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Optima Plus

Hydrocarbon, solvent and alcohol gas detector

Technical specifications

Measurement range: 0-100% LEL with a wide range of calibration curves for hydrocarbons, solvents and alcohols.
Power supply: 18 to 32 V DC (24 V nominal), <4.5 W max
Output signals:
- Linear output: 4-20 mA receiver or autosensor transmitter
- Deactivation: 1 to 3 mA (2 mA by default)
- Fault: 0 mA (HART® units adjustable to 1 mA)
- Overscale: 20 to 21.50 mA (21 mA default)
- Digital output: Optional Modbus RS485 multipoint port

Material / Weigh: 316 stainless steel / 1.6 kg
Base point accuracy:
- Optima Plus (hydrocarbons) <± 1% DPE (full scale)
- Optima Plus (ethylene) <± 2% DPE (full scale)

Response time: T90 <4 seconds (methane)
Temperature range: from -40 ° C to +65 °C.
Protection: IP 66/67
Diagnosis: With XNX certified portable interrogator or HART communication (and recalibration)
Certifications:
- ATEX : II 2 GD Ex d op is IIC Gb Ex tb IIIC Db
- UL: Class 1, Groups B, C and D (Tamb -40 to +65 ° C)
- InMetro (Brazil) : BR-Ex d IIC T4 IP66/67 (-40 °C ≤ Ta ≤ +65 °C)
- CSA: Class I, division 1, groups B, C and D, (40 ° C to +65 ° C)
- FM: Class I, Division 1, Groups B, C and D
- CU-TR Ex Homologation (Eurasian) - XTC version (Russia)
- Level 2 of safety integrity IEC61508
- Electromagnetic compliance EN 50270: 2006
- Marine MED Directive relating to marine equipment, standard certification by DNV, BV, ABS, Lloyd's Register

Product description

The **Searchpoint Optima Plus** is an infrared hydrocarbon gas detector certified for use in an explosive atmosphere (ATEX zone). Available for many flammable gases, it differs from other infrared absorption models by a very fast response time with a T90 of less than 4 seconds for methane.

It is particularly well suited for applications likely to be affected by poisons or inhibitors harmful to catalytic bead sensors, but especially in processes with permanent presence of explosive gases, solvents or alcohols, even at low concentrations.

A high performance infrared gas detector

The **Searchpoint Optima Plus** is a high performance infrared hydrocarbon gas detector with a very large library of flammable gases with almost a 100 available calibration curves.

It uses a double infrared beam measurement technology with an ultra-fast response time. The device requires reduced routine maintenance compared to conventional catalytic filament gas detectors. And offers secure operation thanks to integrated self-monitoring.

Advanced algorithms for internal fault diagnosis and rejection of false alarms ensure optimum operational integrity. With its high-performance optical unit and its robust stainless steel housing, it is particularly well suited for the most demanding industrial applications.

It is equipped with the HART® communication protocol (Highway Addressable Remote Transducer) to access complete diagnosis, configuration or calibration information from a control room or through a portable HART® device.

The Optima Plus gas detector assets

- Nearly a 100 available calibration curves (hydrocarbons, solvents, alcohols).
- Response time: T50 <3 seconds, T90 <4 seconds (methane).
- Linear output 4-20 mA HART with a <± 1% DPE accuracy.
- Dynamic heat control for a non-condensing optical system.
- Optical auto-compensation for greater stability.
- Remote functional gas testing device.
- No saturation effect, the detector is able to measure gas concentrations up to 100% / vol.
- Immunity against poisons and catalytic inhibitors.
- Operation possible in inert atmospheres.
- ATEX, IECEx, UL, CSA worldwide certifications.

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Gas	LEL	Standard	Code	Model
Acetone	2,5 %	EN60079	2108D3013	HC
Band A	NC	EN50054	2108D3150	HC
Band B	NC	EN50054	2108D3151	HC
Band C	NC	EN50054	2108D3152	HC
Band D	NC	EN50054	2108D3153	HC
Benzene	1,2 %	EN60079	2108D3227	ETH
Super 60/95	1 %	EN50054	2108D3047	HC
1,3-Butadiene	1,4 %	EN60079	2108D3229	ETH
Butane	1,4 %	EN60079	2108D3173	HC
Butanone	1,8 %	EN60079	2108D3023	HC
Butyl acetate	1,2 %	EN60079	2108D3021	HC
Chloroethane	3,6 %	EN60079	2108D3084	HC
Cyclohexane	1,2 %	EN60079	2108D3025	HC
Cyclohexanone	1 %	EN60079	2108D3027	HC
Decamethy tetrasiloxane (DCMTS)	0,9 %	EN50054	2108D3060	HC
1,2-Dichloroethane	6,2 %	EN60079	2108D3090	HC
Diethyl ether	1,7 %	EN60079	2108D3049	HC
Dimethyl ether	2,7 %	EN60079	2108D3098	HC
Ethane	2,5 %	EN60079	2108D3171	HC
Ethanol	3,1 %	EN60079	2108D3029	HC
3-Ethoxy-1-Propanol	1,3 %	EN50054	2108D3094	HC
1-Ethoxy-2-Propanol	1,3 %	EN50054	2108D3111	HC
Ethyl acetate	2,2 %	EN60079	2108D3031	HC
Ethylene	2,3 %	EN60079	2108D3240	ETH
Heptane	1,1 %	EN60079	2108D3033	HC
Hexamethy disiloxane (HMDS)	1,3 %	EN50054	2108D3017	HC
Hexane	1 %	EN60079	2108D3035	HC
1-Hexene	1,2 %	EN50054	2108D3083	HC
Isobutane	1,3 %	EN60079	2108D3070	HC
Methane	4,4 %	EN60079	2108D3170	HC
Methane	5 %	EN50054	2108D3001	HC
Methane 0-100 %/vol.	NA %	EN50054	2108D3050	HC
Methanol	5,5 %	EN60079	2108D3041	HC
1-Methoxy-2-Propanol	1,8 %	EN50054	2108D3093	HC
Methy l amyl Ketone (MIAK)	1,3 %	EN50054	2108D3108	HC
Methyl isobutyl Ketone (MIBK)	1,2 %	EN50054	2108D3068	HC
Octamethyl tetrasiloxane (OMTS)	0,9 %	EN50054	2108D3063	HC
Octane	0,8 %	EN60079	2108D3062	HC
1-Octene	0,7 %	EN50054	2108D3081	HC
Pentane	1,4 %	EN60079	2108D3056	HC
1-Pentene	1,4 %	EN50054	2108D3077	HC
Propan-1-ol	2,2 %	EN60079	2108D3085	HC
Propan-2-ol	2 %	EN60079	2108D3037	HC
Propane	1,7 %	EN60079	2108D3172	HC
Propyl acetate	1,7 %	EN60079	2108D3039	HC
Propylene Glycol Methyl Ether Acetate (PGMEA)	1,3 %	EN50054	2108D3101	HC
Styrene	1,1 %	EN60079	2108D3228	ETH
Toluene	1,1 %	EN60079	2108D3043	HC
o-Xylene	1 %	EN60079	2108D3045	HC
p-Xylene	1 %	EN60079	2108D3055	HC

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