OPTRONICS

Detection for real safety - for real life

Developer and manufacturer of high-end Optical Gas Detection

Optronics footprint

Oil & Gas

- Upstream, midstream and downstream
- Chemical
- Petrochemical industries
- Refineries
- Turbines and compressor control
- HVAC and building safety
- Certified for SIL2/SC3 applications

Marine

- Hull side detection both as standalone detectors and in sampling systems
- Double skin/wall pipe detection
- Topside detection and safety
- Turbines and compressor control
- HVAC
- Certified for SIL2/SC3 applications

Mining

- Hydrocarbon and CO2 detection in resource mining
- Increased safety applications
- Designed for easy operation and maintenance in extreme ambient conditions
- Certified for SIL2/SC3 applications

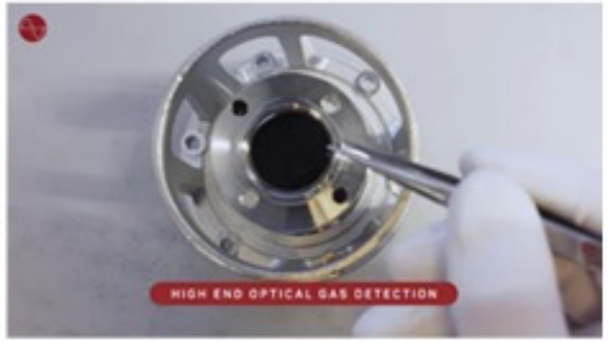
Green Energy

- Biogas
- Windmill Generators
- Battery shelters
- Hydrocarbon and CO2 detection in:
  - production facilities
  - transportation
- HVAC
- And more...
- Certified for SIL2/SC3 applications

Benefits - The Company

Company

- Norwegian company
- High-end optical gas detection
- More than 40 years experience
- One team
- Optimized production
- State of the art R&D
- Everything in-house

