GAS SENSE GAS DETECTION SYSTEMS

GS-220.B.V GAS SENSOR

INSTRUCTIONS FOR USE



ATENTION !
-When used in explosive environment - Do not open when energized.

GENERAL INFORMATION
Gas sensor GS-220.B.V is intended for detection of explosive and toxic gases. GS-220.B.V is available for detection of different gases depending from gas detection element.

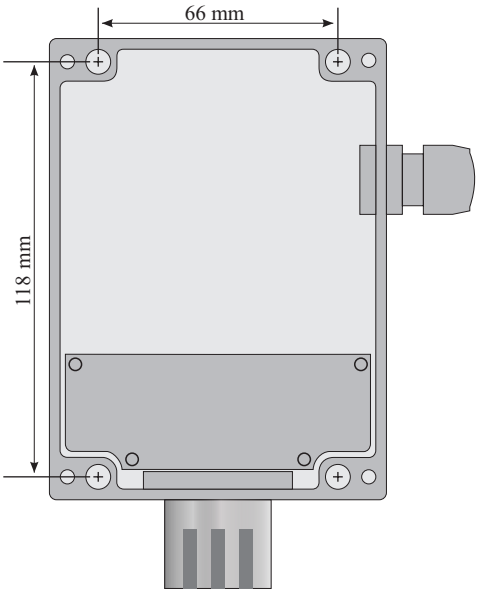
TECHNICAL INFORMATION:

Detected gases	Explosive and toxic gases
Sizes	155 x 95 x 48мм
Power supply	12 - 24 V/DC
Power consumption	2 W
Indication	LED
Alarm levels	Warning, Al1, Al2, FAULT
Output signals	Transistor/RS485
Working temperature	-20 - +50°C
Weight	0,520 кг
Enclosure	Aluminum
Ingress protection	IP65
Conformity mark	CE
ATEX certification	Ex II 2 G Ex ia IIC T5

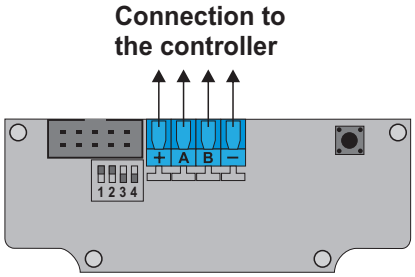
MOUNTING:
Gas sensor for monitoring of flammable gases and leakages of toxic gases should be installed close to potential sources of release; for gases heavier than air below and for gases lighter than air above the source of release. Sensors for monitoring at working places are installed at face / respiration level.

Gas sensor GS-220.B.V is attached to the wall via 4 mounting screws. Sensor opening to be placed downwards.

Drilling diagram:



Connection diagram:



Electrical connections:
Gas sensor GS-220.B.V must be connected to the controller via the 4 core cable.

WORKING MODES:

Initial stabilisation
Preheating and initial testing of gas sensing element.
Indication: Green LED is blinking fast. Transistor outputs are not active.

Working mode
In this mode sensor is ready to detect gas concentration.
Indication: Green LED is blinking slow. Transistor outputs are not active.

Warning alarm
In this mode gas sensor detects increased gas concentration but before preset limits.
Indication: Red LED is blinking slow. Transistor outputs are not active.

Alarm 1
First alarm level is reached.
Indication: Red LED is blinking fast. Transistor output 1 is active.

Alarm 2
Second alarm level is reached.
Indication: Red LED lights permanently. Transistor outputs 1 and 2 are active.

FAULT
Sensor element fault.
Indication: Orange LED is blinking. Transistor outputs are not active.

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SENSOR CALIBRATION

Gas sensors need to be calibrated and periodically checked to ensure sensor accuracy and system integrity. It is important to install stationary sensors in locations where the calibration can be performed easily. The intervals between calibration can be different from sensor to sensor. However, it is good general practice to check the sensor during the first 30 days after installation. During this period, it is possible to observe how well the sensor is adapting to its new environment. If the sensor functions properly for 30 continuous days, this provides a good degree of confidence about the installation. Any possible problems can be identified and corrected during this time. Experience indicates that a sensor surviving 30 days after the initial installation will have a good chance of performing its function for the duration expected. Most problems such as an inappropriate sensor location, interference from other gases, or the loss of sensitivity will surface during this time. Afterward, a maintenance schedule, including calibration intervals, should be established.

Normally, a 6-monthly calibration period is adequate to ensure the effectiveness and sensibility of each sensor. This check will also afford you the opportunity to maintain the system's accuracy.

CALIBRATION PROCEDURE

Calibration of the gas sensor involves two steps. First the "zero" must be set and then the "span" must be calibrated.

1.To initiate calibration pres and hold the tactile button on the PCB or place the magnetic gas calibration cup.
2.After 5sec all LED's will light.
3.After more 2sec yellow LED will turn OFF, red LED is ON and green LED is blinking 1 time for 1 second for the period of 30seconds. In this case you may chose from the following:
-To calibrate the sensor - continue holding the button and apply zero gas;
-To refuse calibration on ZERO air - relax the button (remove the magnetic cap) - red LED will light for 2 sec.
4.Green LED and red LED start to blinking alternately. Now you must apply the span gas and again pres and hold the button or place the magnetic gas calibration cup. Now the alarm levels are automatically adjusted. Red LED lights and green LED is blinking 2 times at every 2 seconds for 30 seconds. In this case you may chose from the following:
-To calibrate the sensor - continue applying span gas for 30 seconds and red LED will light for 2 seconds confirming alarm levels setting;
-To refuse calibration of alarm levels - relax the button or remove the magnetic cap and red LED will light for 2 seconds.
5.When you complete the above steps calibration is finished and all LED's will light for 5 seconds.

NOTE: *If during the calibration you release the button or remove the magnetic cap for more than 4 minutes calibration will be terminated and previously saved values for pure air and alarm levels will be recovered.*

CONNECTION SENSOR - CONTROLLER:

DISTANCE	RECOMENDED CABLE
<100m	4x0,5 mm
100 - 250m	4x0,75 mm
250 - 500m	4x1,0 mm

WARRANTY

We hereby guarantee that **GAS DETECTION SENSORS GS-220.B.V** has been manufactured and tested to the highest quality standards.

We warrant above products to be free from materials and work defects for the period of 12 months from the date of purchase. If such defects appears during the warrantee period products will be repaired or replaced with new products without charge.

ORDERRING CODES:

Model	Detected gas	Formula
GS-220.B.V.02-04	Methane	CH4
GS-220.B.V.02-07	LPG	CxHx
GS-220.B.V.02-05	Ethanol	C2H5OH
GS-220.B.V.02-06	Hydrogen	H2
GS-220.B.V.02-25	Acetylene	C2H2
GS-220.B.V.02-08	Organic solvents	CxHx
GS-220.B.V.01-10	Refrigerants	XX
GS-220.B.V.03-70	Oxygen	O2
GS-220.B.V.03-51	Carbon monoxide	CO
GS-220.B.V.03-57	Hydrogen sulphide	H2S
GS-220.B.V.02-09	Ammonia LEL	NH3
GS-220.B.V.03-60	Amonia 0-100ppm	NH3

MANUFACTURER:

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