GOYEN

FILTER FAILURE ALARM

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PENTAIR CLEAN AIR SYSTEMS

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WHAT IT DOES

- Continuous monitoring of fabric filter baghouses for broken bags
- Clear indication of system status through full color display
- Provides dual alarm relays (early warning and set maximum limit)
- Easy and user friendly system setting via external keypad
- Has a 4-20mA output to feed a PLC or other devices
- It's ATEX Zone 2 (Gas) and 22 (Dust) certified
- Acts as a preventive maintenance tool



PRODUCT DESCRIPTION

The Goyen FFA provides you dependable and pragmatic filter monitoring through an easy setup external unit and clear, simple and language independent full-color LCD display. It features two alarm relays and a 4-20 mA output and can work in ATEX rated environments (II 3GD) and flu gas temperatures from -20°C to +240°C (-4°F to +464°F).

The FFA utilizes a unique probe electrification technology which provides much better performances than conventional DC triboelectric systems as well as alternative AC systems. This allows extending the velocity range over which the system has no cross sensitivity to changing velocity. Thanks to that technology, the FFA is also unaffected by build-up of particulate on the sensing rod, thus eliminating signal drift concerns.

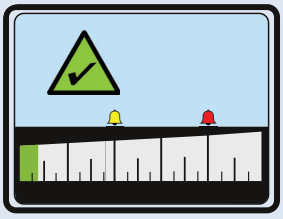
A charge signature is induced by particulates in the airstream interacting with the sensing rod. The FFA extracts a specific frequency band from the induced AC current signature and filter out the DC current generated by direct particle collisions. In order to reject signals falling outside a pre-defined frequency range, the so resulting signal is electronically filtered. Thanks to that, Goyen filter failure alarms are less susceptible to changes in particle velocity and are not affected by any particulate contamination on the sensing rod.

Also this technology, not relying on particles colliding with the probe, is able to measure a more representative area of the stack and eliminate the need of long sensor probe rods.

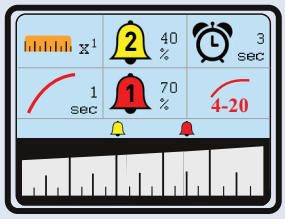
Thanks to the digital averaging of readings in combination with the alarm delay feature, by properly setting the delay period, the system will exclude short term signal increases associated with pulse cleaning of filters. This translates into a much lower likelihood of having false alarms.

OPERATIONAL RANGE

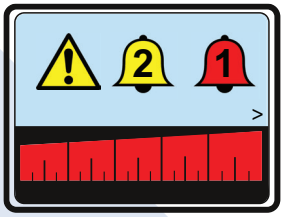
- Suitable for a wide range of dust collectors designs and configurations
- Dust level response: <1mg/m³ to 500mg/ m³ (<0.028 mg/ft³ to 14 mg/ft³)
- Flue gas velocity from 4m/sec
- Flue gas temperature up to 240°C (464°F)
- Ambient temperature from -20°C to +50°C (-4°F to +122°F)
- Duct sizes from 0.5m
- Hazardous area ATEX II 3GD
- US-EPA MACT compliant



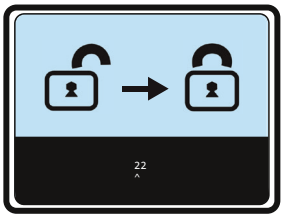
1



2



3



4

CERTIFICATION (FFA)



CONFORMANCE AND RELATED STANDARDS

Goyen | Mecair hereby declares that this instrument—within the limits specified in this manual—complies with the essential requirements and other provisions of the pursuant European Union Directives : Low Voltage Directive (LVD) , EMC Directive , and ATEX Directive.

For details refer to the Declaration of Conformance for this instrument or system (available on request from Goyen | Mecair or our local representative).

