

PTE 7300 Series

- The pressure sensor detects the system pressure and converts it into a I²C output signal.
- These operating instructions contain important information on handling the instrument.
- All safety instructions and work instructions should be observed to prevent injury or harm.
- Observe the relevant local accident prevention regulations and general safety regulations for the instrument's range of use.
- The operating instructions are part of the product and must be kept in the immediate vicinity of the instrument and readily accessible to skilled personnel at any time. Pass the operating instructions on to the next operator or owner of the instrument.
- The general terms and conditions contained in the sales documentation shall apply, subject to technical modifications.

Explanation of Symbols

! **WARNING!** ...indicates a potentially dangerous situation that can result in serious injury or death, if not avoided.

! **CAUTION!**...indicates a potentially dangerous situation that can result in light injury or damage to property or the environment, if not avoided.

i **INFORMATION**...points out useful tips, recommendations, and information for efficient and trouble-free operation.

FUNCTIONS & FEATURES

Pressures

The pressure transmitter is used for measuring pressure. The measured pressure is output as an electrical signal. Proper pressure range should be selected based on application requirement.

| | | | | | | | | | | | | | | | |
|----------------|------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
| From 0 to ... | barG | 10 | 16 | 25 | 40 | 50 | 60 | 100 | 160 | 200 | 250 | 350 | 400 | 500 | 600 |
| Proof Pressure | barG | 60 | 60 | 60 | 200 | 200 | 200 | 200 | 500 | 500 | 500 | 800 | 800 | 1200 | 1200 |
| Burst Pressure | barG | 200 | 200 | 200 | 2000 | 2000 | 2000 | 2000 | 2500 | 2500 | 2500 | 4000 | 4000 | 4000 | 4000 |

! Avoid overload pressure exceeding the specified maximum permissible pressure by taking appropriate measures. The indicated bursting pressure must not be exceeded. Even if the bursting pressure is exceeded only for short time, the unit may be destroyed. ATTENTION: Risk of injury!

INSTALLATION

! Before installing and removing the unit: Make sure that no pressure is applied to the system. Only use the pressure transmitter if it is in perfect condition with respect to safety. Prior to commissioning, the pressure transmitter must be subjected to a visual inspection. Leaking fluid is indicative of damage.

Tighten firmly. Recommended tightening torque:

| Final value of the measuring range in bar | Tightening torque in Nm |
|--|-------------------------|
| 10...400 | 25...35 |
| 400...600 | 30...50 |
| Depends on lubrication, seal on pressure rating! | |

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SAFETY INSTRUCTIONS

- Skilled personnel must have carefully read and understood the operating instructions prior to beginning any work.
- Please read this document prior to set-up of the unit. Ensure that the product is suitable for your application without any restrictions.
- Please read the label / code on sensor prior to install the sensor
- If the operating instructions or the technical data are not adhered to, personal injury and/or damage to property can occur.
- Improper or non-intended use may lead to malfunctions of the unit or to unwanted effects in your application. That is why installation, electrical connection, set-up, operation and maintenance of the unit must only be carried out by qualified personnel authorized by the machine operator.
- To guarantee the correct condition of the device for the operating time, it is necessary to use the device only for media to which the wetted materials are sufficiently resistant.
- The responsibility whether the measurement devices are suitable for the respective application lies with the operator. The manufacturer assumes no liability for consequences of misuse by the operator. Improper installation and use of the devices result in a loss of the warranty claims.

