



## FLAME DETECTORS



**BEST-IN-CLASS INDUSTRIAL UV, UV/IR AND IR3 FLAME DETECTORS**

## ABOUT SENSE-WARE

SENSE-WARE has been an independent, multinational manufacturer of high quality safety products since 2001. We work alongside partners who share in our vision of developing products that help make this world a safer place and can aid us in our mission to provide customers with products that meet their demanding safety needs with zero problems.

The key to our success has undoubtedly been our ongoing quest to improve our technical know-how and ability. Our employees are professionals with many years of experience in the flame detection industry and are focused on providing you with the best, most effective solutions in line with Six Sigma quality control principles.

## WHY SENSE-WARE?

- Simply put, our best-in-class Zone 2/Division 2 flame detectors. And considering over 85% of all industrial flame detectors are mounted in Zone 2/Division 2 locations...
- Years of experience in the flame detection industry.
- Cutting edge technical knowledge and expertise combined with ongoing product development.
- An ISO-9001, IECEx QAR and ATEX QAN-quality certified program.
- CPR / EN54-10 and ATEX certified, FM class 3260 and 3611-approved flame detectors.
- A detection range of one square foot (30 x 30 cm) for n-heptane flames at a distance up to 75 feet (23 m) for UV and UV/IR units and 115 feet (35 m) for the IR3 flame detector. Easily good enough for over 95% of applications where flame detectors are required.

## FEATURES

- Units are equipped with a microprocessor for sophisticated electronic signal analysis, with sensors must exceed their alarm threshold to trigger the fire alarm. The UV/IR and IR3 unit also incorporate flame flicker frequency analysis when triggering alarms, which is backed up with solid false alarm rejection rates.
- The UV sensor is designed to rule out virtually anything (arc welding the notable exception) that could cause a false alarm.
- Units are capable of detecting both higher hydrocarbon flames (wood, paper, diesel burning) as well as lower hydrocarbon flames such as those produced by burning methanol and methane.
- UV and UV/IR will detect hydrogen flames.
- Units are virtually immune to:
  - Direct and reflected sunlight.
  - Artificial light sources such as fluorescent tubes and glass protected halogen lamps.
  - Arcs and electric discharges (such as static or as generated by electric motors).
  - Arc welding radiation provided that the distance to the arc welding is over 13 feet (4 m) for UV/IR units or over 10 feet (3 m) for the IR3 unit from the detector.
- The IR3 flame detector is perfect for situations where there is a risk of smoky fires.
- The Automatic Sensor Test (built-in self-testing) function monitors flame sensors and electronics to guarantee proper operation.
- DIL-switches are incorporated for setting latching/non-latching alarm functions.

## BENEFITS

- Rugged sensors make the detector suitable for virtually all types of fires.
- Sophisticated software such as Automatic Sensor Testing (built-in self-testing) enhances detector reliability and Serviceability.
- Housing and swivel mount designs help prevent grounding-related assembly and mounting mistakes.
- The Pressure Compensating Element prevents costly maintenance as a result of moisture build-up, increasing the useful life of units.
- Non-sparking design features enhance unit reliability and serviceability at a reasonable additional cost.
- Warranty is for 36 months after installation or 42 months after supply, whichever comes first.

