

# The JA-180G Wireless Gas Leak Detector

The JA-180G is a component of Jablotron's alarm system and detects mixtures of air and combustible gases or fumes (Natural Gas, Methane, Propane, Butane). The detector detects two levels of gas concentration, responding with two different reactions.

The mains-powered detector indicates a gas leakage optically, and acoustically, and transmits alarm wirelessly via Jablotron protocol.

## Installation

Installation shall only be undertaken by technicians holding a certificate issued by an authorized distributor. **Warning:** this device is connected to the mains. Installation should be done according to EN 50 244 by a person with a appropriate qualifications!

- Fix the detector on the wall. For gases lighter than air (natural gas, city gas etc.) install it close to the ceiling (max. 15 cm under it) or directly on the ceiling and on the place expected to have gas leakage. For gases heavier than air (propane, butane, etc.) install it close to the floor or on the lowest place of the room. The detector should not be located close to any obstacles preventing natural air circulation.
- The detector should not be located close to any obstacles preventing natural air circulation. It should also not be located in a draft or close to a cooker (cooking smells and other fumes can have a bad influence on gas detection)
- Connect the wires, set the detector's features using its DIP switches and close its cover.
- Before you connect power**, switch the control panel (receiver) to enrollment mode. The detector transmits enrollment signals when its power is connected.

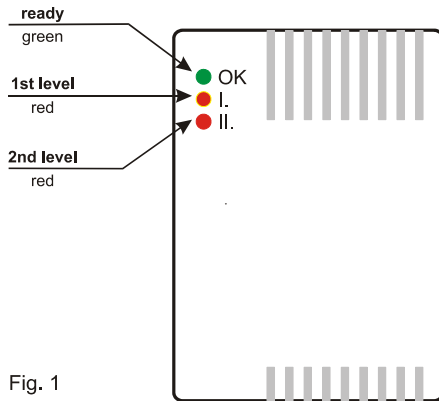


Fig. 1

## Power terminals

Route the power cable to the terminals marked 230V AC. The power inlet should be fused with an external fuse (max. 10A). Do not open the detector cover if the power is on.

## Output relay terminals

There is a dry relay switch-over contact available (max. 5A/230V AC)

- C** - common contact
- NO** - normally open contact
- NC** - normally closed contact

This relay output could be used for example to shut down the gas inlet if there was a gas leak (by means of a suitable electric gas valve).

**Warning:** The mains relay output does not provide mains isolation for safety!

## DIP switches

There are two DIP switches in the detector to set its features:

No.	OFF	ON
1	relay is triggered if the 1 <sup>st</sup> level of gas concentration is exceeded	relay is triggered if the 2 <sup>nd</sup> level of gas concentration is exceeded
2	indication of gas leakage will stop after the concentration drops down	indication of gas leakage will last until the detector power is switched off (memory function)

## Function

After switching the power on, the detector transmits its enrollment signal and the green LED flashes for about 90 seconds while the detector warms up. When the green LED lights constantly, the detector is ready for operation.

If the gas concentration reaches the 1st level, short beeps sound and the first red LED lights.

If the gas concentration reaches the 2nd level, long beeps sound and the second red LED lights.

The output relay reacts depending on DIP switch #1's setting.

A fire alarm signal is transmitted wirelessly at the same moment as the detector's relay reacts (depends on DIP switch #1's setting).

The JA-180G detector does not regularly check communication with the control panel (receiver), so the system will not indicate a lost detector during power dropouts.

**Warning - If there is a gas alarm, don't operate any switches or electrical devices. Open the windows, and stop the gas leak, if practical. Call the fire department immediately, but do not use a phone inside.**

LED indicators		
<b>Green</b>	○ OFF	- the gas detector is off
	○ flashes	- warming up
	○ ON	- ready for a gas alarm
<b>Red I.</b>	○ ON	- 1 <sup>st</sup> level of gas concentration
<b>Red II.</b>	○ ON	- 2 <sup>nd</sup> level of gas concentration
<b>Red II. Green</b>	○ Alternating flashes	- sensor error

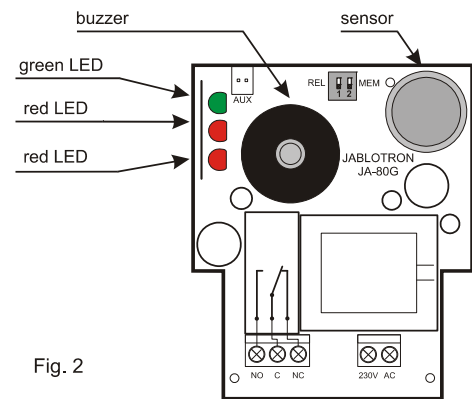


Fig. 2

## Maintenance and testing

Keep the detector clean, it is important that its grids should not be blocked with dust.

Use a gas cigarette lighter without the flame lit, to test the gas detector's reaction. The detector will react within 15 seconds.

Professional recalibration of the detector should be done at least every 1 year. Contact your distributor for more details.

## Specifications

Sensitivity (gas concentration):

	Methane	Propane
<b>Level 1</b>	10±3% LEL (0.50% vol.conc.)	18±3% LEL (0.30% vol. conc.)
<b>Level 2</b>	18±3% LEL (0.80% vol. conc.)	30±3% LEL (0.50% vol. conc.)

	Iso-butane
<b>Level 1</b>	23±3% LEL (0.30% vol. conc.)
<b>Level 2</b>	40±3% LEL (0.50% vol. conc.)

LEL = Lower Explosive Limit (100 %) according to EN 60079-20-1: for methane 4,4 % vol. conc., for prophane 1,7 % vol. conc., for iso-butane 1,3 % vol. conc., calibrated by iso-butane

- Power supply 230V(-15% to+10) / 50Hz, 2 W, protection class II
- Detection method hot platinum filament
- Buzzer sound level 94dB/0.3m
- Relay output optional for 1st or 2nd level, max.230V AC/5A
- Alarm memory selectable
- Response time 10 s
- Warm up time approximately 90 s
- Communication band 868.1 MHz, Jablotron protocol
- Communication range approx. 200m (open area)
- Dimensions, weight 101 x 74 x 39, 210 g
- Working environment indoor use, -10 to +40°C, IP30
- Complies with EN 50194-1, EN 60079-29-1, EN 50130-4, EN 55022, EN 60950-1, ETSI EN 300220
- For non-explosive areas. Zone 2 according to EN 60079-10.
- Can be operated according to ERC REC 70-03
- Certified by VVUU, cert. body No. 3076

**CE** Complies with the essential requirements of: EMC Directive 1999/5/EC concerning electromagnetic compatibility when used for its intended purpose. The original of the conformity assessment can be found at [www.jablotron.com](http://www.jablotron.com), Technical Support section.

Note: Although this product does not contain any harmful materials we suggest you return the product to the dealer or directly to the manufacturer after use.