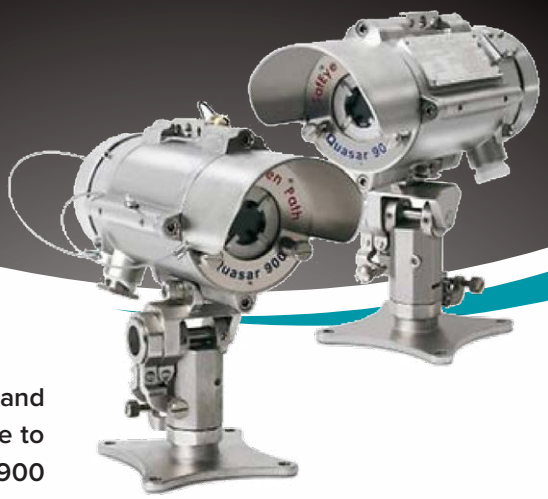
SAFEYE QUASAR 900

Open Path Gas Detector



The SafEye Quasar 900 Series is the very latest open path IR technology and detects a wide range of hydrocarbon gases – including alkanes (methane to hexane) and ethylene. Path lengths can be up to 660ft (200m). Quasar 900 models can be tailored to protect your high-risk installation. Reliability and performance is key and is assured with SIL2 approval and successful 3rd party FM performance / function testing to FM and EN standards.

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 Quasars 900's high power xenon lamp will compensate for changing weather conditions, including rain, fog, mist, snow and makes it immune to influences from solar radiation, arcwelding, stack flares or vibration from machinery. The optical lenses are thermostacically heated to prevent the formation of ice and build up of snow on the optics even under severe weather conditions. It also eliminates build up of condensation on the lenses. Quasar is rated for operation over a very wide temperature range from -67°F to + 149°F (-55°C to + 65°C) - a truly worldwide product.

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 selftest 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.

GAS LIBRARY

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.

KEY FEATURES

The xenon flash lamp design is invented that revolutionized the open-path gas detection market, which, until then, was plagued by false alarms due to the drawbacks of the previous designs. Now, Open path detectors complement the use of individual point detectors, take executive action and offer many significant benefits including:

- **Wider area coverage**
- **Most likely method to pick up any leak**
- **Very high speed of response**
- **No unrevealed failure modes**
- **Beam block warning**
- **Detector location is less critical**
- **Size of gas hazard indicated**

SAFEYE QUASAR 900

MINIMUM DETECTION LEVEL

Due to Quasar 900's inherent stability and sensitivity, the minimum detectable level is 0.15 LEL.m

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.

DETECTION RANGE

Model	901	902	903	904
Meter	7-20	15-40	35-200	80-200
Detected GasC1-C8				

SPECIFICATIONS

Specifications subject to change without notice

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 - 3.0µm
Displacement/ Misalignment Tolerance	±0.5°
Drift	±7.5% of the reading or ±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
Power Supply	24VDC nominal (18-32 VDC)
Power Consumption (peak includes heated optics)	Detector: 250mA (300mA Peak) / 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
0-20mA Current Output	Sink (source option) configuration - maximum load of 500 ohm at 18-32 VDC Gas reading 4-20mA Obscuration/ beam block 2mA Normal, zero reading 4mA Zero calibration mode 1mA Maintenance call 3mA Fault 0mA Misalignment 2.5mA
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

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Hazardous Area Approval	ATEX/IECEx Approved per Ex d e ib [ib Gb] IIB + H2 T4 Gb Ex tb IIIC T135°C Db 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) da-ta-port for external in-situ connection to Hand-Held Diagnostic unit. FM/FMC Approved per Class I Div 1 Groups B, C and D Class II,III Div 1 Groups E, F and G Inmetro Approved perEx d e ib [ib Gb] IIB+H2 T4 Gb
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 mechani-cal 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.

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