GSX, GSW Series

Gas Sentinel gas and LPG leak detectors

Technical Data Sheet

WATTS®

Description

GAS SENTINEL are electronic natural gas or LPG detectors for domestic applications, available in surface wall-mounting (**GSX Series**) and flush wall-mounting (**GSW Series**) models.

These compact devices based on latest-generation technology are designed to trip in the event of accidental release of gas into the monitored area, exceeding a hazardous concentration threshold (10% LEL).

GAS SENTINEL detectors offer high levels of safety and reliability in accordance with the applicable regulatory requirements as certified and guaranteed by the **IMQ mark**.

All models are equipped with a visual and audible alarm, and an optional gas shut-off solenoid valve control. The same models of detector can be used as remote sensor units to create a monitoring network for multiple areas.

GSX

GAS SENTINEL

Surface wall-mounting **domestic gas leak detector**, controlled by microprocessor-based electronics, with audible and illuminating alarm, for connection to one or more **normally closed solenoid valves (GSAVR, GHAV, EV, EVO Series) or normally open solenoid valves (MSV, MSVO Series)**. Normal operating mode is automatically restored when the concentration of gas falls below the alarm threshold.

Supply voltage: 230V-50Hz. Input power: max. 3 W. Relay contact rating (resistive): 5A-250V.

Monitors the following gases: (MET version) methane, natural gas - (LPG version) propane, butane, LPG.

Trip threshold: 1st threshold = 10% LEL (Lower Explosion Limit).

Compliant with Directives LVD 2014/35/EU and EMC 2014/30/EU. EN 50194 compliant. IMQ/CIG certification mark.

Type	Part No.	Description	Version	Colour	Weight (g)
GSX	0941030	Methane and natural gas	Surface	White	270
GSX	0941530	LPG, Propane, Butane	Surface	White	270

GSW

GAS SENTINEL

Same characteristics as GSX but **for flush wall-mounting**.

Compatible with the most widely used DIN plates and electrical enclosures on the market.

Compliant with Directives LVD 2014/35/EU and EMC 2014/30/EU. EN 50194 compliant. IMQ/CIG certification mark

Type	Part No.	Description	Version	Colour	Weight (g)
GSW	0941040	Methane and natural gas	Flush	White	200
GSW	0941540	LPG, Propane, Butane	Flush	White	200

GAS SENTINEL KIT

Wall-mounting domestic gas leak detector kit combined with normally open gas solenoid valve (**MSVO Series**) or normally closed gas solenoid valve (**EVO Series**), with manual resetting. NO or NC solenoid valves.
Brass body.
Power supply: 230V.
Maximum operating pressure: 500mbar.
FF threaded connections: DN15 or 20.

Refer to the individual components for conformity and approvals.

Type	Part No.	Description	Version	Colour
GSX/15NC	K0941060	GSX NAT. GAS KIT+EVO15	Surface	White
GSX/20NC	K0941061	GSX NAT. GAS KIT+EVO20	Surface	White
GSX/15NA	K0941050	GSX NAT. GAS KIT+MSVO15	Surface	White
GSX/20NA	K0941051	GSX NAT. GAS KIT+MSVO34	Surface	White
GSX/15NC	K0941560	GSX LPG KIT+EVO15	Surface	White
GSX/20NC	K0941561	GSX LPG KIT+EVO20	Surface	White
GSX/15NA	K0941550	GSX LPG KIT+MSVO12	Surface	White
GSX/20NA	K0941551	GSX LPG KIT+MSVO34	Surface	White