## APPLICATIONS



Application *	UV	UV/IR	IR3
Aircraft hangars		✓	✓✓
Atriums		✓	✓✓
Battery storage/data communication rooms	✓	✓✓	
Biogas		✓	✓✓
Car, bus, streetcar, and train parking areas		✓	✓✓
Sterile rooms such as semi-conductor, medicinal drug manufacturing, and hospital operating rooms	✓	✓✓	
CNG refueling stations for buses (for public transport)		✓✓	✓✓
Cold storage	✓✓		
Conveyer belts			✓✓
Diesel engine rooms		✓	✓✓
Electric power transformers		✓✓	✓
Engine test cell rooms	✓	✓✓	✓✓
Fume hoods	✓✓	✓	
Gas cabinets	✓	✓✓	✓
Gasoline storage/gas engine rooms	✓	✓✓	✓✓
Service stations and plug-in (hybrid) charging stations		✓✓	✓✓
Heating rooms for chemicals	✓✓	✓	
Hydraulics (such as extruders)		✓	✓✓
Indoor chemical, fuel, and solvent storage	✓	✓✓	✓
Indoor hydrocarbon storage and processing	✓	✓	✓✓
Indoor hydrogen storage and processing	✓✓	✓✓	
Radio amplifier rooms/isolators for antennas	✓✓		
Laboratories	✓	✓✓	✓
Loading and unloading bays: for semi, train, and marine		✓✓	✓✓
Machinery monitoring	✓	✓✓	✓✓
Outdoor chemical, fuels, paint, and solvent storage		✓	✓✓
Outdoor hydrogen storage and processing		✓✓	
Oil and gas pipe line and pumping stations		✓	✓✓
Paint spray booths			✓✓
Recycling and waste processing plants		✓	✓✓
Wind turbines		✓	✓✓

Suitable: ✓ Recommended: ✓✓

\*Contact your sales representative to discuss the exact application you have in mind.

Visit our website ([www.sense-ware.com](http://www.sense-ware.com)) if your intended application was not included in this list.

## SPECIFICATIONS

Power	12-24 Vdc (10-28 Vdc)
Current for normal operations	25 mA at 24 Vdc
Current for alarms at 24 Vdc	+/- 75 mA at 24 Vdc
Start-up time	<10 sec
Alarm output setting	Selectable LEDs and latching/non latching relays. Factory default: latching.
Connections	-Fire alarm control panels using the end of line (EOL) and alarm resistor (current increase). -Devices that can take relay outputs. -PLCs with a 0-20 mA input.
End of line and alarm resistors	Adjustable from the fire control panel, free terminals dedicated to resistors are available. <b>Note:</b> the EOL and alarm resistors must have a minimum 2 W rating each, with total power dissipation for both EOL and alarm resistors not exceeding 2 W.
Relay outputs: -alarm relay -fault relay	De-energized during normal operation, no alarm, SPDT, 30 Vdc – 2 A, 60 W max. 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, see appendices.
Cone of vision	Minimum 90°
Housing	Glass reinforced polyester (GRP), min 2 nm lid screw tightening torque.
Ingress protection	IP65
Operating temperature	-40 °F to +158 °F (-40 °C to +70 °C)
Room temperature	ATEX, IECEx and FM class 3611: -13 °F to +158 °F (-25 °C to +70 °C)
Automatic and manual self-tests	Automatic Sensor Test (built-in self-test) and manual self-test
Dimensions	4.9 x 3.15 x 2.25 inches (125 x 80 x 57 mm)
Weight	1.05 lbs. (465 g)
Cable connector (gland)	M20 (cable conduit diameter 5.5-13 mm, two steps: 5.5-8 mm and 8-13 mm)
Pressure Compensating Element	Prevents moisture build-up in the detector housing as a result of temperature fluctuations caused by pressure differences.
Terminals	Suitable for solid cores 0.5 to 1.5 mm <sup>2</sup> (20 to 16 AWG), min 0.4 nm tightening torque
EN54-10 certificate, performance	UV-185/5CZ and UV/IR-210/1CZ: Class 2. IR3-109/1CZ: Class 1
ATEX and IECEx cert. for hazardous areas	II 3G Ex nA IIC T4 Gc, II 3D Ex tc IIIC T 71°C Dc, IP65
FM3260 approval for performance	Awarded
FM3611 approval for hazardous areas	Awarded
Optional SM21 Swivel Mount materials	PA66, UV resistant; 316 stainless steel fixings
Optional SM21 Swivel Mount weight	0.62 lbs. (280 g)

