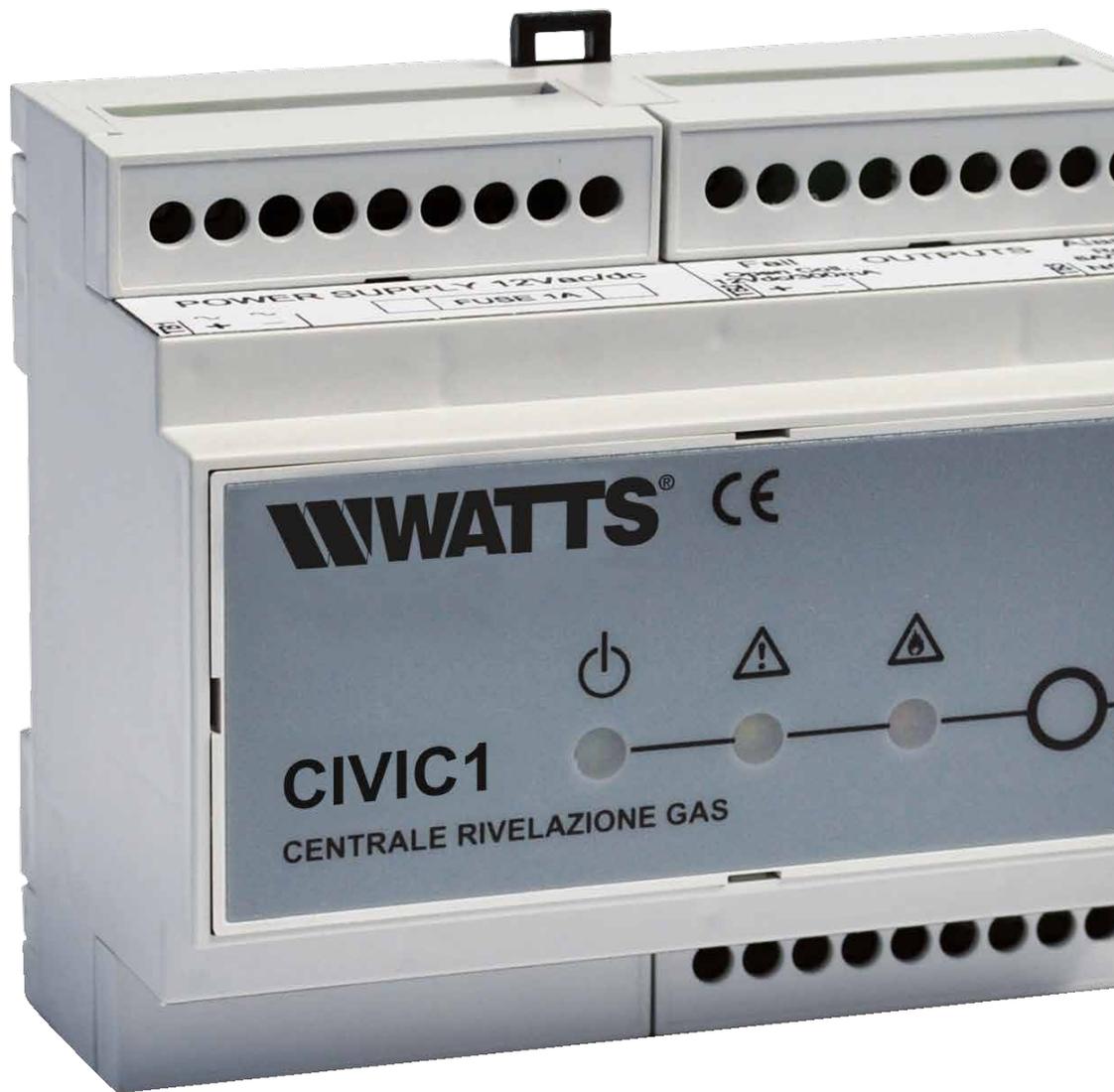


CIVIC1, CIVIC4 Series

Gas leak detectors

Technical Data Sheet



Description

CIVIC Series control units are designed for use in gas detection systems for residential, commercial, public and industrial environments, such as boiler rooms, workshops, warehouses, laboratories, etc. They are equipped with an internal alarm relay, which can be used to control a solenoid valve or auxiliary device (siren, flasher unit, extractor fan, etc.). Both models, CIVIC1 (one sensor) and CIVIC4 (up to 4 sensors), are predisposed for connecting **UR13 and UR21S Series** sensors, which are available in three versions, for detecting natural gas (CH₄), LPG and carbon monoxide (CO).