Model	GSX	GSW
Device type (see note)	Type A	Type A
Fitting	surface	flush
GAS: - MET models	Methane and natural gas	Methane and natural gas
- LPG models	Propane, Butane, LPG	Propane, Butane, LPG
Trip threshold	10% LEL	10% LEL
Audible alarm	85 dB at 1 metre	85 dB at 1 metre
Sensor type	Solid-state semiconductor	Solid-state semiconductor
Service life	5 years	5 years
Power supply	230V - 50Hz	230V - 50Hz
Input power	Max 3 W	Max 3 W
Solenoid valve relay contact rating	250V - 5A (resistive)	250V - 5A (resistive)
Protection rating	IP 42 when correctly installed	IP 42 when correctly installed
Operating temperature	from -10 to 40°C	from -10 to 40°C
Storage temperature	from -20 to 50°C	from -20 to 50°C
Relative humidity (non-condensing)	30-90%	30-90%
Insulation	Class II	Class II
Weight	270g	200g
Mounting	Holes compatible with the most widely used flush-mount boxes on the market	Compatible plates: AVE, Banquise model BTicino, Light and Living/Living International model Gewiss, Top System model Vimar, Idea and Plana model

NOTE: Standards EN 50194 and CEI 216-8 define **Type A** as detection apparatus designed to provide a visual and audible alarm and an executive action in the form of an output signal that can actuate directly or indirectly a shut-off device and/or other ancillary device; and **Type B** as detection apparatus designed to provide a visual and audible alarm only.

Application and operation

Both the surface-mount and flush-mount versions of GAS SENTINEL are equipped with a latest-generation electronic microprocessor circuit that incorporates a solid state semiconductor sensor (non catalytic), also known as an "electronic nose".

The sensor has an expected service life of 5 years. Furthermore, the electronic board of the detectors is equipped with an internal memory that triggers a flashing yellow LED after five years of service, to indicate that the device needs to be replaced with a new one.

GAS SENTINEL detectors are equipped with a programming button and a series of indicator lights that indicate the operating status of the device.

The electronic circuit of the gas detectors is equipped with a self-test programme, which continuously monitors the correct operation of the device: a yellow LED will illuminate in the event of any malfunction or critical fault affecting the sensor or main components.

Red
Alarm

Yellow
Malfunction o broken

Green
Always operative, normal operation

PROG
Organisation button master/slave

The GAS SENTINEL has a warm-up time of 2.5 minutes from power ON, during which time the LEDs light up in sequence and the detector is not operational. This is the necessary time to bring the sensor up to its optimum operating temperature.

In the event of an indoor gas leak, the percentage of gas increases until it reaches a concentration limit (LEL = Lower Explosion Limit), above which a minimum ignition source is enough to cause an explosion.
GAS SENTINEL detectors measure the gas concentration and if it exceeds the threshold (10% LEL), they trigger an audible and visual alarm. If connected to a solenoid valve, they also shut off the gas supply.

Thanks to the possibility of connecting multiple GAS SENTINELS together in a network, it is possible to monitor up to 11 different environments simultaneously; one detector (master) acts as the control unit and the others (slave) act as gas sensors. When multiple GAS SENTINELS are connected together in a network, the solenoid valve is controlled by the master detector only.
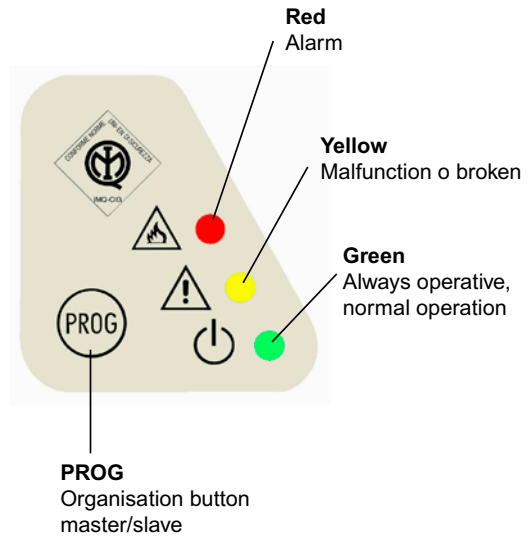
Control system with solenoid valve (NC, NO) and a network of detectors

Master   **Slave**   **Slave**   **Slave**

Network

**Solenoid valve**

Installation

The GAS SENTINEL detector must be installed in a position where the gas to be monitored tends to accumulate - see Figures 1 and 2:
- install the detector (surface-mount or flush-mount) at a distance of 0.30 to 4 m from gas appliances;
- do not install the gas leak detector near sinks, cooktops, vents or extractor fans as these could alter the gas concentration locally, causing false alarms;
- always use solenoid valves with manual resetting.

