

## Explosion protection

Marking	ATEX: II 2G Ex h IIC T4 Gb X IECEX: Ex IIC T4 Gb NEC 500: Class I, Division 2, Group B,C and D NEC 505: Class I, Zone 1, AEx d e ib px IIB resp. IIB+H2 T3 resp. T4 CEC Sec. 18: Ex d e ib px IIC T3 resp. T4 TR CU: II Gb T4 X
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## Technical data

Technology	optical turbidity detection
Method	compliant with: ASTM D2386, ASTM D1015, DIN ISO 3013, ASTM D7153-05, ASTM D7154-05, ASTM D2500
Cloud point measuring range	down to -40 °C (-40 °F) down to -70 °C (-94 °F) with integrated FKS 1.4-KWS Chiller optional: down to -80 °C (-112 °F) with integrated FKS 0.5-KWS Chiller
Repeatability	≤ DIN EN/ASTM e.g. kerosene typ. 0.2 °C at -50 °C (-58 °F)
Reproducibility	≤ DIN EN/ASTM
Measuring cycle	discontinuous, cycle time 8 to 20 min depends on freezing point temperature cycle time 4 to 10 min depends on cloud point temperature
Product streams	2 x sample, 1 x validation (additional hardware required)
<b>– Electrical data</b>	
Nominal voltage	230 V AC ± 10 %, 1 phase; 50 Hz; other ratings on request
Maximum power consumption	approx. 800 W
<b>– Protection class</b>	
IP 54 (comparable to Nema 13)	
<b>– Ambient conditions</b>	
Ambient temperature	operation 5 to 40 °C (41 to 104 °F) storage 0 to 60 °C (32 to 140 °F)
Ambient humidity	operation 5 to 80 % relative humidity, non-corrosive storage 5 to 85 % relative humidity, non-corrosive
<b>Sample</b>	
Quality	filtered 50 µm, free of suspended water (≤ 37 cSt at inlet temperature)
Consumption	approx. 5 to 30 l/h
Pressure at inlet	2 to 3 bar (29 to 43.5 psi)
Temperature at inlet	5 to 15 °C (41 to 59 °F) min. 15 K above expected cloud point temp.
<b>Utilities</b>	
<b>– Instrument air Consumption</b>	
Purge	8 Nm <sup>3</sup> /h while purging (~12 min)
Operation	approx. 1 Nm <sup>3</sup> /h
Pressure at inlet	2 to 7 bar (29 to 101.5 psi)

Quality	humidity class 2 or better acc. to ISO 8573.1
<b>– Coolant</b>	
Consumption*	60 to 100 l/h
Temperature	20 to 40 °C (68 to 104 °F)
Pressure at inlet	1 to 3 bar (15 to 44 psi)
Quality	filtered 50 µm
<b>Signal outputs and inputs</b>	
Analog outputs	freezing point temperature, cloud point temperature, (others on request)
Digital outputs	Alarm, Ready signal, see options
Digital inputs	Stream Selection, Validation Request, Reset
<b>Electrical data of signal outputs and inputs</b>	
Analog outputs	max. 8 (4 to 20 mA; 1000 Ω) active isolated on request
Analog inputs	4 to 20 mA; 160 Ω
Digital outputs	24 V DC; max. 0.5 A
Digital inputs	high: 15 to 28 V DC low: 0 to 4 V DC
Auxiliary power supply output	24 V DC; max. 0.8 A
<b>Control unit</b>	
Central control unit	Industrial PC
Operating system	Windows 10 Enterprise LTSB
Control software	PACS
<b>User interfaces</b>	
Display	TFT display with touch function 1366 x 768 pixel
Keyboard	virtual keyboard, controlled via TFT display with touch function
<b>Connections</b>	
Tube fittings	Swagelok® 6 mm/12 mm/18 mm other fittings on request
Vent/Drain	open to atmosphere backpressure on request
<b>Weight and dimensions</b>	
Weight	approx. 250 kg (without options)
Dimensions (W x H x D)	approx. 1140 x 2050 x 710
Space requirements	right: 160 mm/left: 390 mm
<b>Optional interfaces</b>	
Analog outputs	on request
MODBUS interface	MODBUS/RTU via RS485 or RS422 or FOC is, MODBUS/TCP via FOC is
Remote access	via Ethernet (VDSL or FOC is)