

GD10P

IR Point Gas Detector



Keeping Your Crew Safe
Just Got Easier.

martek[™]
MARINE
Innovative Ship Solutions



Keeping Your Crew Safe Just Got Easier.

The GD10P infrared gas detector is the benchmark for combustible gas detection. It has set the standard for gas detectors in the areas of safety, stability and low maintenance. GD10P comes with a 5 year warranty.

The GD10P differs from all other infrared gas detectors because it uses a solid-state infrared source. The optical block is so robust that it comes with a 15 year warranty and provides an unparalleled detector stability and an unmatched service life.

The GD10P also features heated optics to prevent condensation, a HART interface, fail-safe operation and global approvals.



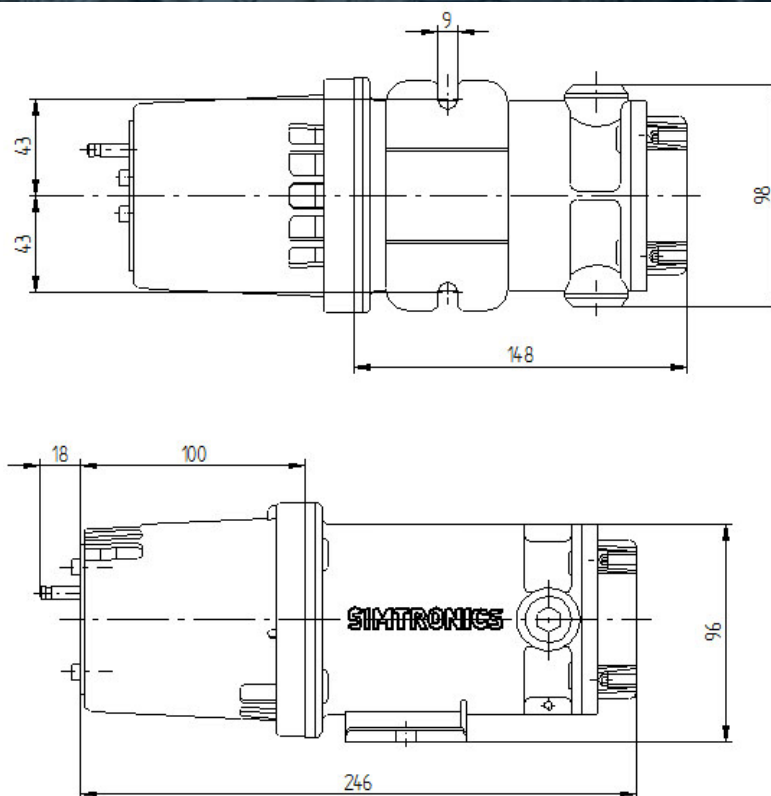
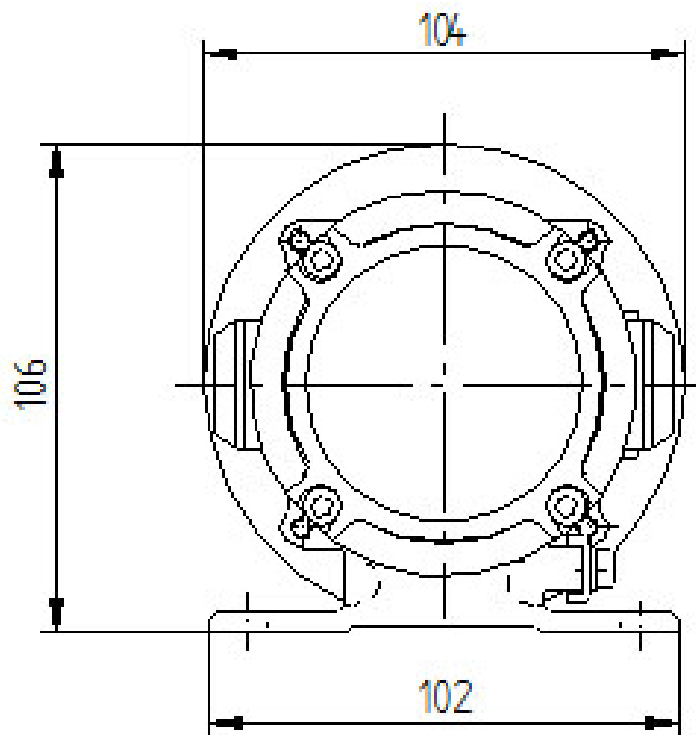
GD10P Features

