Ultrasonic Flow Meter PCE-TDS 200+ SM

Ultrasonic flowmeter with 32 GB data memory / measuring range ±32 m/s / reproducibility ±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 ±32 m/s. With an accuracy of ±1.5 % f.s. for a pipe diameter of DN ≥50, ±3.5 % f.s. for a pipe diameter of DN <50 and a reproducibility of ±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. 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.

Subject to change

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 flowmeter can be connected to the pipe by means of detachable cable ties.

PCE-TDS 200 M SENSOR

Medium sensor pair for pipe diameters DN 50 ... 700 / 57 ... 720 mm. Suitable for flow measurement on medium-sized pipes. With the built-in magnets on the sensors for the ultrasonic flow meter, they can be attached to ferrous pipes. Alternatively, the sensors can be mounted to the pipe with detachable cable ties. The temperature resistance is between -30 ... 160 °C.

- Measuring range ±32 m/s
- USB-C interface for data transfer
- Optional software for analysing the measured values
- Reproducibility ±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

Specifications

Flow measurement	
Measuring range	**±32 m/s**
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
Pipe diameter	DN 15 ... 100 / 20 ... 108 mm
Temperature resistance	-30 ... 160 °C
Dimension	45 x 30 x 30 mm
PCE-TDS 200 M SENSOR	
Pipe diameter	DN 50 ... 700 / 57 ... 720 mm
Temperature resistance	-30 ... 160 °C
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

Manual

Software Manual

Brochure

More product info

Similar products

Subject to change

Inner pipe lining	- no lining - user defined - epoxy resin - rubber - mortar - polystyrene PS - polyethylene PE - polytetrafluoroethylene PTFE - polyurethane PU - polypropylene PP - user defined (manual input of the longitudinal sound velocity of the inner lining of the pipe)
Measurement parameters	flow velocity, volume flow and volume
Units (dimensions)	mm, in
Units (flow velocity)	m/s, ft/s
Units (volume flow)	m^3, l, gal, igl, mgl, cf, bal, ib, ob
Time specification	seconds, minutes, hours, days
Units (volume)	m^3, l, gal, igl, mgl, cf, bal, ib, ob

Temperature measurement

Measuring range	**Accuracy**
Type B: 600 ... 1800 °C	Type B: ±(0.5 %+ 3 °C)
Type E: -100 ... +900 °C	Type E: ±(0.4% + 1 °C)
Type J: -100 ... 1150 °C	Type J: ±(0.4% + 1 °C)
Type K: -100 ... +1370 °C	Type K: ±(0.4% + 1 °C)
Type N: -100 ... + 1150 °C	Type N:±(0.4 % + 1 °C)
Type R: 0 ... 1700 °C	Type R: ±(0.5 % +3 °C)
Type S: 0 ... 1500 °C	Type S: ±(0.5 % +3 °C)
Type T: -100 ... +400 °C	Type T: ±(0.4% + 1 °C)

Resolution	0.1°C
Connectable thermocouples	B, E ,J ,K ,N ,R ,S ,T
Measuring parameters	flow rate, volumeflow, volume, temperature, Heat output and heat quantity
Units (temperature)	°C / °F
Units (heat quantity)	K, kJ, MJ, Wh,kWh, MWh, Btu, kBtu, MBtu
Units (heat output)	W, kW, MW, J/h,kJ/h MJ/h, Btu/h, kBtu/h, MBtu/h
Cost display	EUR, Pound, USD, TurkishLira, Zloty, Yen

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
Unterface	USB (for online measurement, readout of the internalmemory memory and for recharging the battery)
Protection class	IP52
Power supply Internal	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

Subject to change