• **MET version (methane or natural gas): max. 30 cm from the highest point of the ceiling**

Installation example for natural gas detector

Fig.1
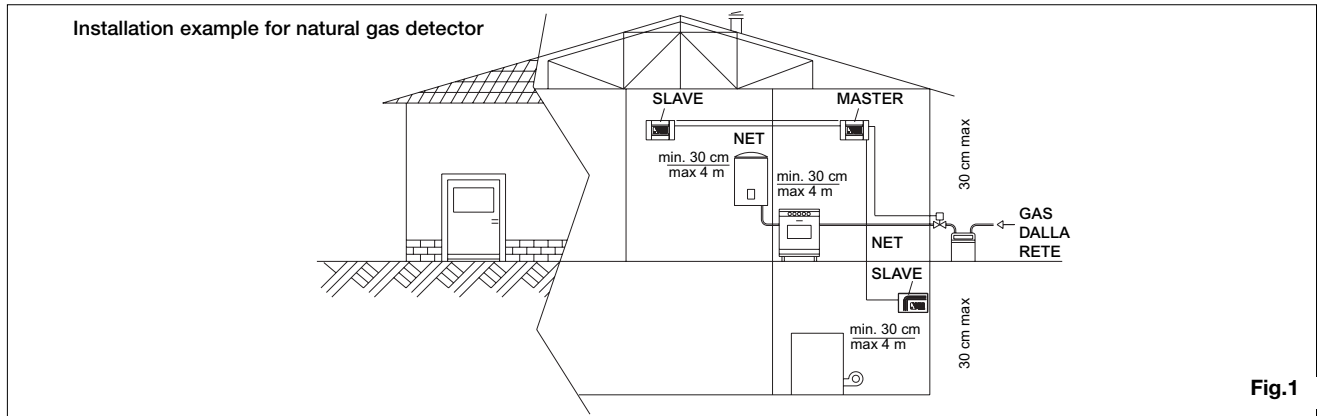
• **LPG version (butane, propane, LPG): max. 30 cm from floor level**

Installation example for LPG detector

Fig.2
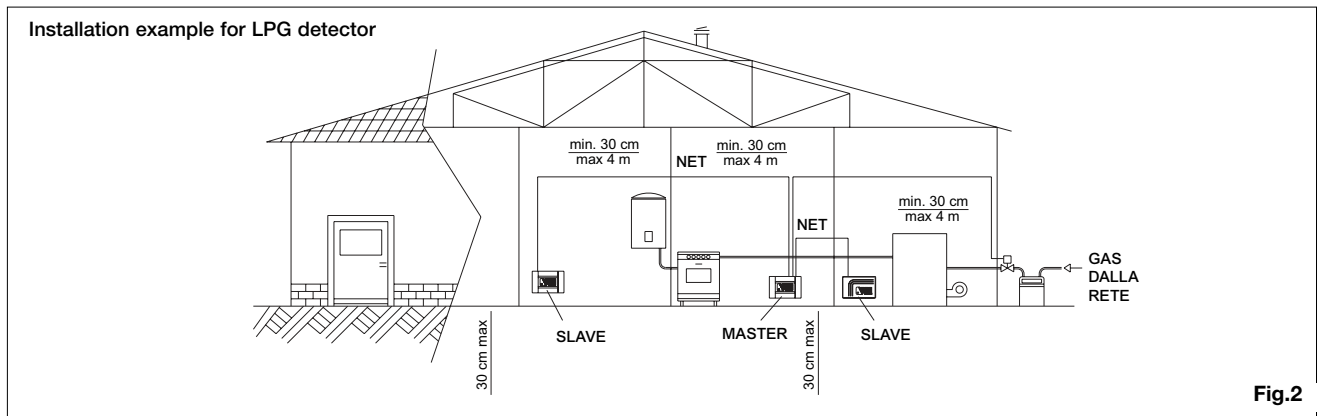
To check that the gas leak detectors are working properly, spray a small quantity of gas from the test canister into the area around the aperture, and wait for the detector to indicate the presence of gas by means of an audible alert and a flashing red LED. If the gas is detected continuously for more than 30 seconds, the flashing red LED will become steadily lit, the audible alarm will sound and the solenoid valve control relay will activate. Functional testing of the gas detector must NOT be done with a cigarette lighter, which could cause unduly high peak concentrations of gas that may compromise the correct operation of the sensor for up to a week. The GAS SENTINEL detector must be connected to a 230V-50Hz power supply using the appropriate terminals (N-L); connect the solenoid valve (if applicable) to the appropriate terminals (Nc - C - No) as shown in diagrams 1 and 2.

