

Explosive and toxic gas detection control panel **G-100**



GENERAL

The G-100 is a modular, micro-processor controlled control panel designed to control 4-20mA TOXIC and EXPLOSIVE gas detectors.

CONFIGURATION

The G-100 is available in two possible models:

G-100.4: up to 4 detectors

G-100.8: up to 8 detectors

The system provides up to 32 programmable outputs by means of two optional modules and one further optional module featuring 2 serial interfaces:

G-100-R.8: 8 programmable relay module

G-100-R.16: 16 programmable relay module

G-100-2SE: double serial interface

The G-100 system provides maximum reliability and quality thanks to its advanced technology:

8 bit main microprocessor.

Non-volatile memory to keep programming in case of mains failure.

Electronic protection against temporary overvoltage, permanent short circuit and electrostatic discharges on line interfaces, and against electromagnetic and RF interferences on inner circuitry.

Built-in power supply unit protected against RF interferences and low irradiation.

4-20 mA STANDARD DETECTORS

The G-100 works according to the 4-20 mA standard detectors interface.

Detectors power supply must not exceed 27.6 V.

WORKING PRINCIPLE

There are 3 levels of alarm available for each zone.

Each alarm level is associated to an output (e.g., for the activation of aerators).

A common sounder driver output is also available for all alarms, featuring check on connection.

Manual or automatic alarm reset after the end of an alarm condition may be programmed.

Relay activation delay or duration may be programmed to avoid false alarms or allow room aeration.

A normally active output is available for general or system trouble signalling.

CONTROLS AND LCD DISPLAY

The G-100 features a tactile membrane keypad with symbols associated to each key, thereby avoiding problems connected to the language used by the operator.

Different programming and operation levels are envisaged, each protected by a password.

Access to the keypad is protected by means of a mechanical key. A LAMP-TEST key allows to check visual signals and LCD display back-light.

MAIN HARDWARE FEATURES

Capacity: up to 12 detectors.

Toxic or explosive gas detectors with 4-20 mA standard output.

Electronics in one single board including power supply and battery-charger.

8 Bit main micro-processor.

Non-volatile memory to keep programming in case of mains failure.

24 Vdc power supply with 24 Vdc battery-charger.

Power supply fault signalling:

- mains failure;
- discharged batteries;
- output overvoltage;
- batteries discharged;
- batteries with different voltage.

Automatic BATTERY TEST.

Battery disconnection in case of mains failure and battery discharged.

Long stand-by capacity in case of mains failure: up to 2 12 V - 6 Ah batteries.

2 x 16 characters back-lite LCD liquid crystal display.

LED signalling for:

- alarm,
- pre-alarm 1,
- pre-alarm 2,
- detector/zone disabled,
- network trouble,
- general trouble.

Programming keypad with function keys.

Piezo-electric buzzer for alarm and trouble signalling.

Fuse trouble signalling on the following outputs: sounders, detectors' power supply, network.

Optional external serial printer.

Box with 8 cable inputs for wiring in difficult conditions.

All of the boards are supplied with a removable terminal to allow simple installation and system test.

OPTIONAL INTERNAL MODULES

G-100-R.8 and G-100-R.16

Provides 8 or 16 relay outputs. Programmable outputs associated to events detected (Alarme - Pre-alarm, etc.).

G-100-2SE serial interface containing:

- no.1 RS-485 or RS-232 interface to connect: programming terminal, external serial printer, supervisor system;
- no.1 RS-485 interface to connect: optional mimic panels.

MAIN SOFTWARE FEATURES

Detector status displayed on LCD or printed.

Gas concentration value displayed on LCD liquid crystal display.

Simple menu-driven programming.

Software in more languages available.

Possibility to program tracking sensors (auto-reset).

Manual inclusion/exclusion of detectors protected by password.

Two different levels of access for password programming available.

Possibility to programme functions available for each access level.

Control-by-event.

Possibility to choose amount a range of pre-programmed ALARM LEVELS (behaviour of the control panel in case of alarm).

Software algorithms allowing protection against interferences and false alarms.

Programmable thresholds for: alarm, pre-alarm 1 and pre-alarm 2.

Programming of the maximum value read by the detector in % value or in ppm (parts per million) of gas concentration.

Trouble signalling in case of low sensitivity.

Programmable activation time delay.

Programmable activation time duration.

Output SILENCE and alarm RESET by means of two switches.

Such controls are available on the terminal block, thereby allowing remote operation (up to 150 mt).

Real time clock for date and time on LCD display adjustable from keypad.

Serial line parameters (transmission speed, data format, control panel address) programmable from keypad.

Remote PC upload/download programming through serial connection.

TECHNICAL SPECIFICATIONS

Control panel

Wall-mounting standard box: 388 mm (H) x 305 (L) x 125 (D).

Back-lit LCD display: 2 lines - 16 characters each.

Keypad: 7 function keys.

Relay outputs:

General alarm = 1 changeover - 3A / 30 Vdc.

Pre-alarm 1 = 1 changeover - 3A / 30 Vdc.

Pre-alarm 2 = 1 changeover - 3A / 30 Vdc.

General trouble = 1 changeover - 1A / 30 Vdc.

Sounder = 1 changeover (controlled) - 3A / 30 Vdc.

Optional relay module outputs = 3A / 30 Vdc.

Lines towards detectors:

Cable: shielded and twisted.

Length: up to 1.000 mt./3,000 ft.

Detector line power supply: 24 Vdc - 140 mA per line.

Low sensitivity fault signalling: < 1 mA.

Standard power supply:

Primary input power: 220 Vac, +10% / -15% - 70 VA.

Power supply: 24 Vdc - 3 A, max.

Sounder power supply: 24 Vdc - 3 A, max.

Battery-charger: 24 Vdc - 1.5 A.

Current consumption:

STAND-BY: 60 mA + current of detectors in stand-by.

IN ALARM: 160 mA + current of detectors in alarm + current for activated external load.

SERIAL BOARD CONSUMPTION = 40 mA.

All specification are subject to change without notice. Delivery times depend on product availability.

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