



# PHT-RBX40ST20S0AMS0Z

PHT

PRESSURE SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

| Type                 | part no. |
|----------------------|----------|
| PHT-RBX40ST20S0AMS0Z | 6077455  |

Other models and accessories → [www.sick.com/PHT](http://www.sick.com/PHT)

## Detailed technical data

### Features

|                                            |                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Medium</b>                              | Liquid, gaseous                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Pressure type</b>                       | Gauge pressure                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Pressure unit</b>                       | bar                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Measuring range</b>                     | 0 bar ... 0.4 bar                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Process temperature</b>                 | -20 °C ... +150 °C                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Maximum ohmic load <math>R_A</math></b> | 4 mA ... 20 mA, 2-wire ( $R_A \leq (L^+ - 10 \text{ V}) / 0.02 \text{ A [Ohm]}$ ), The variant with field housing and current output 4 mA ... 20 mA features test terminals that allow metering of the signal current without having to disconnect the device. the signal current without having to disconnect the device., 0 V ... 10 V, 3-wire ( $R_A > 10 \text{ kOhm}$ ), 0 V ... 5 V, 3-wire ( $R_A > 5 \text{ kOhm}$ ) |
| <b>Output signal</b>                       | 4 mA ... 20 mA, 2-wire                                                                                                                                                                                                                                                                                                                                                                                                       |

### Mechanics/electronics

|                                    |                                                                                                                                                  |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Communication interface</b>     | -                                                                                                                                                |
| <b>Process connection</b>          | Tri-Clamp 2" (DIN 32676)                                                                                                                         |
| <b>Wetted parts</b>                | Stainless steel 1.4435                                                                                                                           |
| <b>Internal transmission fluid</b> | Synthetic oil, FDA approved                                                                                                                      |
| <b>Housing material</b>            | Stainless steel 1.4571                                                                                                                           |
| <b>Connection type</b>             | M12 round connector x 1, 4-pin                                                                                                                   |
| <b>Supply voltage</b>              | 10 V DC ... 30 V DC                                                                                                                              |
| <b>Electrical safety</b>           | Overvoltage protection: 36 V DC<br>Short-circuit protection: $Q_A$ towards M<br>Reverse polarity protection: $L^+$ to M<br>Protection class: III |
| <b>Dielectric strength</b>         | 500 V DC, NEC Class 02 power supply (low voltage and low current max. 100 VA even in the event of a fault)                                       |
| <b>CE-conformity</b>               | EMC directive: 2004/108/EC, EN 61326-2-3                                                                                                         |
| <b>Weight sensor</b>               | Approx. 500 g                                                                                                                                    |
| <b>Seal</b>                        | Without seal                                                                                                                                     |

<sup>1)</sup> Enclosure rating IP per IEC 60529. The enclosure rating classes specified only apply when connected with female connectors that provide the corresponding enclosure rating.

|                             |                    |
|-----------------------------|--------------------|
| <b>Enclosure rating</b>     | IP67 <sup>1)</sup> |
| <b>Protection class III</b> | ✓                  |
| <b>MTTF</b>                 | 403 years          |

<sup>1)</sup> Enclosure rating IP per IEC 60529. The enclosure rating classes specified only apply when connected with female connectors that provide the corresponding enclosure rating.

## Performance

|                                                           |                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Non-linearity</b>                                      | ≤ ± 0.2 %, of span (Best Fit Straight Line, BFSL) according to IEC 61298-2                                                                                                                                                                                                                                                                                                     |
| <b>Accuracy</b>                                           | ≤ ± 0.5 %, of the span (optional 0.25 % of span (adjusted in vertical mounting position with lower pressure connection))                                                                                                                                                                                                                                                       |
| <b>Non-repeatability</b>                                  | ≤ ± 0.1 % of the span                                                                                                                                                                                                                                                                                                                                                          |
| <b>Response time (10 % ... 90 %)</b>                      | ≤ 10 ms                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Long-term drift/one-year stability</b>                 | ≤ 0.2 % of the span                                                                                                                                                                                                                                                                                                                                                            |
| <b>Temperature coefficient in rated temperature range</b> | Mean TC of zero: ≤ 0.2% of span / 10 K for measuring ranges 0 bar ... 0.6 bar up to 0 bar ... 25 bar<br>Mean TC of zero: ≤ 0.25 % of span/ 10 K with pressure range 0 bar ... 0.4 bar ≤ 0.25 % of span/ 10 K, with pressure range 0 bar ... 0.4 bar<br>Mean TC of zero: ≤ 0.4% of span / 10 K for measuring range 0 bar ... 0.25 bar<br>Mean TC of span ≤ 0.2 % of span / 10 K |
| <b>Rated temperature range</b>                            | 0 °C ... +80 °C                                                                                                                                                                                                                                                                                                                                                                |

