

Voltage-to-Pressure Regulator

1. Description

The Nordson Voltage-to-Pressure regulator is a programmable, two-channel, closed-loop air pressure regulator.

Analog voltage is applied to each channel to set the desired output air pressure. The regulator outputs an analog pressure signal and a digital alarm signal for each channel. The alarm signal is activated if the desired pressure cannot be achieved or maintained.

NOTE: This regulator cannot control a dead-ended load. A minimum flow of 1 SCFM must be maintained through the regulator in order to maintain stability of the output air pressure.

2. Specifications

See Figure 1.

Regulator Dimensions:	102 x 127 x 102 mm (4 x 5 x 4 in.)
Panel Dimensions:	152.4 x 152.4 mm (6 x 6 in.)
Input Power:	28–33 Vdc at 150 mA
Signal Inputs:	2 channels, analog, 1–5 Vdc, equal to 0–6.9 bar (0–100 psi) (pressure setpoint)
Signal Outputs for each channel:	Analog. 1–5 Vdc, equal to 0–100 psi (actual pressure) Digital, open collector, Low = alarm (low pressure alarm)
Inlet Ports:	10 mm tubing fitting
Outlet Ports:	6 mm tubing fitting

Performance

Air Regulations Range	0–6.9 bar (0–100 psi)
Regulation Accuracy	less than one percent of setpoint
Air Flow Capacity	less than 10 SCFM (4–7 dm ³ /s) per channel
Temperature Range	10–50 °C (50–120 °F)
Humidity Range	30–70% RH

3. Installation

Use this information to install the pressure regulator.

Mounting

The regulator is equipped with a mounting panel, gasket, and screws. If using the panel, see Figure 1 for the required cutout dimensions.

The preferred method to mount the regulator is with the pressure transducers on top (solenoid valves pointing down). You may also mount the regulator with the pressure transducers on the side.

NOTE: Do not mount the regulator with the pressure transducers on the bottom (solenoid valve pointing up). If mounted in this fashion, moisture in the air could cause the transducers to fail.