All connections must be made with built-in wiring.

- use adequately insulated electrical cables with a section of at least 1.5-2mm;
- for connection in a network (NET terminal block) use shielded twisted pair cable only;
- electrical power must be supplied to all the detectors, regardless of whether they are programmed as master or slave.

Configuration 1
Connection with 230V-50Hz solenoid valve
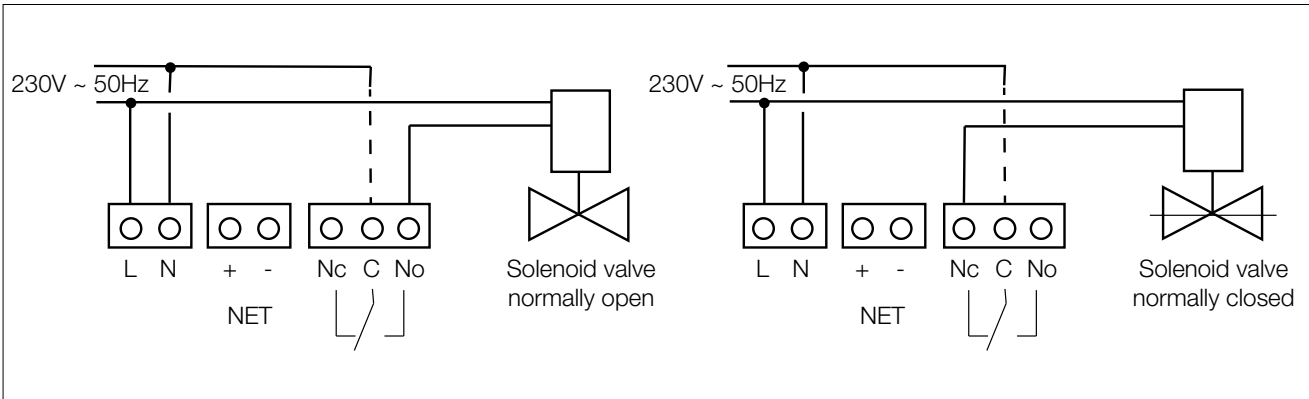
Configuration 2
Connection with 12VDC - 12VAC - 24VDC - 24VAC solenoid valve
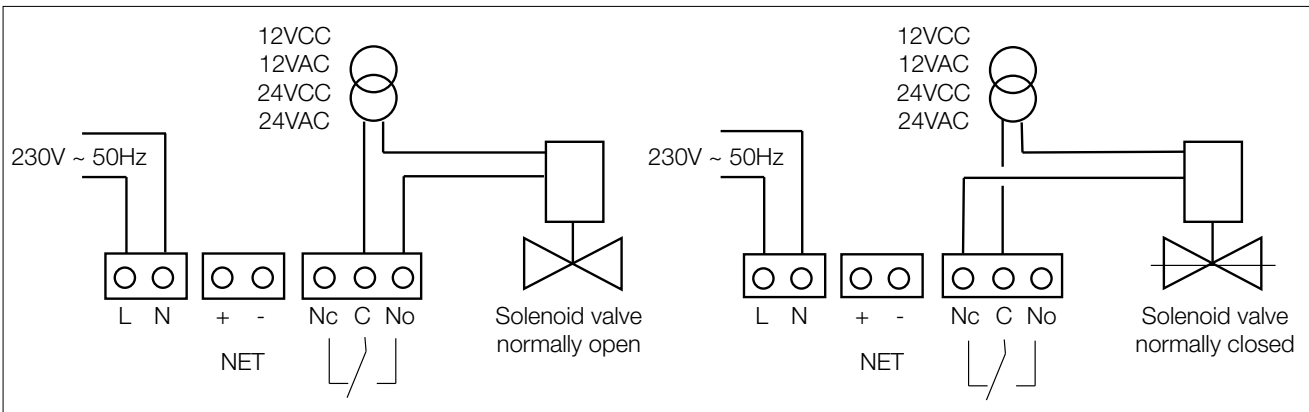

