



ESP SAFETY INC

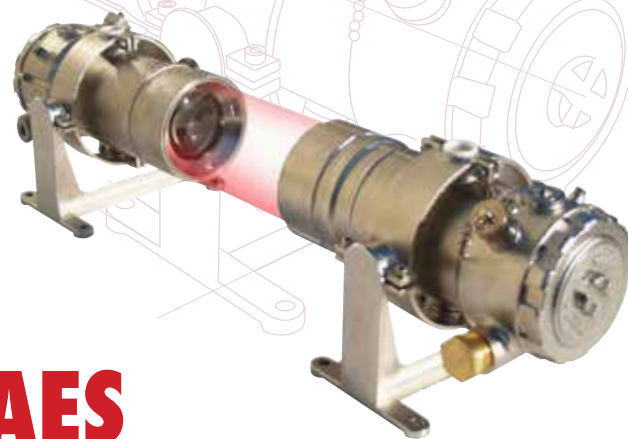
Technology of the Future
Protection for Today



The Model TGAES hydrocarbon gas detector is an open path gas detection system that provides continuous monitoring of combustible hydrocarbon gas concentrations in the range of 0 to 5 LEL/m, over a distance of 15 to 650 feet (5 to 200 meters). Standard system outputs include 4-20mA, HART and RS-485 Modbus RTU serial communication. TGAES is capable of detecting most hydrocarbon gases and vapors including methane, propane, butane, propylene and others. No direct electrical connection between the two modules is required. In some applications, one TGAES detection system can provide protection equivalent to as many as eight point detectors.

The TGAES transmitter module illuminates a direct linear path ending at the TGAES receiver module. As flammable hydrocarbon gases intersect the light beam between the two modules, certain IR wavelengths are absorbed by the gas, while other IR wavelengths are not. A pair of optical detectors and associated electronics located in the receiver module measures the absorption for both the active wavelength and reference wavelength. The ratio of absorption between the active and reference wavelengths determines the amount of gas intersecting the beam along its entire length. A microprocessor computes the gas concentration and converts the value into a 4-20mA signal and MODBUS register value.

SIL2 RATED



TGAES OPEN PATH GAS DETECTOR

Applications

- Power stations and storage facilities
- Tank ships and other vessels
- Refineries, bulk terminals, tank farms
- LNG/LPG processing and storage
- Chemical, paint and fertilizer plants
- Power plants and gas turbines
- Transportation facilities

Features and benefits

- Detects methane and most common hydrocarbon gases including ethane, propane, butane and propylene with equal sensitivity
- Detection range of up to 200m
- T90 less than 5 seconds
- Corrosion-resistant 316 stainless steel enclosures
- Widest operating temperature range: -40°F to +140°F, (-40°C to +60°C)
- Ultra-reliable xenon flash-lamp
- Tri-color status LED or 96 character LCD for full graphical indication w/ SSS-903
- 4-20mA analog, MODBUS digital and relay outputs
- Convenient HART communicator port
- Primary heater protects optics from ice and secondary heater protects the internal electronics
- Able to operate even when obscured by fog, rain, dust, snow, or blowing sand.

CONTACT

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Certification:



Class I, Division 1
Groups B, C & D
T4 Ta = -40°F to +140°F
(-40°C to +60°C)
IP66



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Ex d IIC T4
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Electrical Characteristics

Voltage 18 - 32VDC (not including heater)
Transmitter: 7.0W @ 24VDC
Receiver: 6.0W @ 24VDC

Detectable Gases Methane, propane, ethane, isobutylene, pentane, cyclopentane, hexane, propylene, methanol

Detection Range 1.0 LEL m
2.5 LEL m
5.0 LEL m

Visual Indicators Tri-color LED:
Red: Alarm
Yellow: Fault
Green: Normal
Detection Range
from 15ft to 650ft (5 to 200m)

Output Signals 4-20mA
HART
RS-485 Modbus RTU
Dry contact relays

Response T90 < 5 seconds

Accuracy +/- 0.25 LEL- meters or 10% of applied gas range

Temperature -40°F to +140°F Operating (-40°C to +60°C)
0 - 100% relative humidity

Housing 316 Stainless Steel with dual 3/4" NPT cable entry ports

Dimensions

Length: 10.43" (265 mm)
Diameter: 4.5" (108 mm)
Weight: 16 Lbs. (7.5 kg)
each module with mounting bracket

Warranty 3 years

Included Components TGAES transmitter module
TGAES receiver module

Standard Accessories Protective hoods for receiver and transmitter;
ESP Commander RS-485 configuration and monitoring software for Windows-compatible PC

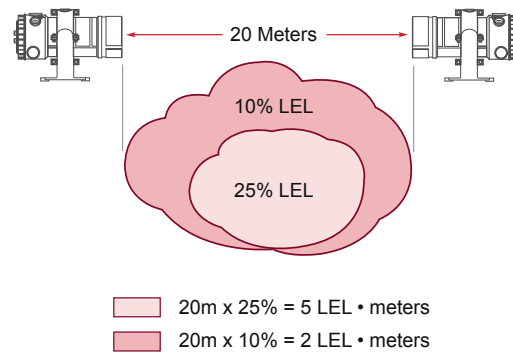
Optional Components Model SSS-903 Receiver with illuminated LCD status display;
HART interface cable

The TGAES Open Path Gas Detector is ideal for monitoring hydrocarbon leaks at fuel storage facilities.

The TGAES is used for wide-area monitoring across potential leak sources, such as pumps and valves.

When used in conjunction with point gas detectors such as the SGOES, the TGA Open Path Detector is a key element in a comprehensive early detection strategy.

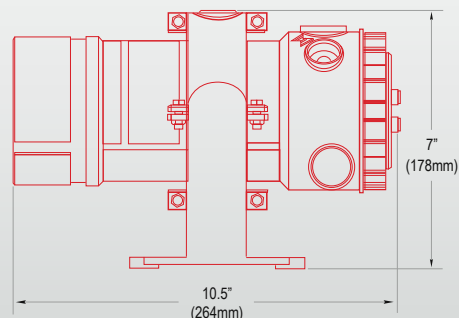
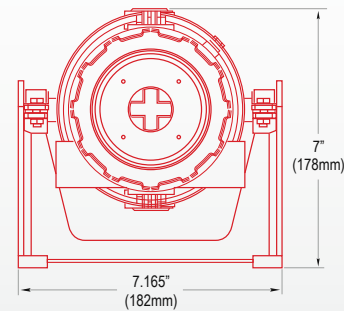
Field of View



The measurement of combustible gas and air along the optical path length is expressed in LEL-meters, a unit of measurement for the amount of gas present in the length of the light beam.

Dimensions

in Inches (millimeters)



OPEN PATH GAS DETECTOR

TGAES

