

# Portable Ultrasonic Flow Meter PCE-TDS 200 S



**Ultrasonic flowmeter with 32 GB data memory / measuring range  $\pm 32$  m/s /  
reproducibility  $\pm 0.5$  % of measured value / different measuring probes / alarm limit values /  
2.8 " LC display / for all media / optionally with DAkkS or 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. 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 from 1 second to 12 hours can be set 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. 10 million measuring points can be stored on the ultrasonic flow meter.

With the optional software, the recorded measured values can be read out from the ultrasonic flow meter. For analysis, the measured values from the ultrasonic flow meter can be displayed in tabular and graphic form. For further processing of the measured values from the ultrasonic flow meter, they can be exported in .csv file format. Alternatively, a PDF report can be created via the software. For simplified operation, the ultrasonic flow meter can be set via the software. A live view of the measured values from the ultrasonic flow meter is also possible with the software.

In order to determine the amount of heat with the ultrasonic flow meter, two additional thermocouples are required. These are available with the PCE-TDS 200+. The two thermocouples of the ultrasonic flow meter are connected to the flow and return of a pipe system. Based on the temperature difference and the measured flow rate, the ultrasonic flow meter can determine the amount of heat. If required, the ultrasonic flow meter can calculate and display the costs per heat quantity unit simultaneously during the measurement. Thus, the ultrasonic flow meter is used, for example, in the inspection of heating systems.

The LC colour display of the ultrasonic flow meter has a size of 2.8" and is therefore easy to read. Optionally, the ultrasonic flow meter can be equipped with an ISO or DAkkS calibration certificate.

## PCE-TDS 200 S SENSOR

Small sensor pair for pipe diameters DN 15 ... 100 / 20 ... 108 mm. Suitable for particularly small pipes. The sensors have a particularly small dimension of 45 x 30 x 30 mm and a temperature resistance of -30 ... 160 °C. Thanks to the magnets on the underside, the sensors can be mounted on ferrous metals. In addition, the sensors for the ultrasonic flow meter can be connected to the pipe by means of detachable cable ties.

- ▶ 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

Subject to change

# Specifications

## Flow measurement

Measuring range	<b>±32 m/s</b>
Accuracy	0,001 m/s
Genauigkeit	DN ≥50 mm: ±1.5 % f.s. for velocities > 0.3 m/s DN <50 mm: ±3.5 % f.s. for velocities > 0.3 m/s
Reproducibility	±0.5 % of measured value

## PCE-TDS 200 S SENSOR

Sensor pair	Sensor pair
Pipe diameter	DN 15 ... 100 / 20 ... 108 mm
Temperature resistance	-30 ... 160 °C
Dimension	45 x 30 x 30 mm

Measuring method	Z, V, N, W
Medium	- water - sea water - oil - crude oil - methanol - ethanol - diesel - petrol - petroleum - user defined (manual input of the sound velocity from the medium)

All liquids with an impurity	<5 %
Pipe material	- copper CU - steel FE - stainless steel VA - aluminium AL - brass ME - cast iron CI - iron FE - nickel NI - titanium TI - zink ZI - acrylic AC - polyethylene PE - polypropylene PP - polyvinyl chloride PVC - nylon NY - user defined (manual input of the transversalsound velocity of the pipe material)

# More information

Software Manual



More product info



Similar products



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Inner pipe lining	<ul style="list-style-type: none"> <li>- no lining</li> <li>- user defined</li> <li>- epoxy resin</li> <li>- rubber</li> <li>- mortar</li> <li>- polystyrene PS</li> <li>- polyethylene PE</li> <li>- polytetrafluoroethylene PTFE</li> <li>- polyurethane PU</li> <li>- polypropylene PP</li> <li>- user defined</li> </ul> <p>(manual input of the longitudinal sound velocity of the inner lining of the pipe)</p>
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Measurement parameters flow velocity, volume flow and volume

Units (dimensions) mm, in

Units (flow velocity) m/s, ft/s

Units (volume flow) m<sup>3</sup>, l, gal, igl, mgl, cf, bal, ib, ob

Time specification seconds, minutes, hours, days

Units (volume) m<sup>3</sup>, l, gal, igl, mgl, cf, bal, ib, ob

#### Further specifications

2.8" LCD 2,8" LCD

Menu metrisch / imperial

Menu languages German, English, French, Spanish, Italian, Dutch, Portuguese, Danish, Turkish, Polish, German  
Turkish, Polish, Russian, Chinese, Japanese

Operating and storage conditions Temperature: -20 ... +65 °C

Humidity: 10 ... 95 % r. h., non-condensing

Data logger 32 GB memory capacity / 10 million measuring points

Interface USB (for online measurement, readout of the internal memory and for recharging the battery)

Protection class IP52

Power supply Internal: LiPo battery (3.7 V, 2500 mAh)  
External: USB 5 VDC, 500 mA

Operating time approx. 10 h

Dimensions 165 x 85 x 32 mm

Weight 255 g

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