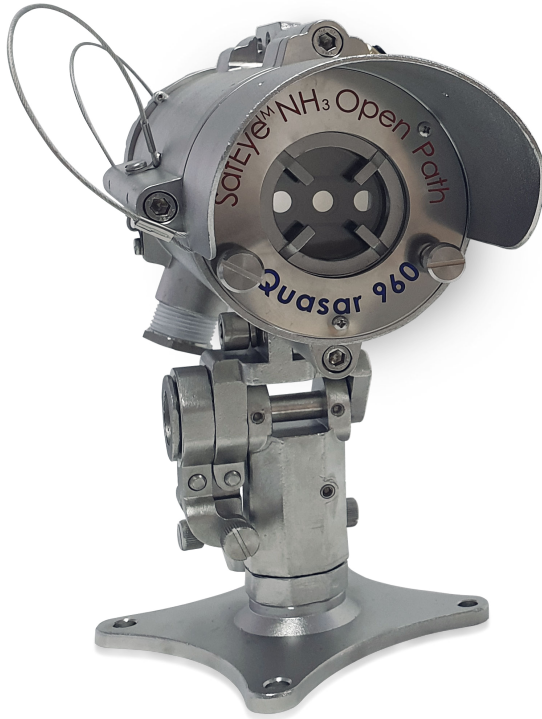




SafEye™ Quasar 960

Open Path Toxic Gas Detectors



Features and benefits

- Detects toxic ammonia (NH₃) at up to 200 ft. (60 m)
- Accurate and reliable high-speed response in under 3 seconds
- Uses ultraviolet technology
- High false alarm immunity
- Solar blind and immune to industrial environments
- 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 and performance approved
- Approved to Safety Integrity Level 2 (SIL2 - TÜV)
- High reliability-MTBF-minimum 100,000 hours

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Applications

- Agriculture
- Food and beverage
- Chemical
- Waste management
- Water treatment
- Pharmaceutical

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Specifications

General specifications

Table 1: Detection Range

Detector model: QRU	Source model: QTU		
	Quasar 961	Quasar 962	Quasar 963
Feet	17-52	46-132	115-200
Meters	5-16	14-40	35-60

Detected gas	Ammonia (NH ₃)
Response time	< 3 seconds
Immunity to false alarm	Not influenced by solar radiation, hydrocarbon flames, or other external infrared radiation sources
Sensitivity range	0-500 ppm.m
Spectral response	200-300 nm
Displacement/misalignment tolerance	±1 degree
Drift	Up to 5 percent of full scale
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	Three years

Electrical specifications

Power supply	24 Vdc nominal (18-32 Vdc)
Typical power consumption including heated optics	Detector: 135mA Source: 150mA
Warm-up time	60 seconds for transmitter and receiver
Electrical connection (specify)	Two ¾-in. - 14 National Pipe Thread (NPT) conduits or 2 x M25 x 1.5 mm ISO
Electrical input protection	According to MIL-STD-1275B
Electromagnetic compatibility	Electromagnetic Interference (EMI)/Radio Frequency Interference (RFI) protected to EN50270

Outputs - interfaces

0-20 mA current output	Sink (source option) configuration: maximum load of 500 ohm at 18-32 Vdc Gas reading: 0-20 mA Normal, zero reading: 4 mA Maintenance call: 3 mA Misalignment: 2.5 mA Obscuration/beam block: 2 mA Zero calibration mode: 1 mA Fault: 0 mA
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RS-485 interface - Modbus® compatible	RS-485 Modbus compatible communication link that can be used in computer controlled installations
HART® protocol	Optional HART communications on the 0-20 mA analog current (FSK) - used for maintenance and asset management
Visual status indicator	Three color light-emitting diodes (LED) <ul style="list-style-type: none"> ■ Green: power on ■ Amber: 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 316.
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. (2 kg)
Water and dust tight	IP66 and IP68 per EN60529, NEMA 250 6P
Environmental standards	Meets MIL-STD-810C for humidity, salt and fog, vibration, mechanical shock, high temperature, and low temperature
Reliability	SIL2 per IEC61508 (TUV)

Approvals

ATEX, IECEx and UKCA

Ex II 2 (2)G D

Ex db eb ib [ib Gb] IIB+H2 T4 Gb

Ex tb [ib Db] IIIC T135 °C Db

T_a = -55 °C to +65 °C

TR CU (EAC) - pending

1Ex d e ib [ib Gb] IIB + H2 T4 Gb X

Ex tb [ib Db] IIIC T135 °C Db X

INMETRO - pending

Ex db eb ib [ib Gb] IIB+H2 T4 Gb Ex

tb [ib Db] IIIC T135 °C Db

CSA C/US

Canada

Ex db eb ib [ib Gb] IIB+H2 T4 Gb

Ex tb [ib Db] IIIC T135°C Db

T_a = -55 °C to +65 °C

USA

Class I Zone 1 AEx db eb ib [ib Gb] IIB+H2 T4 Gb

Zone 21 AEx tb [ib Db] IIIC T135°C Db

T_a = -55 °C to +65 °C



The Spectrex Quasar 950/960 is a "Class 1 Laser Product" per IEC 60825-1: 2014 ed. 05.

Performance Approval

ANSI/ISA-92.00.04-2014

UL 920004: 2014

Accessories

Model	Product Description
888270	Tilt Mount
799255	Wall Mount
799225	Pole Mount (U-Bolt 4-5")
888140	Pole Mount (U-Bolt 2-3")
888355-2	Duct Mount
888931	Air Shield
888263	Protective Cover
888280-1	Check Filter H2S
888820	Auxiliary Harness IS/RS 485 and HART
888810	HART Handheld Diagnostic Kit
794079	USB / RS485 Harness Converter Kit



ProDetec Pty.Ltd.

P. +61 (02) 9620 8700

F. +61 (02) 9620 8755

E. info@prodetec.com.au

A. 17/38 Powers Rd,

Seven Hills NSW 2147

www.prodetec.com.au