![PendoTECH — Leading Process Analytics]

PTR Transmitter
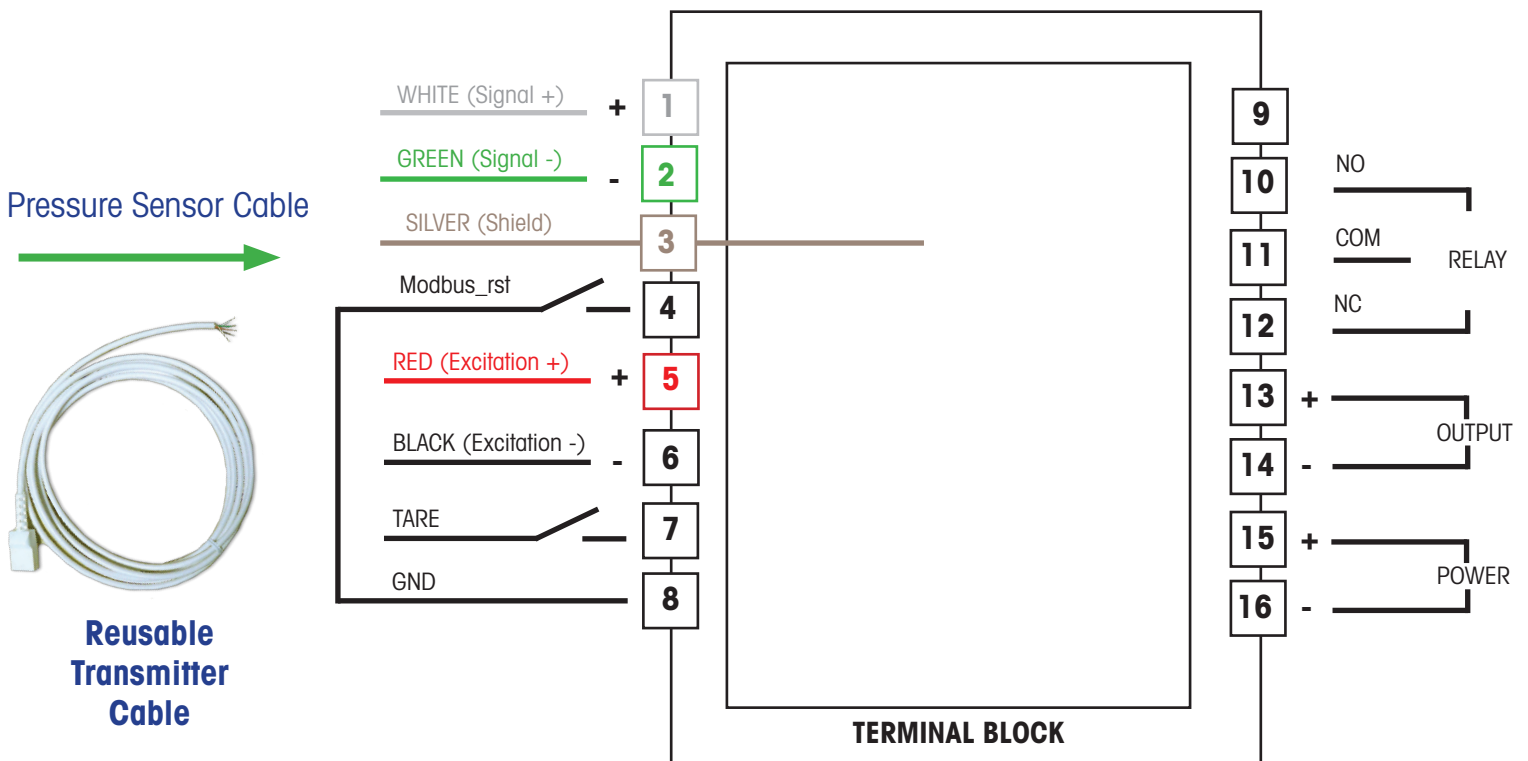
Background

The PTR Transmitter connects to the PendoTECH Single-Use Pressure sensor, producing a linear 4-20 milliamp signal with pressure It also features an alarm output function with a dry contact relay output. It also supports the digital communication protocol of Modbus TCP. It has a convenient DIN rail mounting design for easy integration. Two model options are available to deliver optimal performance based on pressure range. For lowest-pressure applications, the PTR 7.5psi (0.517bar) has a default 4-20mA range of -11.5-7.5psi. For higher pressure applications, the PTR 75psi (5.17bar) supports the full pressure range -11.5-75psi. Selecting the narrowest range that meets the application requirements achieves better accuracy and repeatability.