ATEX Standards

EN 60079-0:2012 + A11:2013	
Explosive atmospheres. Part 0 : Equipment – General requirements	Specifies the general requirements for the construction, testing and marking of electrical equipment used in explosive atmospheres.
EN 60079-15:2010	
Explosive atmospheres. Part 15 : Equipment protection by type of protection “n”	Specifies requirements for the construction , testing and marking for Group II electrical equipment with type of protection , “n” intended for use in explosive gas atmospheres. This standard supplements and modifies the general requirements of EN 60079-0.
EN 60079-31:2009 AND EN 60079-31:2014	
Explosive atmospheres – Part 31 : Equipment dust ignition protection by enclosure “t”	Specifies requirements for design , construction and testing of electrical equipment and Ex components. This standard supplements and modifies the general requirements of EN 60079-0.

BENEFITS

- Reduce plant downtime thank to real-time emission monitoring for preventive maintenance
- Not language dependent, simple, easy setup and review of data
- Data averaging and alarm delay user selectable to avoid false alarms
- Two alarms levels can be independently set by the user, directly on the scale
- Instant notification of over-range to indicate leaking or broken bag failures
- To prevent tampering by unauthorized personnel, settings can be locked
- Suitable for all particles regardless of composition
- Extremely wide range of concentration and mass flow
- Seamless interface into industrial controls systems, such as PLC

FEATURES

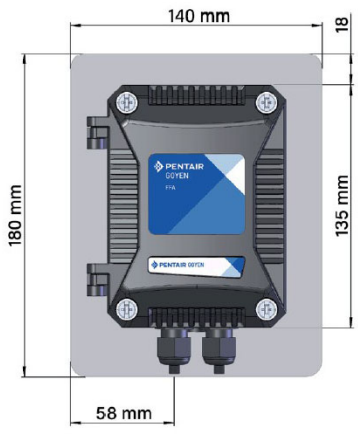
- Icon menu (1)
- Alarm delay feature (1)
- Two independent alarms (2)
- Dust over-range icon (3)
- Security setting (4)
- Dependable 4-20 mA output
- Sensor sensitivity adjustment
- Unique probe electrification technology
- ATEX II 3GD compliant
- US-EPA MACT compliant

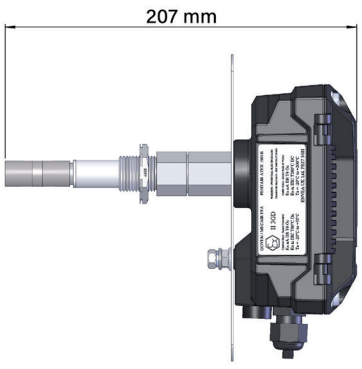
PROCESS AND APPLICATION CONDITIONS

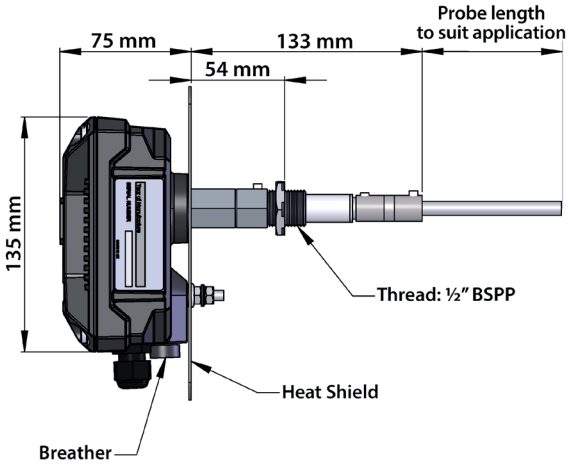
Stack temperature range [B]	–20 to 240°C (–4 to 465°F)
SENSOR – KEY DATA	
Flue gas velocity	>4 m/s
Dust level response	<1 to 500 mg/m³ (dependent upon application)
Application conditions	Suitable for measurement in non-condensing flue gases. ***Note:*** *not recommended for deployment downstream of ESPs, or in applications with water droplets or mist at monitoring point.*
Hazardo us zone classification	ATEX Zones 2 (Gas) and 22 (Dust)
ENVIRONMENTAL INFORMATION	
Altitude category	max. 2,000 m (6,500 ft.)

