



## | PTE7500 SERIES

### HERMETIC CANOPEN PRESSURE SENSOR



The PTE7500 CANopen pressure sensor simplifies integration with CANopen equipment. The features of sensor diagnostics and error management system provide more effectiveness to the users to identify the equipment operational issue remotely and quickly. The PTE7500 combines the high accuracy and robustness of the IMSG family with the digital capabilities of providing you more options to digitize equipment. Sensata's micro-strain gauge pressure sensors provide class-leading accuracy in a robust, fully hermetic package, built to last in high vibration and shock environments. The PTE family of pressure sensors is available with many pressure ports, pressure ranges and output types, making product selection and design-in simple.



#### Features

- Measuring range from 0-16 bar to 0-600 bar (0-870 to 0-8700 psi)
- Stainless steel design with hermetic port
- Operating media temperature up to 125°C
- High accuracy
- High vibration resistance
- Snubber option for dampening of pressure spikes due to hammer and Cavitation
- Unique sensor identification
- Error management system
- Operational information record
- REACH/RoHS/UKCA/CE/CiA compliant

#### Applications

- Machine tools
- Injection molding equipment
- Industrial Hydraulics and Pneumatics
- Mobile Hydraulics and Off-Highway Vehicles
- Pumps and Compressors
- Plant Engineering and Automation



## SPECIFICATIONS

### Electrical

|                                |             |
|--------------------------------|-------------|
| Operating voltage supply       | 9-32VDC     |
| Operating current supply       | <15mA       |
| Protection on CANH and CANL    | Yes         |
| Short-circuit protection       | Yes         |
| Reverse polarity protection    | Yes         |
| Insulation resistance          | 50 VDC      |
| MTTF (DIN EN ISO 13849-1:2008) | > 500 years |

### Temperature

|           |               |
|-----------|---------------|
| Operating | -40 to 100 °C |
| Media     | -40 to 125 °C |
| Storage   | -40 to 125 °C |

## CAN

|                        |                               |
|------------------------|-------------------------------|
| Output protocol        | CANopen                       |
| Interface              | CAN 2.0B                      |
| Communication Profile  | CiA DS 301                    |
| Device profile         | CiA DS 404                    |
| Layer Setting Services | CiA DS 305                    |
| Node ID                | Configurable (Default:127)    |
| Baud Rate              | 10-1000kb/s (Default:125Kb/s) |
| Sampling frequency     | 8k samples/s                  |
| Digital Filter         | No Filter (Default)           |
| Response time          | 1ms (12 ENOB <sup>(1)</sup> ) |

## Accuracy

|                               |                                 |
|-------------------------------|---------------------------------|
| Total Error band              | ±1.5% FS @-20 to 85 °C          |
| Basic Accuracy <sup>(2)</sup> | ±0.5% FS @25 °C                 |
| Non-linearity                 | ±0.25% FS(BFSL <sup>(3)</sup> ) |
| Drift over life               | ±1.5% FS@25 °C                  |

## Conformity

|                      |  |
|----------------------|--|
| ROHS & REACH         | Yes  |
| CE                   | EN 61326 (class B)   |
| UKCA                 | UK Pressure Equipment Safety Regulation (PESR) 2016  |
| ESD                  | ±4kV contact, ±8kV air   |
| Vibration resistance | 30g(sine) min. according to IEC60068-2-6   |
| Shock resistance     | 50g(half-sine) min. according to IEC60068-2-27   |
| Protection rating    | IP67 per IEC 60529   |
| Operating Endurance  | >10M   |
| Media compatibility  | All class II fluid and gases compatible with port material stainless steel 17-4PH according to NFPA 30 |