CIVIC1

Gas detector control unit for connecting 1 **UR13 or UR21S Series** sensor; with LED-based optical interface (power ON, fault, gas alarm) and internal buzzer-based acoustic interface. Control output for gas alarm and OC output for fault indication. In self-extinguishing plastic housing, for DIN-rail mounting.

Control outputs:

- 1 x 250VAC 8A SPDT alarm relay;
- 1 Open Collector for fault indication.

Protection rating: IP20 (IP40 when correctly installed in an electrical panel).

Compliant with Directives LVD 2014/35/EU and EMC 2014/30/EU.

| Type | Part No. | Power supply | Weight (kg) |
|--------|----------|--------------|-------------|
| CIVIC1 | 0940501 | 12V AC/DC | 185 |



CIVIC4

Gas detector control unit for connecting 4 **UR13 or UR21S Series** sensors; with LED-based optical interface (power ON, fault, gas alarm) and internal buzzer-based acoustic interface. Control output for gas alarm and OC output for fault indication. In self-extinguishing plastic housing, for DIN-rail mounting.

Control outputs:

- 1 x 250VAC 8A SPDT alarm relay;
- 1 Open Collector for fault indication.

Protection rating: IP20 (IP40 when correctly installed in an electrical panel).

Compliant with Directives LVD 2014/35/EU and EMC 2014/30/EU.

| Type | Part No. | Power supply | Weight (kg) |
|--------|----------|--------------|-------------|
| CIVIC4 | 0940504 | 12V AC/DC | 250 |

UR13

Gas detector sensor for **CIVIC1 and CIVIC4 Series** control units available in three versions for detecting natural gas, LPG and carbon monoxide (CO).

Compliant with Directives LVD 2014/35/EU and EMC 2014/30/EU.



| Type | Part No. | Power supply | Protection | Weight (kg) |
|------|----------|--------------|------------|-------------|
| UR13 | 0940561 | NATURAL GAS | IP44 | 65 |
| UR13 | 0940562 | LPG | IP44 | 65 |
| UR13 | 0940563 | CO | IP44 | 65 |

UR21S



Gas detector sensor in metal housing (Group II protection mode, category 3G, Ex nA IIC T6) with operating status indicator LED for indicating gas alarms by means of a 4-20 mA analogue output or a trip threshold (pre-alarm, level 1 and 2 alarm, fault) that can be freely set with DIP switches.

- Power supply: 11-28 VDC
- Signal output: 4-20 mA

Compliant with Directives EMC 2014/30/EU and ATEX 2014/34/EU.

CE  II 3G, Ex nA IIC T6.

An explosion-proof version is available to order, marked with the ATEX hexagon symbol and designation II 2G, Ex d IIC T6.

| Type | Part No. | DN | Protection | Weight (Kg) |
|-------|----------|-------------|------------|-------------|
| UR21S | 0940571N | NATURAL GAS | IP55 | 0.65 |
| UR21S | 0940572N | LPG | IP55 | 0.65 |
| UR21S | 0940573N | CO | IP55 | 0.65 |

