

Gas detector

SENS SG-A1

NPP SENSOR Datasheet GS 17.05



Application

Designed for automatic continuous measurement of the under-explosive concentration of combustible gases and vapors, including vapors of petroleum products in the air.

Explosion hazardous areas of rooms and external installations at sites of chemical, energy and mechanical engineering industries.

Can be installed on open sites in conditions of precipitation and solar radiation exposure.

Features

- Vandal-proof solid case made of aluminium alloy with anticorrosive coating.
- A large selection of cable shield mounting devices.
- A wide selection of the data output interfaces for the measured LFL value: 4-20 mA (HART), RS-485 (Modbus RTU), SENS.
- Two relays for automatic switching of the emergency protection actuators in case if the specified LFL value was exceeded or the gas detector had a malfunction.
- Self-test with status indication.
- Indication of exceeding the specified LFL level.
- Ambient operational temperature range is from minus 40 to plus 60 °C.
- Replacable optical gas sensor.



Description

The principle of operation is based on the absorption of radiation in the infrared specter part by the detectable gases and subsequent transformation of the measured concentration of gas or vapor into a digital or analog signal. The sampling method is diffusion. The gas detector can be configured for multiple activation thresholds (up to five).

For optimal selection of the gas detector kit (cable entries kit, interface) we suggest you to use technical advice on application.