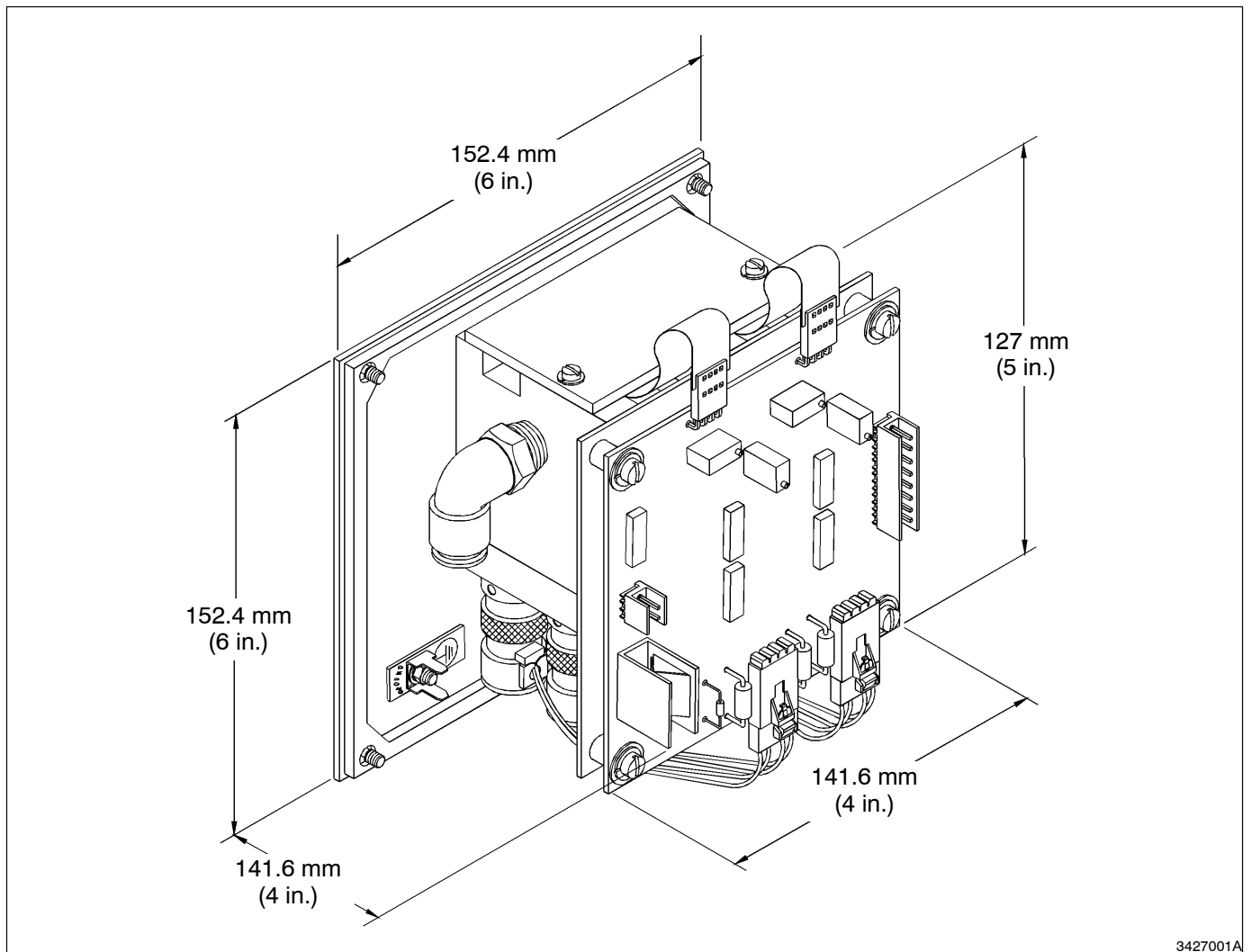


Fig. 1 Mounting Dimensions and Orientation

Mounting (contd.)

The panel and gasket can be removed and the regulator mounted to another panel or bracket. See Figure 2 for regulator dimensions.

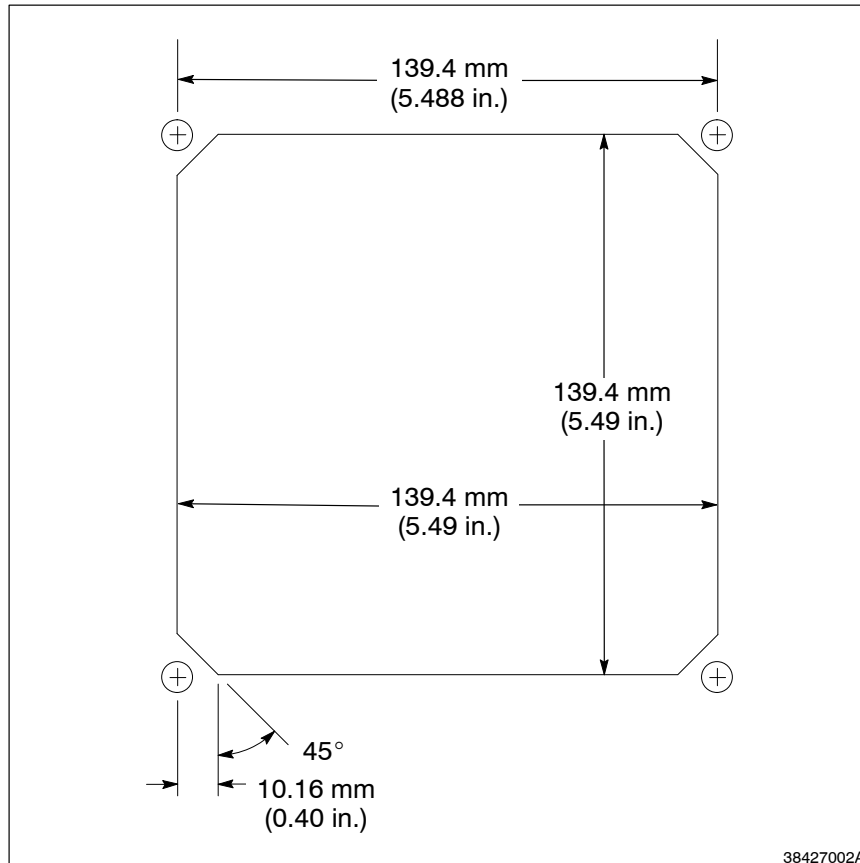


Fig. 2 Regulator Mounting Dimensions

See Figure 3. Use the two mounting holes on the rear face of the manifold block to mount the regulator to another panel or bracket. These holes are on the 50.8-mm (2.5-in.) centers and are tapped for M5 metric screws (5).

NOTE: The vent holes (4) in the rear face must not be blocked, and provision must be made for the inlet air and outlet air fittings.

Pneumatic Connections

See Figure 3. The regulator must be supplied with clean, dry air. An external air filter must be used.

NOTE: 40-micron is recommended for the filter.

