

SafEye Quasar 950/960

H₂S and Ammonia Open Path Gas Detectors



The latest SafEye Quasar open path UV detection technology includes the 950 and the 960 series. The Quasar 950 models detect toxic Hydrogen Sulfide gas and the Quasar 960 models detect toxic Ammonia gas, both with path lengths of up to 200ft (60m). The Quasar 950 and 960 models can be tailored to protect your personnel and high-risk installation. Reliability is key and is assured with SIL2.

All Quasar 950/960 detectors incorporate heated windows to minimize any effects from condensation, icing, snow and are totally immune to interference from sunlight or any other sources of radiation such as flare stacks, arc welding or lightning. A range of outputs are available including 0-20mA, HART, Modbus RS485 to suit all control systems.

FEATURES & BENEFITS

- Long Range Toxic Gas Detection up to 200ft (60m)*
- Detection of toxic gases
 - 950 Series detects H₂S
 - 960 Series detects NH₃
- High Sensitivity and fast response
- Heated optics to improve performance in ice, condensation and snow conditions
- Continuous operation in extreme and harsh environmental conditions
- Solar blind and immune to industrial environments
- Withstands extreme vibration conditions
- Multiple output options for maximum flexibility and compatibility
 - 0-20mA
 - HART Protocol for maintenance and asset management
 - RS-485, Modbus Compatible
- Simple, one person installation, alignment, and calibration
- Programmable configuration via the handheld unit
- Fast connection to I.S. approved handheld diagnostic/calibration unit
- 3mA “maintenance call”
- 3 Year Warranty
- ATEX & IECEX
 - Ex II 2 (2) G D
 - Ex db eb ib [ib Gb] IIB+H2 T4 Gb
 - Ex tb IIIC T135°C Db
- TR CU/EAC
- Inmetro (UL)
- Safety Integrity Level SIL2 (TUV)

APPLICATIONS

Offshore platforms & FPSOs
Petrochemical plants
Chemical processing plants
Gas filling and distribution terminals
Gas transport and pipelines
Perimeter monitoring

*An 80% reduction in the maximum distance is recommended in adverse conditions.

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H₂S and Ammonia Open Path Gas Detector

GENERAL SPECIFICATIONS

Detected Gases	Detection of toxic gases such as Hydrogen Sulfide (H ₂ S) and Ammonia					
Model	951	961	952	962	953	963
Detection Range	17-66ft	17-66ft	50-132ft	50-132ft	115-200ft	115-200ft
	5-20m	5-20m	15-40m	15-40m	35-60m	35-60m
Detected Gas	H ₂ S	Ammonia	H ₂ S	Ammonia	H ₂ S	Ammonia
Response Time	T90 ≤ 10 sec					
Immunity to False Alarm	Not influenced by solar radiation, hydrocarbon flames and other external IR radiation sources					
Spectral Response	200-300nm					
Sensitivity Range	0-500 ppm.m					
Displacement/Misalignment Tolerance	±1°					
Drift	Long term ±5% of full scale					
Temperature Range	-67°F to 149 °F (-55 °C to 65 °C)					
Humidity	Up to 95% non-condensing (withstands up to 100% RH for short periods)					

ELECTRICAL SPECIFICATIONS

Operating Voltage	24 VDC nominal (18-32 VDC)
Power Consumption	Detector: 250mA (300mA peak) Source: 250mA (300mA Peak)
Warm up Time	60 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	According to MIL-STD -1275B
Electromagnetic Compatibility	EMI/RFI protected to EN50270

OUTPUTS

0-20mA Current Output	Sink (source option) configuration - maximum load of 500Ω at 18-32VDC
	Gas reading 0-20mA Obscuration/beam block 2mA
	Normal, zero reading 4mA Zero calibration mode 1mA
	Maintenance call 3mA Fault 0mA
	Misalignment 2.5mA
HART Protocol	Optional HART communications on the 0 -20mA analog current (FSK) - used for maintenance and asset management
RS-485	RS-485 Modbus compatible communication link that can be used in computer controlled installations
Visual Status Indicator	3 color LED: Green – Power on, Yellow – Fault, Red – Alarm

MECHANICAL SPECIFICATIONS

Materials	- Source and detector housings are Stainless Steel 316L with electro polish finish - Circuit boards are conformal coated and protected from mechanical vibrations
Mounting	Stainless Steel 316L with electro polish finish
Dimensions	Detector / Source 10.5" x 5.1" x 5.1" (267 x 130 x 130mm) Tilt Mount 4.7" x 4.7" x 5.5" (120 x 120 x 158mm)
Weight	Detector / Source 11lb (5kg) Tilt Mount 4.2lb (2kg)
Environmental Standards	Meets MIL-STD-810C for Humidity, Salt & Fog, Vibration, Mechanical Shock, High Temp, Low Temp
Water and Dust	IP66 and IP68 per EN60529, NEMA 250 6P

APPROVALS

Hazardous Area	ATEX & IECEx	Ex II 2 (2) G D Ex db eb ib [ib Gb] IIB+H2 T4 Gb Ex tb IIIC T135°C Db Ta = -55°C to +65°C
	TR CU/EAC	1Ex d e ib [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 X
Reliability	SIL2 per IEC61508 (TUV)	

ACCESSORIES

Tilt Mount	P/N 888270	HART Hand-Held Harness Kit	P/N 888815
Wall Mount	P/N 799255	USB/RS485 Harness Converter Kit	P/N 794079
Commissioning Kit	P/N 888847	U-Bolt/Pole Mount (4-5 inch)	P/N 799225
Sunshade	P/N 888263	U-Bolt/Pole Mount (2-3 inch)	P/N 888140
HART Hand-Held Diagnostic Kit	P/N 888810	Mini Laptop Kit	P/N 777820

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AUTOMATION