| Technical features | CIVIC1 | CIVIC4 | UR13 |
|-------------------------------|--|---|--|
| Supply voltage | 12VAC/DC +10% | 12VAC/DC +10% | from control unit |
| Consumption with 1 sensor | With UR13: 160mA With UR21S: 320mA | With UR13: 160mA With UR21S: 320mA | 40 mA |
| Consumption with 4 sensors | - | With UR13: 280mA With UR21S: 920mA | - |
| Sensor connection | 3 x 2.5 mm ² terminal blocks | 3 x 2.5 mm ² terminal blocks | - |
| Max. connection length | 50m | 50m per sensor | 50m |
| Alarm output (solenoid valve) | 1 relay with contact 8A 250VAC SPDT | 1 relay with contact 8A 250VAC SPDT | - |
| Fault output | 1 open collector 12 VDC 300mA | 1 relay with contact 8A 250VAC SPDT | - |
| Electrical connections | 2.5 mm ² terminal blocks | 2.5 mm ² terminal blocks | 2.5 mm ² terminal blocks |
| Trip threshold | from sensor | from sensor | 10% LEL for CH4 12% LEL for LPG 200 ppm for CO |
| Service life | - | - | 5 years |
| Acoustic alarm | > 60dB at 1m | > 60dB at 1m | - |
| Protection | IP20 IP40, installed in an electrical panel | IP20 IP40 installed in an electrical panel | IP44 |
| Mounting | 50022 top hat DIN rail | 50022 top hat DIN rail | Wall-mounting |
| Material | self-extinguishing plastic | self-extinguishing plastic | self-extinguishing plastic |
| Room temperature | 0-50°C | 0-50°C | 0-50°C |
| Ambient relative humidity | ≤ 90% non-condensing | ≤ 90% non-condensing | ≤ 90% non-condensing |
| Directives | LVD 2014/35/EU EMC 2014/30/EU | LVD 2014/35/EU EMC 2014/30/EU | EMC 2014/30/EU |
| Standards | EN61779-1-4 CEI 216-5/1 | EN60079-29-1 CEI 216-5/1 | - - |

Notes: for **UR21S Series** sensors, refer to the specific technical data sheet.

Application

The control units and sensors must be selected as follows:

- depending on the number of control points, select **CIVIC1 Series** (one sensor), **CIVIC4 Series** (up to 4 sensors) or create a network with multiple control units;
- depending on the nature of the environment to be monitored (ATEX or non-ATEX), select **UR13 Series** or **UR21S Series** sensors.

The **CIVIC Series** control units are compatible with all WATTS solenoid valves:

- **EV, EVO Series** normally closed with manual resetting;
- **MSVG, MSVO Series** normally open with manual resetting;
- **GSAVR, GHAV Series** normally closed with automatic resetting;
- **EV/6BEEXD Series** explosion-proof normally closed with manual resetting;
- **MSV/6BEEXD Series** **explosion-proof normally open**.

Operation

CIVIC Series control units are electronic programmable-logic gas detection devices. They are equipped with an internal alarm relay, which can be used to control a solenoid valve or auxiliary device (siren, flasher unit, extractor fan, etc.). Depending on system requirements, the control units can operate according to positive or negative logic.

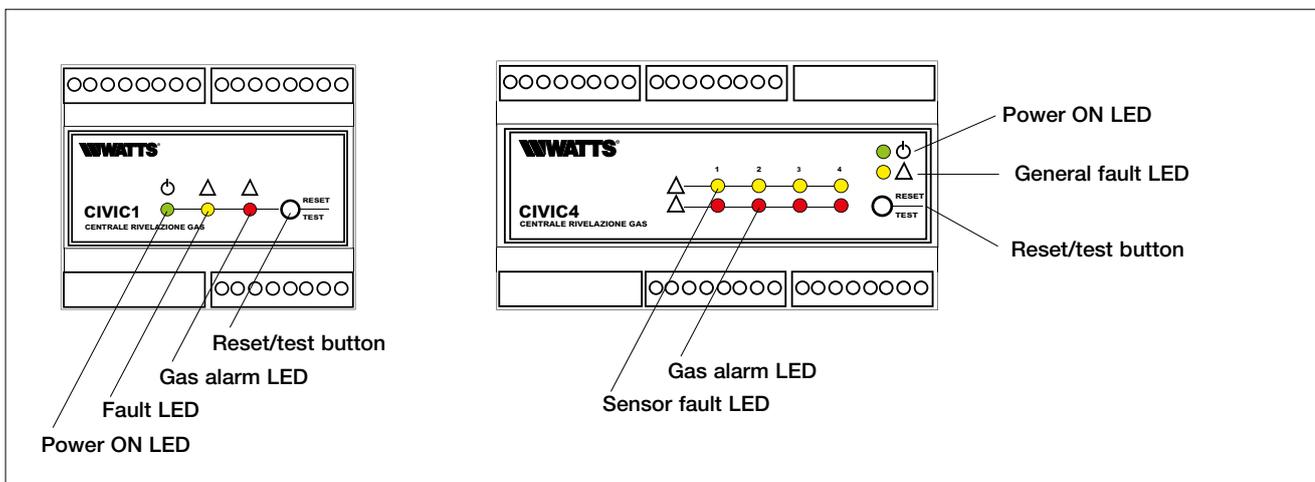
On first start-up and each subsequent start-up after a shutdown, the control units run a specific sequence of operations:

- LED and acoustic alarm test to check correct operation;
- warm-up to bring the connected sensors up to operating temperature;
- system functional test, simulating the alarms and activating all the relays. On completion of this sequence, the control units assume normal operating status, in which both sensor status monitoring and self-testing are continuously and simultaneously active.

If gas concentrations exceed the trip thresholds (of the sensors), the control unit switches to GAS alarm status, which switches on the red LED, sounds the acoustic alarm and switches the relays. If a fault is detected, the respective yellow LEDs will illuminate and the acoustic alarm will sound intermittently. Once the cause of the gas alarm or fault alarm has been eliminated, simply press the reset button to restore normal operating conditions.

System status is clearly indicated at all times by the LEDs on the control unit front panel. Their meaning is shown in the figure below.

Control unit front panels



The control units' power circuit is equipped with a self-testing programme that continually monitors both the operation of the sensors and the operation of the device directly connected to the yellow LED.

Installation

CIVIC1 and **CIVIC4 Series** control units are designed to be installed in an electrical panel (on the back of the panel or on an EN50022 top hat DIN rail) using standard electrical panel accessories. To ensure the correct protection rating for the devices, use electrical panels manufactured in accordance with the applicable standards for the work environment concerned.

UR13 Series sensors are designed for wall-mounting (vertically), with screws and plastic wall plugs.

To ensure correct system operation, the sensors must always be installed:

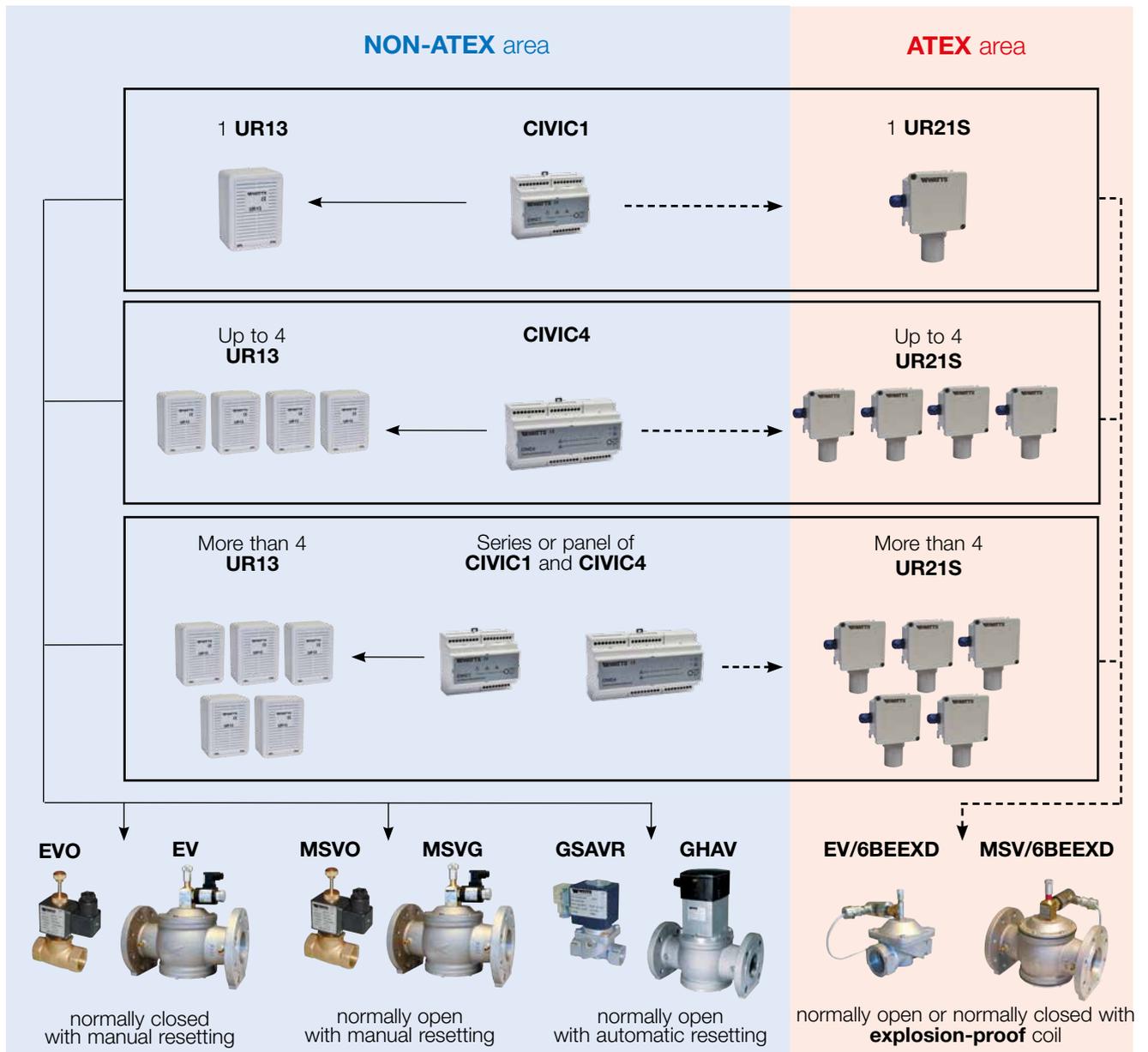
- in areas where air can circulate freely at all times;
- in areas not exposed to dust or other substances that could stop the sensor working;
- away from water jets, extractor grids, windows, apertures, etc.;
- far enough away from gas appliances to prevent nuisance tripping due to routine gas usage;
- in the right position in relation to the gas to be detected.

Correct positioning also depends on the type of gas to be detected, as detailed below:

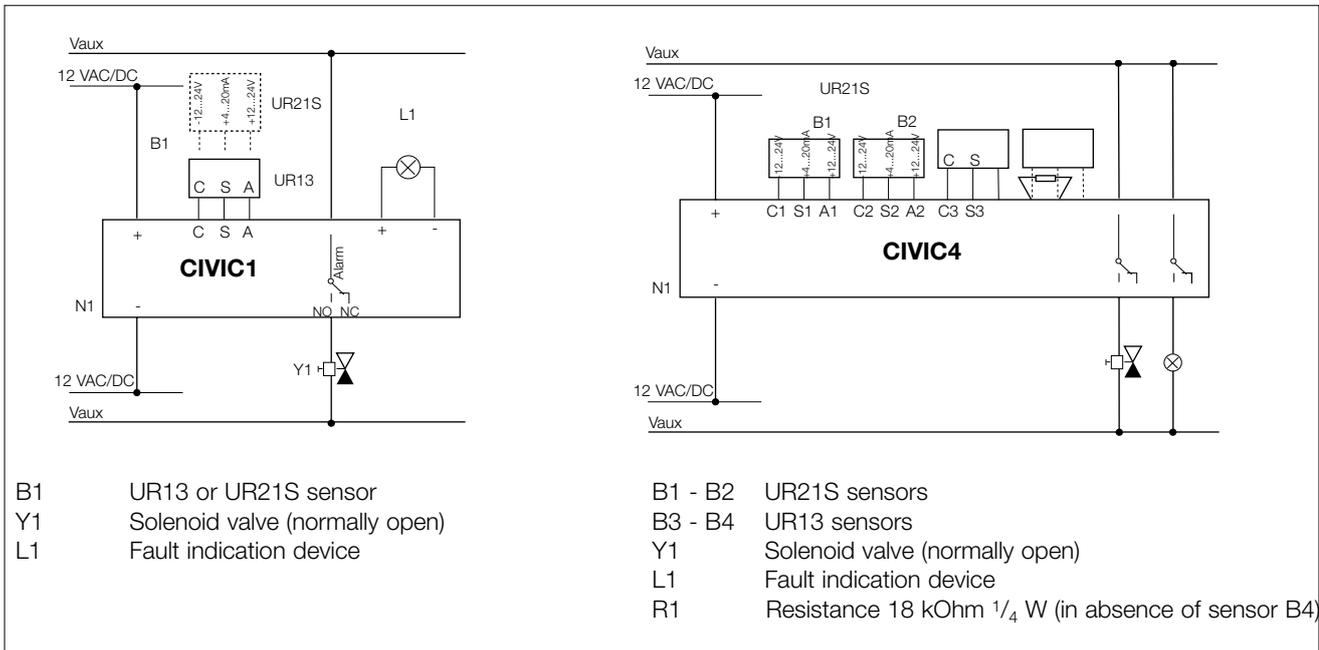
- UR13: Natural gas – high up, approximately 20-30 cm from the ceiling
- UR13: LPG – low down, approximately 20-30 cm from the floor
- UR13: CO – approximately 1.5 m from the floor

