Monitoring and detection instruments, designed for continuous duty monitoring of flame

E²T Quasar 8100 Series Pilot and Flared Gas Monitors

- **Flame detection up to 400 m**

- **Detection of hydrocarbon as well as hydrogen flames**

- **CSA/US and ATEX explosion-proof housing**

- **Safety and environmental protection**

- **Automatic gain control for adverse weather conditions**

- **High quality sight-through optics**

- **On-board alarm set point relay**

- **Modular opto-electronic package for easy removal from housing**

- **IR pyrometer and amplification circuitry in one single module**

The E²T Quasar 8100 series are monitoring and detection instruments designed for continuous duty monitoring of pilot flame (type PM) and flared gases (type FM) from flares.

A sight-through optical system and selection of various spot sizes enables the E²T QUASAR M8100-EXP to be positioned as far as 1/4 mile (400 m) from the stack being monitored. Alignment on the target is accomplished through superb sightthrough optics and an M-3 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.

The system is complete with internal cooling base, air purge tube and swivel mount. An optional pedestal stand allows for easy mounting.

Pilot and Flares

Continuous monitoring of pilot flames and flared gases is critical to ensure that the gases will be ignited and to confirm compliance with government-set pilot status recording requirements. Thermocouple failure, flame movement, varying luminosity and adverse climatic conditions are just a few of the obstacles which have to be overcome to gain long-term monitoring reliability without false alarms.

Typical Applications:

- Elevated Flares
  - o Steam Assisted
  - o Air Assisted
  - o Gas Assisted
- Ground Flares
  - o Burn Pit Flares
  - o Multi point/Staged Multi point flares
- Off-Shore Flares

Technical Data

Performance

Working Distance:	0 to 1320 feet (400 m)
Flame Type:	Multi-wavelength infrared monitor sensitive to all flame including Hydrogen
Field of View:	
Output Signal:	Available in 37.5:1, 60:1, 75:1, 150:1 & 300:1
Alarm Setpoint:	4 or 20 mA switched output (4 mA = flame and 20 mA = no flame)
Response Time:	Mechanical relay
Alarm Output Delay:	10 mS
Sensitivity Adjustment:	2 s to 2 min (Std) Automatic climate compensation and manual gain for easy system setup

Electrical

Power requirements:	Available in 115 VAC or 230 VAC or 24 VDC (Voltages +/- 10%) 115 Watts

Physical Characteristics

Dimensions:	10.5 x 12.5 x 8.5 in (27 x 32 x 22 cm)
Weight:	48 lbs (22 kg)
Status Lights:	Green and red
Mounting:	M-3 heavy duty 360° swivel mount

Environmental Specifications

Ambient Temperature Limits:	-40 to 125°F (-40 to 52°C) or -40 to 212°F (-40 to 100°C) with integrated water cooling base
Explosion-Proof Certification:	CSA/US: Class 1, Division 1, Groups C and D Class 1, Division 2, Groups A through D, T4 CENELEC: EExd IIB T4

High quality optics:
5 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 included. The M-3 swivel mount is secured on an optional pedestal mount (M-8), a steel pipe assembly with a bolt down plate to secure the M-8 to a foundation. The AP-2S Air purge tube is designed for high rain water diversion from the systems optics.

At higher ambient temperatures, the water cooling cavity built into the underside of the explosion-proof enclosure can be used or a Vortex air cooler for temperature reduction up to 27 °F (3 °C) can be installed to the water cooling cavity.

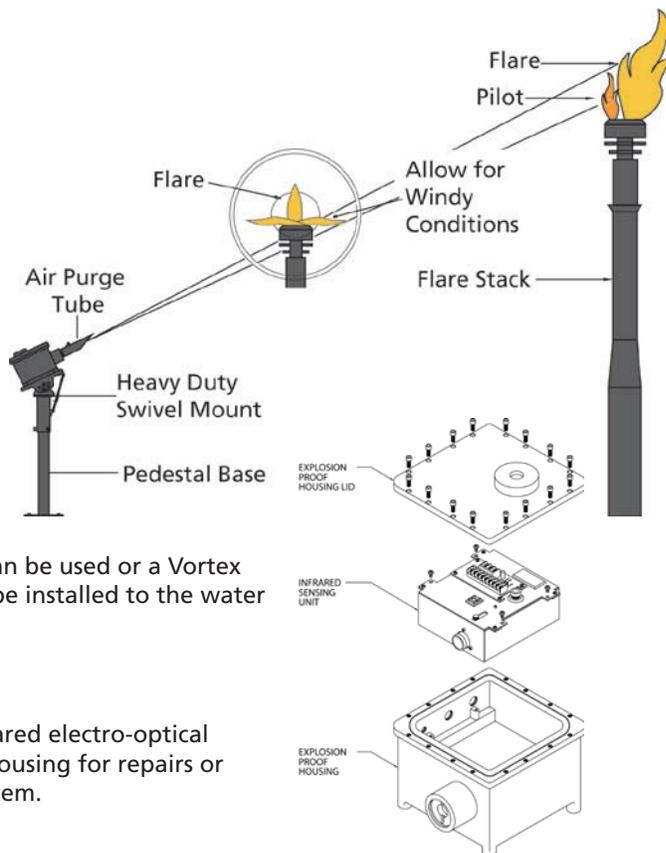**Easy maintenance or replacement, also from older modules:**
The heart of the system is the M8100-EXP, non-contact infrared electro-optical package which can be removed from the explosion proof housing for repairs or replacement, leaving intact all wiring and alignment of system.

Reference Numbers

6 882 400	Vortec air cooler	6 882 120	M-8, Pedestal Base
6 882 100	M-3, Heavy duty swivel mount	6 882 650	AP-2S, air purge tube