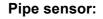
PCM Pro / OCM Pro "active" sensors

Wedge sensors:







Air-ultrasonic level sensor

Measurement principle	 Ultrasonic transit time (level measurement) Piezoresistive pressure measurement (level measurement) Correlation with digital pattern detection (flow velocity)
Measuring frequency	1MHz
Protection	IP 68
Ex approval (optional)	II 2 G EEx ib IIB T4
Operating temperature	-20° C to +50° C (-4° F to 122° F) (+40° C (104° F) in Ex Zone 1)
Storage temperature	-30° C to +70° C (-22° F to 158° F)
Operating pressure	max. 4 bar (combi sensor with pressure element max. 1bar)
Cable length	10/15/20/30/50/100 m (33/50/66/99/165/330 ft), extendable up to 250 m max. (820 ft) cable length, in case of using sensors with pressure measurement after 30 m (99 ft) a pressure compensation element is required
Cable types	 Combi sensor with pressure measurement: LiYC11Y 2x1.5 + 1x2x0.34 + PA 1.5/2.5 Sensors without pressure measurement: LiYC11Y 2x1.5 + 1x2x0.34
Outside cable diameter	 Combi sensor with pressure measurement: 8.7 ±0.25 mm (0.34 ±0.010 in) Sensors without pressure measurement: 7.6 ±0.25 mm (0.3 ±0.010 in)
Sensor connection	 pre-configured cable end for connection to OCM Pro, for sensor types "K" and "L" cable with plug for connection to PCM Pro, for sensor without pressure measurement, type "S" cable with plug and exchangeable filter element for connection to PCM Pro, for sensors with pressure measurement, type "F"
Sensor types	 Flow velocity sensor with v-measurement using cross correlation and temperature measurement to compensate the temperature effect on sound velocity Combi sensor with flow velocity sensor using cross correlation, level measurement via water-ultrasonic and temperature measurement to compensate the temperature effect on sound velocity Combi sensor with flow velocity sensor using cross correlation, level measurement via pressure and temperature measurement to compensate the temperature effect on sound velocity Combi sensor with flow velocity sensor using cross correlation, level measurement via water-ultrasonic as well as redundant pressure measuremen and temperature measurement to compensate the temperature effect on sound velocity
Types of construction	 Wedge sensor for installation on channel bottom Pipe sensor for installation in pipes with nozzle and cutting ring
Medium contacting materials	Polyurethane, stainless steel 1.4571, PPO GF30, PA (wedge sensor only) Option: sensor made of PEEK, resistant to chemical substances, Hastelloy mounting plate, Titanium mounting plate, cable with FEP coating

PCM Pro / OCM Pro "active" sensors

Level measurement – water-	ultrasonic	
Measurement range	0 to 200 cm (0 to 6.56 ft), lowest absolutely measurable level 5 cm (0.16 ft)	
Zero drift	absolutely stable zero point	
Measurement error	less than ±2 mm (±0.08 in)	
Level measurement - pressure		
Measurement range	0 to 350 cm (0 to 11.5 ft)	
Zero drift	max. 0.75 % of final value (0 to 50° C (32° F to 122° F))	
Measurement error (standing medium)	<0.5 % of final value	
Level measurement - external sensor		
Measurement range		
Zero drift	depending on device used	
Measurement error		
Flow velocity measurement		
Measurement range	-100 cm/s to +600 cm/s (- 3.28 fps to 19.7 fps)	
Number of scan layers	max. 16	
Zero drift	absolutely stable zero point	
Error limits (per scan layer)	<pre><1 % of measurement value (v >1 m/s (3.28 fps)) <0.5 % of measurement value +5 mm/s (0.2in/s) (v <1 m/s (3.28 fps))</pre>	
Number of sensors	1 to 3 per measurement transmitter	
Sonic beam angle	±5 degrees	
Temperature measurement		
Measurement range	-20° C to +60° C (-4°F to 140°F)	
Measurement error	±0.5 K	

Active sensor air-ultrasonic		
Measurement principle	Ultrasonic transit time	
Measuring frequency	120kHz	
Protection rating	IP68	
Ex approval	II 2 G EEx ib IIB T4	
Operating temperature	-20° C to +50° C (-4° F to 122° F) (+40° C (104° F) in Ex Zone 1)	
Storage temperature	-30° C to +70° C (-22° F to 158° F)	
Operating Pressure	max. 1 bar	
Cable length	10/15/20/30/50 m (33/50/66/99/165 ft), extendable up to250 m max. (820 ft) cable length	
Cable type	LiYC11Y 2x1.5 + 1x2x0.34	
Cable outside diameter	7.6 ±0.25 mm (0.3 ±0.010 in)	
Sensor connection	 pre-configured cable end for connection to OCM Pro, for sensor type "K" cable with plug for connection to PCM Pro, for sensor type "S" 	
Types of construction	Wedge sensor for installation in channel vertex	
Medium contacting materials	Polyurethane, stainless steel 1.4571, PPO GF30, PA	
Level measurement		
Measurement range	0 to 200 cm (0 to 6.56 ft)	
Dead zone	10 cm (0.33 ft)	
Measurement error	less than ±5 mm (0.2in)	
Temperature measurement		
Measurement range	-20° C to +50° C (-4°F to 122°F)	
Measurement error	±0.5 K	