## ACCESSORIES



SM21 Detector Swivel Mount

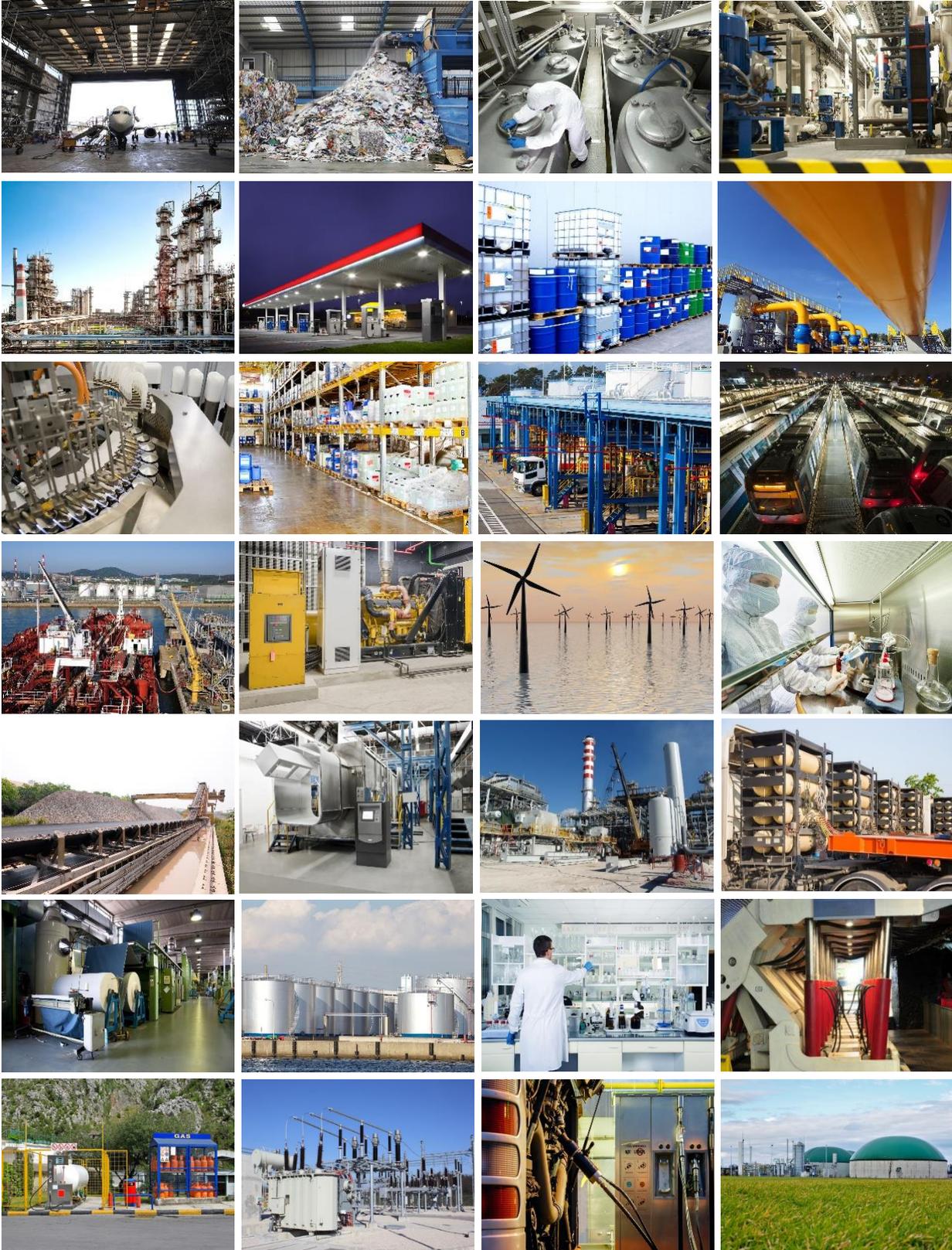


T-169/1 Safe-Area Test Lamp



T-940/1Z Intrinsically Safe Test Lamp

BEST-IN-CLASS ZONE 2/DIVISION 2 FLAME DETECTORS





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