

**Tecno
Control**

User manual

Portable single gas detector

EASYGAS



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A. Warnings/Caution/Disposal (Read before use)

► Warnings

- ✓ Do not change or replace components as this will damage intrinsically safe structure and will void the warranty even if the warranty period remains.
- ✓ Before using EasyGas, it is recommended to test the sensor response with a gas mixture that exceeds the alarm level.
- ✓ Regularly check the detector's operation, battery life, LEDs, buzzer and vibration to ensure they are working properly and perform maintenance if necessary.
- ✓ The detector must be used within specified temperature and humidity ranges. Environments outside this range may cause malfunction or failure of the device. Be careful not to use in extreme environments.
- ✓ The gas concentration measurement value of the sensor used in the device may vary depending on the operating environment (temperature, pressure, humidity). Therefore, when calibrating the device, perform the calibration in an environment that is the same or similar to the device's operating environment (temperature, pressure, humidity).
- ✓ If a rapid change in temperature occurs when using the device (for example, when using it in a place where the temperature difference between indoors and outdoors is large), the measured gas concentration value may change suddenly, so set it after the gas concentration value is stable.
- ✓ If the device is subjected to severe vibration or shock, the measured gas concentration value may change suddenly. Therefore, use it after the gas concentration value is stable. Excessive shock to the device may cause sensor or device failure.
- ✓ Since the alarm value is set according to international standards, changes to the alarm value must be made by an authorized person.
- ✓ If the device does not work or you suspect a mechanical defect, please call +39 02-2692-2890.

► Caution

- ✓ Before using EasyGas, read these instructions carefully.
- ✓ This product is a gas detector, not a prevision gas measurement device.
- ✓ If calibration still does not work, discontinue use and contact Tecnocontrol.
- ✓ To ensure the accuracy of your gas detector, we recommend gas calibration at least once every 180 days.
- ✓ The device should be cleaned with a soft cloth, and no chemicals should be used to clean it.
- ✓ STEALTH Mode forcibly blocks the alarm signal, making it difficult for users to recognize the alarm, so caution is required when using it.

► Disposal

 This symbol indicates that this product should not be discarded as unsorted waste but must be sent to separate collection facilities for recovery and recycling. Please dispose of this product according to local regulations.

Specific conditions of use

- i. EasyGas is a portable device and has an anti-static coating. Where a possibility of static generation is identified, such as repeated rubbing against clothing, suitable precautions should be taken, such as checking for damage/wear to the coating and wearing anti-static footwear.
- ii. The device should be included in an inspection procedure to ensure a surface resistance of less than 1 Gohm, to monitor the durability of the anti-static coating material due to its specific frequency of use and environmental conditions.

B. Manual revision history

Revision	Date	Note
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C. Product overview

Tecnocontrol EASYGAS is a portable single-gas detector that protects the safety of users through high-brightness LED signaling, acoustic alarm and vibration alarms when exposed to oxygen deficiency or toxic gases.

There is the possibility of choosing one of the 16 models each for a different gas for example, O₂, CO, H₂S, H₂, NH₃, Cl₂, SO₂ and PH₃. A very large and clear LCD display (1.6") shows the measured value in real time. EASYGAS, designed to be low energy consumption, is able to operate for over 2 years without battery replacement and thus ensuring cost-effectiveness, durability and reliability (conditions of use: 8 hours of use per day, alarm activated within 5 minutes, BLE deactivated).