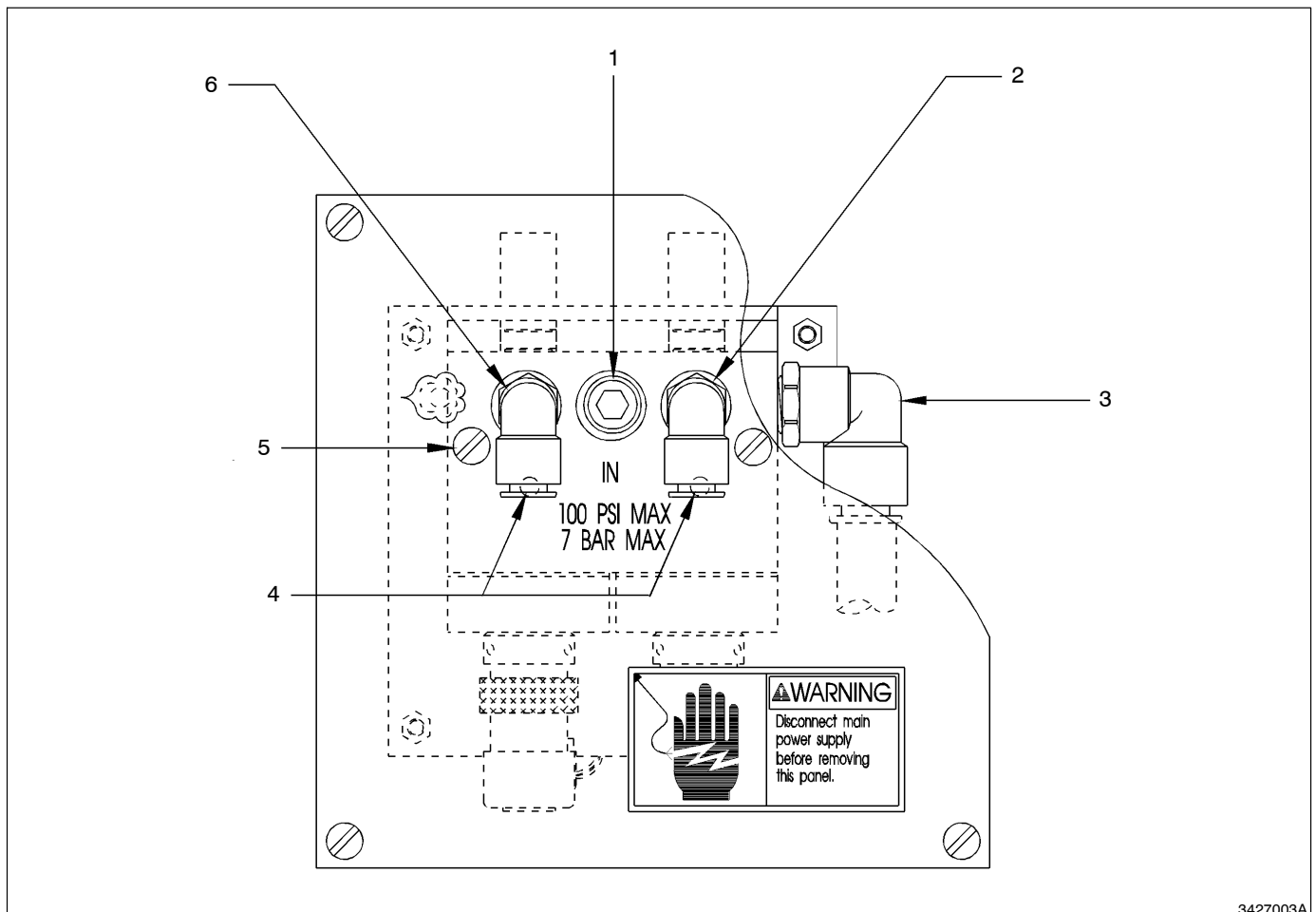
Supply

The regulator is shipped with a push/pull elbow fitting for 10-mm flexible tubing installed on the side inlet port (3).

1. Connect supply air tubing to this push/pull elbow fitting.

NOTE: The rear inlet port (1) can be used instead of the side inlet port.

2. Wrap the plug and fitting threads with PTFE tape before reinstalling, if supply ports are switched.



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Fig. 3 Air Fittings, Vent Holes and Mounting Holes

- | | | |
|---------------------|--------------------|---------------------|
| 1. Rear inlet port | 3. Side inlet port | 5. M5 Screw |
| 2. Channel 2 outlet | 4. Vent holes | 6. Channel 1 outlet |

Output

Connect 6-mm tubing to the output fittings on either side of the supply fitting. The left fitting is Channel 1 (6) which is typically used for flow rate air; the right fitting is Channel 2 (2) which is typically used for atomizing air.

NOTE: If this regulator is used to supply air to powder delivery equipment, an external air shut-off, interlocked with a fire detection system, must be used to shut off airflow automatically if a fire is detected. The regulator is not self-relieving and will not bleed off air pressure when powder is shut off.

Electrical Connections

Use this information for the electrical connections of your regulator.

