

Q.ANT Particle Sensor

Sensor Types and Specifications

Preliminary Data Sheet



Q.P20

Parameter	Value
Particle Diameter	20 – 700 µm
Particle Velocity*	1 – 200 m/s
Particle Diameter Measurement Accuracy**	3.4 %
Particle Diameter Measurement Repeatability**	0.64 %
Particle Diameter Measurement Variability (Individual Particles)**	4.7 %
Particle Velocity Measurement Accuracy***	1.5 % for particle diameters < 300 µm
Particle Velocity Measurement Variability (Individual Particles)***	1.9 % for particle diameters < 300 µm
Particle Concentration	Dependent on cuvette depth in mm: Optimal approx. 400 particles / ml / cuvette depth. Max. approx. 800 particles / ml / cuvette depth. E.g., for a cuvette depth of 2 mm: Optimal approx. 200 particles / ml. Max. approx. 400 particles / ml.

* Theoretical velocity range.

** Average values based on the measurement of polystyrene particles in water. Dependent on particle characteristics and sample preparation.

*** Average values based on the measurement of chromium particles on a rotating glass disk.

Q.P2

Parameter	Value
Particle Diameter	2 – 50 µm
Particle Velocity*	0.1 – 20 m/s
Particle Diameter Measurement Accuracy**	2.4 %****
Particle Diameter Measurement Repeatability**	0.97 %****
Particle Diameter Measurement Variability (Individual Particles)**	6.3 %****
Particle Velocity Measurement Accuracy***	tbd
Particle Velocity Measurement Variability (Individual Particles)***	tbd
Particle Concentration	Dependent on cuvette depth in mm: Optimal approx. 4000 particles / ml / cuvette depth. Max. approx. 8000 particles / ml / cuvette depth. E.g., for a cuvette depth of 0.5 mm: Optimal approx. 8000 particles / ml. Max. approx. 16000 particles / ml.

* Theoretical velocity range.

** Average values based on the measurement of polystyrene particles in water. Dependent on particle characteristics and sample preparation.

*** Average values based on the measurement of chromium particles on a rotating glass disk.

**** Measurement system analysis not completed, preliminary value based on a subset of measurements.



Q.ANT Particle Sensor

Complete System with Infrared Laser 1550 nm

Preliminary Data Sheet



Parameter	Value
Laser Wavelength	1550 nm
Laser Power in Module (Enclosed Path)	10 mW (Laser max. 20 mW)
Laser Operation Mode	CW
Laser Power Consumption Including Driver	<3 W
Laser Class	1
Total Weight	12 kg
Housing Dimensions (L x W x H)	520 mm x 208 mm x 242 mm
Ambient Operating Temperature	10°C – 40°C
Humidity During Operation	< 80% (non-condensing)
Supply Voltage	100 – 230 V/AC, 50 – 60 Hz
Device Power Consumption	<30 W
Data-Interface	Gig-Ethernet, RJ45
API Protocol	MQTT (optional)
Sample Feed – Input and Output Connections	Standard pneumatic quick connectors
Housing Protection Rating (IP Code)	IP30
Maximum Operating Altitude	2000 m above sea level
Maximum Allowable Pressure of Sample Feed	0.5 bar
Replaceable Fuses at the IEC Power Connection	5 mm x 20 mm fine fuse 5A
Relevant Standards	DIN EN 61010, DIN EN IEC 6825, 21 CFR 1040.10 & 1040.11

