Basic Guide ECO ALPA LED 2

The eco ALPA is a modern gas detection system based on microprocessor technology and is intended to detect leakage of natural gas (methane), LPG (propane, butane-propane), carbon monoxide & dioxide, oxygen and etc.

Brief description of the system
Gas detection system Eco ALPA is a stationary device and provides the signaling when crossing thresholds fixed in warnings and alarms via relay contacts and audiovisual signals.
The unit includes the following elements:
• Central processing unit (CPU)
• Sensors that convert the measured gas concentrations to a 4-20mA signal
• Battery Unit in case of power supply problems
• Gas valve shut down output (if desired)
• Additional output for external siren and strobe
• 3 universal relay outputs

Description of all components

Mainframe
State for processing:
• signals of the sensors
• Display of warnings and alarms
• Close valves
• Power & diagnostics
• status by leds

Sensors
The sensors are responsible for the direct processing of gas concentrations and provide immediate information to the unit.
The Eco-ALPA can operate with one or two sensors, where the 4-20 mA output signal is in proportion with the detected concentrations. They analyze and indicate whether the measured concentration is safe or not.

the battery
The model Eco ALPA is equipped with a built-in battery. The battery is automatically charged when the system is energized. The battery switches automatically in the event of loss of power. The battery continues to function until the voltage drops below the minimum voltage of 10.5 V. Close the gas supply in case of full power loss!
For longer interruption of the supply voltage, it is recommended to disconnect the battery from the system. For this procedure the front can be removed with the appropriate tools and disconnect the connectors from the battery. This operation should only be carried out by technical staff!

Audio visual unit
This unit is of great importance, and gives a flash signal in case of warnings
and flash signal and an acoustic signal in case of alarms.

Universal relay outputs
These outputs are used to connect additional devices.

The device is equipped with three relay outputs:
• PK1-Is active when errors in the system
• PK2-Is active when crossing the first threshold = WARNING
• PK3-Is active when crossing the second threshold = ALARM

Note
These outputs are not protected against overload.
The maximum current is 1A.
Each installer is responsible for the safety of these contacts.


Specifications ECO ALPA LED-2

• Power supply: 230V ~, 50Hz, 10W

secondary
• Transformer B1: POLYFUSE 0.9 A
• Internal battery 12V 1.2Ah B2: 3.15 A
Operating time of battery: 100 ... 160 minutes,
• Minimum allowable voltage of battery: 10.5V

Measurement channels:
• Sensor Number selectable with jumper: 1 or 2
• Internal power: 200 W,
• Measuring range: 4-20 mA
• Sensor Output Voltage: 10.5 ... 14 V

Open collector outputs:
• OC-1: flashlight 14 V / 300mA
• OC-2 audible signal. 14 V / 300 mA

Universal relay outputs max 1 A / 230V
• PK1 NO contact
• PK2 NO contact
• PK3 changeover contact

Note
All work, especially the electrical installation must be carried out by professionals.
Avoid contact with water and wet environments.
The manufacturer is not responsible for errors and damages.


Effect of interfering substances.
As already indicated, some gases and volatile substances cause false alarms.
All gas detection sensors have a high sensitivity, and respond to interfering substances by
their relative sensitivity. Substances with a sufficiently high concentration, can cause the
generation of warnings and alarms, and this in spite of the absence of traces of the

respective gas to be measured in the area.
Disruptive effects on the sensor:
• Paint and solvent vapors, sprays, perfumes, etc
• Vapors of alcohol, gasoline and etc
• Condensation turbines
• Concentrations of smoke from burners
For the above reasons, avoid using especially semiconductor sensors in range or storage of these substances.

Indication of the operational status of the system:

• Flashing Red LED: warning (warning sign)
• Red LED: alarm, the minimum allowable concentration was exceeded
• Green LED: correctly (OK)
• Yellow LED: fault in the system, connection or sensor (tool symbol)

warning
Clarifies the presence of a dangerous concentration than normal.
The warning is indicated by a flashing red LED that corresponds to the sensor. In this state sounds an intermittent beep (0.5 sec. Pulse 0.5 sec. Pause). A reset of the signal can be done by pressing the bell button, and makes the user clear of a possible dangerous situation. The signal will return after a period of 30 minutes.

Actions in case of warning:
-Inform the staff in case of increased concentration.
-Ventilate area.
-Check all possible causes of the concentration.
-Bring report to the responsible.
-Consider the maintenance and the replacement date on the sensor

Open collector output OC1 provides an optical signal, and can't be disabled.

alarm
Occurs when the measured concentration exceeds the alarm value.
Indicated by continuously red LED that corresponds to the sensor.
• The open collector output OC1 provides an optical signal
• The open collector output OC2 provides an acoustic signal

Note

In the "Alarm" mode it is not possible to turn off the buzzer.

Actions in case of ALARM:

• Evacuate the area

• Close the gas if not automatically done

• Ventilate the room

• Check all possible causes causing the alarm.

- Bring report to the responsible.

-Consider the maintenance and the replacement date on the sensor

defect

Indicated by the yellow LED (key symbol) that corresponds to the sensor.

Check any connection cable or damage in relation to the sensor and the system.

Keep the manufacturer informed in the event that the sensor is exposed to a long time of high concentration of the gas (in this case, you need to calibrate the sensor). Shut down the gas supply in case of full failing. Keep the manufactor informed and service the equipment.

battery

In case of power supply problems, the battery automatically starts taking over the unit. The corresponding led next to the battery symbol indicates the usage of the battery.

Normal  power supply mode is displayed by the LED with the hazard symbol "tension".

Replace the battery in time!

Memory support:

• All events are stored in a memory and displayed by the LED MEMORY

• By pressing the "M" button the system shows the contents of the memory by specifying the corresponding LED. • By pressing the "M", button again, the state returns to the previous mode.

• The memory will be erased completely when pressing the "bell" button for 5 seconds.