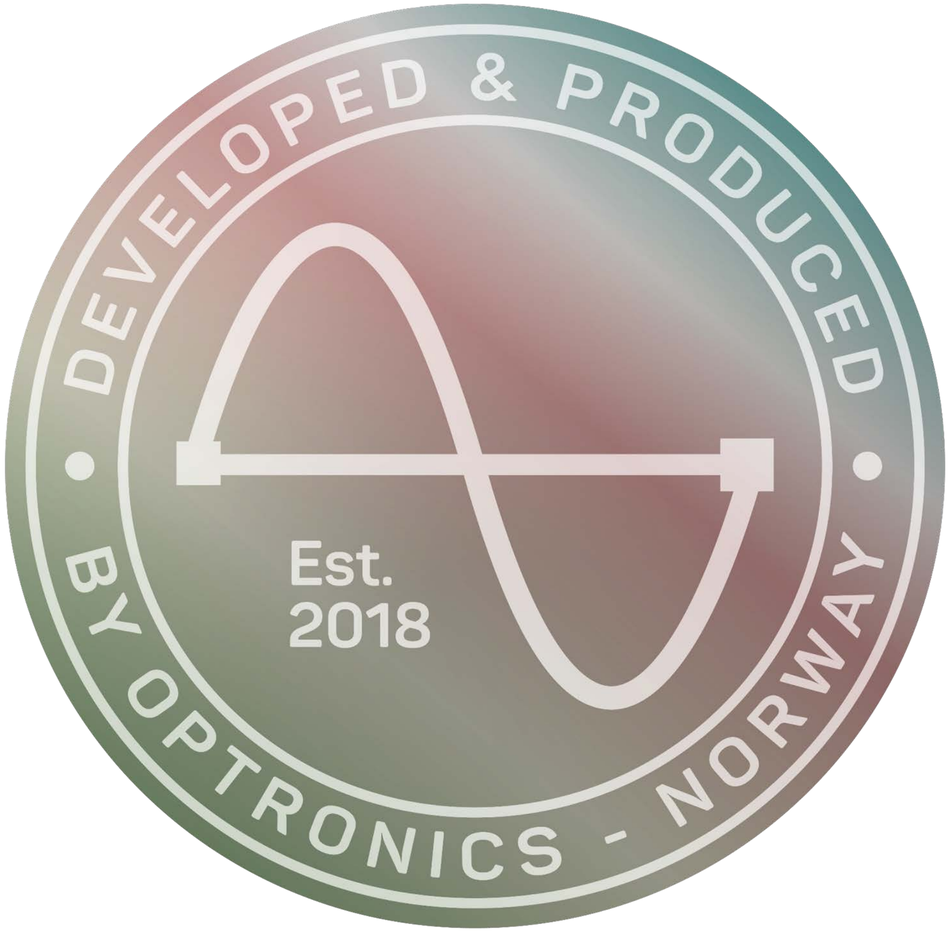


Benefits – The Products

Product

- 6 years warranty
- Designed and certified according to IEC61508 SIL2/SC3
- Unique accessories platform
  - No special tools required
- HART7 certified
- Life-time calibration
- Integrated visual indicator
- OptoCom™ for extended and future functionality
- Extended Input voltage range
- Designed for ease of operation
- *For a full list of gases contact your local supplier*

Quality



- Our uncompromising requirement!
- Everything in-house
  - R&D
  - Production
  - Logistics
  - Quality Assurance
- Company certifications
  - ISO 9001
  - QAN/QAR
- Product certifications
  - ATEX, IECEx, MED, SIL, EAC EX, Methrology

DNV·GL

PRODUCTION QUALITY ASSURANCE NOTIFICATION

Nemko

CE

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Nils Hansens v

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NS-EN ISC
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The certificate cov

Design, Develo
Advanced Opto

[2] EQUIPMENT OR PROTECTIVE SYSTEM INTENDED FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES DIRECTIVE 2014/34/EU

[3] Notification Number: Presafe 20 ATEX 7313Q Issue 0

[4] Equipment, Protective System or components as listed: Gas detector
Type of protection: Ex d, e, i, op is
(The EU-Type Examination Certificates based on this notification are listed by the notified body)

[5] Applicant – Manufacturer or Authorized representative in the Community: Optronics Technology AS
Nils Hansens vei 13
0667 Oslo
Norway

[6] Manufacturing Locations: Same as above.

[7] DNV GL Presafe AS, notified body number 2460 for Annex IV in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014 notifies to the applicant that the manufacturer has a production quality system which complies with Annex IV of the Directive

This quality system in compliance with Annex IV of the Directive also meets the requirements of Annex VII. Conformity to type based on Product Quality Assurance.

[8] This notification is based on audit report listed on page 2

This notification can be withdrawn if the manufacturer no longer satisfies the requirements of Annex IV

Results of periodical re-assessment of the quality system are a part of this notification.

[9] This notification is valid until **2023-08-12** and can be withdrawn if the manufacturer does not satisfy the production quality assurance surveillance

[10] According to Article 16 (3) of the Directive 2014/34/EU the CE mark shall be followed by the identification Number 2460 identifying the Notified Body involved in the production control stage.

Date of issue:
2020-10-07

Bjørn Spongsveen
For DNV GL Presafe AS

Oslo, 2022-01-24

This certificate may only be reproduced in its entirety and without any change, schedule included.
DNV GL Presafe AS, Veritasveien 3, 1363 Høvik, Norway. Tel +47 67 57 99 00, www.dnvgl.com