For **UR21S Series** sensors, refer to the specific technical data sheet. For new-build installations, it is advisable to fit the sensors after the completion of works (such as welding, painting, sealing, etc.) that could contaminate the sensitive element and therefore reduce the service life of the sensors or make them unusable.

System composition



Electrical connections



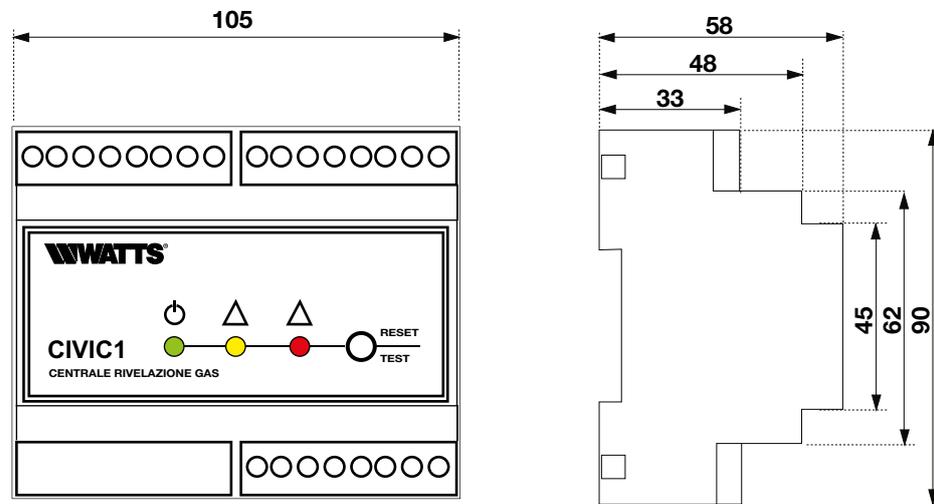
The control units must be powered at 12 VAC/DC using transformers with double insulation, sized for continuous use at the relevant power, as shown in the technical specifications. The sensors can be connected with normal power cables. When installing in environments exposed to high levels of electromagnetic interference, however, it is advisable to use shielded cables. Connect the relay outputs using cables with a minimum section of 1.5 mm². All electrical connections must be made by expert personnel, in accordance with the regulations in force in the country of installation.