Transmitter Details

The reusable pressure sensor transmitter monitor cable (part # PDKT-650-298) comes with the transmitter for quick and convenient installation.

Pressure Sensor Cable

Reusable Transmitter Cable

Terminal	Connection
1	WHITE (Signal +) +
2	GREEN (Signal -) -
3	SILVER (Shield)
4	Modbus_rst
5	RED (Excitation +) +
6	BLACK (Excitation -) -
7	TARE
8	GND
9	
10	NO
11	COM — RELAY
12	NC
13	+ OUTPUT
14	-
15	+ POWER
16	-

TERMINAL BLOCK

INPUT WIRING: The re-usable pressure sensor transmitter cable (part # PDKT-650-298) is provided with the transmitter. The length of the PendoTECH reusable transmitter cables is 12ft/4M. Additional wire length also adds additional resistance, which can impact accuracy, so 24ft (8M) is the maximum extension recommended.

Performance Accuracy	Input accuracy + output accuracy
Input accuracy	PTR 7.5psi (0.517bar): 0-2 psi (0-0.14bar): ±0.012psi (0.0008bar); others: ±[0.01 + 0.1% of reading] psi PTR 75psi (5.17bar): ±0.15psi (0.01bar)
Output accuracy	±[0.021 + 0.15% of reading] mA
Temperature coefficient	±0.015%/°C (±0.008%/°F) of max. range at -5 to +55°C [23 to 131°F]; ±0.03%/°C (±0.02%/°F) at <-5°C, >+55°C
Response time	≤100 milliseconds (0 – 90%)
Line voltage effect	±0.1% over voltage range
Insulation resistance	≥100MΩ with 500VDC
Relay Output	• Normally OPEN or CLOSED via wiring • 28 Volt AC/DC Maximum • 1 amp closure, 2 amps maximum current • 20 mS max turn on/off time
Modbus TCP Programming	Please refer to the user manual
Dielectric strength	1500VAC @ 1-minute (input to output or power to ground) 500VAC @ 1 minute (output to power)
Regulatory Compliances	CE & UKCA Mark EN IEC 61326-1:2021; EN 61010-1:2010, EN 61010-1:2010/A1:2019; EN ISO 13849-1:2023 UL and cUL Recognized RoHS and REACH compliant.

*Accuracy Specification applies to Full Pressure Range listed below

4-20mA Output Scaling and Full Pressure Range (according to NAMUR NE43)

Range 4 - 20mA	Output drive 12V maximum at 22mA
Load resistance	500Ω maximum
Burnout	≈22mA (Output > 20mA with no sensor connected)

Model	Default 4-20mA Range	Full Pressure Range
PTR 7.5psi	4mA=-11.5psi 20mA=7.5psi	-11.73 to 8.09psi
PTR 75psi	4mA=-11.5psi 20mA=75psi	-12.58 to 77.7psi

Tare Command Input (Sets present signal to 0psi):

• Each single-use pressure sensor must be tared upon connection. The measurement is set to 0psi. By default, the mA is 6.127A on PTR 7.5psi, and 13.684mA on PTR 75psi. This can be done via dry contact terminals 7 and 8 or Modbus command.
• The corresponding mA output scaling could be configured by Modbus Register 504 and 506.

Installation

Power input	Operational voltage range 9 – 36VDC; approx. 5W; ripple 10% p-p max
Operating temperature	-25 to +65°C (-13 to +149°F) Max. 55°C (131°F)
Operating humidity	0 to 95% RH (non-condensing)
Mounting	DIN rail
Dimensions	W22.5 × H99.0 × D113.6mm (0.89inch × 3.90inch × 4.47inch)
Weight	140g (0.31lbs)

Status Indicator LEDs After Installation

NORMAL OPERATION (RUN) MODE	
	RUN Mode The transmitter is in normal operating conditions

ERROR MODE			
	Device Error System Error		**Over Range** (approximately below -15% or above +115%)

(A) Amber LED
(G) Green LED
(R) Red LED
◯ OFF
▧ Blink

Ordering Information

30827316	Transmitter PTR 7.5psi 4-20mA Din
30827317	Transmitter PTR 75psi 4-20mA Din
PDKT-650-298	Cable Adapter for PendoTECH Single Use Pressure Sensor (12 feet)
PDKT-650-298-24F	Cable Adapter for PendoTECH Single Use Pressure Sensor (24 feet)

For warranty information see our website at http://www.pendotech.com/warranty