

## E<sup>2</sup>T QUASAR 2

Infrared thermometry instruments designed for continuous monitoring and detection of pilot flame and flared gases from flares.



The E<sup>2</sup>T Quasar 2 includes two models: Quasar 2 M8100-EXP and Quasar 2 M8100-EXP Advanced. The base system provides basic flare pilot monitoring capabilities. The advanced system includes an intensity mA output, which allows the programming of multiple setpoints to indicate pilot flame detection and flaring status signals from the same unit.

### PRODUCT HIGHLIGHTS

- Flame detection up to 400 m
- Detection of hydrocarbon and hydrogen flames
- Safety and environmental protection
- On-board pilot loss alarm set point relay
- Pilot and flaring signal level mA output
- Modular opto-electronic package for easy access and service

### TYPICAL APPLICATIONS

- Elevated flares - e.g. steam assisted, air assisted, and gas assisted
- Ground flares - e.g. burn pit flares and ground flare arrays
- Off-shore flares
- Staged flares

### AT A GLANCE

#### Flame Type

Infrared monitor sensitive to all flame including hydrogen

#### Working Distance

400 m

#### Field of View

37.5:1, 60:1, 75:1, 150:1 and 300:1

#### Hazardous Classification

IECEX Ex db IIB T4

ATEX II 2 G Ex db IIB T4

Canada and US certified explosion-proof housing

- Class I, Div 1, Groups C and D
- Class I, Div 2, Groups A, B, C and D

### OVERVIEW

Safe flare operation and environmental protection require reliable and accurate flare pilot monitoring. Generally, flare pilots are monitored with thermocouples that often fail due to thermal shock caused by extreme heat and vibrations during flaring events. The requirement for pilot monitoring beyond the normal life of pilot thermocouples has driven the market need for alternative methods, which requires installation of a redundant method of pilot monitoring to back up the standard pilot thermocouples.

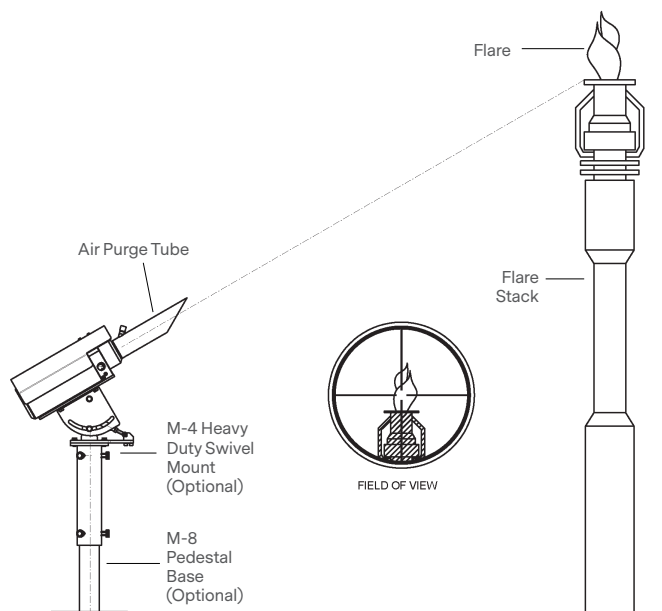
The E<sup>2</sup>T Quasar 2 instruments provide continuous monitoring and detection of pilot flame and flared gases from flares. Two models are available: Quasar 2 M8100-EXP and Quasar 2 M8100-EXP Advanced. The base system provides basic flare pilot monitoring capabilities. The advanced system includes an intensity mA output, which allows the programming of multiple setpoints to indicate pilot flame detection and flaring status signals from the same unit.

The setpoint feature of the advanced unit can also be used for staged flares and will provide feedback on the staged flare status. Additional add-on features are available for a configurable product to meet a wide range of client flare types, monitoring requirements and budget.

A high-resolution optical system and selection of various spot sizes enables the Quasar 2 to

be positioned as far as 1/4 mile (400 m) from the stack being monitored. Alignment on the target is accomplished through the targeting port and signal intensity LED bar displays amplitude in combination with a stable M-4 heavy duty swivel mount.

Custom electronics adapt to target movement, varying luminosity, and most climate conditions. The alarm delay circuit can be adjusted for a specific location or application, eliminating false alarms from temporary loss of signal due to intermittent flames, adverse weather, and wind.



### OPTICS AND ACCESSORIES

#### High Quality Optics

Five different optics are available to ensure the highest flame signal detection.

#### Heavy Duty Accessories

For easy mounting, alignment and focusing on the target, a heavy duty swivel mount with locking and adjusting capability is required. The optional M-4 Heavy Duty Swivel Mount offers a secure and stable mounting when combined with the M-8 pedestal mount, a steel pipe assembly with a bolt down plate to secure the

M-8 to a foundation. All mounting hardware is sold separately.

#### Easy Maintenance and Replacement

The heart of the system is the Quasar 2-EXP, non-contact infrared electro-optical package which can be removed from the explosion proof housing for repairs or replacement, leaving intact all wiring and alignment of the system.

## TECHNICAL DATA

Performance	
Working Distance	400 m (1320')
Flame Type	Infrared monitor sensitive to all flame including hydrogen
Field of View	Available in 37.5:1, 60:1, 75:1, 150:1 and 300:1 Targeting port for target alignment
Output Signal	Quasar 2: 4 or 20 mA switched output (4 mA = flame and 20 mA = no flame) Quasar 2 Advanced: Additional 4 to 20 mA
Alarm Setpoint	Mechanical relay (Quasar 2 Advanced only)
Response Time	10 mS
Alarm Output Delay	2 s to 2 min (Std)
Sensitivity Adjustment	Automatic climate compensation and manual gain for easy system setup
Safety Integrity Level (SIL)	Level 1

Electrical	
Power Requirements	5 Watts 24 VDC and 115 VAC / 230 VAC

Environmental Specifications	
Ambient Temperature Limits	-40 to 60°C with no cooling
Environmental Protection	NEMA 4X IP 66
Hazardous Classification	IECEX Ex db IIB T4 ATEX II 2 G Ex db IIB T4 Canada and US certified explosion-proof housing · Class I, Div 1, Groups C and D · Class I, Div 2, Groups A, B, C, and D

Physical Characteristics	
Dimensions	12 cm x 33 cm x 12 cm (4.7 in x 12.8 in x 4.7 in)
Weight	12 kg (26.5 lbs)
Status Lights	Green (Flame) and red (No Flame)
Intensity Indicator	20 LEDs bar
Mounting	M-4 heavy duty 360° swivel mount
Housing	Stainless steel (316 L), tube dia. 114 mm, IP 66

## REFERENCE NUMBERS FOR OPTIONAL ACCESSORIES

PN	Description
6 884 180	M-4, Heavy duty swivel mount
6 882 120	M-8, Pedestal base front



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## ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than three decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

AE's power solutions enable customer innovation in complex semiconductor and industrial thin film plasma manufacturing processes, demanding high and low voltage applications, and temperature-critical thermal processes.

With deep applications know-how and responsive service and support across the globe, AE builds collaborative partnerships to meet rapid technological developments, propel growth for its customers and power the future of technology.

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