Maintenance

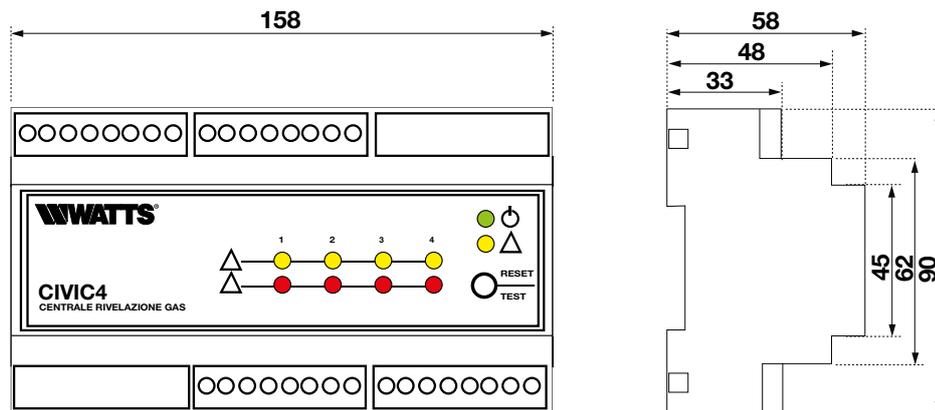
CIVIC Series control units do not require any specific maintenance. The only maintenance operation required for **UR13** and **UR21S Series** sensors is periodic dusting with a dry cloth without alcohol or solvents. The average service life of **UR13** and **UR21S Series** sensors is **5 years** from the date of installation (on the basis of typical use in an environment normally free from contaminants). It is mandatory to replace them before the end of the 5th year of use. If the environment is exposed to contaminants more frequently and in higher concentrations, this can accelerate the normal oxidation process of the sensing element, thus shortening its service life.

Overall dimensions

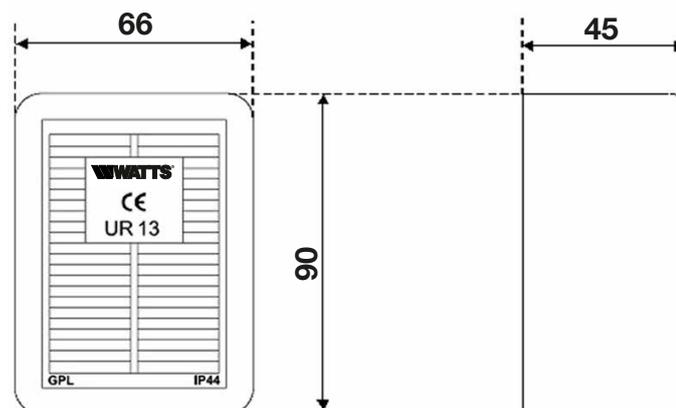
CIVIC1



CIVIC4



UR13



Specification text

CIVIC1 Series

Gas detector control unit **CIVIC1 Series** – WATTS brand – for connecting 1 sensor UR13 or UR21S Series; with LED-based optical interface (power ON, fault, gas alarm) and internal buzzer-based acoustic interface. Control output for gas alarm and OC output for fault indication. In self-extinguishing plastic housing for DIN-rail mounting. Protection rating: IP20 (IP40 when correctly installed in an electrical panel). Compliant with Directives LVD 2014/35/EU and EMC 2014/30/EU.

CIVIC4 Series

Gas detector control unit **CIVIC4 Series** – WATTS brand – for connecting up to 4 sensors UR13 or UR21S Series; with LED-based optical interface (power ON, fault, gas alarm) and internal buzzer-based acoustic interface. Control output for gas alarm and OC output for fault indication. In self-extinguishing plastic housing for DIN-rail mounting. Protection rating: IP20 (IP40 when correctly installed in an electrical panel).

Compliant with Directives LVD 2014/35/EU and EMC 2014/30/EU.

UR13 Series

Gas detector sensor **UR13 Series** – WATTS brand – for CIVIC1 and CIVIC4 Series control units, available in three versions for detecting natural gas, LPG and carbon monoxide (CO). Powered directly by the control unit. Compliant with Directives LVD 2014/35/EU and EMC 2014/30/EU.

UR21S Series

Gas detector sensor **UR21S Series** – WATTS brand – in metal housing (Group II protection mode, category 3G, Ex nA IIC T6) with operating status indicator LED, for indicating gas alarms by means of a 4-20 mA analogue output or a trip threshold (pre-alarm, level 1 and 2 alarm, fault) that can be freely set with DIP switches. Available in three versions, for detecting natural gas, LPG and carbon monoxide (CO). Compliant with Directives EMC 2014/30/EU, ATEX 2014/34/EU, II 3G, Ex nA IIC T6.

The descriptions and photographs contained in this product specification sheet are supplied by way of information only and are not binding.

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