



High Accuracy Digital Pressure Transmitter

PRECISELINE

THERMALLY-COMPENSATED, RANGEABLE, DUAL OUTPUT TRANSMITTER

The Preciseline by KELLER America provides standard features that far exceed those of comparably priced transmitters by combining proven piezoresistive silicon sensor technology with KELLER's state-of-the-art signal conditioning circuitry. The result is outstanding $\pm 0.25\%$ FS standard ($\pm 0.1\%$ optional) Total Error Band (TEB)₄ accuracy over a wide compensated temperature range.

The ability of the Preciseline to provide this level of sustained performance over a wide range of operating conditions makes it ideally suited to pressure monitoring applications such as tank level measurement, pump control, and VFD control. Plus, guaranteed lightning protection makes this transmitter ideal for installation in areas prone to chronic damage due to transients caused by lightning.

For more information on the Preciseline, or any other KELLER product, please contact KELLER America, or view the entire KELLER catalog at kelleramerica.com.

FEATURES

NSF/ANSI 61 and 372 certified construction for use in drinking water applications

4...20mA models include guaranteed lightning protection at no additional cost.

16-bit internal digital error correction for cost-effective low Total Error Band (TEB)₄.

316L stainless steel construction

2-year warranty covers defects in materials and workmanship.

User-rangeable analog output ensures compatibility as requirements change. Converter cable required, sold separately.

RS485 modified-MODBUS compatible interface allows up to 128 transmitters on a single bus.

Standard dual (analog & RS485) outputs simplify interface to controls, data collection, and telemetry systems.

Built in the U.S.A. ARRA Section 1605 Compliant.

Standard 3-day lead time.



Ranges ≤ 450 PSI

MIL-C 26482

Ranges ≥ 450 PSI

MIL-C 26482

Wiring	2-wire (mA)	3-wire (VDC)	4-wire (RS485)
White / C	OUT / GND	GND	GND
Red / B	N/A	+OUT	N/A
Black / A	+Vcc	+Vcc	+Vcc
Blue / D	RS485A	RS485A	RS485A
Yellow / F	RS485B	RS485B	RS485B

Colors refer to 26AWG PE-jacketed cable conductors. A, B, C refer to the MIL style connector.

Braided shield wire connected to transmitter housing. For lightning protection to function properly (4-20 mA only) the shield wire must be connected to a good earth ground.

Specifications are subject to change without notice.



Pressure Ranges_{1,2,3}

Relative	Infinite between 0...2 and 0...450 PSIG
Absolute	Infinite between 0...2 and 0...450 PSIA
Sealed	Infinite between 0...500 and 0...15,000 PSIS
Proof Pressure	10X for 1 PSI to 1.1X for 15k PSI

1. PSIG = Gage; Zero-point referenced to local atmospheric pressure.
PSIA = Absolute; Zero-point set at hard vacuum.
PSIS = Sealed Gage; Zero-point set at 1 bar absolute (14.504 PSIA).

2. Zero-point can be suppressed or elevated for special applications.

3. Intermediate ranges are realized by deranging the analog output from the next highest basic range: 1, 3, 10, and 30 bar (relative) 1, 3, 10, and 30 bar (absolute), and 100, 300, and 1000 bar (sealed). Level range may be specified in units of lb/in²(psi), inches WC or feet WC. KELLER America uses the International Standard conversion of 2.3067 feet WC/psi.

Accuracy₄

Static	Standard $\pm 0.1\%$ FS, Optional $\pm 0.05\%$ FS
Total Error Band	Standard $\pm 0.25\%$ BR, Optional $\pm 0.1\%$ BR

4. Static accuracy includes the combined effects of non-linearity, hysteresis, and non-repeatability at room temperature (25°C). Static accuracy includes the combined effects of non-linearity, hysteresis, and non-repeatability at room temperature (25°C). Total Error Band (TEB) includes the combined effects of non-linearity, hysteresis, and non-repeatability as well as thermal dependencies, over the compensated temperature range, expressed as a percentage of the basic range (BR).

The calculation for maximum TEB on intermediate ranges (IR) is: $TEB_{IR} = (BR/IR) \times TEB_{BR}$

Output

Current	4...20mA + RS485
Voltage	0...5 VDC + RS485 0...10 VDC + RS485
Digital	RS485 Only
Resolution	0.002% FS ₅

5. Resolution applies to digital output only. Analog resolution is continuous and limited by the process meter and not the instrument.

Connection

Process	1/4"-18NPT Male ₆
Electrical	10 ft. PE Cable Standard (Hytrel, Tefzel optional), MIL-C 26482, ₇

6. Other process connections available on request. Consult the factory.
7. Tefzel Cable and MIL-C available at additional cost. MIL-C mating connector included.

Electrical₈

Supply (4-20mA)	11...28 VDC
Supply (0-5VDC)	8...28 VDC
Supply (0-10VDC)	13...28 VDC
Supply (RS485 Only)	Standard 8...28 VDC Optional 3.2...32 VDC
Load Resistance (mA)	<(Supply-11V)/0.022A
Load Resistance (VDC)	>4k ohm

8. Nominal values may be higher depending upon cable length. Internal lightning protection increases the minimum-required supply voltage from 8VDC to 11VDC, due to internal resistance of the surge protectors. In addition, cable resistance (~70Ω / 1000ft) adds to the supply requirement. In order to insure proper system operation, calculate the minimum required supply voltage (at the source) as follows:

For two-part (internal+external) system (recommended):
MINIMUM SUPPLY VOLTAGE = 11.6 + 0.022 (CABLE LENGTH x 0.07) VDC

For internal only protector (standard with 4-20mA output):
MINIMUM SUPPLY VOLTAGE = 11 + 0.022 (CABLE LENGTH x 0.07) VDC

Certifications

CE	EN50081-1, EN50082-2
Shock	20g (11ms)
Vibration	20g (5-2KHz, max. amp ± 3 mm per IEC68-2-6)
NSF / ANSI	61, 372

Environmental

Protection Rating	
Cable	IP68
Mil-C 26482	IP65
Operating Temp.	
Cable	-10...60° C
Mil-C 26482	-30...100° C
Compensated Temp.	-10...80° C
Wetted Materials	316 L Stainless Steel

Optional Accessories



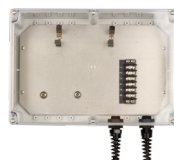
1/2" NPT Conduit Fitting



Drying Tube Assembly



Bellows Assembly



Termination Enclosure



RS485 Converter Cable



Process Meter



Signal Line Surge Protector