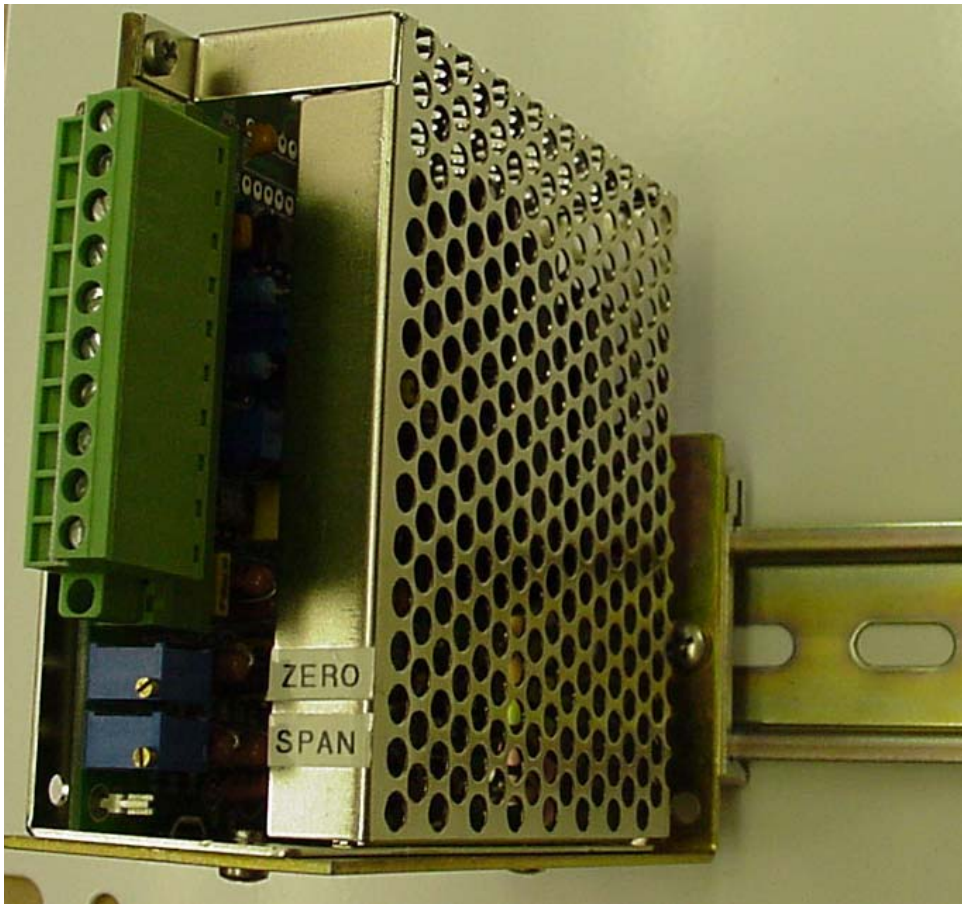
INSTALLATION AND OPERATION MANUAL

DO PROBER VERSION A

MODEL # PDOA



1) Pre-Installation Setup

The factory setting is 5V 10V or 4/20mA, depending on the part number ordered. I a change is required, perform the following:

1.1) Remove cover (one corner screw) for jumper changes.

1.2) Set Range Jumpers using the table below. Decide on full scale NA range desired and set jumpers for that range.

1.2.1) 0 to 400nA = 0 to 10V: W1 Jumper OFF and W2 Jumper ON.

1.2.2) 0 to 400nA = 0 to 5V: W1 Jumper ON and W2 Jumper ON.

