

# PORTABLE ULTRASONIC FLOW METER

## PCE-TDS 200 S-ICA



- » **Measuring range  $\pm 32$  m/s**
- » **USB-C interface for data transfer**
- » **Optional software for analysing the measured values**
- » **Reproducibility  $\pm 0.5$  % of measured value**
- » **Heat quantity measurement**
- » **Data memory for 10 million measuring points**
- » **individually adjustable alarm limits**
- » **optionally with ISO or DAkkS calibration certificate**
- » **incl. ISO-Calibration Certificate**

The ultrasonic flowmeter has a measuring range of  $\pm 32$  m/s. With an accuracy of  $\pm 1.5$  % f.s. for a pipe diameter of DN  $\geq 50$ ,  $\pm 3.5$  % f.s. for a pipe diameter of DN  $< 50$  and a reproducibility of  $\pm 0.5$  % f.s., the ultrasonic flow meter is a particularly precise measuring device. An installation aid is available for installing the sensors of the ultrasonic flow meter. The installation aid graphically displays the signal quality of the ultrasonic flow meter. In addition, it is graphically displayed whether the sensors of the ultrasonic flow meter are positioned at the correct distance from each other. To carry out flow measurements with the ultrasonic flow meter, the flow velocity, the volume flow and the volume are displayed after entering the pipe and medium specifications. The ultrasonic flow meter displays the measured values in a wide range of units.

Specification

| Speed                 |                                                                                                   |
|-----------------------|---------------------------------------------------------------------------------------------------|
| Measuring range       | -32 ... +32 m/s                                                                                   |
| Resolution            | 0.001 m/s                                                                                         |
| Accuracy              | DN ≥50 mm: ±1.5 % of Rd for velocities >0.3 m/s / DN <50 mm: ±3.5 % of Rd for velocities >0.3 m/s |
| Ultrasonic sensor     |                                                                                                   |
| Designation           | PCE-TDS 200 S SENSOR                                                                              |
| Pipe diameter         | DN 15 ... 100 mm / Ø 20 ... 108 mm                                                                |
| Dimension             | 45 x 30 x 30 mm                                                                                   |
| Battery type          | Ultrasound                                                                                        |
| Frequency             | 1 MHz                                                                                             |
| Operating temperature | -30 ... 160 °C                                                                                    |
| Sensor cable length   | 5 m                                                                                               |

| General technical data               |                                                                                                                                                                                                                                                                                          |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measuring functions                  | Flow velocity, Volume flow, Volume                                                                                                                                                                                                                                                       |
| Units                                | metric, imperial                                                                                                                                                                                                                                                                         |
| Units additional information         | Dimensions: mm, in<br>Flow velocity: m/s, ft/s<br>Volume flow: m³, l, gal, igl, mgl, cf, bal, ib, ob<br>Volume: m³, l, gal, igl, mgl, cf, bal, ib, ob<br>Time specification: seconds, minutes, hours, days                                                                               |
| Display size                         | 2,8 in                                                                                                                                                                                                                                                                                   |
| Storage medium                       | Internal memory                                                                                                                                                                                                                                                                          |
| Storage capacity                     | 32 GB                                                                                                                                                                                                                                                                                    |
| Storage interval from                | 1 s                                                                                                                                                                                                                                                                                      |
| Storage interval to                  | 12 h                                                                                                                                                                                                                                                                                     |
| Interface                            | USB-C                                                                                                                                                                                                                                                                                    |
| Pipe material                        | Steel, Cast iron, Stainless steel, Aluminium, Brass, Copper, PVC, Iron, Nickel, Titanium, Zinc, Acrylic, Polyethylene, Polypropylene, Nylon, User-defined (manual entry of the transversal sound velocity of the pipe material)                                                          |
| Pipe material additional information | Inner lining of the pipe:<br>- No lining<br>- Epoxy resin<br>- Rubber<br>- Mortar<br>- Polystyrene<br>- Polyethylene<br>- Polytetrafluoroethylene<br>- Polyurethane<br>- Polypropylene<br>- Customised (manual entry of the longitudinal sound velocity of the inner lining of the pipe) |
| Measured medium                      | Water, Seawater, Oil, Crude oil, Methanol, Ethanol, Diesel, Petrol, Petroleum, User-defined (manual entry of the sound velocity of the medium)                                                                                                                                           |
| Operating time                       | 10 h                                                                                                                                                                                                                                                                                     |
| Automatic power-off from...to        | 1 ... 15 min.                                                                                                                                                                                                                                                                            |
| Measuring method                     | Z, V, N, W                                                                                                                                                                                                                                                                               |
| Alarm                                | optical, Acoustic                                                                                                                                                                                                                                                                        |
| Alarm modes                          | Undercut, overflow, within, beyond                                                                                                                                                                                                                                                       |
| Reproducibility                      | ±0.5%                                                                                                                                                                                                                                                                                    |
| Menu language                        | Turkish, English, Polish, Spanish, German, Chinese, Russian, Japanese, French, Danish, Italian, Dutch, Portuguese                                                                                                                                                                        |
| Protection class (device)            | IP52                                                                                                                                                                                                                                                                                     |
| Power supply                         | USB 5 V DC, 500 mA                                                                                                                                                                                                                                                                       |
| Connector type                       | Device-europlug                                                                                                                                                                                                                                                                          |
| (Rechargeable) battery               | 1 x 3,7 V LP785060 , Lithium polymer battery                                                                                                                                                                                                                                             |
| Capacity                             | 2500 mAh                                                                                                                                                                                                                                                                                 |
| Performance                          | 9,25                                                                                                                                                                                                                                                                                     |
| Operating conditions                 | -20 ... 65 °C , 10 ... 95 % RH                                                                                                                                                                                                                                                           |
| Storage conditions                   | -20 ... 65 °C , 10 ... 95 % RH                                                                                                                                                                                                                                                           |
| Dimensions ( L x W x H )             | 165 x 85 x 32 mm                                                                                                                                                                                                                                                                         |
| Weight                               | 263,5 g                                                                                                                                                                                                                                                                                  |