

Portable Gas Detector

RP110



The **RP110** portable gas detector is an electronic instrument manufactured by **BEINAT S.r.l.** to help technicians during testing or to search for and locate leaks in gas heating appliances. The **RP110** detects the presence of:

Methane, LPG, and various other types of toxic fumes and vapours.

The detector is fully standalone thanks to the built-in battery, allowing its uninterrupted use for about six hours.

The device is also fitted with an electrical automatic shut-down system in order to avoid battery discharge.

The detector turns off 10 minutes after its first turn on. To restart it, it needs to be turned off and back on again.

The instrument is fitted with a red LED indicating when the battery is flat. If fitted with rechargeable batteries, when this led lights up, the internal batteries need replacing or recharging.

Thanks to the sensitivity potentiometer on the front panel, the instrument can be adapted to any user's requirement, and can also detect in harsh environments, or find minimal gas leaks.

User Guide

Firmware Version 1.0

Conformity EMC EN50270

**Explosive gas detection
SEMICONDUCTOR sensor technology
Intrinsically safe**

Read the instructions carefully **before turning the system on**, and keep in a safe place for future reference. Comply with the installation position according to the type of gas.

BEINAT commits itself to do its best to guarantee maximum quality. Thanks to "*The BEINAT Quality System*", a strict and exclusive quality control system which guarantees that all production and testing phases are performed through accurate and sophisticated tests.

For Your Security

Read the following security precautions carefully to prevent any risk of product damage and personal injury, and thoroughly once more before using the **RP110**.

Keep them in a safe place so that they can be read by someone new before they use the appliance.

Turn the appliance off in case of malfunctioning.

If you detect any smoke or pungent or unusual odour from the appliance or power supply (accessory supplied), turn it off immediately, disconnect it from the mains, and send it to the nearest Service Center.

Do not keep the bag strap around your neck.

Pay extreme attention when the instrument is fitted to a shoulder strap, and even greater in the presence of children.

Do not try to disassemble the appliance.

Contact with internal components can cause injury. In case of faults the product must only be repaired by qualified personnel. If the appliance is broken due to a fall or crash, contact the Service Center to repair it.

Observe due precautions while handling the batteries.

The batteries should never be exposed to high temperatures, that is, over +60°C. In order to ensure an optimum service life, use them at environment temperature.

If used at low temperatures their service life could diminish.

Never take apart the batteries; do not throw them into fire as they could explode.

Do not dispose of the batteries as normal waste. Follow local regulations on their disposal.

Use the correct cables supplied.

To ensure product conforms to norms, only use the correct cables supplied or those marketed separately by **BEINAT S.r.l** for terminal input/output connection.

Precautions

In order to achieve long and satisfactory use of your **RP110** portable detector, use and store it by respecting the following precautions.

Do not allow it to become wet.

The detector can be seriously damaged as it is not waterproof either when immersed in water or exposed to high levels of humidity.

Do not drop it.

Heavy knocks on hard surfaces and strong vibrations can damage the appliance.

Avoid strong magnetic fields.

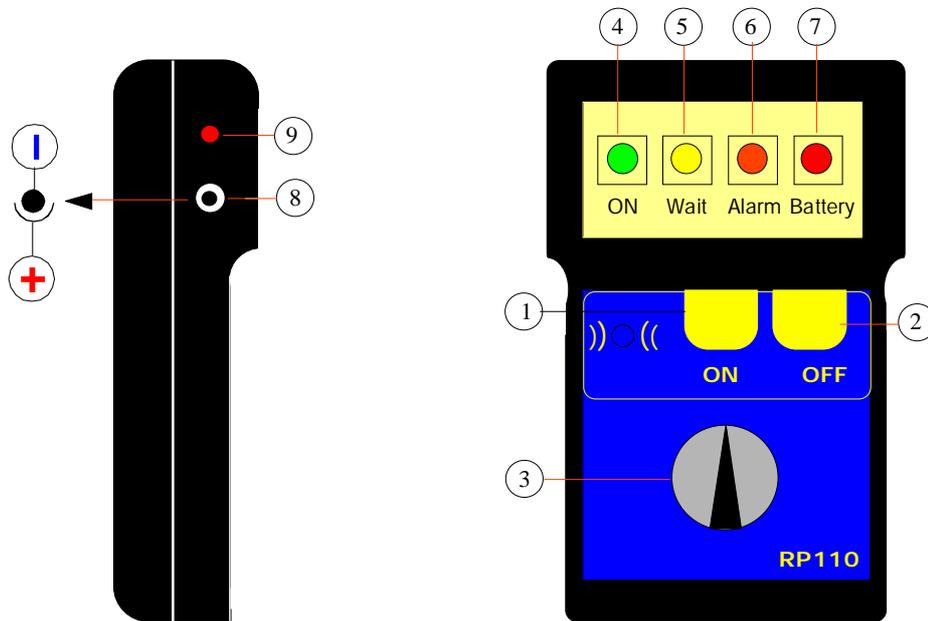
This detector should not be used or stored near radiation, or intense magnetic fields. Static electricity or magnetic fields generated by appliances such as radio transmitters can interfere with measurements, may damage data recorded, and internal circuits.

