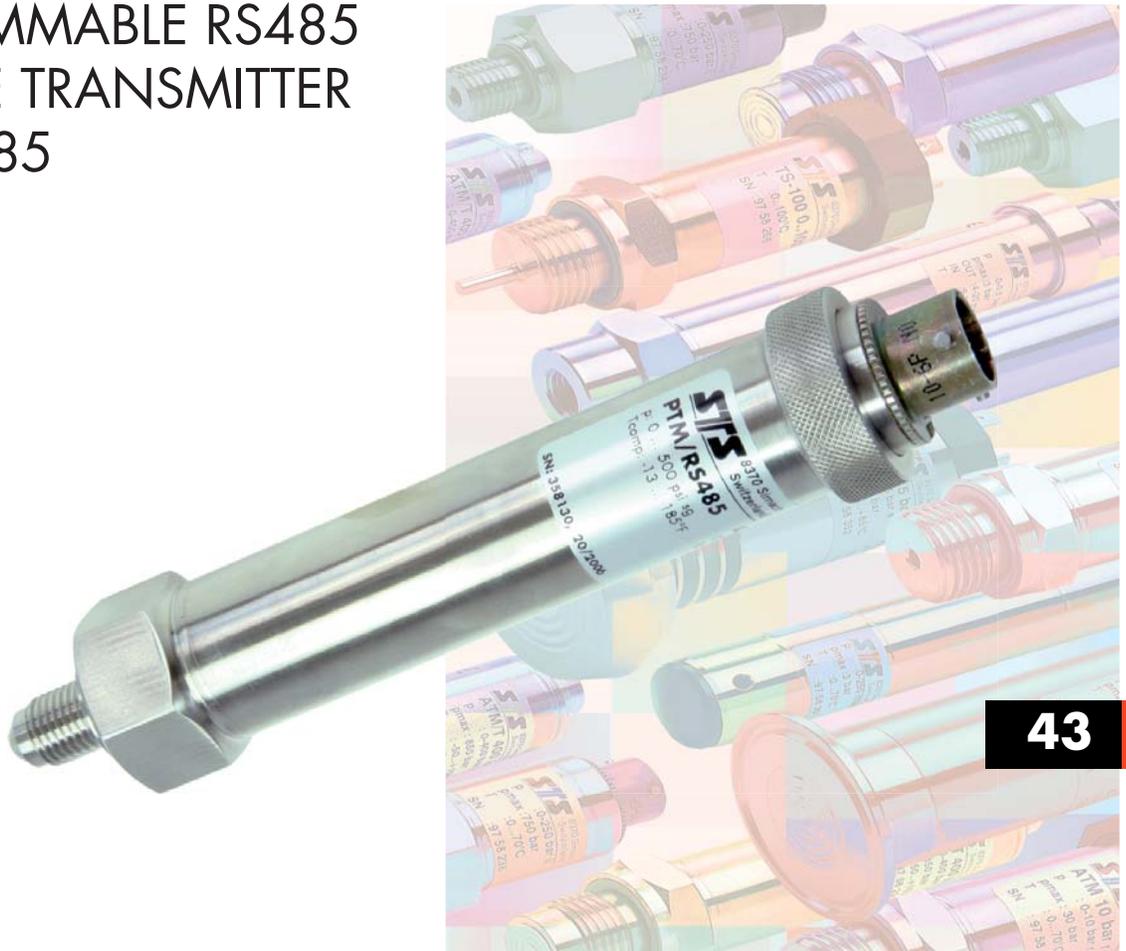


# PROGRAMMABLE RS485 PRESSURE TRANSMITTER PTM/RS485



43

## Features

- Total Accuracy:  $\leq \pm 0.15\%$  FS
- Compensated temperature: -40 to 185°F
- Full scale ranges from 1 to 15,000 psi
- Gauge, absolute or sealed gauge
- Turn down ratio 4:1
- RS485 (digital) and dual 4-20mA signals

## Product overview and applications

The PTM series 43 is a fully digital programmable pressure transmitter providing the option of a 4-20mA analog output in addition to the standard RS485 MODBUS protocol. The transmitter offers the total accuracy of  $\leq \pm 0.15\%$  FS including linearity, hysteresis, repeatability and thermal effects. The PTM also provides a precision temperature output thus offering a very high performance pressure/temperature sensor at a very affordable price.

Examples of applications include:

- Test and measurement
- Industrial process monitoring and control
- Test benches and calibration
- Automotive and engine test
- OEM

**Specification**

**Measurement**

**Pressure ranges**

Any range from 1 to 15,000 psi FS available, in any engineering units such as psi, Pa, in H<sub>2</sub>O, bar.

