

0-100 PSI Pressure Transducer and Amplifier Description

The 0-100 psi (0-6.89 bar) pressure transducer and amplifier assembly measures the internal hydraulic pressure in a spray gun or manifold and converts it to an electrical output to an iTRAX Spray Monitor. The electrical output is directly proportional to the hydraulic pressure measured by the pressure transducer.

Figure 1 shows the pressure transducer and amplifier assembly. The assembly is a calibrated, matched set. Cable lengths are:

- Armored cable from the amplifier to the transducer is 10-ft (3.05 meter) long.
- Cordset from the amplifier to the spray monitor is 8-ft (243.8 cm) long.

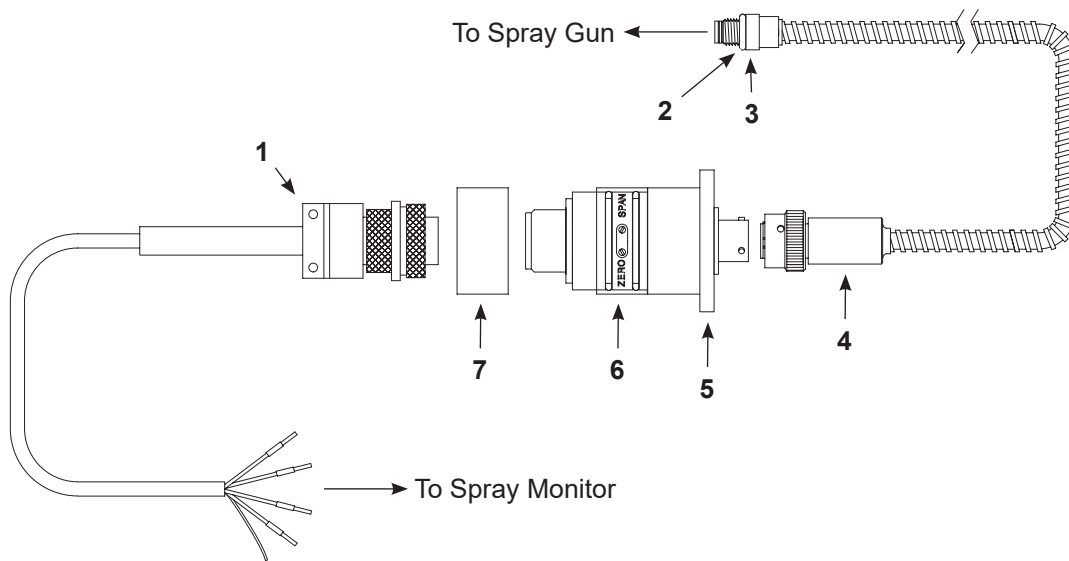


Figure 1 Pressure Transducer and Amplifier Assembly

- | | | |
|------------------------|--------------------------|-------------------------------|
| 1. Cordset (8 ft) | 4. Armored Cable (10 ft) | 6. Calibration Potentiometers |
| 2. Pressure Transducer | 5. Amplifier | 7. Cover Sleeve |
| 3. O-Ring | | |

NOTE: DO NOT attempt to calibrate this assembly without the proper equipment. Refer to *Calibration* on Page 2.

Specifications

Range:		0-100 psi (0-6.89 bar)
Nonlinearity:		±1.0% F.S.
Hysteresis:		±1.0% F.S.
Temperature Compensation of Pressure Transducer:		60-180°F (15-82°C)
Temperature Effect:	Zero	±0.01% F.S./°F
	Span	±0.02% RDG./°F
Material:		17-4 Stainless Steel
Amplifier Operating Voltage:		14-28 Vdc
Amplifier Operating Temperature:		-20-180°F (-29-82°C)
Output Voltage:		1-4 Vdc (2.5 mA max) @ 100 psi with 2.5 Vdc Common Mode Offset

Calibration

The transducer amplifier has adjustment potentiometers for calibration purposes. The assembly is calibrated at the factory and shipped with a calibration certificate. Like all transducers, it should be calibrated periodically, usually once a year if ISO processes are involved.

