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MLD GAS DETECTOR
with NevadaNano MPS™ Technology inside

Molecular Leakage Detector

For Flammable Gas and A3 Refrigerants

The MLD is a cost effective, long life flammables gas detector, based on MPS technology, that reduces maintenance needs and allows the customer to have highly reliable product with the latest technology. It comes in two versions, with NevadaNano S4 or Mini sensor.
Both versions have the “In Flame Start” function, able to detect gas presence even at the first start up, as soon as the detector is powered.
The MLD detector for Flammables is able to detect the following gases: **butane, ethane, hydrogen, isobutane, isobutylene, isopropanol, methane, methyl ethyl ketone, octane, pentane, propane, propylene, toluene, xylene**.
Highly flexible and reliable, this detector combines the Molecular Property Spectrometry technology with a specific electronic providing a digital Modbus RS485 and 2x analogue outputs in ATEX certified package.
It is also equipped with two programmable relays (Alarm 1 and Alarm 2) to offer a clean signal that can be managed in an intuitive way.
It comes with 1,5 or 3 meters cable.

Part Number Definition

MLD- S4 F62-3

- Part Series
- Sensors Type
  - S4 = NevadaNano Type S4
  - MN = NevadaNano Type MINI
- Gas configuration
  - F6 = Flammable gas (A3 refrigerants)
- Power Supply
  - 1 = 12VDC
  - 2 = 24VDC
- Cable lenght
  - blank = 1,5 meter
  - 3 = 3 meters

Applications

- **Leak detection in Oil & Gas piping, drilling, transportation and production**
- **Mining**
- **Petrochemical, chemical, cosmetics and pharmaceutical industries**
- **ATEX areas**
- **HVAC-R applications**

Features & Benefits

- **No field calibration needed**
- **Immunity to poisoning**
- **Gas recognition and selectivity**
- **Fail Safe (built in diagnostic)**
- **Long life (+15 years without calibration)**
- **Wide Temperature working range (from -40° to +70°C)**
- **High accuracy with built-in Temperature, humidity and pressure sensors**
- **T - Rh - P values available as signals**
- **Multiple digital and analog outputs**
- **Low total cost of ownership**

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TECHNICAL FEATURES

TECHNICAL DATA	MLD Flammables with NevadaNano Mini 5.0	MLD Flammables with NevadaNano S4 5.0
Sensor Technology	Molecular Property Spectrometry	
Response Time (T90)	<20 sec.	
Resolution	0,1% LEL	
In Flame function	YES	
Outputs	Digital: Modbus (RS-485) - Analog: 4-20mA - Analog: 0-2.9V Dry Contacts: 2x Alarm Relays (LOW conc. - HIGH conc./FAULT)	
Visual information	3 x LED (Status, Alarm LOW, Alarm HIGH/FAULT)	
Supply voltage	12 Vdc - 24 Vdc	
Power consumption	Avg. 50mA Peak: 60mA (12VDC) | 80mA (24VDC)	
Dimensions	13.0 x 8.0 x 2.5 cm	13.0 x 8.0 x 4.0 cm
Operating temperature	-40° to +70°C (12VDC) | -40° to +60°C (24VDC)	
Operating humidity	0 to 100 %RH	
Operating pressure	80 to 120 kPa	
Certifications & Approvals	CE, EMC, Rohs, EN60079-0, EN60079-11, ATEX SIL1/2 conformity according to EN50402 / IEC 50271 / IEC 50270 / IEC61508 pending	

GAS[1]	Formula	Class[5]	Detection Range [%LEL]	% Volume of gas at 100 %LEL (IEC60079-20-1)	MPS Accuracy 0 to 50 %LEL (IEC60079-20-1)
butane (R600)	C_4H_{10}	4	0-100	1.4 %VOL	±5 %LEL
ethane (R170)	C_2H_6	4	0-100	2.4 %VOL	±5 %LEL
hydrogen	H_2	1	0-100	4.0 %VOL	±7 %LEL
isobutane (R600a)	$HC(CH_3)_3$	4	0-100	1.3 %VOL	±9 %LEL
isobutylene	C_4H_8	4	0-100	1.8 %VOL	±5 %LEL
isopropanol	C_3H_8O	4	0-100	2.0 %VOL	+20 %LEL
methane (R50)	CH_4	3	0-100	4.4 %VOL	±3 %LEL
MEK	C_4H_8O	5	0-100	1.5 %VOL	+16 %LEL
pentane (R601)	C_5H_{12}	5	0-100	1.1 %VOL	±6 %LEL
propane (R290)	C_3H_8	4	0-100	1.7 %VOL	±8 %LEL
propylene (R1270)	C_3H_6	4	0-100	2.0 %VOL	±5 %LEL
acetone	C_3H_6O	5	0-100	2.5 %VOL	+24 %LEL
ethylene	C_2H_4	4	0-100	2.3 %VOL	-14 %LEL
heptane	C_7H_{16}	5	0-100	0.85 %VOL	±15 %LEL
octane	C_8H_{18}	6	0-100	0.8 %VOL	±15 %LEL
styrene	C_8H_8	6	0-100	1.0 %VOL	-17 %LEL
toluene	C_7H_8	6	0-100	1.0 %VOL	±13 %LEL
xylene	C_8H_{10}	6	0-100	1.0 %VOL	±13 %LEL

1. The MLD as configured is confirmed to detect a variety of other gases not shown in the table above. These include: butene, acetylene, ammonia, cyclohexane, decane, diesel, dimethyl carbonate, ethanol, gasoline vapors, hexane, and methanol. The sensor does not provide accuracy to these gases and will systematically over- or under-report, depending on the gas, and special precautions should be taken when using the MLD to detect these gases.
2. Class values shown in table will typically be accurate across the full environmental range, but were determined near standard conditions: 20°C, 50%RH.
For more details about the Class indication refer to the User Manual or contact support@gvzcomp.it

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