Absolute from 0 - 2 to 0 - 360 psia FS

Gauge from 0 - 1 to 0 - 360 psig FS

Sealed from 0 - 150 to 0 - 15,000 psig FS

Compound ranges from -15 to 360 psig FS\*

Neg. ranges from 0 to -1 to 0 to -15 psig FS\*

\*Consult factory

**Proof pressure**

FS up to 15 psi: 45 psi

FS > 15 psi up to 4000 psi: 3 x FS

FS > 4000 psi up to 9000 psi: 12,000 psi

FS > 9000: 22,000 psi

Consult factory for higher proof pressure

**Burst pressure**

FS up to 350 psi: > 3000 psi

FS up to 9000 psi: > 12,000 psi

FS > 9000 psi: > 22,000 psi

Consult factory for higher burst pressure

**Operating temperature range**

-25 to 185°F (ambient)

-40 to 212°F (process media, Fig. 1)

-40 to 300°F (process media with cooling ext., Fig. 2)

**Compensated temperature range**

32 to 160°F (standard)

-15 to 185°F (option)

-40 to 185°F (option)

**Performance**

**Without active compensation:**

(supplied as standard)

Temperature effects

±1.5% total for 32 to 160°F, > 30 psi FS

±2% total for 32 to 160°F, 7 to 30 psi FS

±2% total for -10 to 185°F, > 30 psi FS

±2.5% total for -10 to 185°F, 7 to 30 psi FS

**With active compensation option:**

Total Error Band includes linearity, hysteresis, repeatability, thermal effects and Zero and Span set.

Total Error Band ≤± 0.15% FS (15 to 125°F)\*  
≤± 0.7% FS (-15 to 185°F)\*

\*≥ 7 psi FS

**Specification continued**

**Accuracy**

Combined linearity, hysteresis, repeatability, Zero and Span set

≤±0.1% FS (≥ 7 psi FS)

≤±0.25% FS (< 7 psi FS)

**Long term stability**

0.1% FS/yr for pressure ranges > 30 psi FS

Prorated for ranges below 30 psi FS

Under standard conditions

**Supply voltage**

9 - 30 VDC

Influence of supply voltage < 0.1% FS

**Max. load resistance**

RL = (Vsupply - 6V)/0.02A

1kOhm max.

**Output signal**

RS485 & 4 - 20 mA (Pressure signal)

RS485 & 4 - 20 mA (Pressure & Temperature signal, with option active compensation)

Temperature accuracy ±1.8°F

Surge (lighting) protection (option)

**Resolution:**

≤± 0.025% FS for analog output

≤± 0.01% FS for digital output

**Interface-Box and Software**

Interface-Box (VART199) and Software (VART244) required for zero, span, response time adjustments and to re-range. One box is needed for unlimited number of transmitters.

**Output at 4 mA and 20 mA:**

adjustable between -5% FS and 105% FS

**Span:**

adjustable between 25% FS and 110% FS, minimum 1 psi

**Adjustable response time:**

30 ms, 100 ms, 1s, 10s (default 30 ms)

**Insulation resistance**

> 50 megohms @ 500 VDC (@ 68°F)

**Construction**

**Pressure media compatibility**

Stainless steel 316L, Viton seals

Other seal materials available

Fully welded 316L version on request

**Pressure connection**

7/16 - 20 UNF male

Other connections available

**Specification continued**

**Electrical connection**

6-pin bayonet per MIL-C-26482 (10-6) (Fig. 3)

Polyurethane cable (Fig. 4)

Demountable versions and other types available

**Weight**

6 oz approximate (not including cable)

**Vibration**

10 g, 10 to 2000 Hz

**Mechanical shock**

100 g / 6 ms

**Ordering information**

Please specify the following:

- 1) Model number - PTM/RS485 43
- 2) Electrical connection  
06 - 6 pin bayonet (mating connector extra)  
15 - Polyurethane cable
- 3) Pressure range, including eng. units, type
- 4) Accuracy
- 5) Cable length
- 6) Interface-Box (VART199) complete with cable and software (VART244) (if required)
- 7) Any special feature: i.e. active compensation

Example ordering format:

PTM/RS485 43 - 15 - 100 psig - 0.1% - 50 feet cable

**Options**

STS offers a wide range of options for these and other similar transmitters. Please consult the factory for any special requirements.

**Examples include:**

- Alternate electrical configurations i.e. 0 to 5 VDC, 0 to 10 VDC, 0 to 20 mA
- Lightning protection
- Intrinsic safety certification
- Cooling extension
- Explosion proof certification
- Pressure snubber
- Special oil filling for food application etc.
- Alternate construction i.e titanium, hastelloy
- Alternate seals i.e. EPDM, Kalrez
- Wide range of pressure connectors
- Wide range of electrical connectors
- Datalogging

**Dimensions (inches)**

Version for medium temperature up to 212°F

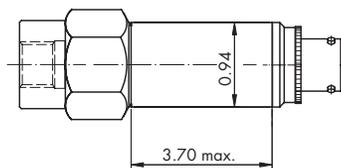


Fig. 1

Version for medium temperature up to 300°F

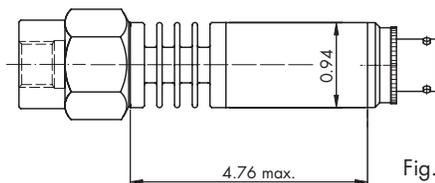


Fig. 2

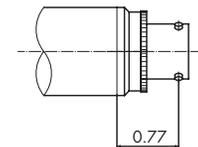


Fig. 3

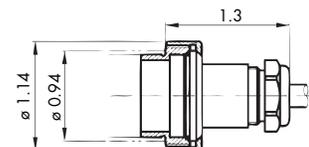


Fig. 4

Specifications may change without notice.

STS is registered ISO 9001-2000

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