

# Flame detectors

## UV, UV/IR, IR3

### DATA SHEET



210-Series\_CZ\_flame\_detectors\_v5.1

OGGIONI flame detectors utilize a microprocessor for sophisticated electronic signal analysis. The sensors must exceed their alarm threshold to initiate a fire alarm. The UV/IR and IR3 flame detector use as additional alarm criterion: the analysis of the flame flicker-frequency. The UV/IR and IR3 flame detectors have a good false alarms rejection. The UV is insensitive to practically all false alarm sources, except for arc welding. Common applications in which the three models 210-series flame detector can be used can be find in the table below.

Application	UV	UV/IR	IR3
Aircraft Hangars		✓	✓✓
Atriums		✓	✓✓
Battery storage/data communication	✓	✓✓	
Biogas		✓	✓✓
Car, bus, tram and train parkings		✓	✓✓
Clean rooms: semi-conductor, pharmaceutical & hospital operating rooms	✓	✓✓	
CNG filling / refilling for buses (public transportation)		✓✓	✓✓
Indoor chimica, fuel and solvent storage	✓	✓✓	✓
Outdoor chimica, fuels, paint and solvent storage		✓	✓✓
Cold storage	✓✓		
Conveyers Belts			✓✓
Electric power transformers		✓✓	✓
Diesel engine rooms		✓	✓✓
Engine test cells / rooms	✓	✓✓	✓✓
Gas cabinets	✓	✓✓	✓✓
Service stations and plug in (hybid) charging stations		✓✓	✓✓
Fume hodds	✓✓	✓	
Heating rooms for chemicals	✓✓	✓	
Indoor Hydrocarbons storage and processing	✓	✓	✓✓
Indoor Hydrogen storage and processing	✓✓	✓✓	
Outdoor Hydrogen storage and processing		✓✓	
Radio amplifier rooms / Isolators for antennas	✓✓		
Laboratories	✓	✓✓	✓
Monitoring of machineries	✓	✓✓	✓✓
Oil and Gas pipe line and pumping stations		✓	✓✓
Paint spray booths			✓✓
Recycling and waste processing plants		✓	✓✓
Wind Turbines		✓	✓✓

Suitable : ✓

Recommended: ✓✓

#### Features

- Monitors higher hydrocarbons flames (wood, paper, petrol) but also and lower hydrocarbons such as methanol and methane.
- The UV and UV/IR flame detector detect hydrogen flames.
- Good immunity against the influences of:
  - direct and reflected sun light.
  - artificial light, such as fluorescent tubes and glass covered halogen lamps.
  - arcs and electric discharges (static or from e.g. electric motors).
  - the radiation from arc welding provided that the distance to the arc welding is >4 m (UV/IR) or >3 m (IR3) from the detector.
- IR3 flame detector is suitable for smoky fires.
- Automatic Sensor Test (Built-in Self-Test) which monitors the sensors and the electronics of the flame detector for its proper operation.
- -switches to set latching/non-latching alarm relay output.



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## Benefits

- Rugged sensors make the detector suitable for virtually all fire types.
- Sophisticated software enhances the reliability and availability of the detector
- Design of the housing and the swivel mount avoid mounting errors with regards to grounding.
- Automatic Sensor Test (Built-in Self-Test) enhances the reliability and availability of the flame detector.
- A Pressure Compensating Element avoids additional cost of maintenance caused by moisture build up and increases the life time.
- Nonincendive (non-sparking) design enhances the reliability and the availability and with a reasonable add on price.
- Warranty: whichever comes first: 36 months after installation or 42 months after supply.

## Specifications

Power	12-24 Vdc (10-28 Vdc)
Current Normal	25 mA a 24 Vdc
Current in alarm, at 24 Vdc	+/- 75 mA a 24 Vdc
Start up time	<10 sec
Alarm output setting	Selectable LEDs and relays latching/non latching, factory setting: latching
Connection to	-a fire control panel by means of end of line (EOL) and alarm resistor (current increase) -a device that can take relay outputs -a PLC with a 0-20 mA input
End of line and alarm resistor	To be adjusted to the fire control panel, free terminals dedicated for the resistors are available. Remark: the alarm- and EOL resistor must be rated 2 W minimum each and the total power dissipation of both alarm- and EOL resistor should not exceed 2 W.
Relay outputs: -Alarm relay	De-energized during normal operation, no alarm, SPDT, 30 Vdc – 2 A, 60 W max.
-Fault relay	Energized during normal operation, no fault, SPDT, 30 Vdc – 2 A, 60 W max.
Current output	Standard available 0-20 mA (stepped, sinking, non-isolated)
Alarm response time	<10 sec.
Cone of vision	90° minimum
Housing	Glass Reinforced Polyester (GRP), Lid screw tightening torque 2 nm minimum
Ingress protection	IP65
Temperature, operating	Da -40°C a +70°C (da -40°F a +158°F)
Temperature, ambient	ATEX and FM 3611: -25°C to +70°C (-13°F to +158°F)
Automatic and manual Self-Test	Automatic Sensor Test (Built in Self-Test) and manual self-test
Dimensions	125 x 80 x 57 mm (4.9 x 3.15 x 2.25 inch)
Weight	465 gr (1.05 lbs.)
Cable gland	M20 (cable conduit diameter 5.5-13 mm, two steps 5.5-8 mm and 8-13 mm)
Pressure compensating element	PCE (Pressure Compensating Element) avoids moisture build up in the detector housing, caused by pressures differences as a consequence of temperature fluctuations.
Terminals	Suitable for massive cores 0.5 to 1.5 mm <sup>2</sup> (20 to 16 AWG), tightening torque 0.4 nm minimum.
EN54-10 Certificate; Performance	UV-185/5CZ and UV/IR-210/1CZ: Class 2. IR3-109/1CZ: Class 1
ATEX/IECEx Cert; Hazardous Areas	II 3G Ex nA IIC T4 Gc, II 3D Ex tc IIIC T 71 0C Dc, IP65
FM3260 approval; Performance	Granted
FM3611 approval; Hazardous areas	Nonincendive (non-Sparking)
Optional Swivel Mount SM21 material	PA66, 316SS nuts and bolts
Optional Swivel Mount SM21 weight	280 gr (0.62 lbs.)

## Come ordinare

Codice Catalogo	Codice articolo	Descrizione
UV-185/5CZ	SW1110	Flame detector UV, certificate EN54-10, FM3260 and FM3611 suitable for ATEX zone 2/22.
UV/IR-210/1CZ	SW1105	Flame detector UV/IR, certificate EN54-10, FM3260 and FM3611 suitable for ATEX zone 2/22,
IR3-109/1CZ	SW1138	Flame detector IR3, certificate EN54-10, FM3260 and FM3611 suitable for ATEX zone 2/22
SM21	SW1098	Swivel Mount SM21
TC-169/1	SW1153	Test lamp TC-169/1 for series 210 flame detectors, including univ battery charger & carrying case, non EX
TC-940/1Z	SW1120	Test lamp TC-940/1Z for series 210 flame detectors, including carrying case, intrinsically safe, (pending)

*Oggioni reserves the right to change published specifications and designs without prior notice.*

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