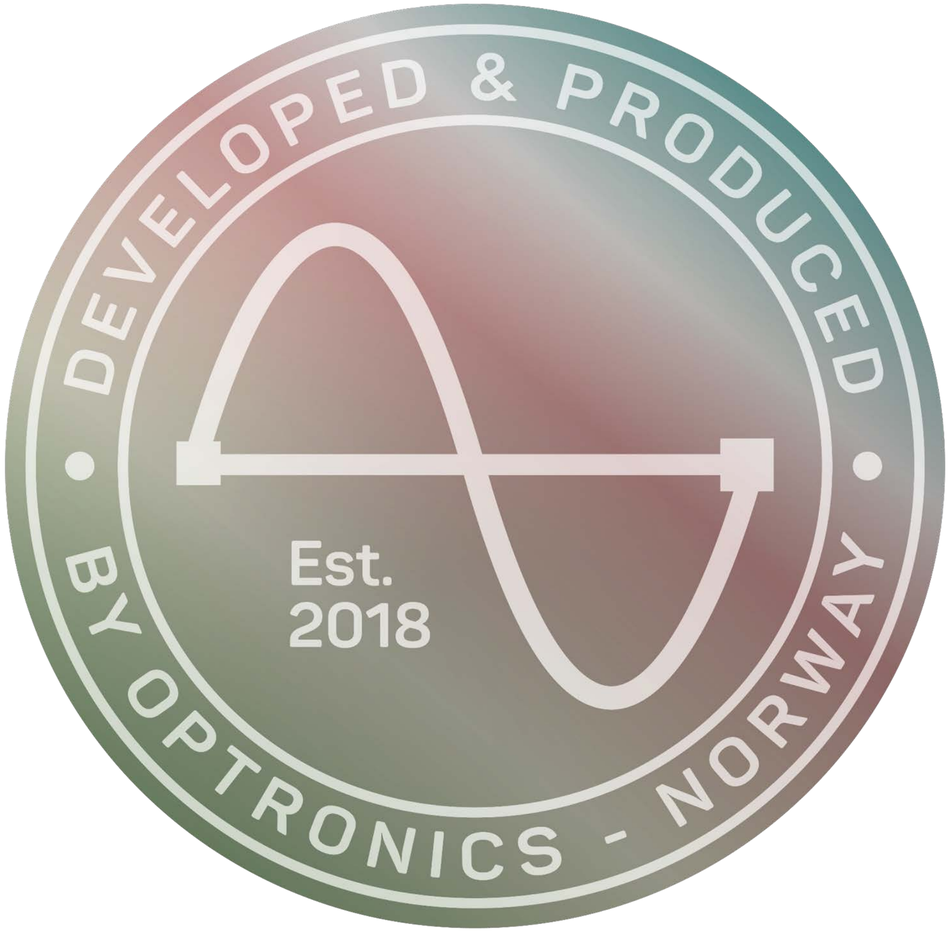
Page 1 of 2

Håkon Rem
Nemko Scandinavia AS, Certification Department

First time issued 2019-01-02
Expires 2025-01-02

Nemko Scandinavia AS, Philip Pedersens vei 11, P.O. Box 91, 1325 Lysaker, Norway - Enterprise Number NO927845687

Quality



Nemko

Number **801089**

CERTIFICATE

Optronics Technology AS
Nils Hansens vei 13, 0667 Oslo, Norway

has implemented and maintains a Quality Management System which fulfills Nemko's provisions for Management System Certification and the requirements of the following standard

NS-EN ISO 9001:2015
with the scope described by the organization, 2021-09-22

The certificate covers the following activities:

Design, Development, Manufacture, Marketing and Sales of Advanced Opto Electical Sensors

Oslo, 2022-01-24

Håkon Rem
Nemko Scandinavia AS, Certification Department

First time issued **2019-01-02**
Expires **2025-01-02**

Nemko Scandinavia AS, Philip Pedersens vei 11, P.O. Box 91, 1325 Lysaker, Norway - Enterprise Number NO927845687

DNV·GL

PRODUCTION QUALITY ASSURANCE NOTIFICATION

[2] EQUIPMENT OR PROTECTIVE SYSTEM INTENDED FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES DIRECTIVE 2014/34/EU

[3] Notification Number: **Presafe 20 ATEX 73133Q** **Issue 0**

[4] Equipment, Protective System or components as listed: **Gas detector**
Type of protection: Ex d, e, i, op is

(The EU-Type Examination Certificates based on this notification are listed by the notified body)

[5] Applicant – Manufacturer or Authorized representative in the Community
Optronics Technology AS
Nils Hansens vei 13
0667 Oslo
Norway

[6] Manufacturing Locations: **Same as above.**

[7] DNV GL Presafe AS, notified body number 2460 for Annex IV in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014 notifies to the applicant that the manufacturer has a production quality system which complies with Annex IV of the Directive

This quality system in compliance with Annex IV of the Directive also meets the requirements of Annex VII, Conformity to type based on Product Quality Assurance.

[8] This notification is based on audit report listed on page 2

This notification can be withdrawn if the manufacturer no longer satisfies the requirements of Annex IV

Results of periodical re-assessment of the quality system are a part of this notification.

[9] This notification is valid until **2023-08-12** and can be withdrawn if the manufacturer does not satisfy the production quality assurance surveillance

[10] According to Article 16 (3) of the Directive 2014/34/EU the CE mark shall be followed by the identification Number 2460 identifying the Notified Body involved in the production control stage.