SPECIFICATIONS

Electrical

| | |
|---|--|
| Pressure Range | 0-10 to 0-600bar (0-145 to 0-8700 psi) |
| Pressure Reference | Gauge (Module) and Sealed Gauge (fully hermetic sensor) |
| Supply Voltage | 3.3VDC to 5.5VDC |
| Digital Interface | I ² C with CRC |
| Overvoltage Protection | 36VDC |
| Device Address | 0xDA (hex, 0x6C without CRC) |
| Operating Current In Sleep Mode | 6.5 uA (typical) |
| Operating Current In Active Mode | 3.7mA typical (4mA maximum) |
| Probe Configurations | Continuous or On-demand / single cycle |
| EOC⁽¹⁾ | Available in single cycle mode, through the STATUS register using the I ² C interface |
| Recommended pull-up resistors | 1kOhm to 10kOhm, depending on cable length |
| External Capacitive Load for I²C Bus Line | 400 pF max (depends on the cable length) |
| ESD | ±4kV contact, ±8kV air |
| Radiated Immunity⁽¹⁾ | 80-1000MHz 10V/m ; 1400-2000MHz 3V/m ; 2000-2700MHz 1V/m ; 2000-2700MHz 1V/m ; |
| Conducted Immunity⁽¹⁾ | 0.15-80MHz 3Vrms |
| Magnetic Immunity⁽¹⁾ | 3 A/m for 5 minutes |
| Digital output resolution | 15-bit @ Default setting |
| Digital output at zero pressure | -16000 |
| Digital output at FS pressure | +16000 |
| Response time | < 1ms @ Default setting and active mode |

⁽¹⁾ Only applicable for the sensor, not the module.

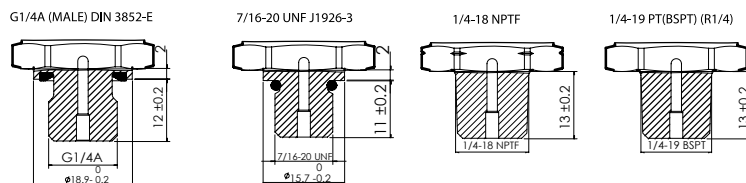
Physical

| | |
|----------------------------|---|
| Vibration | IEC 60068-2-6 with 2.0mm displacement, Sensor: 30g (10...2000Hz); Module: 20g (10...2000Hz) |
| Mechanical Shock | IEC 60068-2-27, 50g min (Module); IEC 60068-2-27, 500g min (fully hermetic sensor) |
| Drop (any Axis) | 1m |
| Water Hammer | 1.6X full scale pressure for 100k cycles, 1.3xFS for 200k cycles |
| Ingress Protection | IP00 (Module), IP69 (fully hermetic sensor) |
| Media Compatibility | Fluids and gases compatible with 17-4PH stainless steel |

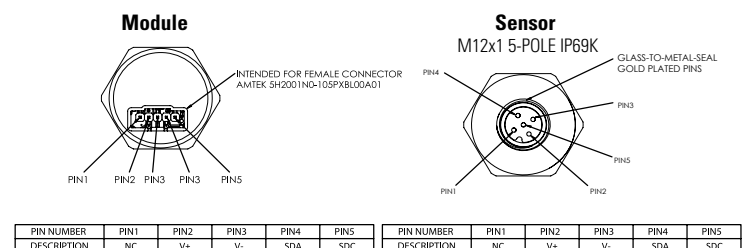
Performance

| | |
|--|-------------------------|
| Pressure (Best Fit Straight Line) | +/-0.25%FS @25°C |
| Pressure (Total Error Band) | +/-1.5%FS @-20° to 85°C |
| Operating Endurance | >10M cycles |
| Operating Ambient Temperature | -40° to +100°C |
| Operating Media Temperature | -40° to +125°C |
| Storage Temperature | -40° to +125°C |

Pressure Port Connections



Electrical Connections



| PIN NUMBER | PIN1 | PIN2 | PIN3 | PIN4 | PIN5 | PIN NUMBER | PIN1 | PIN2 | PIN3 | PIN4 | PIN5 |
|-------------|------|------|------|------|------|-------------|------|------|------|------|------|
| DESCRIPTION | NC | V+ | V- | SDA | SDC | DESCRIPTION | NC | V+ | V- | SDA | SDC |

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