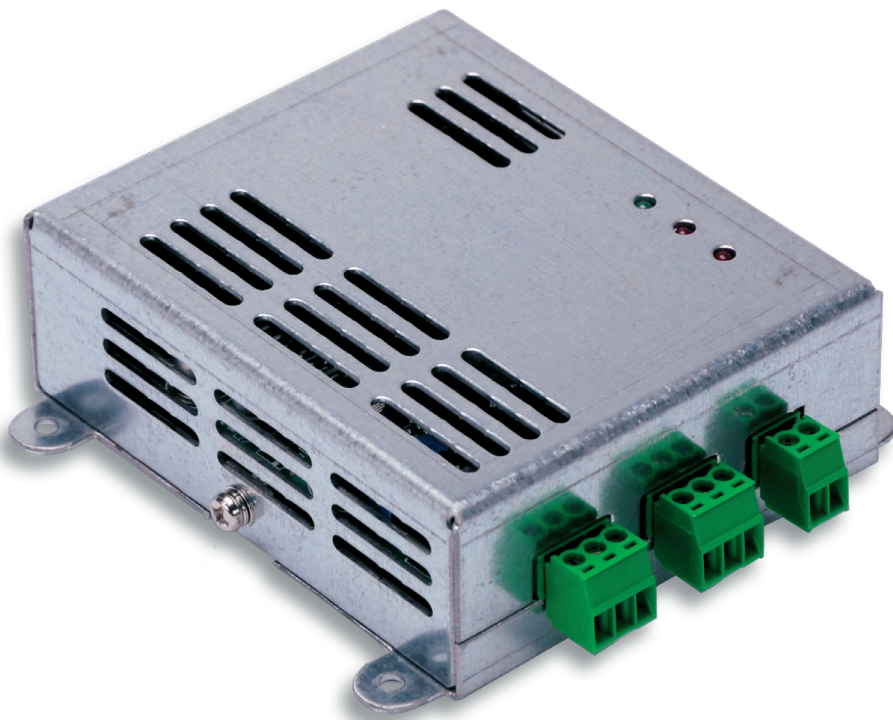# TEC - Agatha

Explosive gas detector for ATM and safe-deposit box

System description

The system is based on **two sensors** (one semiconductor and one catalytic type) that makes possible to have response times suitable for safety critical 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 attempts of poisoning by oxygen).

Regarding the reliability of the alarm signal, this is guaranteed by **two gas sensors**, appropriately calibrated, in order to have redundancy on reporting the alarm. The alarm signal is controlled by a microprocessor that controls the analog voltage generated by the individual modules, in order to monitor the progress of the signals, make compensation in temperature or humidity and detect any failures of individual sensors or other.

Three Leds show the power and malfunction or the presence of explosive gas.
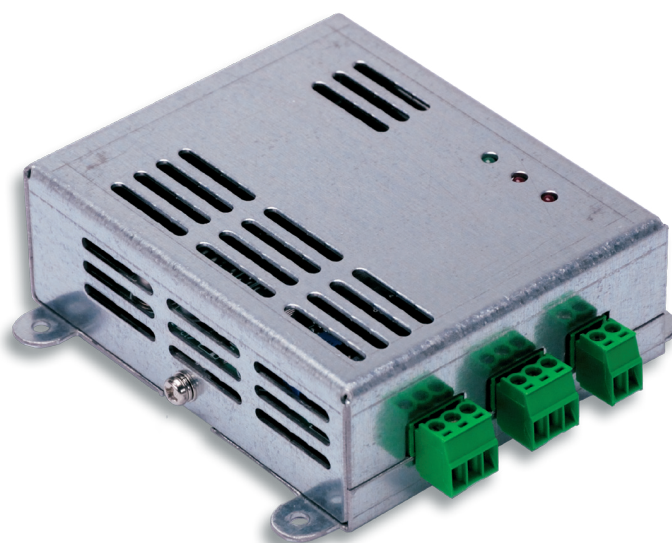A special alarm is provided from board accelerometer in order to detect abnormal movements of ATM.
The system communicates with the central unit via RS485 or I2C bus with a protocol ad hoc. The system is expandable through the adding of an humidity sensor and a triaxial accelerometer (obviously is possibile to connect another 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 container in which the board is supplied is equipped with four mounting holes.