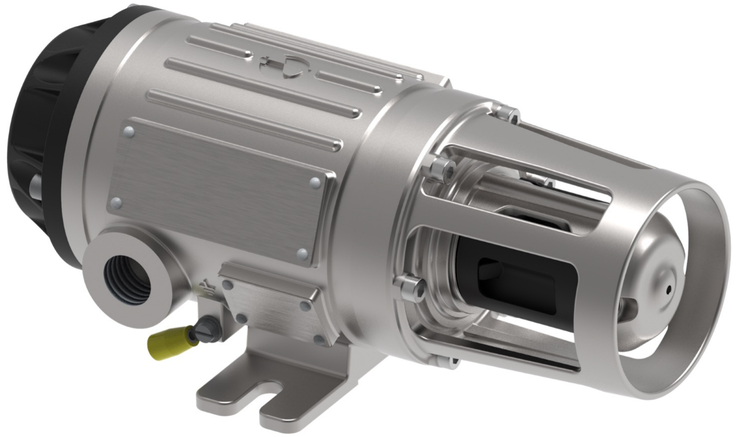
Date of issue:
2020-10-07

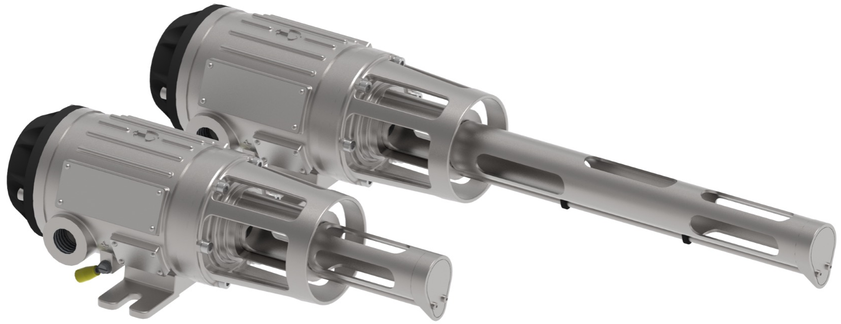
PROD 021

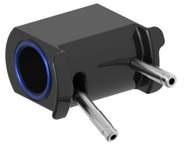
Bjørn Spongsveen
For DNV GL Presafe AS
The Certificate has been digitally signed.
See www.dnvgl.com/digitalsignatures for info

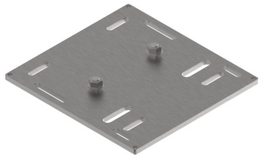
This certificate may only be reproduced in its entirety and without any change, schedule included.
DNV GL Presafe AS, Veritasveien 3, 1363 Høvik, Norway, Tel +47 67 57 88 00, www.dnvgl.com

