The Quasar 900 is part of the innovative SafEye Quasar open path gas detectors series, provides continuous IR technology monitoring for combustible hydrocarbon gases at very low concentrations, up to 95% obscuration, featuring advanced long range detection at up to 660ft (200m), high-speed response in under 3 seconds.

The Quasar 900 ensures reliable and accurate protection to keep a SafEye on your safety.
Features and benefits

- Detects combustible hydrocarbon gases, including alkanes (methane to hexane) and ethylene at up to 660 ft. (200 m).
- Accurate and reliable high-speed response in under three seconds
- Uses infrared technology
- High false alarm immunity
- Built-in event recorder - real time record of the last 100 events
- Strengthened reliability and durability with a massive three-year warranty
- Easy installation and maintenance
- Heated window for operation in harsh weather conditions (snow, ice, or condensation)
- Detection of a cloud of gas at very low concentrations, up to 95 percent obscuration
- User programmable via HART® or RS-485 Modbus® compatible with modern user interface for ease of use
- Certified performance/Hazardous Area approved (FM, ATEX, IECEx, CSA, and more) for location in Zone 1 areas and 3rd party performance approved (EN54-10, FM, DNV)
- Approved to Safety Integrity Level 2 (SIL2 - TÜV)
- High reliability-MTBF-minimum 100,000 hours

Applications

- Offshore platforms and FPSOs
- Petrochemical plants
- Chemical
- Gas filling and distribution terminals
- Gas transport and pipelines
- Large storage areas and buildings
- Perimeter monitoring

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Specifications

General specifications
Table 1: Detection Range

<table>
<thead>
<tr>
<th>Detector model: QR</th>
<th>Source model: QT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detector model: QR</td>
<td>Source model: QT</td>
</tr>
<tr>
<td>901</td>
<td>902</td>
</tr>
<tr>
<td>Feet</td>
<td>23-66</td>
</tr>
<tr>
<td>Meters</td>
<td>7-20</td>
</tr>
</tbody>
</table>

Detected gas: C1-C8 selective gases
Response time: < 3 seconds (T90 < 10 seconds)
Immunity to false alarm: Not influenced by solar radiation, hydrocarbon flames, and other external infrared radiation sources
Sensitivity range:
  - 0-5 LEL.m methane and propane
  - 0-8 LEL.m ethylene
Displacement/misalignment tolerance: ±0.5 degrees
Drift: ± 7.5 percent of the reading or ±4 percent of the full scale (whichever is greater)
Minimum detectable level: 0.15 LEL.m
Temperature range: -67 to +149 °F (-55 to +65 °C)
Humidity: Up to 95 percent non-condensing (withstands up to 100 percent relative humidity for short periods)
Heated optics: To eliminate condensation and icing on the window
Warranty: Safety system - three years

Electrical specifications
Power supply: 24 Vdc nominal (18-32 Vdc)
Power consumption (peak includes heated optics):
  - Detector: 250 mA (300 mA peak)
  - Source: 250 mA (300 mA peak)
Warm-up time: 30 seconds for transmitter and receiver
Electrical connection (specify):
  - Two \( \frac{3}{4} \)-in. - 14 national pipe thread (NPT) conduits
  - or 2 x M25 x 1.5 mm ISO
Electrical input protection: Per MIL-STD-1275B
Electromagnetic compatibility: Electromagnetic interference/radio frequency interference (EMI/RFI) protected per EN50270

Outputs-interfaces
0-20 mA current output:
  - Sink (source option) configuration: maximum load of 500 ohm at 18-32 Vdc
    - Gas reading: 4-20 mA
    - Normal, zero reading: 4 mA
    - Maintenance call: 3 mA
    - Obscuration/beam block: 2 mA
Zero calibration mode: 1 mA
Fault: 0 mA

**RS-485 interface-Modbus® compatible**
The RS-485 input/output provides complete data information to a PC and receives control commands from the PC or handheld unit.

**HART®**
HART communication on 0-20 mA analog (FSK) - used for maintenance and asset management

**Visual status indicator**
Three color light-emitting diode (LED)
- Green: power on
- Yellow: fault
- Red: alarm

**Mechanical specifications**

**Enclosure**
The source and detector housings are stainless steel 316L with electro polish finish. The circuit boards are conformal coated and protected from mechanical vibrations. The tilt mount is also stainless steel 316L.

**Dimensions**
Detector/source: 10.5 x 5.1 x 5.1 in. (267 x 130 x 130 mm)
Tilt mount: 4.7 x 4.7 x 5.5 in. (120 x 120 x 158 mm)

**Weight**
Detector/source: 11 lb. (5 kg)
Tilt mount: 4.2 lb. (1.9 kg)

**Water and dust tight**
IP66 and IP68
NEMA 250 6P

**Environmental**
Meets MIL-STD-810C for humidity, salt and fog, vibration, mechanical shock, and high and low temperature

**Approvals**

<table>
<thead>
<tr>
<th>Table 2: Hazardous Area</th>
</tr>
</thead>
</table>
| ATEX and IECEx | Ex II 2 (2)G D  
Ex db eib [ib Gb] IIB + H2 T4 Gb  
Ex tb IIIC T135 °C Db  
Ta = -55 °C to +65 °C |
| FM/FMC | Class I Div 1 Groups B, C, and D  
Class II, III Div 1 Groups E, F, and G |
| TR CU (EAC) | 1Ex deib [ib Gb] IIB + H2 T4 Gb X  
Ex tb IIIC T135 °C Db X |
| Inmetro | Ex db eb ib [ib Gb] IIB + H2 T4 Gb  
Ex tb IIIC T135 °C Db |

**Performance**
Approved per FM6325 and tested by FM per EN60079-29-4

**Reliability**
SIL2 per IEC61508 (TUV)
## Accessories

<table>
<thead>
<tr>
<th>Part number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>888270</td>
<td>Tilt mount</td>
</tr>
<tr>
<td>799255</td>
<td>Wall mount</td>
</tr>
<tr>
<td>799225</td>
<td>U-bolt/pole mount: 4 to 5 in. (101.6 to 127 mm)</td>
</tr>
<tr>
<td>888140</td>
<td>U-bolt/pole mount: 2 to 3 in. (50.8 to 76.2 mm)</td>
</tr>
<tr>
<td>888247-1</td>
<td>Methane commissioning kit, spare kit</td>
</tr>
<tr>
<td>888247-2</td>
<td>Propane commissioning kit, spare kit</td>
</tr>
<tr>
<td>888247-3</td>
<td>Ethylene commissioning kit, spare kit</td>
</tr>
<tr>
<td>888810</td>
<td>HART® handheld diagnostic unit</td>
</tr>
<tr>
<td>888815</td>
<td>HART harness kit</td>
</tr>
<tr>
<td>794079</td>
<td>USB/RS485 harness converter kit</td>
</tr>
<tr>
<td>888263</td>
<td>Weather cover</td>
</tr>
<tr>
<td>888335-2</td>
<td>Duct mount</td>
</tr>
</tbody>
</table>