Avoid abrupt temperature fluctuations.

Sudden temperature variations can cause condensation and the batteries could supply a lower voltage.

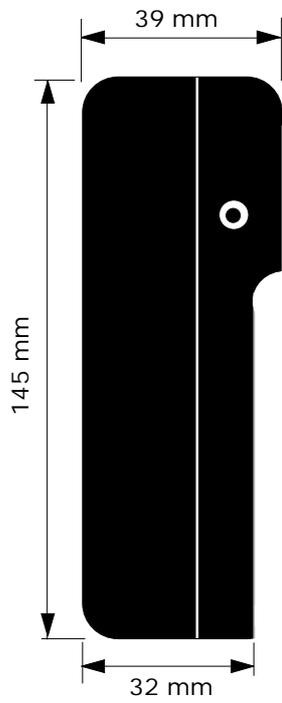
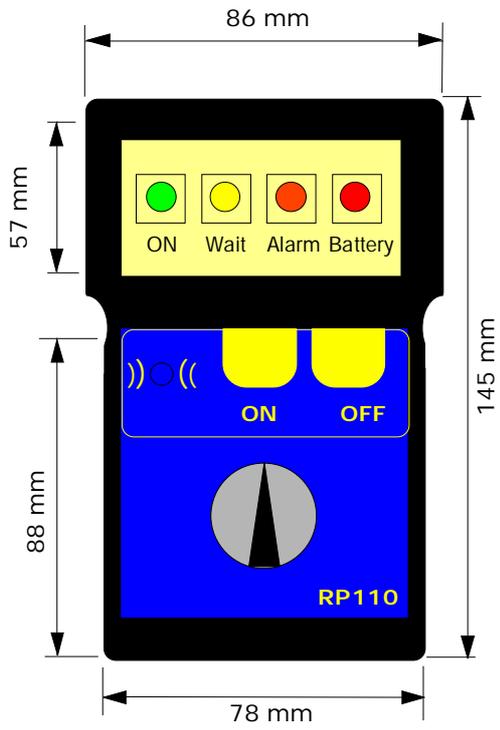
Cleaning

Never clean the device with chemical products. If necessary, wash with a moist cloth.



- 1) ON switch. ON lighted.
- 2) OFF switch. OFF lighted.
- 3) Sensitivity regulator. By turning it clockwise the sensitivity increases. Vice versa, it decreases.
- 4) ON indication LED. This LED turns on when the switch is ON, and automatically turns off after 15 minutes, disabling the device operation To restart the RP110, turn it off and back on again.
- 5) WARM-UP indication LED. This phase begins when you turn the instrument on and lasts about 1 minute. Then the LED turns off.
- 6) Alarm LED. This LED turns on when gas is detected by the **RP110**.
- 7) Battery LED. This LED turns on when the battery is low. And you need to recharge or replace it.
- 8) This supply socket is used to recharge the battery. During battery charging, the instrument does not work.
- 9) "Power connected" LED. This LED turns on during battery charging.

Measures



Functioning of the Detector

1) ON button. By keeping it pressed, the **RP110** Will turn ON . They will light two leds: Led ON and Led of wait.

After 1 minute around the led of wait will go off, meaning that the apparatus is ready for the use.

2) To set the sensibility in according to the necessity, holding into consideration that:

-Turning the knob all to the right the least sensibility will be gotten and it will be been able therefore to look for a leak of gas in an ambient already saturated of gas.