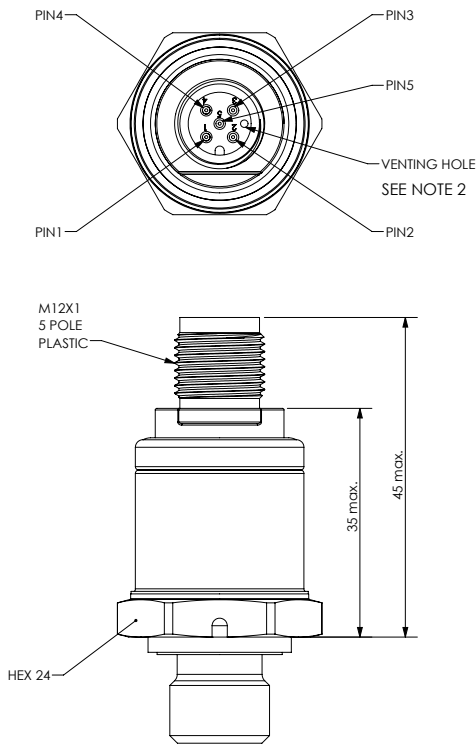


# DIMENSIONS

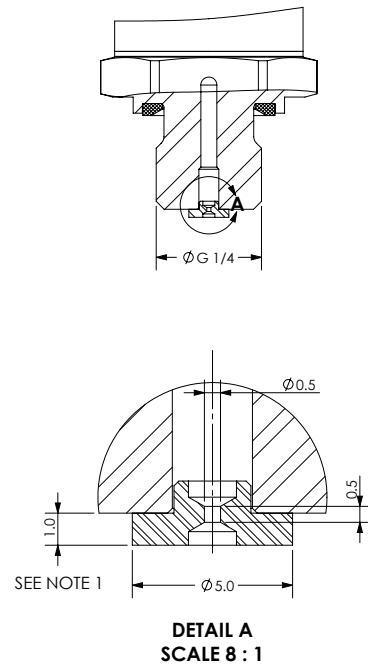
All dimensions are in millimeters

## Electrical Connector

RTV-SEAL PACKAGE  
MODEL SHOWN

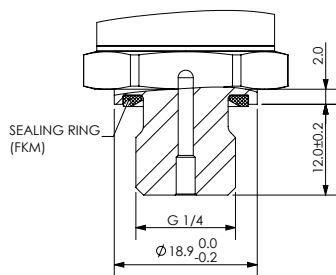


## Snubber Option

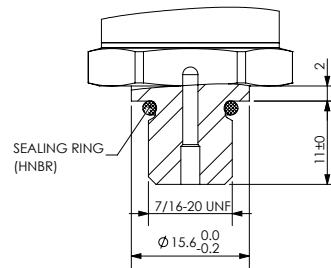


## Pressure Connection Port Options

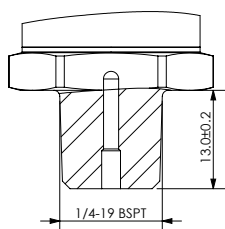
### G1/4A (MALE) DIN 3852-E



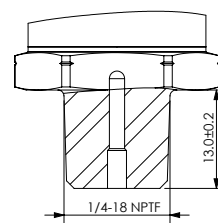
### 7/16-20 UNF J1926-2



### 1/4-19 PT (BSPT) (R1/4)



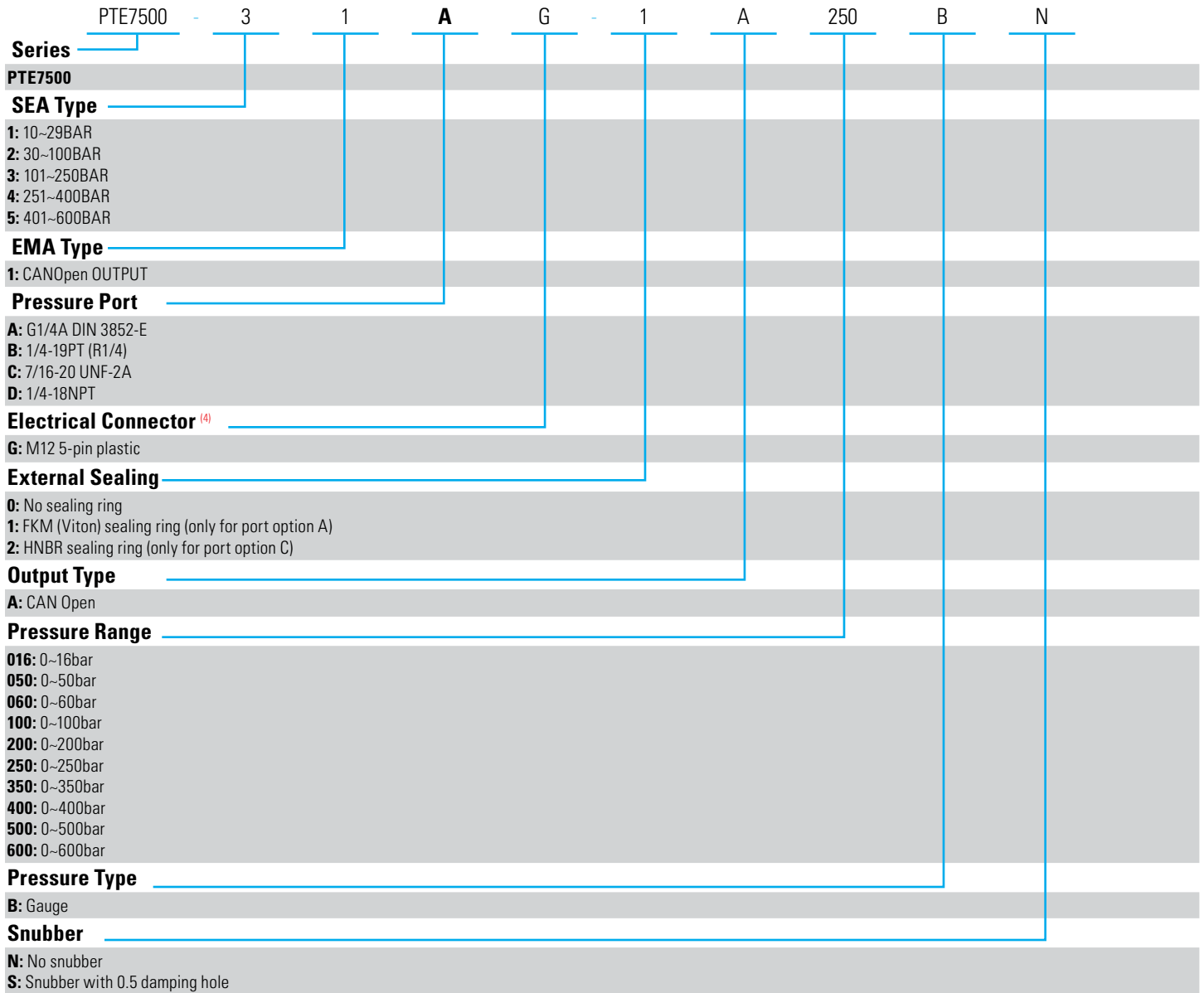
### 1/4-18 NPTF





# ORDERING OPTIONS

Example : PTE7500-31AG-1A250BN



# GENERAL NOTES

- <sup>(1)</sup> ENOB: effective number of bits
- <sup>(2)</sup> Basic Accuracy: including non-linearity, non-repeatability, hysteresis, zero and span error per IEC 61298-2
- <sup>(3)</sup> BFS: best-fit-straight-line per IEC 61298-2
- <sup>(4)</sup> The sensor will use an vented connector when the sensor pressure range is <50bar



## WARNINGS

**Warning: This is a Class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.**



### RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow the product to cool before touching
  - Follow proper mounting instructions including torque values
  - Do not allow liquids or foreign objects to enter this product
- Failure to follow these instructions can result in serious injury, or equipment damage.



### HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

- Disconnect all power before installing or working with this equipment
  - Verify all connections and replace all covers before turning on power
- Failure to follow these instructions can result in death or serious injury.

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