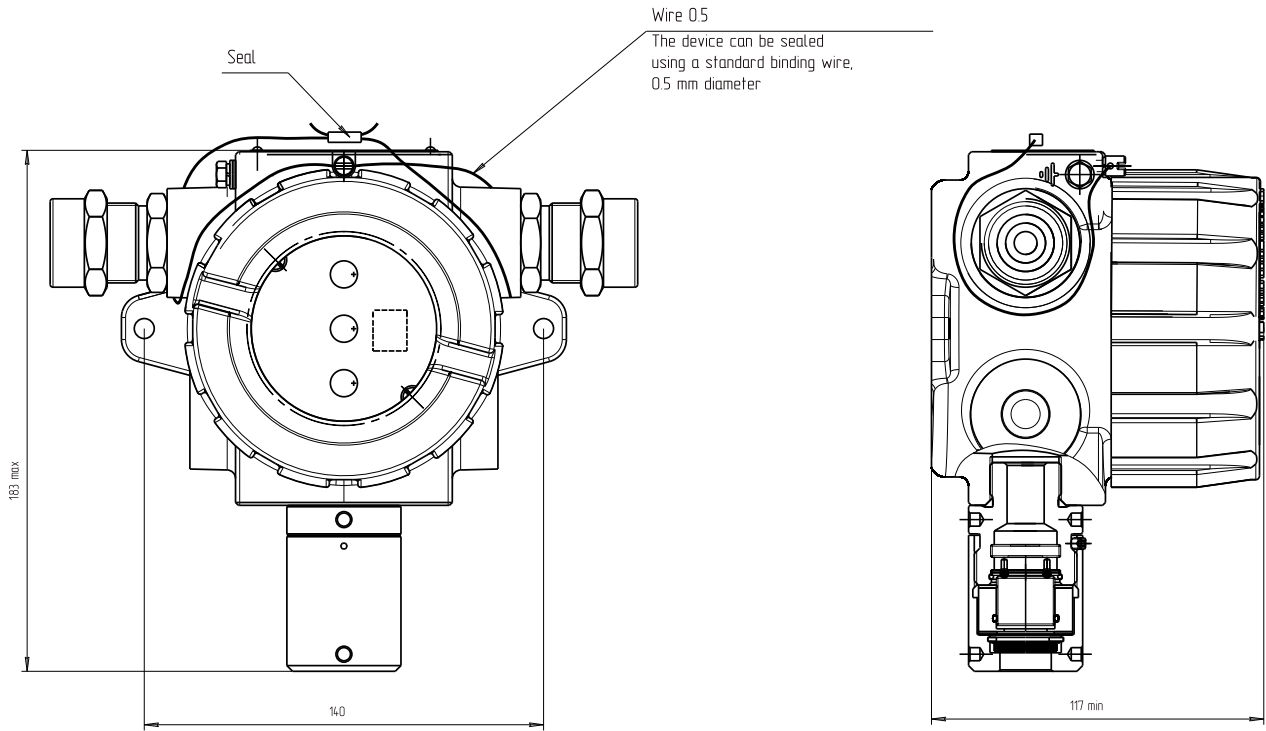
Certification

Ex-EAC	CU RU C-RU.MH04.B.00377
ISO 9001-2015	RU228579Q-U

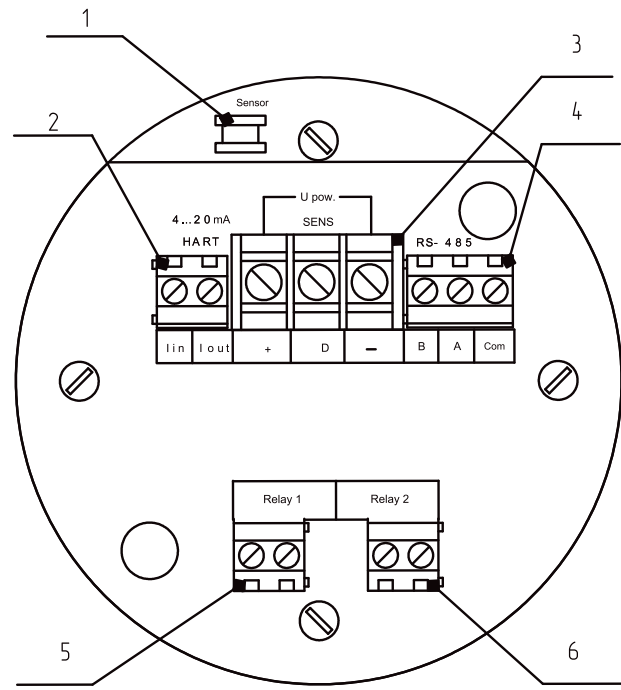
Main specifications

Measurement range for the verification component	from 0 to 100% of LFL
Indications setting time, s, not more than	60
The limits of accepted main inaccuracy for measurement: – absolute within measurement range from 0 to 60% of LFL, %, not more than – relative withing measurement range over 60 to 100% of LFL, %, not more than	± 3 ± 5
Output signal variation, LFL %, not more than	± 3
Limits for acceptable additional measurement inaccuracy in case of temperature variation withing ranges: – from -10 to +40 °C, LFL %, not more than – from -40 to -10 °C and from +40 to +60 °C, LFL %, not more than	± 5 ± 10
Limits of acceptable additional measurement inaccuracy in case of ambient air pressure variation with range from 89 to 120 kPa, pressure variation for each 3.3 kPa, LFL %, not more than	± 1.5
Limits of acceptable additional measurement inaccuracy in case of ambient relative humidity variation within range from 0 to 98%, LFL %, not more than	± 5 (at temperature 40 °C and relative humidity 50 %)
DC power supply voltage, V: – nominal – acceptable	9 from 4.5 to 30 (up to 18 when using «SENS» interface)
Power consumption, W, not more than	2.5
Power supply voltage at which malfunction alarm is activated, V	5 ± 0.4
Number of custom emergency signalling thresholds	5
Time of gas detector continuous operation, without null and sensitivity adjustments, at least	3 months
Self-test duration time after initial power-up, not more than	120 seconds
Maximal cross-sectional area of connected wires, mm ² , not more than	2.5
Climatic design under GOST 15150	UHL1*, but within temperatures range from -10 to +60 °C and with upper limit of relative humidity up to 98 %
Atmospheric pressure, kPa	from 80 to 120
Atmosphere type in accordance with GOST 15150	II
Ingress Protection Rating in accordance with GOST 14254	IP66
Marking of explosion protection	1ExdIIBT4Gb
Ambient temperature, °C	from -40 to +60
Overall dimensions W x H x D, mm	140 x 183 x 117
Mass, kg, not more than	3
Full service life, years	15

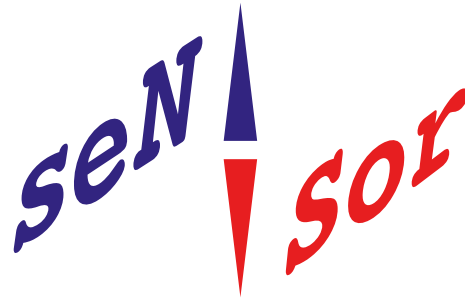
General view, overall dimensions



Connection diagram



1 – Sensing element connector, 2 – screw terminal clamp «4...20 mA», 3 – screw terminal clamp «SENS»,
4 – screw terminal clamp «RS-485», 5 – screw terminal clamp «Relay 1», 6 – screw terminal clamp «Relay 2»



CONTACT INFORMATION

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