E. Package contents

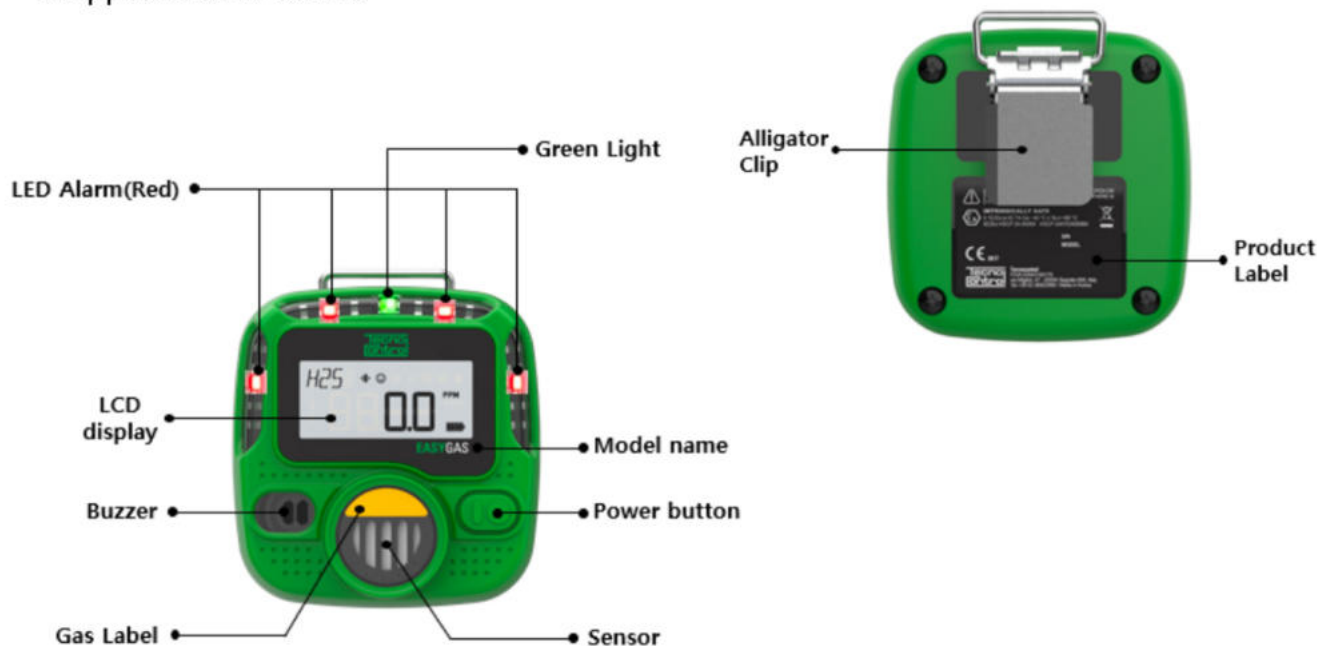
Detector, gas calibration cap, quick start guide.

D. Product codes

Gas Sensor	Model Name
H ₂ S Hydrogen Sulfide	PGD100-H2S
CO Carbon Monoxide	PGD100-CO
CO Carbon Monoxide Exp.	PGD100-COE
CO-H(H ₂ compensation)	PGD100-COH
O ₂ Oxygen	PGD100-O2
O ₂ -LF Oxygen Lead free	PGD100-O2LF
H ₂ Hydrogen	PGD100-H2
NO ₂ Nitrogen Dioxide	PGD100-NO2
SO ₂ Sulfur Dioxide	PGD100-SO2
NO Nitric Oxide	PGD100-NO
Cl ₂ Chlorine	PGD100-Cl2
NH ₃ Ammonia	PGD100-NH3
NH ₃ Ammonia Exp.	PGD100-NH3E
O ₃ Ozone	PGD100-O3
PH ₃ Phosphine	PGD100-PH3
ETO Ethylene Oxide	PGD100-ETO
HCL Hydrogen Chloride	PGD100-HCL
HCN Hydrogen Cyanide	PGD100-HCN