Calibration of the transducer is recommended annually to insure accurate and reliable operation. Calibration should be performed with precision equipment which has been calibrated to standards traceable to NIST (National Institute of Standards and Technology). Contact your Nordson Container Specialist for more information on calibration services.

Installation



WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

Amplifier Mounting Dimensions

Install the amplifier in an enclosure or panel, using the dimensions in Figure 2 and the 8-32 seal screws installed in the flange for shipment.

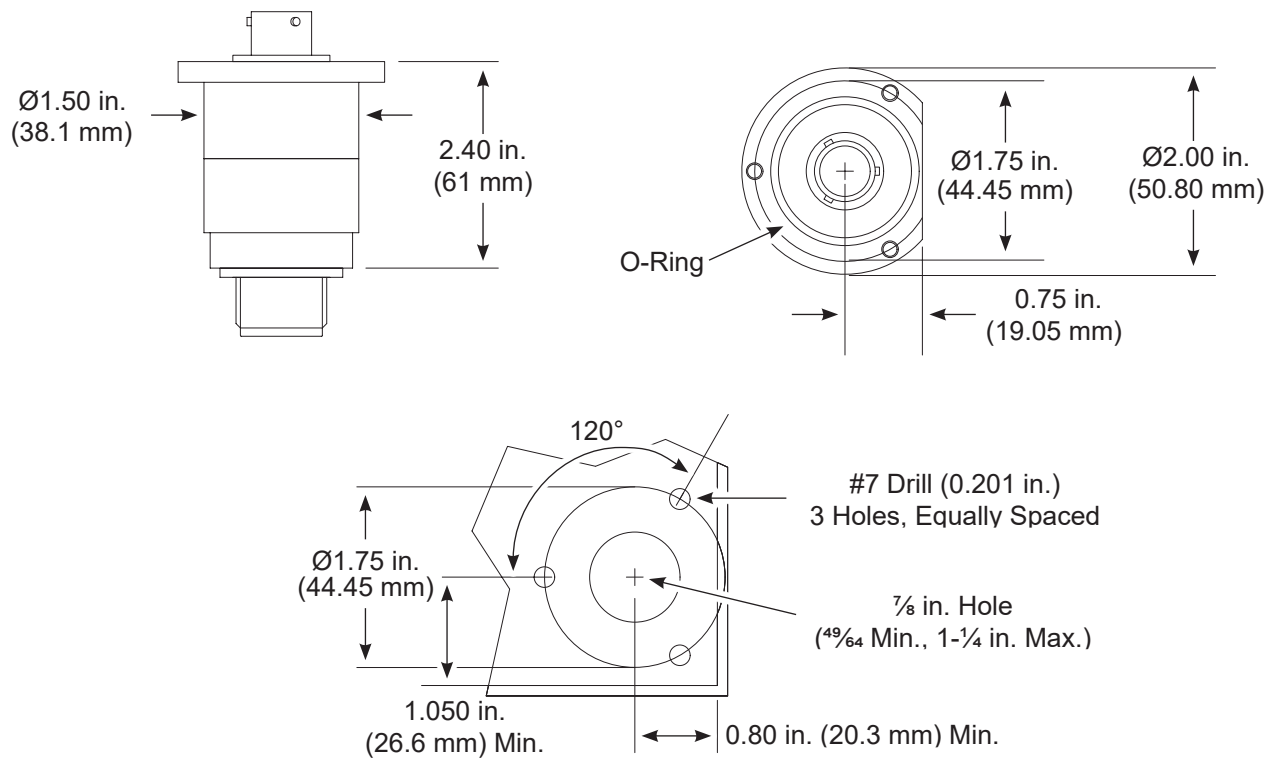


Figure 2 Amplifier Mounting Dimensions

Gun Connections



WARNING: To prevent injury to personnel and damage to equipment, disconnect and lockout power to the system. Relieve fluid and system pressure.



CAUTION: When installing, removing, or tightening the pressure transducer and armored cable assembly, always rotate the pressure transducer and cable assembly together to avoid damage to internal wires.