Products and accessories



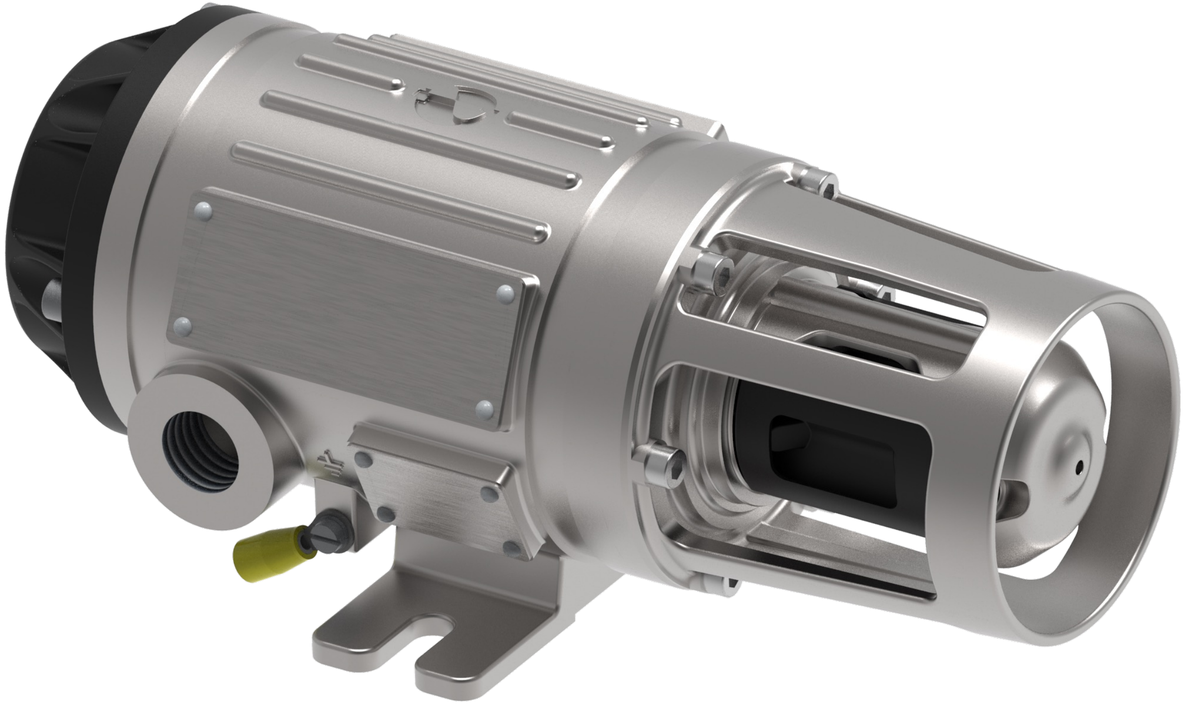






OPTRONICS
Detection for real safety - for real life

PG11



The Optronics PG11 is an explosion proof, rugged Optical Gas Detector for the detection of flammable gases and CO2.

Features	Benefits
Solid State Infrared SafeSource™	6 years warranty
Life-time factory calibration	15 years warranty on SafeSource™
Fast response time (T90 < 1.5 s)	Long maintenance intervals
OptoBAS™ for increased signal baseline accuracy	No field calibration
Designed and certified according to SIL2/SC3	OptoCom™ for DCS integration
HART7 interface	IIoT ready
Heated sapphire optics	Visual Indicator for local alarms
Multicolor indicator	One detector - several applications
Extended input voltage range	

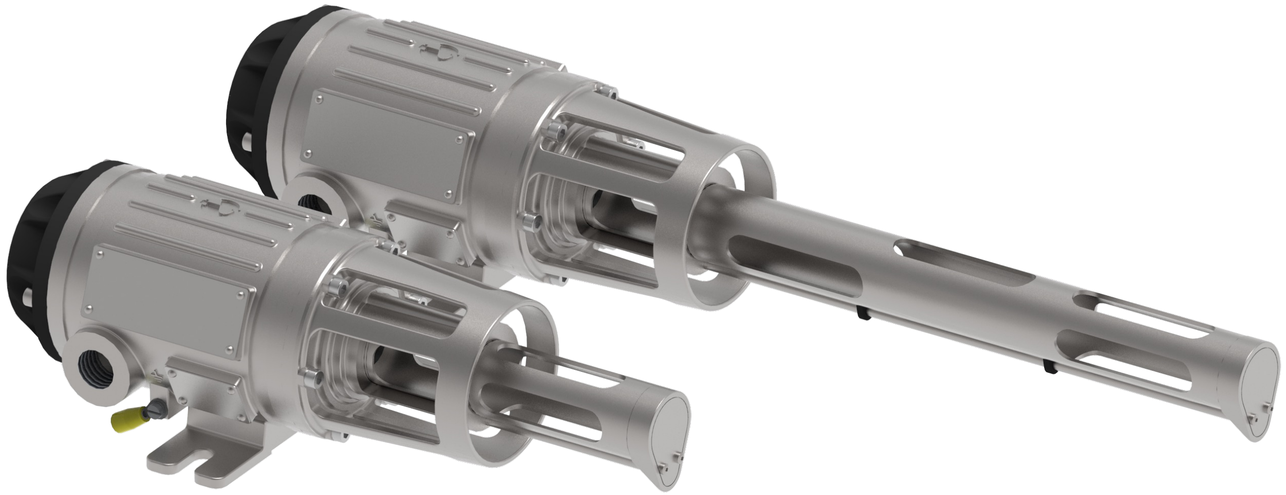
Gases

- Methane
- Propane, Ethylene, Butane
- Biogas[CH_4 in CO_2 background]
- CO_2
- *For a full list of gases contact your local supplier*

