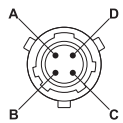
Electrical Connector Terminal Wiring and Pinout

4-Pin Bayonet

Environmental Rating IP67, Ordering Code -2

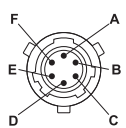
Pin No.	4-20 mA Output	Voltage Output
A	V+	V+
B	V-	Common
C		Output
D		



6-Pin Bayonet

Environmental Rating IP67, Ordering Code -3

Pin No.	4-20 mA Output	Voltage Output
A	V+	V+
B	V-	Common
C		Output
D		
E		
F		



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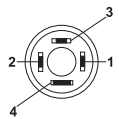
DIN EN 175301-803 Form C

Environmental Rating IP65, Ordering Code -7, -70

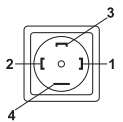
Pin No.	4-20 mA Output	Voltage Output
1	V+	V+
2	V-	Common
3		Output
4		



DIN EN 175301-803 Form A

Environmental Rating IP65, Ordering Code -8, -14, -80

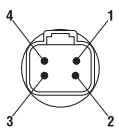
Pin No.	4-20 mA Output	Voltage Output
1	V+	V+
2	V-	Common
3		Output
4		



Deutsch Integral 4-Pin (DT04-4P)

Environmental Rating IP67, Ordering Code -21

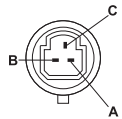
Pin No.	4-20 mA Output	Voltage Output
1	V-	Common
2	V+	V+
3		
4		Output



3-Pin Packard

Environmental Rating IP67, Ordering Code -34

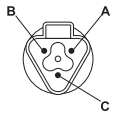
Pin No.	4-20 mA Output	Voltage Output
A	V-	Common
B	V+	V+
C		Output



Deutsch Integral 3-Pin (DT04-3P)

Environmental Rating IP67, Ordering Code -46

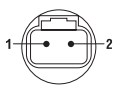
Pin No.	4-20 mA Output	Voltage Output
A	V+	V+
B	V-	Common
C		Output



Deutsch Integral 2-Pin (DT04-2P)

Environmental Rating IP67, Ordering Code -66

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

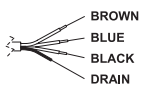


Integral Cable (-36) and M12 x 1 4-Pin (-25) electrical connections may be used without an LPS or Class 2 power supply. **Consult Factory** - the following restrictions apply:
- Vented housing max ambient temperature 70 °C.
- Cordsets, if used, must be UL / NRTL certified and suitable for a Type 4 rating or the environment in which the equipment is being used.
- Cordset accessory - NOSHOK Series MCC-M12*

Integral Cable

Environmental Rating IP68: -36
(Gauge reference devices <400 psi are IP67)
Environmental Rating IP65: -17, -18

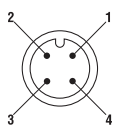
Cable Color	4-20 mA Output	Voltage Output
Brown	V+	V+
Blue	V-	Common
Black		Output
Bare (Drain)	Shield	Shield



M12x1 (4-Pin)

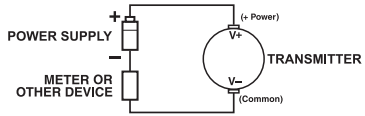
Environmental Rating IP67, Ordering Code -25

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

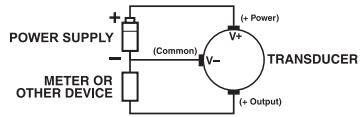


Power Supply Requirements And Ratings

4 mA to 20 mA Output



3-Wire Voltage Output



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

Load Limitations

4 mA to 20 mA output only **RL =** Loop resistance (ohms)
Vmin = 10V + (.020 x RL) **RS =** Sense resistance (ohms)
RL = RS + RW **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	10 Vdc	35 Vdc	25 mA
0 Vdc to 5 Vdc	8 Vdc	35 Vdc	8 mA
1 Vdc to 5 Vdc	8 Vdc	35 Vdc	8 mA
0 Vdc to 10 Vdc	12 Vdc	35 Vdc	8 mA
0.5 to 4.5 Vdc	8 Vdc	35 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	Ambient -4 °F to 185°F (-20 °C to 85 °C) Media -22 °F to 221 °F (-30 °C to 105 °C) Media with 3-Fin: -22 °F to 305 °F (-30 °C to 150 °C) Compensated -4 °F to 185°F (-20 °C to 85 °C) Storage -40 °F to 257 °F (-40 °C to 125 °C)
Compensated Temperature Error	0.15% of span / 10 K
Proof Pressure	< 7500 psi: 2 times full scale 7500 - 10,000 psi: 1.5 times full scale >10,000 psi: 1.2 times full scale
Burst Pressure	< 7500 psi: 3 times full scale 7500 - 10,000 psi: 2 times full scale >10,000 psi: 1.5 times full scale
Type Ratings	Type 4 per UL 50E (Applies to ordering codes -36 and -25 only)
IP Ratings	Refer to Electrical Connector Terminal Wiring and Pinout (not verified by UL)
Shock	200 g's according to IEC 60068-2-27
Vibration	20 g's according to IEC 60068-2-6
Range Limitations	Ranges greater than 11,000 psi not UL Listed

Uncertainty	±0.29% of span, including non-linearity best fit straight line, hysteresis, and non-repeatability per IEC 61298-2 at reference conditions • Non-Linearity 0.25% • Hysteresis 0.10% • Non-repeatability 0.10%

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

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PT30UM-23-3.00

NOSHOK

User Manual

PT30 Series
High Performance Fixed Range Transmitter

WARNING

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

NOTE: If NOSHOK PT30 Series High Performance Fixed Range 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 PT30 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 PT30 pressure transmitters require no special mounting hardware and can be mounted in any orientation with negligible position error. Any output offset induced by the installation should be compensated for in the measurement system.
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 24 mm wrench can be used on the wrench flats of the hex.

Mating connection cable assemblies are available as an accessory part from NOSHOK. For instruments carrying the UL listing, these mating connection cables may be required. Refer to Electrical Connector Terminal Wiring and Pinout for additional detail.

The transmitter can be cleaned with 70% alcohol and water solution or a dry cloth. 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 these damaging effects.

Maintenance and Service

NOSHOK PT30 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 PT30 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.