1. See Figure 3. Make sure the O-ring (3) is installed on the pressure transducer (4).
2. Remove the transducer plug (1) from the spray gun manifold port (2).
3. Thread the pressure transducer (4) into the spray gun manifold port (2). Tighten the pressure transducer (4) to 50 in.-lb (5.65 N•m). Do not overtighten.
4. See Figure 1. Connect the pressure transducer (4) to the amplifier (5).
5. Connect the cordset (7) to the amplifier (5) with the cover sleeve (6) in between. Route the cordset (7) to the spray monitor.

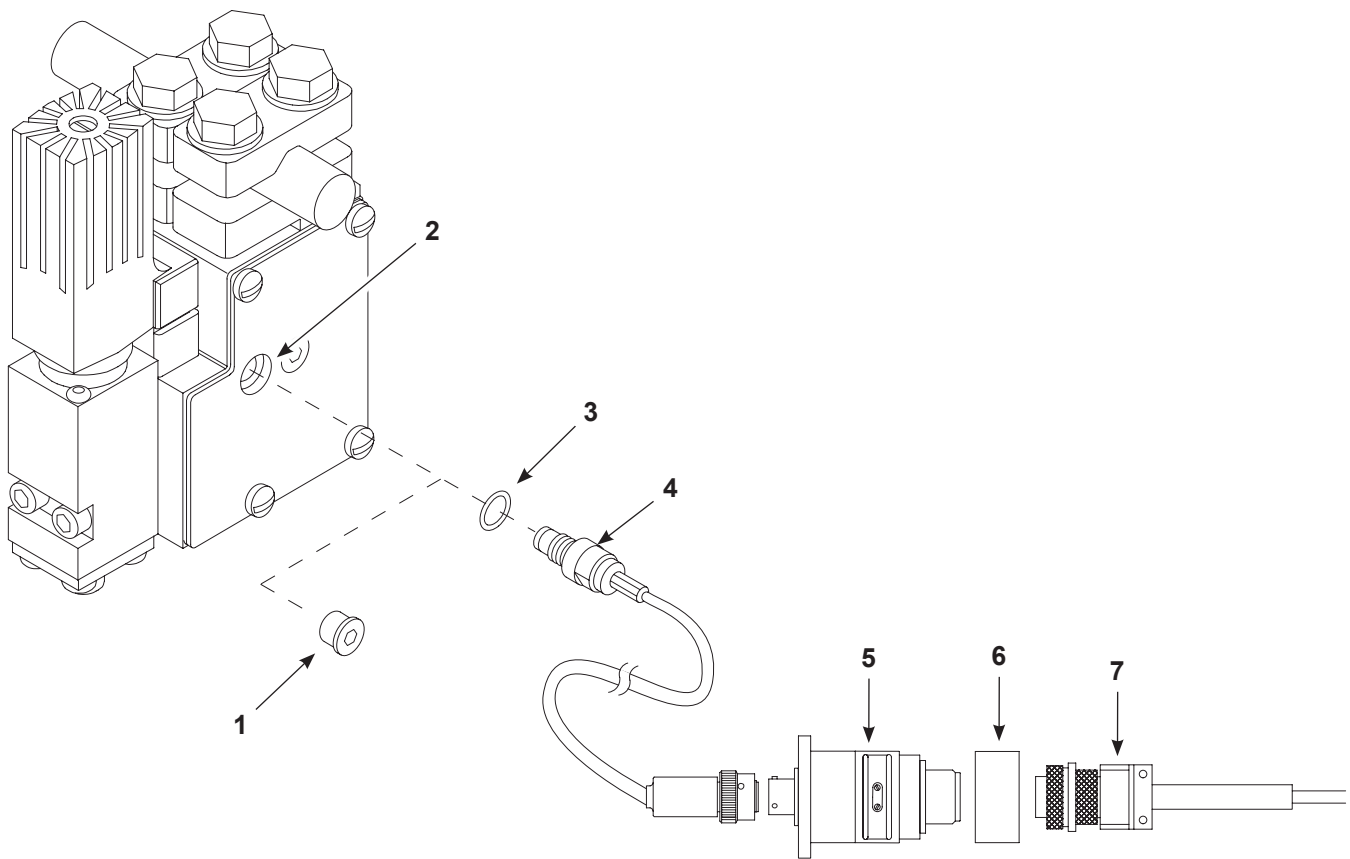


Figure 3 O-Ring Replacement

- | | |
|----------------------------|-----------------|
| 1. Transducer Plug | 5. Amplifier |
| 2. Spray Gun Manifold Port | 6. Cover Sleeve |
| 3. O-Ring | 7. Cordset |
| 4. Pressure Transducer | |