Specifications PG11

Gases and measuring ranges	Methane Propane, Ethylene, Butane Biogas[CH_4 in CO_2 background] CO_2	0 - 100 %LEL, 0 - 100 %Vol 0 - 100 %LEL 0 - 100 %vol 0 - 10 %vol, 0-25 %Vol
Calibration	Calibrated at factory, no need for field calibration	
Self-test	Continuous health check of all important HW and SW functions	
Performance	Accuracy Repeatability Response time	± 3%FS ± 1%FS T90 < 1.5 sec
Signal output	Current source or sink 4 - 20 mA. Warnings/faults signalled below 4 mA. OptoCom™ for application specific digital protocols. HART® for maintenance and configuration	
Ambient conditions	Temperature Humidity Vibration	Storage -60 to +75°C / -76 to +167°F Operating -40 to +65°C / -40 to +149°F Desert version -40 to +75°C / -40 to +167°F (Arctic version) -60 to +65°C / -76 to +149°F 0 - 100 %RH Resistant to shock and vibration up to 4G
Housing	Ingress Protection Housing material Weight & dimensions	IP66/IP67 Stainless steel 316L Less than 3 kg & 250x120x120 mm3
Electrical requirements and characteristics	Field wiring terminals Cable gland entry options Power requirements Power consumption	Stranded or solid wires rated up to 2.5 mm^2 Two M20 entries as standard. M25, ½”NPT and ¾”NPT on request 18 - 50 VDC < 3.5W average (5 W max arctic) Soft boot with max 1 A current spikes
Approvals	ATEX/IECEx(Zone 1) Marine Safety Integrity(IEC61508) EAC EX	Ex db eb ib IIC T5 Gb MED, BV, LR, DnV GL, ABS SIL2 (*SIL3 in 1oo2 redundancy) 1Ex db e ib IIC T5 Gb X

PGE11



PGE11 is an explosion proof, rugged Optical Gas Detector for the detection of flammable gases and CO2.

Features	Benefits
Solid State Infrared SafeSource™	6 years warranty
Life-time factory calibration	15 years warranty on SafeSource™
Fast response time (T90 < 1.5 s)	Long maintenance intervals
OptoBAS™ for increased signal baseline accuracy	No field calibration
Designed and certified according to SIL2/SC3	OptoCom™ for DCS integration
HART7 interface	IIoT ready
Heated sapphire optics	Visual Indicator for local alarms
Multicolor indicator	One detector - several applications
Extended input voltage range	
Long optical path for increased sensitivity	

Gases

- Methane
- Propane, Ethylene, Butane
- Biogas[CH_4 in CO_2 background]
- CO_2
- *For a full list of gases contact your local supplier*

