

QAL 181

PARTICULATE MEASUREMENT SYSTEM



The QAL 181 sensor measures particle emissions from dust arrestment plant utilising ENVEA's patented ProScatter™ forward-scatter measurement technique

FEATURES AND BENEFITS

- Forward-scatter technology with a minimum detection limit of $<0.05 \text{ mg/m}^3$
- ProScatter™ technology provides enhanced measurement due to reduced cross-sensitivity to particle type and size compared to other scatter monitors
- Robust and rugged for challenging high-temperature 500°C stack conditions and Ex hazardous zones
- Automatic zero and span checks that fully challenge the system's ability to measure forward-scattered light and satisfy daily drift checks
- TCP/IP Ethernet, RS485, RS232, 4x4 – 20 mA outputs, 1x 4-20 mA input, 4x Relay outputs, 1x Relay input for increased choice of integration with your DCS or DAHS (controller specific).



COMPLIANT WITH:
EN 14181 and EN 13284-2



TECHNICAL SPECIFICATIONS

Network Controllers	Network Controller	ProController
Number of sensors/channels	1	1–32
Display	Two-tone grey, backlit graphical LCD	High-contrast, anti-glare 7" (viewable) TFT LCD
Multiple Data Viewing	PC or RS-485	PC/RS-485/Ethernet simultaneously
Dimensions	W220 x H123 x D80 mm	W390 x H221 x D118 mm
Power supply voltage	100–240V AC (50/60 Hz)	85–265V AC (50/60 Hz)
Protection Rating	IP65	IP66
Ambient Temperature Range	-20°C to 50°C	-20°C to 50°C
Navigation keys	Up/Down/Left/Right/Enter	Up/Down/Left/Right/Enter plus 5 function keys: 3x short-cut keys and 2 user-programmable keys
Icon-driven, multilingual menus	n/a	<input checked="" type="checkbox"/>
Secure password protection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Sensor system setup and configuration options	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Configurable emission alarm levels	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Sensor calibration screens	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Seamless integration with existing control units and sensors	n/a	<input checked="" type="checkbox"/>
Long-term Log	12 months @ 15 minutes	48 months @ 15 minutes
Short-term Log	7 days @ 1 minute	28 days @ 1 minute
Pulse Log	8 hours @ 1 seconds	32 hours @ 1 second
Alarm Log	500 entries	500 entries
Ethernet (RJ45)	n/a	<input checked="" type="checkbox"/> Connection type: 100Base-T/Tx 100 Mb/s
USB 2.0	n/a	<input checked="" type="checkbox"/> Suitable for connecting to a local PC or laptop
Relays	2 off (programmable)	4 off (programmable)
4-20mA	1 off (programmable)	4 off (programmable)
RS-485	1	1
Digital User selectable for: PLANT OFF indication, Bag-filter cleaning sequences, multiple calibrations	1	4
4-20 mA	0	2

*Data logging capacity for one sensor. Data stored varies per sensor type. Please consult ENVEA for specific data.

Network Accessories		Network Controller	ProController
Network Modules (can be connected to Controller Network systems to provide additional Inputs and Outputs)	Analogue Output Module (AOM) provides 8 additional 4-20 mA outputs definable to sensors/channels	1	1-8
	Auxiliary Input Module (AIM) provides 4 additional digital inputs, plus 4 additional relay outputs	1	1-8
	Relay Output Module (ROM) provides 8 additional relay outputs	1	1-8
	SPUR provides sensor network connection and local isolation during maintenance	1	1-32
	Power Supply Repeater (PSR) provides voltage and signal boost for extended cable runs and large sensor networks	1	1-8

	181 Sensor
Connection Required on Duct	Hole pattern to suit DN80 PN10/PN16 or 3" 150 lb ANSI (hole ID at least ø 88 mm)
Power Requirements	24 V provided by the control unit
Cable Entries	3x M20 cable entry glands
Air Purge Requirements	Requires continuous air purge at 30-40 litres/minute
Dust Certification Range	Certification range
	0 - 7.5 mg/m ³
	Supplementary Range
	0-15, 0-100, 0-200 mg/m ³

	IECx	ATEX
Gas zone	Zone 2	
Certificate number:	IECEX SIR 10.0125X	
Certificate code:	Ex ec op is IIC T4 Gc Ta = -20°C to +55°C	Ex ec op is IIC T4 Gc Ta = -20°C to +55°C
		II 3G
Dust zone	Zone 21/22	
Certificate number:	IECEX SIR 10.0125X	
Certificate code:	Ex tb IIIC T63°C Db IP66 Ta = -20°C to +55°C	Ex tb IIIC T63°C Db IP66 Ta = -20°C to +55°C
		II 2D