Spray Monitor Connections

See Figure 4. Connect the cordset wires to these inputs on the spray monitor or CanWorks junction box:

Cordset Wire Color	Spray Monitor Terminal
White	PRESS +
Black	PRESS-
Red	EXC +
Green	EXC -
Silver (Shield)	PRESS \perp $\overline{\text{m}}$

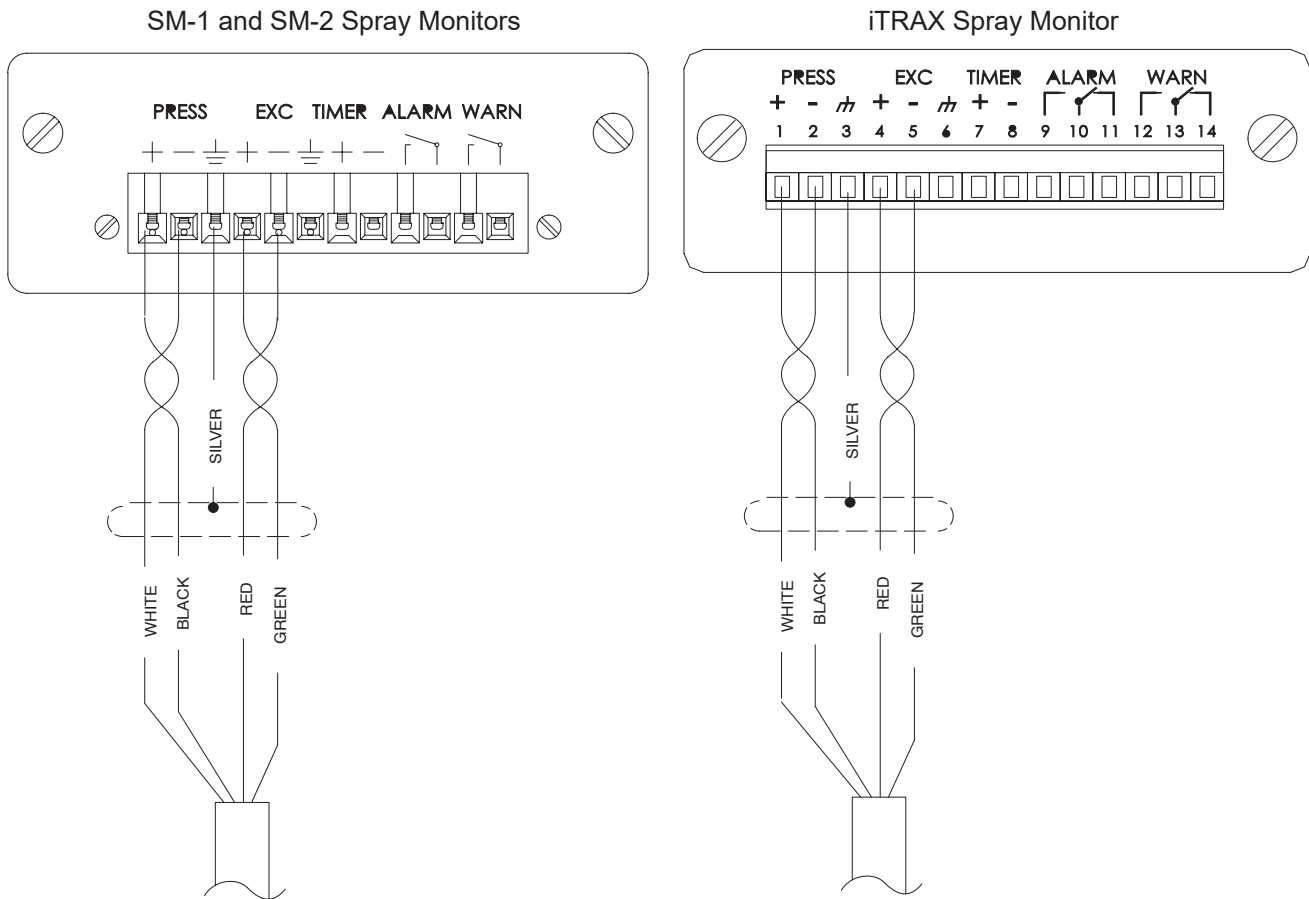


Figure 4 Spray Monitor Connections

Troubleshooting



WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

Armored Cable Pinouts

To check the transducer function, unplug the armored cable from the amplifier and check for continuity across pins A and D and pins E and F. If you find an open circuit on either pair, the transducer has failed. Since the transducer and amplifier are a calibrated set, you must replace the entire assembly.

Pin	Function
A	EXC +
B	Not Used
C	Not Used
D	EXC -
E	SIG -
F	SIG +

Cordset Pinouts