- 5 years warranty
- 15 years warranty semiconductor IR source (Simtronics patent)
- Zero maintenance
- Response Time $T_{90} < 1.0s$
- SIL 2 certified (SIL3 software)
- Early dirty optics warning for improved preventative maintenance

TECHNICAL SPECIFICATIONS

GENERAL	
Technology	IR-absorption, dual wavelength, dual path
IR-Source	Solid state IR source
Gases Detected	Hydrocarbons (for CO ₂ see separate data sheet)
Self-Test	Continuous
Calibration	Factory set, no field recalibration
Configuration	HART protocol
PERFORMANCE	
Accuracy Refers to -20°C to +45°C	±3% FS between 0-50 % reading ±5% FS between 50-100 % reading
Response Time	<div>Methane</div> <div>T20 = 0.2 Sec</div> <div>T50 = 0.4 Sec</div> <div>T90 = 1.0 Sec</div> <div>Other gases</div> <div>T20 < 1.0 Sec</div> <div>T50 < 2.5 Sec</div> <div>T90 < 6.0 Sec</div>
OUTPUT SIGNAL	
Standard	Current source 4 – 20 mA, max. Load Impedance 500 ohm
Option	Current sink 4 – 20 mA
HART®	Maintenance and configuration
Detector Faults (HART configurable)	<div>- Early clean optics</div> <div>- Dirty optics</div> <div>- Detector failure</div> <div>- Pre warning (2 mA)</div> <div>- Dirt accumulation (1 mA)</div> <div>- Internal fault (0 mA)</div>
ELECTRICAL	
Power Supply	24V DC (18 - 32V DC)
Power Consumption	Approx. 3.5 W
Connection	3-wire shielded cable (0.5-2.5mm²)
Cable Entry	M20 Ex e cable gland
TEMPERATURE RANGE	
Storage	-40°C to +70°C (-40°F to +158°F)
Operating	-40°C to +60°C (-40°F to +140°F)
Humidity (Operation)	0- 100% RH
EXPLOSION PROOF HOUSING	
Ingress Protection	IP66/IP67
Housing material	Stainless Steel SIS2343 (ASTM316)
Weight	Approx. 2.9 Kg (6.4 Lbs)
Dimensions (LxWxH)	<div>264 X 104 x 106 (mm)</div> <div>10.4 X 4.1 X 4.2 (Inches)</div>
WARRANTY	
Warranty	<div>5 years full warranty on a complete instrument</div> <div>15 years warranty on the infrared sources</div>
APPROVALS	
ATEX / IECEX / IN-METRO	II 2 G / Ex db eb IIC T6 Gb
CSA	<div>C22.2 No 152-M984 and ANSI 12.13.01-2000</div> <div>Ex d e IIC T6 (for Canada only)</div> <div>Class I, Division 2, Groups A, B, C and D (USA and Canada)</div>
Various	SIL 2 certified (software is SIL 3), ABS, MED
VERSIONS	
Gas	Ranges
Methane	0-100%LEL, 0-100%vol
Propane	0-100%LEL, 0-100%Vol
Other versions are available, please contact your dealer.	
FRONT COVER	
Required, select one	
Weather protection	Supplied as standard
Sample flow housing	For sampling systems and bump test
Duct mount kit	For duct monitoring
ACCESSORIES	
Mosquito net	Extra insect protection
Sun shade	Shielding for extreme solar radiation exposure or snow deposit

TECHNICAL SPECIFICATIONS

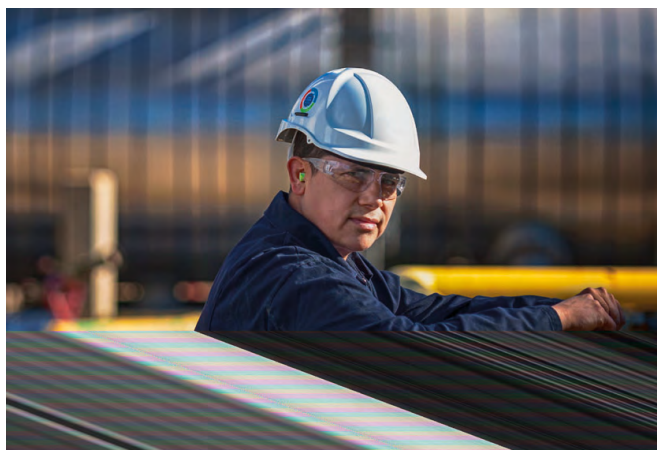


Q. Does the GD10P use a lot of power?

A. The GD10P has a low power consumption of 140 mA (typical) to reduce the load on the UPS.

Q. For what applications is the GD10P best suited?

A. Marine and Jack up Rigs; FPSO/ FSO/ MOPU; Oil and Gas Offshore Drilling Rigs; Chemical and Petrochemical Plants; Waste Disposal; Gas Turbines; General Industry.