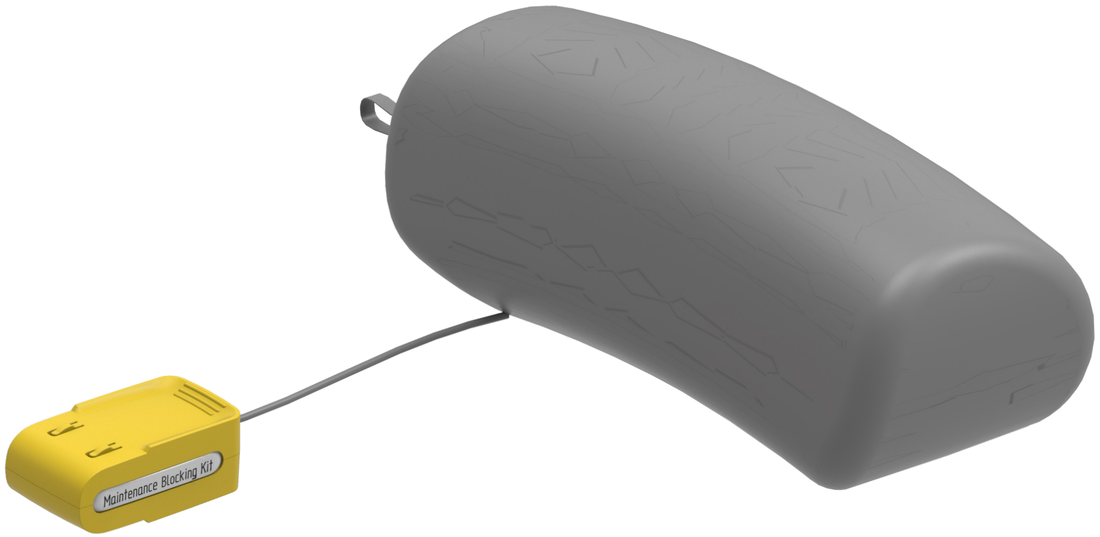
Specifications PGE11

Gases and measuring ranges	Methane Propane, Ethylene, Butane Biogas[CH_4 in CO_2 background] CO_2	0 - 100 %LEL, 0 - 100 %vol 0 - 100 %LEL 0 - 100 %vol 0 - 100 %vol
Calibration	Calibrated at factory, no need for field calibration	
Self-test	Continuous health check of all important HW and SW functions	
Performance	Accuracy Repeatability Response time	± 3%FS ± 1%FS T90 < 1.5 sec
Signal output	Current source or sink 4 - 20 mA. Warnings/faults signalled below 4 mA. OptoCom™ for application specific digital protocols. HART® for maintenance and configuration	
Ambient conditions	Temperature Humidity Vibration	Storage -60 to +75°C / -76 to +167°F Operating -40 to +65°C / -40 to +149°F Desert version -40 to +75°C / -40 to +167°F (Arctic version) -60 to +65°C / -76 to +149°F 0 - 100 %RH Resistant to shock and vibration up to 4G
Housing	Ingress Protection Housing material Weight & dimensions	IP66/IP67 Stainless steel 316L Less than 4 kg & 775x120x120 mm3
Electrical requirements and characteristics	Field wiring terminals Cable gland entry options Power requirements Power consumption	Stranded or solid wires rated up to 2.5 mm² Two M20 entries as standard. M25, ½"NPT and ¾"NPT on request 18 - 50 VDC < 3.5W average (5 W max arctic) Soft boot with max 1 A current spikes
Approvals	ATEX/IECEx(Zone 1) Marine Safety Integrity(IEC61508) EAC EX	Ex db eb ib IIC T5 Gb MED, BV, LR, DnV GL, ABS SIL2 (*SIL3 in 1oo2 redundancy) 1Ex db e ib IIC T5 Gb X
Configurations	Short Medium Long	15 cm 35 cm 50 cm (Reduced vibration range)

Maintenance kit

- Specialised maintenance kit for our gas detectors
- Contains
  - Cleaning fluid
  - Cleaning cloth
  - Special cotton swabs
  - Allan keys
- Refils available

Maintenance blocking kit



- Blocking unit to force detector in failure/Beam block state
- Protective covering of detector to be used during area maintenance
  - Cleaning
  - Paint work
  - Sand blasting
  - etc

Mosquito net

- Material: SS316
- Integrated gas nozzle to simplify testing
- Fits over the standard environment shield
- Indicator visible with guard mounted

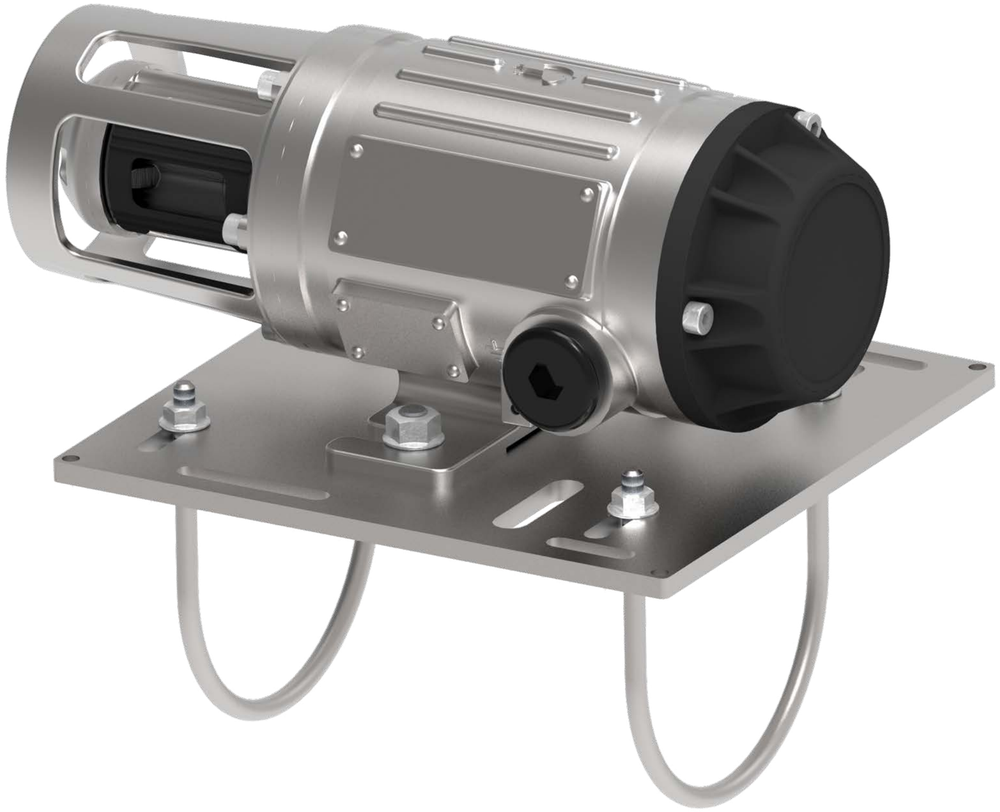
Sunshade

- Material: SS316
- Extra environmental shielding from
  - Sunlight
  - Snow/rain
  - Deluge
- Can be fitted on both horizontal and wall mounted installations