To check the operation of the amplifier, measure the Vdc across the black and white wires (Pins B and D). If the voltage is less than 0.995 Vdc at 0 psi or more than 4 Vdc, replace the entire assembly.

Pin	Wire Color	Function
A	Red	EXC + (+14 to +28 Vdc)
B	Black	SIG -
C	Green	EXC -
D	White	SIG + (1 to 4 Vdc)

Parts

See Figure 5 and refer to the following parts list.

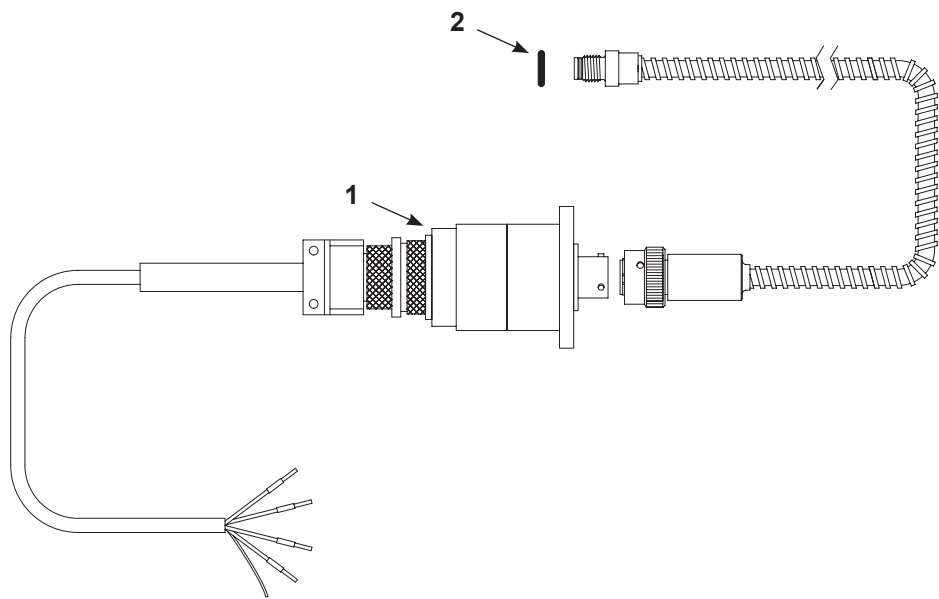


Figure 5 Transducer Assembly Parts

Item	Part	Description	Quantity	Note
1	1616869	TRANSDUCER, 180F, w/intergral amplifier, 0-1000 psi	1	A
2	945020	• O-RING, hot paint, 3/16-in. tube	1	
NS	1034130	• CLAMP, 2 piece, cushioned, transducer	1	
NOTE: A. The transducer and amplifier are calibrated as a matched set and cannot be ordered individually.				
NS: Not Shown				

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