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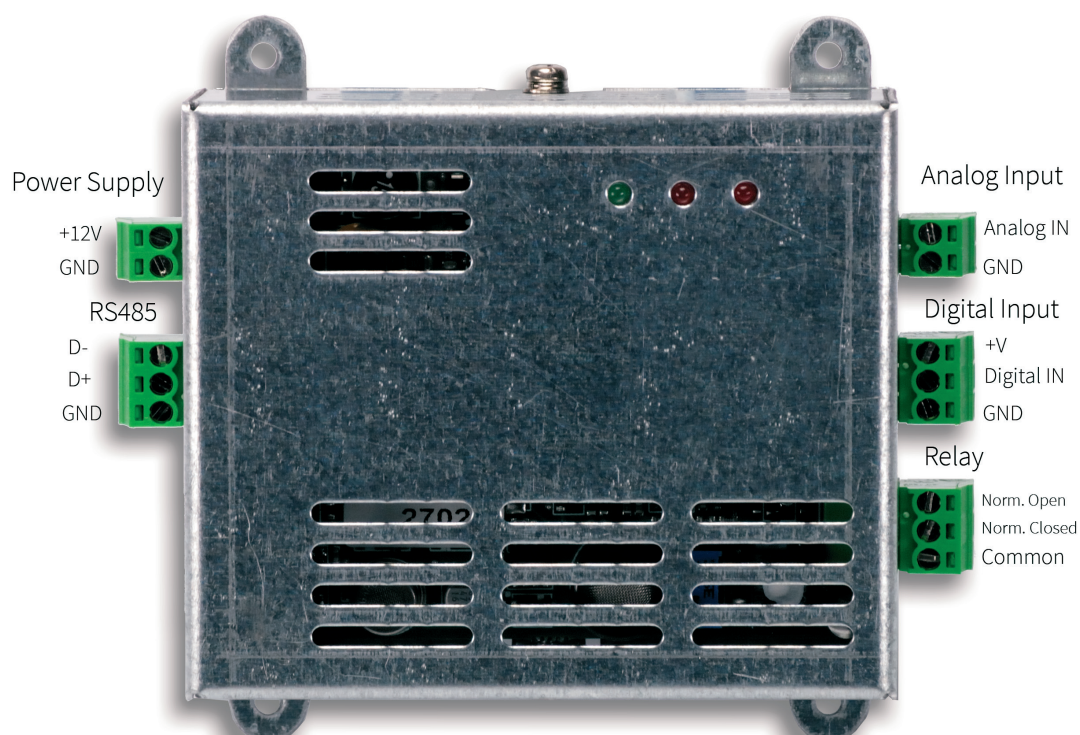
› Electronic system to increase safety in case of break-ins through explosive gas

› Based on Figaro gas sensors, 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 send the alarm signal to the central board

› Reliability of the measure due to temperature compensation

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

› Immune to poisoning by high oxygen concentration

› Equipped with sensing malfunction / failure of sensors and their communication to the central

› Data communication via Ad-hoc RS485 or I2C protocol

› Easy installation due to connections via removable terminals and four mounting holes

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

› Accelerometer sensor in order to detec abnormal ATM movements

Features	Agatha
Size	86,50 x 72,50 x 30mm (without connectors)
Power supply	12Vdc (protected against reverse polarity)
Communication	RS485 or I2C (Ad-hoc protocol)
Input	Analog and digital inputs (0-10V)
Output	Relay (3 dry contacts available 1A max)
Number of sensors on board	2

Connections

Power Supply
+12V
GND

RS485
D-
D+
GND

Analog Input
Analog IN
GND

Digital Input
+V
Digital IN
GND

Relay
Norm. Open
Norm. Closed
Common

2702

RoHS Compliant

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