Input Power

See Figure 4. Connect a 28 to 33 Vdc power supply. Terminate the leads with 2-socket female connector and connect to connector P1 on the circuit board.

NOTE: Refer to *Parts* for information on ordering a 2-socket female connector.

Signal

See Figure 4. Terminate the signal leads to an 8-socket female connector and connect to connector P2 on the circuit board.

NOTE: Refer to *Parts* for information on ordering an 8-socket female connector.

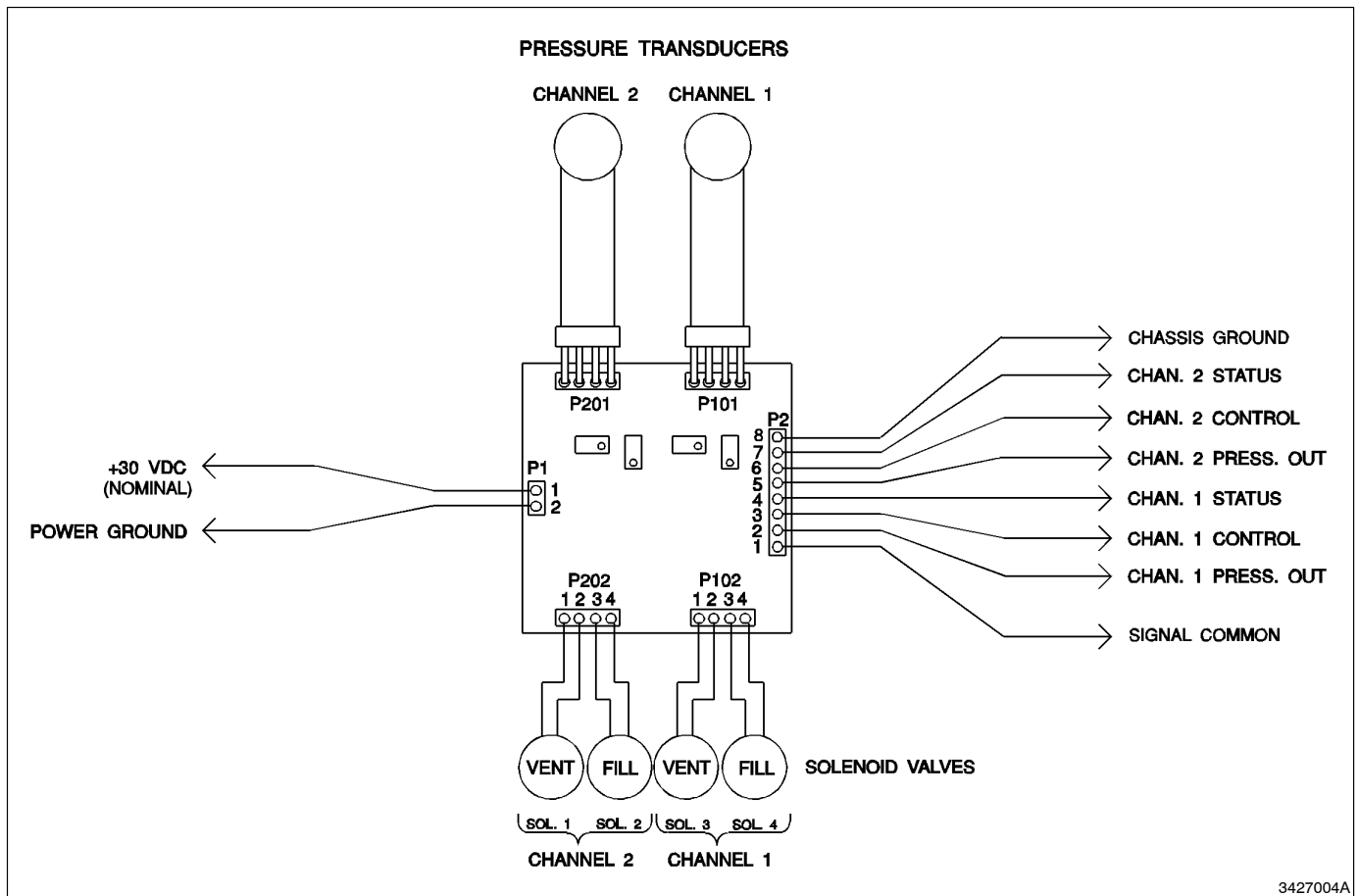


Fig. 4 Wiring Diagram

4. Repair

The regulator is not field repairable. It must be sent to the factory for repair and calibration.

5. Parts

Use this list to order the connectors for the electrical connections. Refer to *Electrical Connections* for more information.

Part	Description
335 241	Connector, plug, 2 position
933 474	Connector, plug, 8 position

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