-Turning the knob all to the left the highest sensibility will be gotten and it will be been able therefore to look for small leaks of gas in a walled up pipeline.

3) The detection of the gas comes effected moving the probe on the wall or on the piping very slowly

4) OFF button. By keeping it pressed, the **RP110** turns off

ATTENTION!

Sometimes it could happen that positioning the knob to the maximum sensibility the apparatus sounds, this is normal.

Information on batteries

Technical data of the Battery not Rechargeable

Charged battery voltage **9V**

Duration **About 6 hours**

Technical data of the Battery Rechargeable

Charged battery voltage **8,4V**

Duration **About 6 hours**

On the first turn on

When a rechargeable battery is used, we recommend to charge it **for at least 4 hours**, before using the instrument..

Always use the supplied battery charger. If it becomes faulty obtain and use the genuine original spare part. Charging the batteries.

You can recharge the batteries of side instrument in OFF.

1. Connect the battery charger connector to the socket located at of side of the instrument.

2. Connect the battery charger to an electrical outlet. The front red LED will instantly turn on.

Use

The batteries should never be exposed to high temperatures, that is, over +60°C.

In order to ensure an optimum service life, use them at environment temperature.

If used at low or high temperatures their service life could diminish.

Before calling a technician

If the device does not start up.

Check if the battery is charged. If not, you need to replace it, or recharge it when the device is fitted with a rechargeable battery.

If the device does not detect.

Check if the gas capsule is clean and hot. If not, probably the battery is low or the capsule is burned. Check that the sensitivity knob is not completely turned to the left.

The battery does not recharge.

Check if the power supply is present by ensuring the LEDs are on.

If other problems arise, a specialised and/or authorised technician and/or the **Distributor** of **BEINAT S.r.l.** should be contacted directly.

Technical Specifications

Power supply 9Vdc through the built-in battery
 Type of battery 6LR61
 Current consumption during detection 90 mA
 Battery duration 6 hours

Rechargeable battery with External Power Supply

Battery type _NiMh 9V
 Battery Charger type External of 12Vdc
 Charge control Built in
 Charge time with flat battery 4 hours

Semiconductor detection probe Built in
 Battery discharge control LED diode
 Detector accuracy 1% FS
 Sensitivity 1 ppm
 Calibration Manufactured according to requirements
 Response time 1"
 Functioning temperature -10°C ÷ +40°C

Automatic shut-down After 10 minutes
 Electromagnetic Compatibility "CE" EN 50270
 Size & weight 87 * 162 * 41 mm – about 100 g
 Case Nylon bag
 Warranty 3 years

Conversion table from ppm to mg/m³ of most used gases

Conversion table from ppm to mg/m ³ of most used gases								
LEL%	Methane (LIE=5.0% v/v)		Propane (LIE=2.1% v/v)		CO (LIE=12.5% v/v)		LPG (LIE=1.8% v/v)	
	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³
0	0	0	0	0	0	0	0	0
1	500	3.58	210	4.24	15	19	180	4.68
2	1.000	7.16	420	8.47	30	38	360	9.36
3	1.500	1.074	630	1.271	45	56	540	1.403
4	2.000	1.433	840	1.694	60	75	720	1.871
5	2.500	1.791	1.050	2.118	75	94	900	2.339
6	3.000	2.149	1.260	2.542	90	113	1.080	2.807
7	3.500	2.507	1.470	2.965	105	131	1.260	3.275
8	4.000	2.865	1.680	3.389	120	150	1.440	3.742
9	4.500	3.223	1.890	3.812	135	168	1.620	4.210
10	5.000	3.582	2.100	4.236	150	188	1.800	4.678
11	5.500	3.940	2.310	4.659	165	206	1.980	5.146
12	6.000	4.298	2.520	5.083	180	225	2.160	5.614
13	6.500	4.656	2.730	5.507	195	244	2.340	6.081
14	7.000	5.014	2.940	5.930	210	263	2.520	6.549
15	7.500	5.372	3.150	6.354	225	281	2.700	7.017
16	8.000	5.731	3.360	6.777	240	300	2.880	7.485
17	8.500	6.089	3.570	7.201	255	319	3.060	7.953
18	9.000	6.447	3.780	7.625	270	338	3.240	8.421
19	9.500	6.805	3.990	8.048	285	356	3.420	8.888
20	10.000	7.163	4.200	8.472	300	375	3.600	9.356
21	10.500	7.521	4.410	8.895	315	394	3.780	9.824
22	11.000	7.880	4.620	9.319	330	413	3.960	10.292
23	11.500	8.238	4.830	9.742	345	431	4.140	10.760
24	12.000	8.596	5.040	10.166	360	450	4.320	11.227
25	12.500	8.954	5.250	10.590	375	469	4.500	11.695

