

# ULTRASONIC FLOW METER

## PCE-TDS 200 SM-SW-KIT



- » **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**

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. For example:  $m^3$ , l, gal, igl, mgl, cf, bal, ib and ob.

During a measurement, it is possible to record the measured values via the data logger function of the ultrasonic flow meter. Start and stop conditions and the storage interval can be set from 1 second to 12 hours for the ultrasonic flow meter. A memory point of the ultrasonic flow meter contains all measured values once. The measured values are stored on the 32 GB built-in memory of the ultrasonic flow meter.

## Specification

### Speed

Measuring range up to -32 ... +32 m/s

Resolution 0.001 m/s

Accuracy DN ≥50 mm: ±1.5 % of the measured value (of m.v.) for velocities >0.3 m/s /  
DN <50 mm: ±3.5 % of the measured value (of m.v.) 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

Frequency 1 MHz

Operating temperature -30 ... 160 °C

Sensor cable length 5 m

### Ultrasonic sensor

Designation PCE-TDS 200 M SENSOR

Pipe diameter DN 50 ... 700 mm / Ø 57 ... 720 mm

Dimension 70 x 40 x 40 mm

Frequency 1 MHz

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  
Flow velocity: m/s, ft/s  
Volume flow: m<sup>3</sup>, l, gal, igl, mgl, cf, bal, ib, ob  
Volume: m<sup>3</sup>, l, gal, igl, mgl, cf, bal, ib, ob  
Time specification: seconds, minutes, hours, days

Display size 2,8 Inch

Storage medium Internal memory

Storage capacity 32 GB

Storage interval from 1 s

Storage interval until 12 h

Data interface USB-C

Pipe material Steel, Cast iron, Stainless steel, Aluminium, Brass, Copper, PVC, Iron, nickel, titanium, Zinc, Acryl, Polyethylene, Polypropylene, nylon, User-defined (manual input of the transverse sound velocity of the pipe material)

Pipe material additional information Inner lining of the pipe:  
- No lining  
- Customized  
- Epoxy resin  
- Rubber  
- Mortar  
- Polystyrene  
- polyethylene  
- Polytetrafluoroethylene  
- polyurethane  
- Polypropylene  
- User-defined (manual input of the longitudinal sound velocity of the inner lining of the pipe)

Measuring medium Water, Seawater, Oil, crude oil, Methanol, Ethanol, Diesel, Gasoline, Petroleum, User-defined (manual input of the sound velocity from the medium)

Operating time 10 h

Automatic shutdown adjustable 1 ... 15 min.

Automatic switch-off can be deactivated Yes

Measuring method Z, v, N, W

Alarm optical, Acoustic

Alarm modes Undercut, Overcut, Inside, Outside

Reproducibility ±0.5 %

Menu language Turkish, English (US), Polish, Spanish, German, Chinese, Russian, Japanese, French, Danish, Italian, Dutch, Portuguese

Protection class (device) IP52

Power supply USB 5 VDC, 500 mA

Connector type Device Europlug

Battery capacity 2500 mAh

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