SENSOR SPECIFICATION

FILTER FAILURE ALARM MONITOR	
Sensor variant	Standard sensor: 0–240°C (up to 465°F)
Probe rod material	316 Stainless Steel, PTFE (insulator)
Weight	900 g (2 lb), excl. rod
Cable entries	2× M16 cable glands (one blanked)
ENCLOSURE	
Ambient temperature range [B]	–20 to +50°C (–4 to 130°F)
Protection rating	IP65
Material	Die-cast aluminium LM6M (epoxy coated)
POWER REQUIREMENTS	
Power supply voltage	24 V DC (from the control unit)

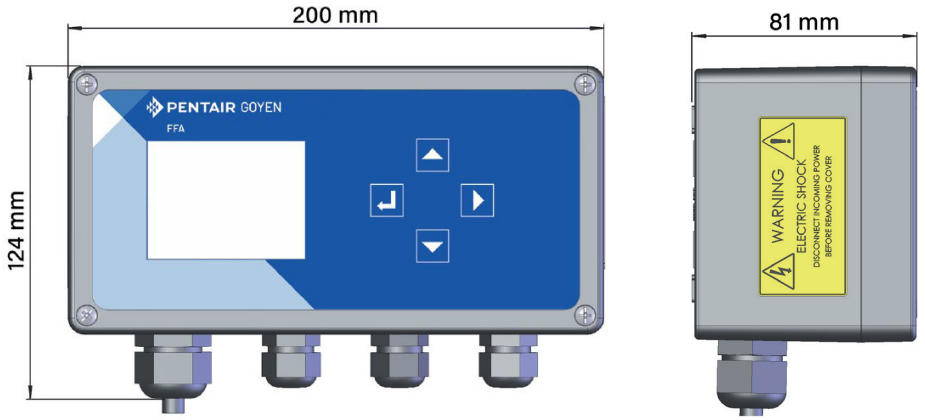






CONTROL UNIT SPECIFICATION

FFA CONTROL UNIT	
Controller type	FFA Controller
Weight	1.2 kg (2.7 lb)
Display	2.8″ colour LCD, 4:3 ratio
ENCLOSURE	
Ambient temperature range	–20 to +50°C (–4 to 120°F)
Dimensions	W 200 × H 124 x 81 mm (8 × 5 × 3.2 in.), incl. glands
Protection rating	IP66
Material	Die-cast aluminium LM6M (epoxy coated)
Cable entries	3× M16 cable glands 1 × M20 cable gland (for mains power supply)
INPUTS/OUT PUTS	
Outputs	1 × Sensor connector (power/comms) 1 × 4–20 mA output: • SPCO, 250Ω • isolated 2× Alarm rel ays: • solid state • volt-free SPCO • current rating 0.5 A @24V DC per contact
POWER REQUIREMENTS	
Power supply voltage	80–230 V AC, 50/60 Hz



PROBE ROD LENGTH 300mm | 600mm | 1000mm

ORDERING CODES Please note that along with the FFA code you must always order either the F300, F600 or F1000 (respectively for the 300 mm long rod, the 600 mm long rod and the 1000 mm long rod)

NOTES Imperial temperatures given are nominal values

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Note: We are engineering partner as a total system solution provider, GOYEN manufactures a range of components to ensure cost effective and reliable cleaning system design, installation and operation within a reverse pulse filter.Within a reverse pulse filter the overall cleaning efficiency and long term performance of the bags or cartridges are critically dependent upon to control of the cleaning air into the individual filter bag or cartride. GOYEN products are produced to exacting tolerances and quality standards to ensure their effectiveness within any reverse pulse filter.As a comprehensive solution provider, We have great quality control procedures. The calculate various system designs and can work together perfectly. Finally we are fully committed to maintaining environment quality together.

GOYEN CONTROLS PTY LIMITED, AUSTRALIA

Note: The information and data contained in this document are based on our general experience and are believed to be correct. They are given in good faith and are intended to provide a guideline for the selection and use of our products. Since the conditions under which our products may be used are beyond our control, this information does not imply any guarantee of final product performance and we cannot accept any liability with respect to the use of our products. The quality of our products is guaranteed under our conditions of sale. Existing industrial property rights must be observed.