**Q. Is the GD10P complicated to install?**

A. No, this unit comes ready to use right out of the box, reducing overall installation time.

Q. Is the GD10P suitable for high-speed applications?

A. With a selectable response rate, this is the fastest IR point detector on the market making it ideal for speed critical applications.

**Q. Does the system include preventative maintenance notifications?**

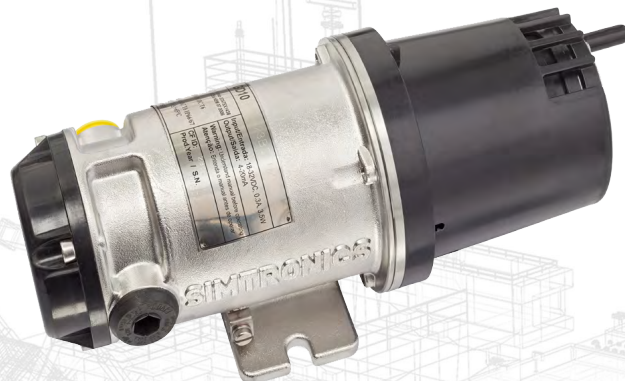
A. The GD10P contains an early, dirty optics warning system that allows for improved preventative maintenance.

Q. Is field recalibration required?

A. True dual path, double compensation optical design means that no field recalibration is needed.

Q. Can I retrofit my application with the GD10P?

A. Yes! A bridge interface is available, which allows the GD10P to be directly connected to catalytic systems via the existing cabling and control modules.



The GD10P fixed gas detector is the benchmark for combustible gas detection on offshore installations and has set the standard in the areas of safety, stability and low maintenance. The GD10P differs from other products because it uses silicone based solid-state infrared sources and has a complete optomechanical design and construction.

The design is so stable it allows for an ultra-fast speed of response while providing unparalleled service life and detector stability, saving on maintenance and service costs.



- Solid state IR sources for superior long-term performance compared to filament lamps
- High IR source flash rate provides improved stability and speed of response
- True dual path, double compensation optical design means no recalibration. All changes in the optical path are accounted for and monitored.
- A selectable response rate makes this the fastest IR point detector on the market, ideal for speed critical applications
- Dual layer weather protector requires no mesh, gauze, hydrophobic filters or sinters. No delay, no failure on demand
- An early, dirty optics warning allows for improved preventative maintenance
- Integral termination compartment reduces installation time. This unit is ready to use, out of the box
- Low power consumption reduces the load on the UPS
- Independently heated mirror and lens provide high performance detection in rough environmental conditions

APPLICATIONS

- FPSO/ FSO/ MOPU
- Marine/ Jack up Rigs
- Oil & Gas Offshore Drilling Rigs
- Chemical and Petrochemical Plants
- Waste Disposal
- Gas Turbines
- General Industry

APPROVALS

- TEX: Certificate Nemko 07ATEX1438
- IECEx: Certificate IECEx NEM 07.0006
- CSA: C22.2 No. 152, Certificate 1773527
- SIL: Certificate TÜV 968/FSP 1186.00/15
- Other: ABS, INMETRO (UL variant available)

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Martek Sustainability Statement

We are dedicated to building a sustainable and profitable business while continuing to operate responsibly with honesty, integrity and fairness.

At Martek Marine, we are committed to establishing high ethical standards of behaviour and effective corporate governance. This defines our strategic and financial objectives. Corporate responsibility remains central to delivering our strategy and achieving our success.

We are committed to conducting business in an environmentally responsible manner. We are putting in place processes to understand and address our responsibilities in respect of our operational impacts on the environment.

We aim to reduce the use of replacement parts and calibration to help overcome waste and excessive carbon emission.

Pioneering sustainable and innovative solutions for ship safety, performance and crew welfare.

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