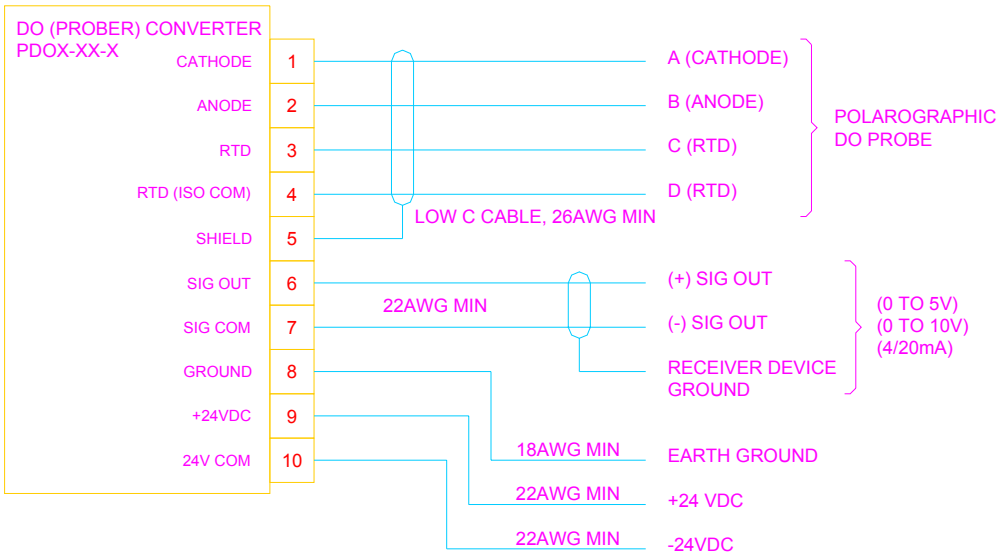
1.2.3) Optional: 0 to 400nA = 4 to 20mA DC: W1 Jumper OFF and W2 Jumper OFF.

2) Installation

2.1) Clip prober on to your Din rail.

2.2) Wire per drawing below.

2.2.1) Connect DO probe, 4 wire and shield.
2.2.2) Connect 24V DC source, per drawing.
2.2.3) Connect earth ground to TB-8.
2.2.4) Connect shielded 1 pair cable to output. Note: The shield should be connected to receiving device ground.



3) Annual Calibration

3.1) The DO prober is factory calibrated. An annual calibration should be performed following the procedure below. If the equipment is not available, consult factory for recalibration.

3.1.1) Power up unit and allow 15 minute warm up.

3.1.2) Connect a precise nA source to input to (+) TB-3 and (-) TB-4.

3.1.3) Source 0.0 nA and adjust Zero potentiometer for 0V or 4 mA output.

3.1.4) Source 400 nA as determined by jumper settings. Adjust span potentiometer for full scale output (5V, 10V or 20mA)

3.1.5) Source 200nA nA as determined by jumper settings. Verify half scale output (2.5V, 5V or 12mA). Repeat as required for best-fit linearity.

4) Specifications

4.1) Input

4.1.1) Range: 0nA to 400nA Full Scale
4.1.2) Connector: Isolated Terminal Block
4.1.3) Bias: 675mV (±) 1%

4.2) Output

4.2.1) Range: 0 to 5V DC @ (±) 0.05%
0 to 10V DC @ (±) 0.05%
4 to 20mA DC @ (±) 0.1% (50 to 500 Ohm̨ Load Maximum)
4.2.2) Linearity: (±) 0.02% of Full Scale
4.2.3) Resolution: 0.01% of Full Scale
4.2.4) Output Noise: Less Than 0.1mV RMS

4.3) Power: 24 V DC or 24V AC

4.3.1) 24V DC (±) 15% Regulated or Non Regulated Polarity Protected
4.3.1.1) 56mA @ 24V DC (Voltage Mode)
4.3.1.2) 74mA @ 24V DC (Current Mode)

4.3.2) 24V AC (±) 15%
4.3.2.1) 1.5 VA Maximum @ 24V AC (Voltage Mode)
4.3.2.2) 1.8 VA Maximum @ 24V AC (Current Mode)

4.4) Environmental

4.4.1) Temperature: 30 to 120°F
4.4.2) Humidity: 0 to 80% Non Condensing

4.5) Physical

4.5.1) Termination: Disconnect 10 point screw terminal block with lock down screws
4.5.2) Mounting: Standard DIN Rail
4.5.3) Overall Size: 1.75" Wide X 3.8" Deep X 5.3" High Including Connector

4.6) General Specifications

4.6.1) Input Zero: Adjustment Range (±) 2.2nA
4.6.2) Response Time: 0 to 5 Seconds @ 400nA to 99% Final Value
4.6.3) Noise Rejection: (-) 50dB at 60HZ
4.6.4) Common Mode Rejection Up to 130V AC @ 60HZ Up to (±) 200V DC
4.6.5) Isolation (5 Way): Input to Ground
Input to Power Supply
Input to Output
Output to Ground
Output to Power Supply

5) Part Number

5.1) Versions

5.1.1) PDOA-**05**-0: 0 to 5V DC Output
5.1.2) PDOA-**10**-0: 0 to 10V DC Output
5.1.3) PDOA-**20**-0: 4 to 20mA DC Output