

8867

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Data sheet

2018

Robust analyser for safe and hazardous areas with integral dilution port.

Combustibles Analyser

based on catalytic
combustion system



The 8867 provides accurate in line analysis of flue gas and other gases with Oxygen deficiency in order to determine the total concentration of combustible gases in the sample stream (typically expressed as CO, CH₄ or H₂ in accordance to the most representative component).

The air dilution port, combined with the ADEV special dilution system can ensure a perfect measure even in case of Oxygen deficiency (that is the most dangerous condition).

Fully proved technology, widely used in Iron & Steel plants and petrochemical plants.

Technical Specification

8867 Total Combustibles Analyser

Performance Specification

Accuracy	± 4% of span (output signal).
Repeatability	± 0.5% of span (short term).
Reproducibility	24 hours: ± 1% of span.
Linearity	Better than ± 1% of full scale
Response Time	Initial: < 1 sec.; 90% of step-change: < 10 sec. (with max. 2000 cc/min. flow rate)
Drift	Zero: max. ± 2% of span per week Span: max ± 1% of span per week (without autocal)
Ambient Temp. Influence	Better than ± 1% of full scale on the entire temperature range
Atm. Pressure Influence	± 0.015% of reading per hPa
Flow Rate Influence	The ratio between dilution air flow rate and sample flow rate must be constant
Line Voltage Influence	max. 0.02% of span, for each 1% change of voltage.

Operative Specification

Sample Flow Rate	with 0-5% range: 1000 cc/min. with 0-10% range: 500 cc/min.
Dilution Air Flow Rate	with 0-5% range: 1000 cc/min. with 0-10% range: 1500 cc/min.
Total flow rate (sample + dilution air):	1000 ÷ 2000 cc/min.
Sample Pressure	3000 Pa minimum (with filter and flow meter).
Range	Refer to ordering information
Output	non-normalized output current that functions as input of the selected ADEV control unit
Relative Humidity	90% maximum.
Operation Temperature	-10 ÷ +50°C (14 to 122 °F).
Temperature controlled	at 50°C
Storage Temperature	+70°C (158 °F) max.
Power Requirements	24 ÷ 30 Vdc, 45 VA from dedicated power supplier.
Pneumatic Connections	¼" or 6 mm OD tubing (compression fittings supplied)
Wiring Connections	General purpose: 2 openings for G 3/8" (PG 13 cable grip). Ex-Proof: 2 openings for GK 1/2" (cable grip or conduit).



Key Applications

- Iron & Steel Plants
- Petrochemical Plants
- Combustibles monitoring in every type of furnace, oven and tank

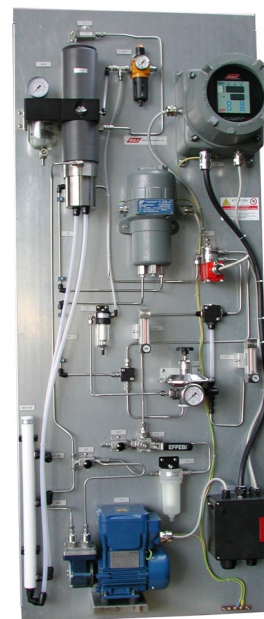


Sampling System

8867 needs an external sampling system able to deliver an almost clean sample gas to the analyser at the proper temperature, pressure and flow rate.

ADEV can provide the 8867 analyser combined with a very specific sample and condition system designed to have an Air / sample gas mixture severely guaranteed as constant and, consequently, to get the measure even in case of Oxygen deficiency in the sample (condition that

is often linked to an high presence of combustibles). Contact ADEV for details



Analyser, sampling and dilution for Zone 1 (ATEX)