Maintenance

GAS SENTINEL detectors require no special maintenance.
Simply dust periodically with a dry cloth without alcohol or solvents. The device's settings cannot be changed. If the fault indicator light (yellow) illuminates, replace the product with a new one.
If the yellow indicator light illuminates intermittently, this means the product has reached the end of its service life. It is still operational but must be replaced with a new one as soon as possible.

Overall dimensions (mm)

GSX
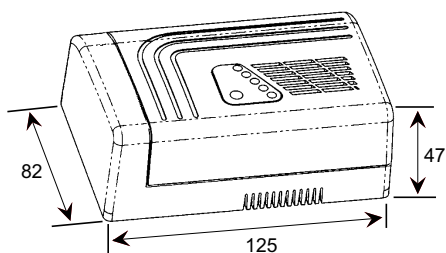
GSW
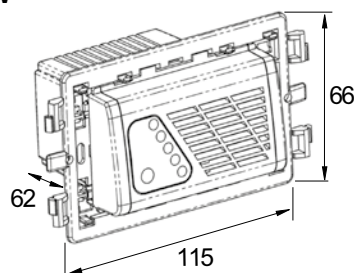
Specification text

GSX Series

GAS SENTINEL wall-mounted gas leak detector **GSX Series** – WATTS brand – for domestic applications, controlled by microprocessor-based electronics, with audible and illuminating alarm, for connection to one or more normally closed or normally open solenoid valves. Normal operating mode is automatically restored when the concentration of gas falls below the alarm threshold. Supply voltage: 230V-50Hz. Input power: max. 3W. Relay contact rating (resistive): 5A-250V. Monitors the following gases: (MET version) methane, natural gas - (LPG version) propane, butane, LPG. Trip threshold: 1st threshold = 10% LEL (Lower Explosion Limit). Compliant with Directives LVD 2014/35/EU and EMC 2014/30/EU. Complies with CEI 216-8.

GSW Series

GAS SENTINEL flush-mounted gas leak detector **GSW Series** – WATTS brand – for domestic applications, compatible with the most widely used DIN plates and electrical enclosures on the market. Controlled by microprocessor-based electronics, with audible and illuminating alarm, for connection to one or more normally closed or normally open solenoid valves. Normal operating mode is automatically restored when the concentration of gas falls below the alarm threshold. Supply voltage: 230V-50Hz. Input power: max. 3W. Relay contact rating (resistive): 5A-250V. Monitors the following gases: (MET version) methane, natural gas - (LPG version) propane, butane, LPG. Trip threshold: 1st threshold = 10% LEL (Lower Explosion Limit). Compliant with Directives LVD 2014/35/EU and EMC 2014/30/EU. Complies with CEI 216-8. GAS SENTINEL detectors require no special maintenance.