## Ambient data

|                                       |                                                             |
|---------------------------------------|-------------------------------------------------------------|
| <b>Ambient temperature, operation</b> | -20 °C ... +80 °C                                           |
| <b>Storage temperature</b>            | -40 °C ... +100 °C                                          |
| <b>Shock load</b>                     | 500 g according to IEC 60068-2-27 (mechanical shock)        |
| <b>Vibration load</b>                 | 15 g according to IEC 60068-2-6 (vibration under resonance) |

## Classifications

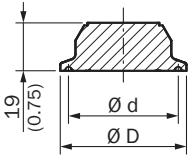
|                       |          |
|-----------------------|----------|
| <b>ECLASS 5.0</b>     | 27200614 |
| <b>ECLASS 5.1.4</b>   | 27200614 |
| <b>ECLASS 6.0</b>     | 27200614 |
| <b>ECLASS 6.2</b>     | 27200614 |
| <b>ECLASS 7.0</b>     | 27200614 |
| <b>ECLASS 8.0</b>     | 27200614 |
| <b>ECLASS 8.1</b>     | 27200614 |
| <b>ECLASS 9.0</b>     | 27200614 |
| <b>ECLASS 10.0</b>    | 27200614 |
| <b>ECLASS 11.0</b>    | 27200614 |
| <b>ECLASS 12.0</b>    | 27200614 |
| <b>ETIM 5.0</b>       | EC011478 |
| <b>ETIM 6.0</b>       | EC011478 |
| <b>ETIM 7.0</b>       | EC011478 |
| <b>ETIM 8.0</b>       | EC011478 |
| <b>UNSPSC 16.0901</b> | 41112410 |

## Certificates

|                                     |   |
|-------------------------------------|---|
| <b>EU declaration of conformity</b> | ✓ |
|-------------------------------------|---|

|                                                |   |
|------------------------------------------------|---|
| UK declaration of conformity                   | ✓ |
| China-RoHS                                     | ✓ |
| Food contact material manufacturer declaration | ✓ |

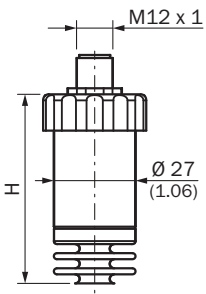
Dimensional drawing Clamp



| Design    |         | Ø D          | Ø d            |
|-----------|---------|--------------|----------------|
| Tri-Clamp | 1 ½"    | 50<br>(1.97) | 43.5<br>(1.71) |
|           | 2"      | 64<br>(2.52) | 56.6<br>(2.23) |
| DIN 32676 | DN 32   | 50<br>(1.97) | 43.5<br>(1.71) |
|           | DN 40   | 50<br>(1.97) | 43.5<br>(1.71) |
|           | DN 50   | 64<br>(2.52) | 56.6<br>(2.23) |
| ISO 2852  | DN 33.7 | 50<br>(1.97) | 43.5<br>(1.71) |
|           | DN 38   | 50<br>(1.97) | 43.5<br>(1.71) |
|           | DN 40   | 64<br>(2.52) | 56.6<br>(2.23) |
|           | DN 51   | 64<br>(2.52) | 56.6<br>(2.23) |