F. Appearance of device

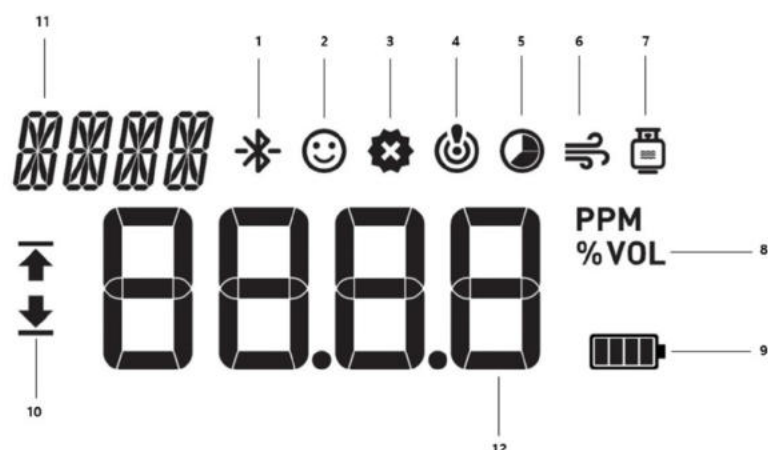


G. LCD display overview

<Icon Function>

1. Bluetooth State (available in the future)
2. Normal Mode
3. Error Symbol
4. Warning (When the calibration interval has passed, or the last calibration failed)
5. TWA/STEL (TWA: STEL:)
6. Zero Calibration (Fresh Air)

7. Span Calibration
8. Units of Measurement
9. Battery State
10. Low/High Alarm (Primary alarm or Low alarm: , Secondary alarm or High Alarm:)
11. Information (Gas type, Low battery, alarm, etc.)
12. Reading Value



