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Desde 1973

YANGIN & GAZ ALGILAMA SİSTEMLERİ

ÜRÜN KATALOĞU



Cofem Installers Cofem Guard



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Akıllı Adreslenebilir Yangın Algılama Sistemi



COFEM ALGORITHMIC ADDRESSABLE FIRE DETECTION SYSTEM

The Algorithmic addressable Fire Detection System represents the most modern technology in fire detection and constitutes a natural evolution from the Identifiable Detection System towards equipment that not only is able to identify the element that produces the alarm (sensor or call point), but that also allows for the total configuration of detection parameters (alarm levels, sensibility,...) as well as the adaptation to the environmental conditions and the degree of dust in the sensor.

In the Cofem Algorithmic addressable Detection System, the loop elements (sensors, manual call points, relay modules, masters, analogue sounders and technical signal module) have the property of being auto-identifiable, that is to say, all of them can be installed with no need for prior manual encoding, facilitating enormously the assembly and subsequent modifications to the installation.

The Algorithmic addressable Detection System is based on the measurement and transmission of the instant value of the monitored magnitude (smoke, temperature or monoxide concentration), for their subsequent processing in the control panel, which will consider the alert or standby status of the sensor. Each sensor incorporates a microprocessor responsible for the digitalization of the analogue value read in the sensor, for transmission of this value to the control panel and for identification of the sensor.

The main difference between the conventional and analogical detection systems lies in that for the first the Voltage delivered by the transducer is compared with a predetermined and fixed threshold (V_{alarm}), obtaining from that comparison the system in standby or system in alarm status.

In the Algorithmic addressable Detection System, on the contrary, the control panel gathers the readings from each sensor and determines the status thereof according to these readings, any previous readings (history), the pre-programmed parameters and on the decision algorithm, being possible to act on the detection parameters, as well as, for example, the alarm threshold.

Each sensor on the Cofem Algorithmic addressable Detection System transmits its value to the control panel with a regularity of less than 10 seconds.

The following table shows the values of equivalence of the elements connected to analogue control panels and operating limits.

Device Limits per Control Panel									
Reference	Description	Logic Relays	LYON & ZAFIR control panel				C-Lyon Control Panel		
			Loop limit	Element equivalence			Cable section 2x1,5 mm ²	Loop limit	Element equivalent 2x1,5 mm ²
				Cable length ->	≤ 800 m	≤ 500 m			
A30XHA	Addressable optical-thermal sensor	---	199	1	1	1	1	99	1
A30XHAS	Addressable optical sensor	---	199	1	1	1	1	99	1
A30XHTA	Addressable thermal sensor	---	199	1	1	1	1	99	1
A30XHTCO	Optical-thermal-monoxide Multisensor	---	199	1	1	1	1	99	1
PUCAY	Addressable Manual Call Point	---	199	2	1	1	1	99	1
MSTAY	Technical signal module	---	99	3	3	2	2	57	2
KMAY	Conventional zone master module	---	99	5	3	2	2	72	2
MYOA	Relay and technical signal module	1	32	5	3	2	2	31	2
MDA1Y	Relay module	1	32	5	3	2	2	32	2
MDA2Y	Relays module	2	16	5	3	2	2	16	2
KABY	Loop isolator	---	199	1	1	1	1	99	0
SIRAY	Addressable sounder	1	32	8/16 ^a	6/12 ^a	4/8 ^a	4	32	4/8 ^a
SIRAYL	Addressable sounder with light	1	32	10/20 ^a	8/14 ^a	6/10 ^a	6	25	6/10 ^a
SIRAY+BSLC	Addressable sounder with EN 54-23 light	1	19	25/35/40 ^b	16/24/26 ^b	12/20/22 ^b	12	10	12/20/22 ^b
Control panel limits:									
<i>LYON control panel</i>			<i>ZAFIR control panel</i>			<i>C-Lyon control panel</i>			
a) 199 elements with 32 logic relays per loop, and b) 20 loops with 199 logic relays			a) 199 elements with 32 logic relays per loop			a) 99 elements with 32 logic relays per loop			
^{a)} Values correspond with the standard/maximum sound intensity of the sounder. ^{b)} Value corresponds with the sound-light standard/ sound or light at maximum/ sound and light at maximum, sounder intensity									

Table I. Limit elements per loop and per fire control panel (Lyon, Zafir and Compact Lyon).

ALGORITHMIC ADDRESSABLE SYSTEM

LYON control panel



The Lyon algorithmic addressable Control Panel is EN 54-2 and EN 54-4 standard certified according to the latest CE Directives/Regulation and can successfully overcome difficult environmental conditions, electrical interferences, electromagnetic radiate upsets, vibrations, etc.

The algorithmic addressable Detection System is able to identify the device which produces the alarm or fault (sensor or call point), and allows the total configuration of the detection parameters (alarm levels, sensibility...) as well as the adaptation to the environmental conditions and the degree of dust in the sensor.

In the Cofem algorithmic addressable System, the loop elements (sensors, manual call points, relay modules, masters, analogue sounders and technical signal modules) have the property of being auto-identifiable, that is to say, all of them can be installed with no need for prior manual encoding, facilitating enormously the assembly and subsequent modifications to the installation.