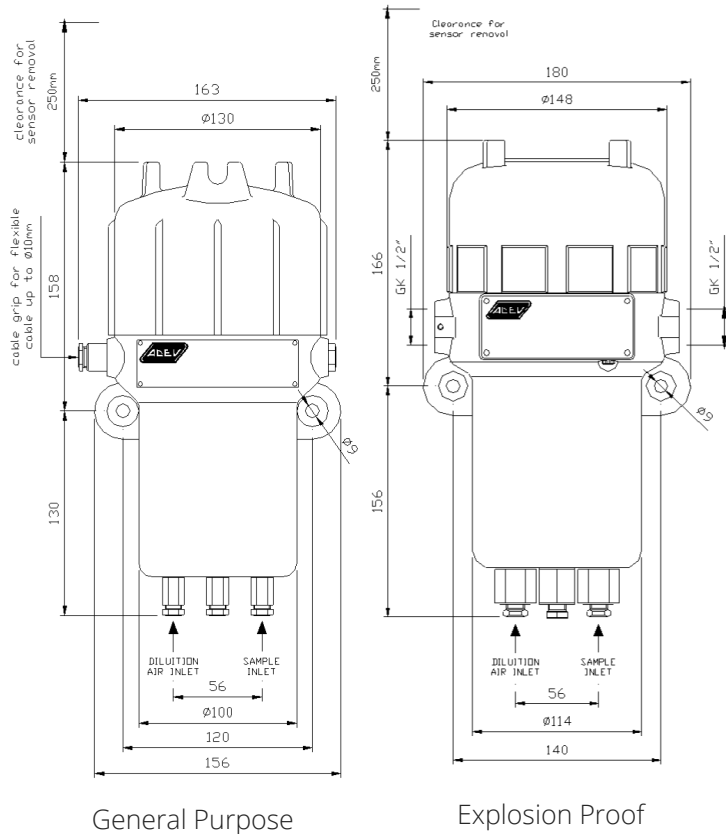
Analyser and dilution system (safe area)



Physical Specification

Wet Parts Materials	316SS, 303SS, Platinum, Alumina, Viton (Buna, others)
Dimensions	150 x 150 x 290 mm (general purpose) 180 x 155 x 325 mm (explosion proof)
Weight	7 kg in general purpose housing 8,5 Kg. in explosion proof housing
Finish	Epoxy grey textured enamel
Protection	IP 65 (watertight and dust tight)

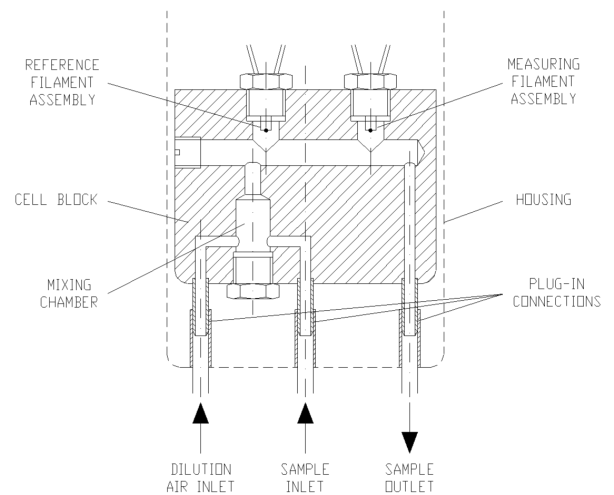
Outline Dimensions



Cell Assembly

The measurement is based on a Wheatstone bridge unbalance resulting from the heat produced from oxidation of the measured gases by catalytic combustion.

A flow of dilution air is provided together with the process gas through the sensing unit.



The combustion takes place on the catalytically coated measuring filament (the active arm of the bridge). The other active arm is identical to the first one but without catalytic properties. Both the arms are identically influenced by flow rate, pressure, temperature and background variations.

High Accuracy

The 8867 is an high accuracy analyzer with the inner sensing unit is temperature controlled in order to be completely insensitive to ambient temperature variations.

ATEX

ATEX certification for Zone 1 / Zone 21. Protection mode:



II 2 G D

Ex db IIC T6 Gb

Ex tb IIIC T85°C Db IP65

Certificates

ATEX Certificate Number CESI 03 ATEX 130

European Compliance

- Complies with Low Voltage Directive 2014/35/EU
- Complies with EMC Directive 2014/30/EU
- Complies with Directive ATEX 2014/34/EU



Very Easy Maintenance

Modular construction makes maintenance extremely easy. It's enough to unscrew the cap of the housing to have access to inner sensing unit that can be removed only by disconnecting 3 wires and unscrewing 2 screws.



Ordering

Total Combustibles Analyser	8867
Range				
0-5% calibrated as CO				
0-2.5% calibrated as CH4		05		
0-1.5% calibrated as H2				
Housing				
General purpose IP65			G	
Explosion Proof (ATEX)			X	
Output Signal				
Non-normalized current output *				1
Special				9

* Sensing must be combined with an ADEV control unit

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