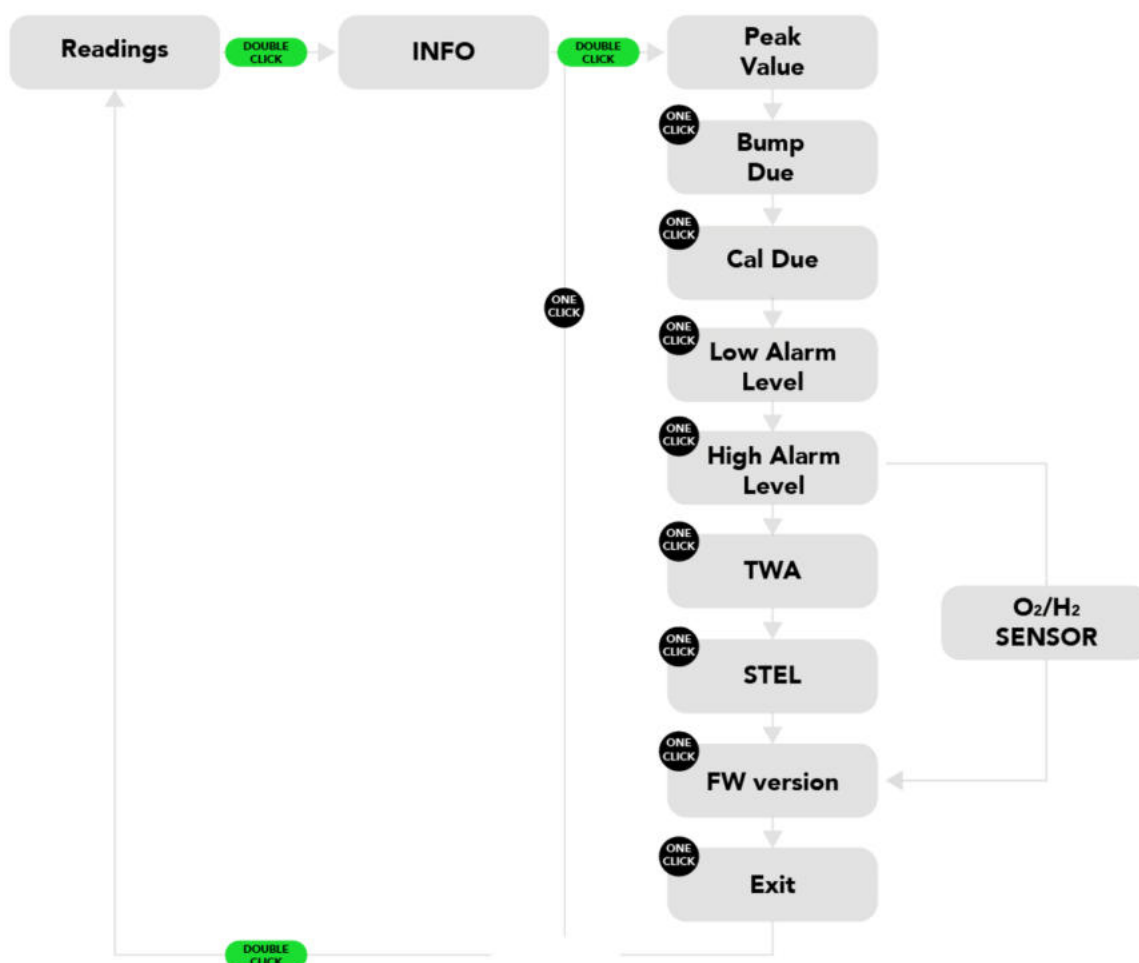
H. Turning the easygas on/off



Power button

- 1) Turn on the detector in a safe place without harmful gases in the air.
 - 2) Press and hold the power button for 3 seconds to turn on the EASYGAS.
 - 3) A self-test will be performed.
 - 4) EASYGAS turns on.
- *Note: There may be a warmup time that varies depending on the type of sensor.
- 5) When shutting down, press and hold the button for 3 seconds.

I. Button functions



J. Battery

1. Voltage

A. Nominal Voltage: 3.6V

B. Maximum Voltage: 3.9V

2. Battery Replacement

The battery is designed to be replaceable; however, opening the instrument would compromise the intrinsically safe structure, making it non-explosion-proof. In case of battery replacement, it is essential to contact Tecnocontrol to ensure the integrity of the intrinsically safe product.

3. Applicable Standards

IEC 60079-0:2017

IEC 60079-11:2011

EN IEC 60079-0:2018

EN 60079-11:2012

4. Battery Warning Sign

A. WARNING – DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT

B. WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD

K. Span calibration/Bump test/Zero Calibration

1) For Span calibration, press the EASYGAS power button for 9 seconds. (Release for 3 seconds, press for another 6 seconds without releasing to enter Span calibration, excluding O2 sensor).

2) Double-click to enter auto zero calibration.

3) If auto zero calibration passes, it will show Span APPL on the display.

4) If Span APPL appears on the display, place the calibration cap on the sensor and administer the gas to be measured using a flow regulator.

5) After the Span Calibration ends, it automatically switches to measurement mode.

6) For Bump Test, enter Span Calibration and click once.

7) Double-click to run the bump test, and it will show bump APPL on the display.

8) Place the calibration cap on the sensor and administer the gas to be measured.

9) 4 seconds after Bump test display appears, Bump test will be processed.

10) After the Bump Test ends, it automatically switches to measurement mode.

11) Double click from the main screen and then click once to enter zero calibration. Zero calibration must be performed in clean air with 20.9% oxygen.

12) Double-click to run Zero Calibration.

13) After the zero calibration, EasyGas automatically switches to measurement mode.

*Note: if the calibration fails, try again. If the calibration continues to fail, turn off the detector and contact Tecnocontrol.



L. Alarm Setpoints

Gas(Unit)	Low	High	TWA	STEL	Calibr. Conc.	Measuring range	Resolution	Temperature
H ₂ S(ppm)	10	15	10	15	25	0 -100	0.1	-30°C to 50°C
CO(ppm)	30	100	30	200	100	0 -1000	1	-30°C to 50°C
CO-H(ppm)	30	100	30	200	100	0 - 500	1	-30°C to 50°C
CO-E(ppm)	30	100	30	200	1000	0 - 2000	1	-30°C to 50°C
O ₂ (%Vol)	19.5	23.5	x	x	0.0	0 - 30	0.1	-30°C to 50°C
O ₂ lead free (%Vol)	19.5	23.5	x	x	0.0	0 - 30	0.1	-40°C to 60°C
H ₂ (ppm)	100	500	x	x	100	0 - 1000	1	-30°C to 50°C
Cl ₂ (ppm)	0.5	1.0	0.5	1.0	10	0 - 50	0.1	-20°C to 50°C
PH ₃ (ppm)	0.3	1.0	0.3	1.0	1.0	0 - 20	0.1	-30°C to 50°C
SO ₂ (ppm)	2.0	5.0	2.0	5.0	10	0 - 20	0.1	-30°C to 50°C
NO ₂ (ppm)	2.0	5.0	0.5	1.0	10	0 - 30	0.1	-30°C to 50°C
NO(ppm)	25	50	25	50	50	0 - 250	1	-30°C to 50°C
NH ₃ (ppm)	25	35	25	35	50	0 - 100	1	-40°C to 50°C
NH ₃ -E(ppm)	25	35	25	35	500	0 - 1000	1	-40°C to 50°C
O ₃ (ppm)	0.1	0.2	0.1	0.2	0.8	0 - 5	0.01	-20°C to 50°C
ETO(ppm)	1.0	5.0	1.0	5.0	10	0 - 100	0.1	-20°C to 50°C
HCN(ppm)	2.5	4.7	2.5	4.7	10	0 - 100	0.1	-30°C to 50°C
HCl(ppm)	1.0	2.0	1.0	2.0	10	0 - 15	0.1	-30°C to 50°C