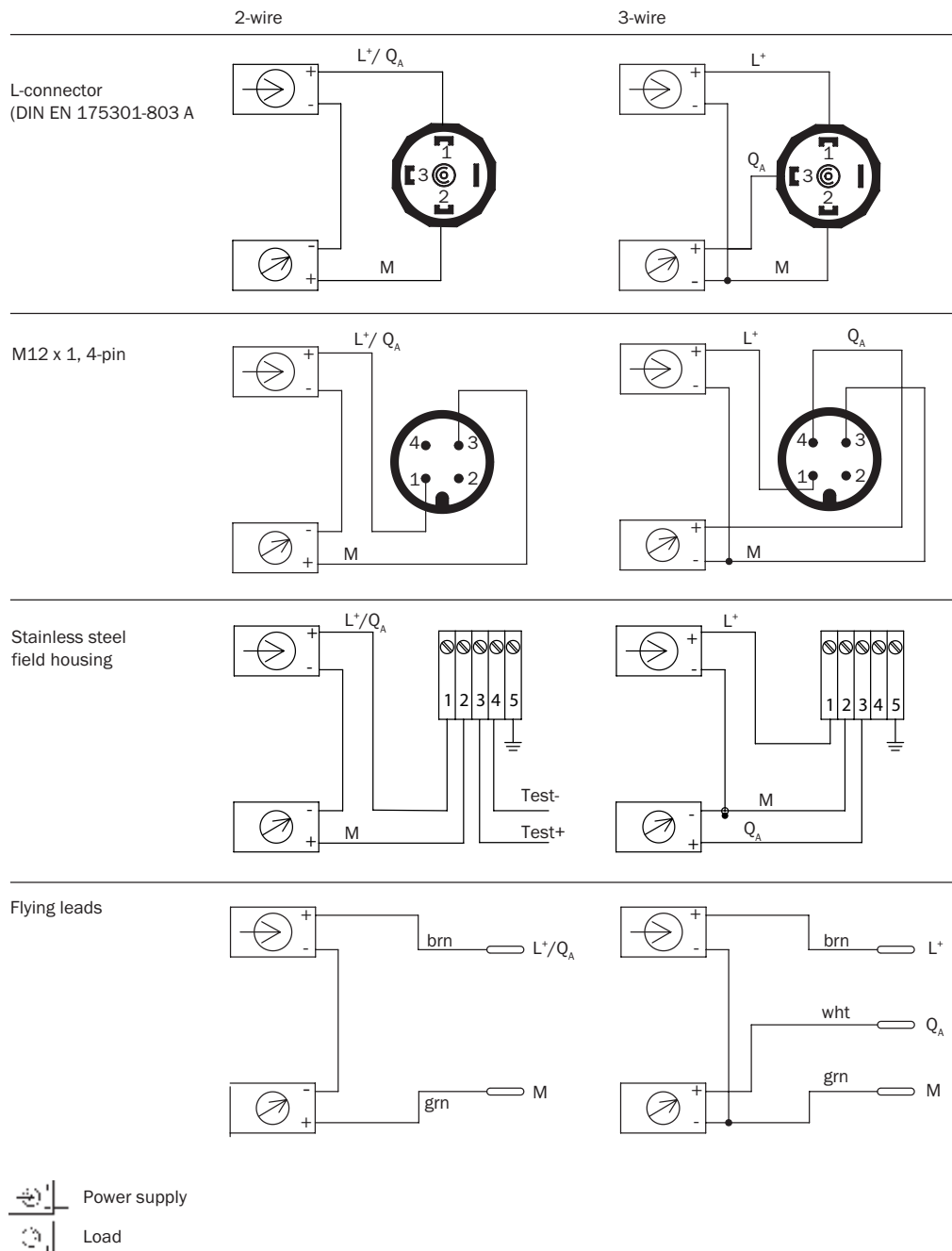
Dimensions in mm (inch)

Dimensional drawing Housing with circular connector M12 x 1, IP67



| With accuracy H         |           |
|-------------------------|-----------|
| 0.5 %                   | 64 (2.52) |
| 0.25 %                  | 84 (3.31) |
| Dimensions in mm (inch) |           |

## Connection type



## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)