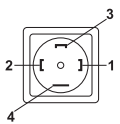
Electrical Connector Terminal Wiring and Pinout

DIN EN 175301-803 Form A

Environmental Rating IP65, Ordering Code -8, -14

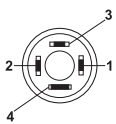
Pin No.	4-20 mA Output	Voltage Output
1	V+	V+
2	V-	Common
3		Output
4		



DIN EN 175301-803 Form C

Environmental Rating IP65, Ordering Code -7

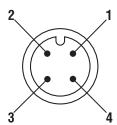
Pin No.	4-20 mA Output	Voltage Output
1	V+	V+
2	V-	Common
3		Output
4		



M12x1 (4-Pin)

Environmental Rating IP67, Ordering Code -25

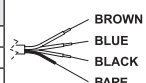
Pin No.	4-20 mA Output	Voltage Output
1	V+	V+
2		
3	V-	Common
4		Output



Integral Cable

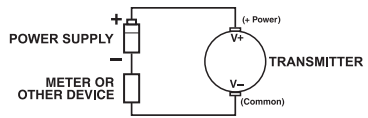
Environmental Rating IP65, Ordering Code -17, -18

Cable Color	4-20 mA Output	Voltage Output
Brown	V+	V+
Blue	V-	Common
Black		Output
Bare (Drain)	Shield	Shield

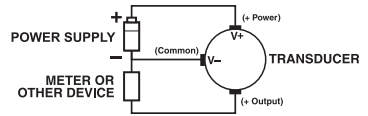


Power Supply Requirements And Ratings

4 mA to 20 mA Output



3-Wire Voltage Output



V+ = Supply voltage
V- = 4 mA to 20 mA signal
Output = Voltage Output signal
Common = Supply voltage return/ground

Load Limitations

4 mA to 20 mA output only
Vmin = 8V + (.020 x RL)
RL = RS + RW
RL = Loop resistance (ohms)
RS = Sense resistance (ohms)
RW = Wire resistance (ohms)

Power Supply

For applications that require UL listing compliance, power supply must be rated LPS per UL/EN/IEC 62368-1 or Class 2 in accordance with UL 1310/UL 1585 (NEC or CEC)

Output Signal	Min Supply	Max Supply	Max Current Consumption
4 mA to 20 mA	8 Vdc	30 Vdc	25 mA
0 Vdc to 5 Vdc	8 Vdc	30 Vdc	8 mA
1 Vdc to 5 Vdc	8 Vdc	30 Vdc	8 mA
0 Vdc to 10 Vdc	14 Vdc	30 Vdc	8 mA
0.5 to 4.5 Vdc	8 Vdc	30 Vdc	8 mA
0.5 to 4.5 Vdc ratiometric	4.5 Vdc	5.5 Vdc	8 mA

Technical Specifications Related To Safety

See product label for specific product input (voltage), output (voltage or current), and pressure ranges.

Temperature Ranges	Compensated 32 °F to 176 °F (0 °C to 80 °C) Media -22 °F to 212 °F (-30 °C to 100 °C) Ambient -22 °F to 212 °F (-30 °C to 100 °C) Storage -40 °F to 158 °F (-40 °C to 70 °C)
Compensated Temperature Error	0.20% of span / 10 K
Proof Pressure	< 7,500 psi: 2 times full scale ≥7,500 psi: 1.5 times full scale
Burst Pressure	< 7,500 psi: 3 times full scale ≥7,500 psi: 2 times full scale
Ingress Protection Ratings	IP65 to IP67 depending on electrical connection (Refer to Electrical Connector Terminal Wiring and Pinout)
Shock	500 g's according to IEC 60068-2-27
Vibration	10 g's according to IEC 60068-2-6

Uncertainty

±0.53% of span, including non-linearity best fit straight line, hysteresis, and non-repeatability per IEC 61298-2 at reference conditions

- Non-Linearity 0.50%
- Hysteresis 0.16%
- Non-repeatability 0.10%

$$Uncertainty = \sqrt{(\text{Non-linearity})^2+(\text{Hysteresis})^2+(\text{Non-repeatability})^2}$$

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PT20UM-23-1

NOSHOK

User Manual

PT20 Series

General Purpose Fixed Range Transmitter

WARNING

Please read the entire user manual for safe use of product.

NOTE: If NOSHOK PT20 general purpose pressure transmitters are used in a manner not specified in this manual, the protection provided by the equipment may be impaired.

NOTE: The safety of the system is the responsibility of the assembler of the system. See www.noshok.com for further product detail and documentation.

General Description

NOSHOK PT20 pressure transmitters are high performance instruments intended for use in industrial applications where the process media is compatible with the 316 Stainless Steel wetted parts and system temperatures and pressure are within the limits specified herein.

Installation

NOSHOK PT20 pressure transmitters require no special mounting hardware and can be mounted in any orientation with negligible position error.

Although the units can withstand considerable vibration without damage or significant output effects, it is always good practice to mount the transmitter where there is minimum vibration. Refer to product specification for allowable shock and vibration conditions.

For units with NPT type pressure fittings apply sealing tape or an equivalent sealant to the threads before installing.

When installing or removing the unit apply a wrench to the hex wrench flats, located above the pressure fitting. A 27 mm wrench can be used on the wrench flats of the hex.

Mating connection cable assemblies are available as an accessory part from NOSHOK. Refer to Electrical Connector Terminal Wiring and Pinout for additional detail.

Water and conventional cleaning detergents are acceptable cleaning agents. Cleaning with unsuitable cleaning agents may damage the instrument or the product label. Do not use any aggressive chemical agents or abrasive cloths or sponges.

Transmitter should be electrically common with earth via the process connection.

- Refer to Power Supply Requirements and Ratings.
- Refer to Electrical Connector Terminal Wiring and Pinout.
- Refer to product technical specification for allowable minimum and maximum temperature and pressure conditions.

General Operation

Pressure spikes in excess of the rated overpressure capability of the transmitter may cause irreversible electrical and/or mechanical damage to the pressure measuring and containing elements. Fluid hammer and surges can destroy any pressure transmitter and must always be avoided. A pressure snubber may be installed to eliminate damaging hammer effects.

Maintenance and Service

NOSHOK PT20 pressure transmitters are precisely calibrated, and temperature compensated at the factory to ensure long and stable performance.

There are no field accessible adjustments. This product is maintenance free. Repairs should only be carried out by the manufacturer.

Additional Notes

Any electrical device may be susceptible to damage when exposed to static electrical charges. To avoid damage to the transmitter, observe the following:

- The circuitry of the NOSHOK PT20 pressure transmitters is designed to minimize the effect of electromagnetic and radio frequency interference. To minimize susceptibility to noise, avoid running the termination wiring in a conduit which contains high current AC power cables.
- Where possible avoid running the termination wiring near inductive equipment.

NOTE: The shield and drain wire in the cable (if supplied) is not connected to the transmitter body and is not a suitable ground.