



Global Sensor Excellence

Features

- TEB: typical 0.1% FS
- 0-3 to 0-1500 psi
- <0.03%FS accuracy
- -40 to 185 °F
- RS485, ModBus

Applications

- Test & Measurement
- Industrial Process
- Test Benches
- Engine Tests
- OEM

PRECISION PRESSURE TRANSMITTER DTM.OCS WITH RS485/ModBUS



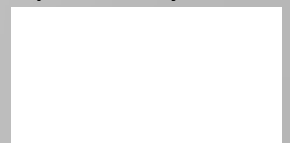
PRODUCT OVERVIEW

The DTM.OCS series pressure transmitters are polynomial compensated high performing pressure sensors which achieve total error bands up to 0.1%FS over a temperature range of -40 to 185°F. The DTM.OCS are based on the standard RS485 ModBus protocol and can be easily connected to the control panel. In addition to the standard ModBus commands, specific commands were developed to take advantage of the full capabilities of the DTM.OCS. For example the pressure units can be changed any time or an offset can be programmed onsite. In addition to measuring pressure this sensor also measures temperature.

Contact

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Represented by:



Specification

Measurement

Pressure ranges

Absolute	from 0 - 3 to 0 - 1500 psi
Gauge	from 0 - 3 to 0 - 360 psi
Sealed Gauge	from 0 - 150 to 0 - 1500 psi

Proof Pressure

FS \leq 15 psi:	45 psi
FS $>$ 15 psi:	3 x FS

Burst Pressure

$>$ 3000 psi

Operating Temperature Range

(ambient temperature)

-40 to 185°F

Process Temperature Range

-40 to 185°F

Compensated Temperature Range

25 to 185°F

-40 to 185°F

Temperature Measuring Range

25 to 125°F

25 to 175°F

Performance

Accuracy (Pressure)

$\leq \pm 0.15\%FS$ for pressure ranges ≤ 7.25 psi

$\leq \pm 0.05\%FS$ for pressure ranges ≤ 30 psi

$\leq \pm 0.03\%FS$ for pressure ranges > 30 psi

Including non-linearity, hysteresis, repeatability, zero & span setting errors

Total Error Band

Typ. $\leq \pm 0.2\%FS$ total for 25 to 185°F, ≤ 7.25 psi

Typ. $\leq \pm 0.5\%FS$ total for -40 to 185°F, ≤ 7.25 psi

Typ. $\leq \pm 0.1\%FS$ total for 25 to 185°F, ≤ 30 psi

Typ. $\leq \pm 0.1\%FS$ total for -40 to 185°F, ≤ 30 psi

Typ. $\leq \pm 0.05\%FS$ total for 25 to 185°F, > 30 psi

Typ. $\leq \pm 0.1\%FS$ total for -40 to 185°F, > 30 psi

Long Term Stability

$< 0.5\%FS$ / < 0.06 psi for pressure ranges ≤ 7.25 psi

$< 0.2\%FS$ for pressure ranges ≤ 30 psi

$< 0.1\%FS$ for pressure ranges > 30 psi

Specification continued

Response Time Pressure

$< 1ms$ / 10 to 90%FS

Accuracy (Temperature)

$\leq \pm 0.15^\circ C$ for temperature measuring ranges between either 25 to 125°F or 25 to 175°F

Response Time Temperature

T 0.5: 9s for temp meas. range of:

25 to 125°F or 25 to 175°F

T 0.63: 15s for temp. meas. range of:

25 to 125°F or 25 to 175°F

T 0.90: 27s for temp. meas. range of:

25 to 125°F or 25 to 175°F

Supply Voltage

9 to 30 VDC

Current Consumption

3 mA @ 24VDC supply voltage

Supply Voltage Influence

$< 0.05\%FS$

Resolution

21 bit for pressure and temperature

Interface/Protocol

RS485 / ModBus RTU, 8n2

Baudrate

9600 bps

Max. cable length

985 ft (300m)

Construction

Material

316L Stainless Steel, Viton o-ring

All welded version available as option

Process Connections

7/16-20 UNF male

1/4 NPT male or female

Consult factory for others

Electrical Connection

6-pin bayonet (10-6 pin layout)

Polyurethane cable

Consult factory for others

Specification continued

Weight

6 oz. approximately

Vibration

40 g, 10 to 2000 Hz, 3 axis

Mechanical Shock

300 g, 3 axis, half sine, 6ms

Ordering Information

Please specify the following:

1. Model number - DTM.OCS
2. Electrical connection
06 - 6 pin bayonet (connector extra)
15 - Polyurethane cable
3. Pressure range, including eng. units, type
4. Compensated temperature range
5. Temperature measuring range
6. Cable length
7. Any special feature: i.e. Titanium, all welded, FEP cable, etc.

Example ordering format:

DTM.OCS - 06 - 50 psig - -40 to 185°F - 25 to 175°F

Options

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

Example include:

Alternate electrical configurations

i.e. 0 to 5 VDC, 0 to 10 VDC, 4 to 20 mA

Lightning protection

Intrinsic safety 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

PMC Engineering adopts a continuous development program which sometimes necessitates specification changes without notice

MECHANICAL DETAILS

Dimensions in inches

