



## Global Sensor Excellence

### Features

- TEB: typical  $\pm 0.1\%$  FS
- 0-3 to 0-1500 psi
- $< 0.03\%$  FS accuracy
- $-40$  to  $185^{\circ}\text{F}$
- RS485, ModBus

### Applications

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

## PRECISION PRESSURE TRANSMITTER DTM.OCS.S WITH RS485/MODBUS



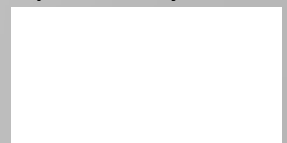
### PRODUCT OVERVIEW

The DTM.OCS.S 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  $185^{\circ}\text{F}$ . The DTM.OCS.S 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.S 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 ≤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

32 to 160°F

-15 to 185°F

-40 to 185°F on request

#### Temperature Measuring Range

32 to 160°F

-15 to 185°F

-40 to 185°F on request

## Performance

#### Accuracy (Pressure)

≤± 0.15%FS for pressure ranges ≤ 7.25 psi

≤± 0.05%FS for pressure ranges ≤ 30 psi

≤± 0.03%FS for pressure ranges > 30 psi

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

#### Total Error Band

Typ. ≤±0.5%FS total for 32 to 160°F, ≤ 7.25 psi

Typ. ≤±1.5%FS total for -15 to 185°F, ≤ 7.25 psi

Typ. ≤±0.2%FS total for 32 to 160°F, ≤ 30 psi

Typ. ≤±0.3%FS total for -15 to 185°F, ≤ 30 psi

Typ. ≤±0.1%FS total for 32 to 160°F, > 30 psi

Typ. ≤±0.2%FS total for -15 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

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

## Specification continued

#### Response Time Pressure

< 1ms / 10 to 90%FS

#### Accuracy (Temperature)

≤±0.5°C for temperature measuring range 32 to 160°F

≤±1.5°C for temperature measuring range -15 to 185°F

#### Response Time Temperature

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

32 to 160°F or -15 to 185°F

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

32 to 160°F or -15 to 185°F

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

32 to 160°F or -15 to 185°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

10g rms, 5 to 2000 Hz

#### Mechanical Shock

500g (3ms)

## Ordering Information

Please specify the following:

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

Example ordering format:

DTM.OCS.S -- 06 -- 50 psig - -15 to 185°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

## MECHANICAL DETAILS

Dimensions in inches

