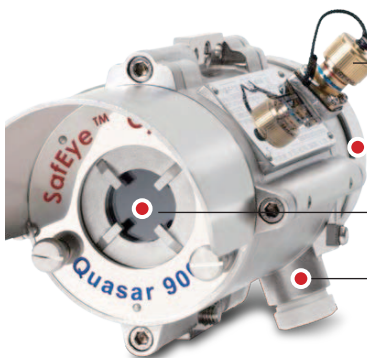


Infrared Open Path Gas Detector

SafEye Quasar 900

Feature

- ▷ **IMMUNITY TO FALSE ALARMS** – Quasar 900 is totally immune to interference from sunlight or any other sources of radiation such as flare stacks, arc welding or lightning.
- ▷ **PERFORMANCE IN ALL WEATHERS** – The high power xenon lamp will compensate for changing weather conditions, including rain, fog, mist, snow and makes it immune to influences from solar radiation, arc-welding, stack flares or vibration from machinery.
- ▷ **RELIABILITY** – Quasar 900 is approved to SIL2 (IEC61508), equipped with heated optics and tolerates a very wide temperature range to provide reliable detection.
- ▷ **FAILSAFE** – No unrevealed failures. In normal operation, the output signal is 4 to 20 mA, depending on the measured gas concentration. Sub-4mA signals includes indications for beam blockage (2mA), a fault (1mA) In addition, a continuous self-test of the Quasar 900 will issue a pre-warning signal (3mA) where the detector is still operational but requires some attention – for example when the transmitter or receiver is misaligned or if there is a deposit build-up on the optics. Maintenance without downtime!
- ▷ **BUILT-IN DATA LOGGER** – An internal data-logger keeps a detailed record of the previous 100 events.
- ▷ **CALIBRATION** – The detectors are calibrated to three gases. Each detector is supplied with methane, propane and ethylene calibration as standard which are field selectable by the user. No need for any manual adjustment or standard test gas, due to the built-in calibration of the Quasar 900.
- ▷ **SIMPLE TO ALIGN AND COMMISSION** – One person can easily align and commission the system without the need for special training or skills. After an initial coarse adjustment by eye, a telescope is fitted allowing fine adjustment to optimized the adjustment for maximum signal strength.



- I.S. approved connection port for hand held terminal in field or safe area
- 316L Stainless Steel housing
- Heated optics
- Electrical entries (x2) 3/4" NPT or M25

Accessories



Alignment Telescope Magnetic Mode Selector
Function Check Filters (2) Set of Socket keys for access to units



Sunshade(SUS)
Tilt Mount
Pole Mount
(U-Bolt, 5 inch)

Communication, Diagnostics, Set-up



HAND-HELD
DIAGNOSTIC KIT
Certified I.S. (EExia) for use in the hazardous area and connects to I.S. port on 900.



HART HAND-HELD
DIAGNOSTIC UNIT
Certified I.S. (EExia) for use in the hazardous area and connects to I.S. port on 900.



MINI LAPTOP KIT
Preloaded with Spectrex software. For use in Safe area only. Connects, for convenience, to port on 900 or RS 485 terminals.

