A.G.A.T.H.A.

Explosive gas detector for ATM and safe-deposit box

Features:

■ Electronic system to increase safety in case of break-ins through explosive gas

■ Based on gas sensors from Figaro, a leading global manufacturer of semiconductor gas sensors

■ High reliability due to the use of two calibrated sensors (semiconductor and catalytic type)

■ Detects the presence of various fuel gases such as acetylene, butane, propane, methane, hydrogen and sends an alarm signal to the central board

■ Reliable measurement due to temperature compensation

■ Great modularity with the ability to install an accelerometer and an humidity sensor

■ Immune to poisoning by high oxygen concentration

■ Able to report sensor malfunction/failure to central board

■ Data communication via Ad-hoc RS485

■ Removable terminals and four screw mounts make for easy installation

■ The module is provided with inputs (analog and digital) and a relay output

■ Optional accelerometer sensor (only on request) in order to detect abnormal ATM movements

Features	AGATHA
Size	86,50 x 72,50 x 30mm (without connectors)
Power Supply	12Vdc (protected against reverse polarity)
Communication	RS485 (Ad-hoc protocol)
Input	Analog and digital inputs (0-10V)
Output	Relay (3 dry contacts available 1A max)
Number of sensors on board	2

AGATHA system description

This system is based on two sensors (one semiconductor and one catalytic type) that make it possible to obtain response times suitable for critical safety systems such as those inserted into an ATM. It also ensures sensitivity to all combustible gases, in particular to the ones used to cause explosions as acetylene, butane, propane, hydrogen, and methane. The system is immune to attempted poisoning by oxygen.

The reliability of the alarm signal is guaranteed by employing two calibrated gas sensors which provide redundancy in reporting an alarm. The alarm signal is controlled by a microprocessor that supervises the analog voltage generated by the individual modules, monitors the progress of sensor signals, compensates for temperature or humidity, and detects any sensor failures.

Three LEDs indicate power on/off, malfunction, and the presence of explosive gas.
A special alarm can be provided using a board accelerometer to detect abnormal movements of an ATM (available only on special request).
The system communicates with the central unit via RS485 bus with a protocol ad hoc. The system is expandable through the addition of a humidity sensor and an optional triaxial accelerometer. It is possible to connect an additional sensor with a 0-10V voltage output to the analog voltage input.

The connections are facilitated by the presence of plug-in terminals (one for each input or output stage). The housing in which the board is supplied is equipped with four mounting holes.

Connections

Fig. 1 Wiring Diagram

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