DECLARATION OF CONFORMITY

Portable gas leak detector Art. RP110

EMC Immunity CEI-EN 50270 2000-01

Electromagnetic compatibility. Electrical apparatus for the detection and measurement of combustible gases, toxic gases or oxygen

Emissions CEI-EN 50270 2000-01

Measurement methods and limits for radio interference parameters for motor-driven or thermal household appliances and similar, and for electrical tools and similar appliances

Electrical safety EN 60335-1 1994

Household and similar electrical appliances
Part 1: General requirements

Gas Test

The appliances are manufactured and tested according to the
NORMS EN 50194 for explosive gases

RoHS compliant

The above mentioned appliances are manufactured and tested according to the DIRECTIVE 2002/95/CEE (RoHS) and do not contain:

Lead

Mercury

Cadmium

Hexavalent Chromium (Chromium VI)

Polybrominated Biphenyls (PBB)

Polybrominated Diphenyl Ethers (PBDE)



This device passed all functioning tests, performed at our laboratories, in agreement with the predefined values and the relative tolerances of detection
These parameters correspond to the characteristics outlined in the instruction booklet supplied with each product.

For Explosive Gas.

Power Supply: 3,7V cc within 2% of rating

Volume ratio of gas liters: input up to 20% of LEL +/- 3%

Temperature: 23°C for the entire duration of the test +/- 2% of rating

Relative Humidity: 45% for the entire duration of the test +/- 10%

Barometric Pressure: constant air for the entire duration of the test +/- 1 kPa

Gas Speed: 0.35 m/s

Calibration: at 20% of L.E.L. +/- 3% tolerance

Methane	Propane	Isobutane(LPG)
LEL=5.0%=	LEL=2.1%	LEL=1.8%
LEL %	ppm	ppm
0	0	0
1	500	210
2	1.000	420
5	2.500	1.050
10	5.000	2.100
15	7.500	3.150
20	10.000	4.200
25	12.500	5.250
30	15.000	6.300
35	17.500	7.350
40	20.000	8.400
50	25.000	10.500
—		
100	50.000	21.000
		18.000

INSURANCE.This device is insured by the SOCIETÀ REALE MUTUA for the PRODUCT'S GENERAL LIABILITY up to a maximum of 1.500.000,00 EURO against damages caused by the device in case of failures in functioning.

WARRANTY.The warranty term is 3 years from manufacturing date, in agreement with the following conditions. The components acknowledged as faulty will be replaced free of charge, **excluding** the replacement of plastic or aluminium cases, bags, packing, batteries and technical reports.

The device must arrive free of shipment charges to **BEINAT S.r.L.** Defects caused by unauthorized personnel tampering, incorrect installation and negligence resulting from phenomena outside normal functioning shall be excluded from the warranty.

The **BEINAT S.r.L.** company is not liable for possible damage, direct or indirect, to people, animals, or things; from product faults and from its enforced suspension of use.



DISPOSAL OF OLD ELECTRICAL & ELECTRONIC EQUIPMENT.

This symbol, on the product or its packaging to indicates that this product shall not be treated as household waste. Instead, it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment, such as for example:

- sales points, in case you buy a new and similar product
- local collection points (waste collection center, local recycling center, etc...).

By ensuring this product is disposed of correctly, you will help prevent potential negative consequence for the environment and human health, which could otherwise be caused by inappropriate waste handing of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

Attention: in some countries of the European Union, the product is not included in the field of application of the National Law that applies the European Directive 2002/96/EC and therefore these countries have no obligation to carry out a separate collection at the "end of life" of the product.



Portable gas detector **RP110**

Lo styling è della b & b design

Purchase Date	Stamp of the Dealer
Registration Number	

In agreement with our continuous development policy, we reserve the right to modify its products without notice.

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