M. EASYGAS Specifications

Equipment Name	EASYGAS Portable single gas detector
Type Identification	PGD100-***
Size	66 x 69 x 24 mm(w/o clip), 66 x 69 x 41 mm(w clip) / 2.59 x 2.71 x 0.94in(w/o clip), 2.59 x 2.71 x 1.61in(w clip)
Weight	105g (w/Belt Clip)
Ambient temperature	from -40°C to 60°C
Humidity	0% to 95% RH (non-condensing)
Display	FSTN LCD display (1.6 inch)
Ingress Protection	IP68
Allarm	Visual Alarm(LEDs), Vibration alarm, Audible Alarm(Buzzer; 100dB): Low, High, TWA, STEL
User Options	Adjustable alarm setpoints, Alarm Latching On/Off Adjustment of calibration and bump test interval Zero and gas calibration
Self-Test	Breakdown of sensor and circuitry, Battery
Battery	Lithium Battery size: 2/3 AA, Nominal Voltage: 3.6V, Nominal capacity: 1.65AH
Operating time	Over 2 continuous years of operation
Wireless	Available in the future
Connessione	Available in the future
Certifications	ATEX: II 1G Ex ia IIC T4 Ga KCs: Ex ia IIC T4 IECEx: Ex ia IIC T4 Ga
Warranty	2 years (Please refer to the Sensor data)

N. Warranty

The warranty is valid for two years from the time of purchase of the product. During this period, free repair or replacement service is guaranteed for problems caused by product defects or manufacturing defects.

Warranty conditions:

1. Coverage: The warranty applies only to defects or faults arising from the manufacturing process or parts of the product. Damage caused by user negligence or malfunction due to excessive use may be excluded from the warranty.
2. Repair within the warranty period: Problems that occur during the product warranty period will be repaired or replaced free of charge. (Excluding sensors)
3. Repairs after the warranty period: Paid repairs may be required for problems that occur after the warranty period. In this case, contact Tecnocontrol for detailed information on repair costs.
4. Exclusions from warranty: The warranty may not be valid under some specific conditions. Such conditions may include damage caused by user negligence, abnormal use, poor power supply, unauthorized disassembly or modification, etc. In addition, the warranty is not valid for the same malfunctions within 3 months of receiving the repair for the same problem.
5. Repair and replacement procedures: If the product requires replacement, contact Tecnocontrol to receive instructions on the procedures.
6. Cautions: When using the product, it is necessary to scrupulously follow Tecnocontrol's instructions and perform regular maintenance to better preserve the product's life and performance.

O. Certifications

Certification marking and certificate numbers are listed in the table below.

✓ATEX : II 1G Ex ia IIC T4 Ga

✓IECEX : Ex ia IIC T4 Ga

✓FCC

✓KCs : Ex ia IIC T4

✓RoHS 3 Compliant

P. Contacts

If you have any problems with our products, please contact us with contact information below.

-  Address: Via Miglioli, 47,
20054 Segrate MI, Italy
-  Phone: +39 02-2692-2890
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-  Email: info@tecnocontrol.it