Duct flange kit

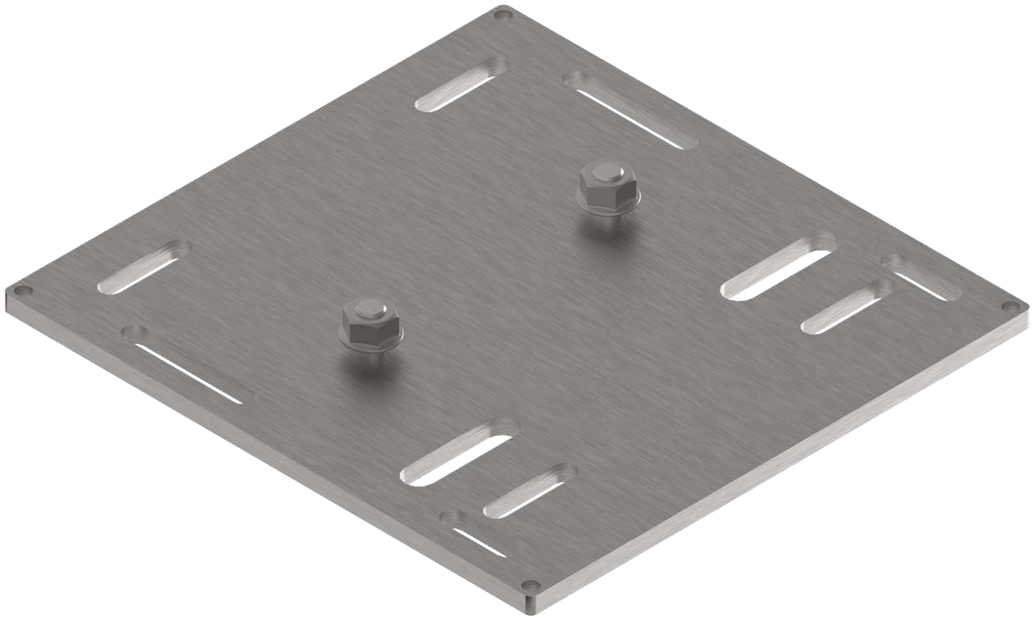
- Material: SS316
- Available as a standard model for HVAC and similar applications
- Available in several JIS and DIN versions
- Integrated gas nozzle for in-situ testing

Pole mount kit



- Material: SS316
- Comes with U-bolts for both 3" and 4" pipes
- Can be used on both horizontal and vertical pipes
- Contains the Universal Mount Kit

Universal mount kit



- Material: SS316
- Mount kit to simply retrofit applications
- Fits on most exisiting footprints from other vendors

Gas sample kit

- Material: Anodized aluminum
- Snap-in gas sampling kit for extractive solutions
- Installed without the use of tools
- Easy access to optical parts
- Unmatched fast response for sampling loops

Environment shield

- Material: Anodized aluminum & plastic compound
- Standard in every detector
- No need for rotation due to installation direction of detector
- Installed withouh the use of tools
- Gas guides for fast response during testing using the gas nozzle

Gas test kit PGE11

- Material: Anodized aluminum
- Available in three versions:
  - SHORT
  - MEDIUM
  - LONG
- Optimized volume for fast and accurate testing

Gas test kit PG11

- Material: Anodized aluminum
- Small volume for fast and accurate testing
- Gas nozzles for both inlet and outlet
- Possible to vent test gas to safe area
- Indicator vissible for visual feedback of testing

Remote gas test kit

- Material: SS316
- Housing for easy access to gas nozzle for testing of detector at remote location
- Housing contains:
  - Standard rubber tube inlet
  - Connection for 6mm tubing/piping to remote location
- Cover to protect gas inlet

Duct Flange gas test kit

- Material: SS316
- Adapter with nozzle for in-situ gas testing of PGE11.
- Designed to be used with all standard duct flange series
- Easy assembly with only set screw to lock kit in place on the detector

OPTRONICS

Detection for real safety - for real life

Any questions?

Contact
Team Optronics at:
info@optronics.no