| GENERAL SPECIFICATIONS | | | | | | | | | | | | | | | | |
|--------------------------------------|---|------------------------------------|--------------|---------|-----------------------------------|------------------------|------|--------------------|-----------------------|---------|--------------------------|-------|------|----------------------|--------|--------|
| Detection Range | <table border="1"> <thead> <tr> <th>Model</th> <th>901</th> <th>902</th> <th>903</th> <th>904</th> </tr> </thead> <tbody> <tr> <td>Fett</td> <td>23-66</td> <td>50-132</td> <td>115-330</td> <td>265-660</td> </tr> <tr> <td>Meter</td> <td>7-20</td> <td>15-40</td> <td>35-100</td> <td>80-200</td> </tr> </tbody> </table> | Model | 901 | 902 | 903 | 904 | Fett | 23-66 | 50-132 | 115-330 | 265-660 | Meter | 7-20 | 15-40 | 35-100 | 80-200 |
| Model | 901 | 902 | 903 | 904 | | | | | | | | | | | | |
| Fett | 23-66 | 50-132 | 115-330 | 265-660 | | | | | | | | | | | | |
| Meter | 7-20 | 15-40 | 35-100 | 80-200 | | | | | | | | | | | | |
| Detected Gas | C1-C8 | | | | | | | | | | | | | | | |
| Response Time | 3 sec. | | | | | | | | | | | | | | | |
| Immunity to False Alarm | Not influenced by solar radiation, hydrocarbon flames and other external IR radiation sources. | | | | | | | | | | | | | | | |
| Sensitivity Range | 0-5 LEL.m Methane and Propane 0-8 LEL.m Ethylene | | | | | | | | | | | | | | | |
| Spectral Response | 2.0 - 3.0 μ m | | | | | | | | | | | | | | | |
| Displacement/Misalignment Tolerance | $\pm 0.5^\circ$ | | | | | | | | | | | | | | | |
| Drift | $\pm 7.5\%$ of the reading or $\pm 4\%$ of the full scale (whichever is greater) | | | | | | | | | | | | | | | |
| Minimum Detectable Level | 0.15 LEL.m | | | | | | | | | | | | | | | |
| Temperature Range | -67°F (-55°C) to 149°F (65°C) | | | | | | | | | | | | | | | |
| Humidity | Up to 95% non-condensing (withstands up to 100% RH for short periods) | | | | | | | | | | | | | | | |
| Heated Optics | To eliminate condensation and icing on the window | | | | | | | | | | | | | | | |
| Warranty | Safety system - 3 years Flash source bulb - 10 years | | | | | | | | | | | | | | | |
| ELECTRICAL SPECIFICATIONS | | | | | | | | | | | | | | | | |
| Power Supply | 24VDC nominal (18-32 VDC) | | | | | | | | | | | | | | | |
| Power Consumption | Detector: 250mA (300mA Peak) | | | | | | | | | | | | | | | |
| (peak includes heated optics) | Source: 250mA (300mA Peak) | | | | | | | | | | | | | | | |
| Warm Up Time | 30 sec for transmitter and receiver | | | | | | | | | | | | | | | |
| Electrical Connection (specify) | 2 x 3/4" - 14NPT conduits or 2 x M25 x 1.5mm ISO | | | | | | | | | | | | | | | |
| Electrical Input Protection | per MIL-STD-1275B | | | | | | | | | | | | | | | |
| Electromagnetic Compatibility | EMI/RFI protected per EN50270 | | | | | | | | | | | | | | | |
| OUTPUTS - INTERFACES | | | | | | | | | | | | | | | | |
| 0-20mA Current Output | <table border="1"> <thead> <tr> <th>Sink (source option) configuration</th> <th>Misalignment</th> <th>2.5mA</th> </tr> </thead> <tbody> <tr> <td>Maximum load 500 ohm at 18-32 VDC</td> <td>Obscuration/beam block</td> <td>2mA</td> </tr> <tr> <td>Gas reading 4-20mA</td> <td>Zero calibration mode</td> <td>1mA</td> </tr> <tr> <td>Normal, zero reading 4mA</td> <td>Fault</td> <td>0mA</td> </tr> <tr> <td>Maintenance call 3mA</td> <td></td> <td></td> </tr> </tbody> </table> | Sink (source option) configuration | Misalignment | 2.5mA | Maximum load 500 ohm at 18-32 VDC | Obscuration/beam block | 2mA | Gas reading 4-20mA | Zero calibration mode | 1mA | Normal, zero reading 4mA | Fault | 0mA | Maintenance call 3mA | | |
| Sink (source option) configuration | Misalignment | 2.5mA | | | | | | | | | | | | | | |
| Maximum load 500 ohm at 18-32 VDC | Obscuration/beam block | 2mA | | | | | | | | | | | | | | |
| Gas reading 4-20mA | Zero calibration mode | 1mA | | | | | | | | | | | | | | |
| Normal, zero reading 4mA | Fault | 0mA | | | | | | | | | | | | | | |
| Maintenance call 3mA | | | | | | | | | | | | | | | | |
| 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 communications on 0-20mA analog current (FSK) - used for maintenance and asset management | | | | | | | | | | | | | | | |
| Visual Status Indicator | 3 color LED: Green - Power on, Yellow - Fault, Red - Alarm | | | | | | | | | | | | | | | |
| MECHANICAL SPECIFICATIONS | | | | | | | | | | | | | | | | |
| Hazardous Area Approval | <p>ATEX / IECEx approved per Ex d e ib [ib Gb] IIB + H2 T4 Gb Ex tb IIIC T135°C Db</p> <p>The detector or source units have a combination of approvals. Each is a single enclosure (Exd) with integral, segregated rear terminal section (Exe) and intrinsically safe (Exia) data-port for external in-situ connection to Hand-Held Diagnostic unit.</p> <p>FM / FMC Approved per Class I Div 1 Groups B, C and D / Class II,III Div 1 Groups E, F and G</p> | | | | | | | | | | | | | | | |
| Performance | Approved per FM6325 and tested by FM per EN60079-29-4 | | | | | | | | | | | | | | | |
| Reliability | SIL2 per IEC61508 (TUV) | | | | | | | | | | | | | | | |
| 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 inch (267 x 130 x 130mm) Tilt Mount 4.7 x 4.7 x 5.5 inch (120 x 120 x 158mm) | | | | | | | | | | | | | | | |
| Weight | Detector/Source 11lb (5kg) Tilt Mount 4.2lb (1.9kg) | | | | | | | | | | | | | | | |
| Water and Dust Tight | IP66 and IP68 NEMA 250 6P | | | | | | | | | | | | | | | |
| Environmental | Meets MIL-STD-810C for Humidity, Salt and Fog, Vibration, Mechanical Shock, High and Low Temperature | | | | | | | | | | | | | | | |