Features:

- Control panel configurable and expandable up to 8 loops (199 points per loop).
- Expandable up to 20 loops with an additional cabinet.
- All the points are supervised by the control panel, except the loop isolator KABY.
- Capacity for 199 configurable relays per control panel.
- Can hold up to 99 zones per panel.
- Registry with capacity of 4095 events with date and time.
- Delay of supervised sounder output programmable between 0 to 10 minutes, identified as S1.
- Alarm output as free voltage relay not supervised, identified as S2.
- Failure output, delayed and supervised, identified as S3.
- Allowed to connect addressable sounders in the loop.
- Evacuation push-button.
- Backlit LCD display with 4 lines and 40 characters.
- Incorporates multiple languages by default (Spanish, English, French, Portuguese, etc).
- Configurable with the PC-EASY CoNET software.
- Connectable to external keyboard (standard PC-PS2).
- Access to the control panel keyboard introducing a numeric code.
- Allows connection of up to 8 repeaters and/or 8 control panels in network.
- MODBUS (on specific request).
- Contact ID (on specific request).
- Size: 418 x 324 x 150 mm.
- Certified according to EN 54-2 and EN 54-4 and CE mark according to the European Regulation of Construction Products (UE) N°305/2011.

TECHNICAL FEATURES

Input Voltage	110/230Vac 50/60Hz	Maximum current per loop	500 mA / 26 to 32V/DC
Output Voltage	21V Nominal	Keyboard connector	PS2 minidin 6
Maximum consumption	155 VA to 230 VAC	Communications port	USB 2.0/1.1 type B or RS232 (depending on version)
Batteries	2 x 12V 7Ah SLA		
Power Fuse	8 A	Environmental conditions	-10°C+50°C 20%-95% RH
Battery Charger	500 mA 27V/DC 20°C	Size	418 x 324 x 150 mm
Devices per loop	199	Weight (without batteries)	7,4 Kg
Power Supply	5 A	Standard	EN 54 parts 2 and 4
Fuse S3	1 A	Fuse S1	2 A
IP Protection	IP 30	Fuse Output 30V	2 A



ZAFIR control panel

ALGORITHMIC ADDRESSABLE SYSTEM



The Zafir Algorithmic addressable Control Panel is EN 54-2 and EN 54-4 according to the European Regulation of Construction Products.

The new development of Zafir control panel, allow integration of all the functionality of an addressable algorithmic system in a reduced-dimension cabinet with capacity up to 398 detectors in 2 loops.

The control panel is totally compatible with the Lyon system, highlighting that loop elements (sensors, manual call points, relay modules, masters, analogue sounders and technical signal modules) have the property of being auto-identifiable, that is to say, all of them can be installed with no need for prior manual encoding, facilitating enormously the assembly and subsequent modifications to the installation.

Features:

- Control panel configurable with 1 or 2 loops.
- Loop capability 199 points.
- All the points are supervised by the control panel, except the loop isolator KABY.
- Capacity for 64 configurable relays per control panel.
- Can hold up to 99 zones per panel.
- Registry with capacity of 4095 events with date and time.
- Delay of supervised sounder output programmable between 0 to 10 minutes, identified as S1.
- Alarm output as free voltage relay not supervised, identified as ALARM.
- Failure general output, as free voltage relay not supervised, identified as FAULT.
- Allowed to connect addressable sounders in the loop.
- Evacuation push-button.
- Backlit LCD display with 4 lines and 40 characters.
- Incorporates multiple languages by default (Spanish, English, French, Portuguese, etc).
- Configurable with the PC-EASY CoNET software.
- Connectable to external keyboard (standard PC-PS2).
- Access to the control panel keyboard introducing a numeric code.
- Allows connection of up to 8 repeaters and/or 8 control panels in network.
- Contact ID (on specific request).
- Size: 363 x 331 x 96 mm.
- Certified according to EN-54-2 and EN 54-4 and CE mark according to the European Regulation of Construction Products (UE) N°305/2011.

TECHNICAL FEATURES

Input Voltage	110/230 Vac 50/60Hz	Maximum current per loop	500 mA / 24 to 36V/DC
Output Voltage	24V Nominal	Keyboard connector	PS2 minidin 6
Maximum Consumption	70 VA to 230V/AC	Communications port	USB 2.0/1.1 type B & RS485
Batteries	2 x 12V 7Ah SLA	Environmental conditions	-10°C+50°C 20%-95% RH
Battery Charger	500 mA 27V/DC 20°C	Size	363 x 331 x 96 mm
Devices per loop	199	Weight (without batteries)	4,5 Kg
Batteries Fuse	4 A	Standard	EN 54 parts 2 and 4
IP Protection	IP 30	S1 Sounder fuse	1,85 A autoreset
		30V Output fuse	0,75 A autoreset

ALGORITHMIC ADDRESSABLE SYSTEM

COMPACT LYON control panel



The algorithmic addressable Control Panel Compact Lyon is EN 54-2 and EN 54-4 standard certified according to the latest CE Directives/Regulation.

The Compact Lyon panel does the same functions that Lyon Control Panel, being fully compatible with it from the point of view of installation (cabling, analogue detectors, manual call points, modules and analogue sounders, etc.).

It is particularly interesting in medium-size installations, traditionally designed for conventional systems, allowing using an addressable system with all its functionality and advantage.

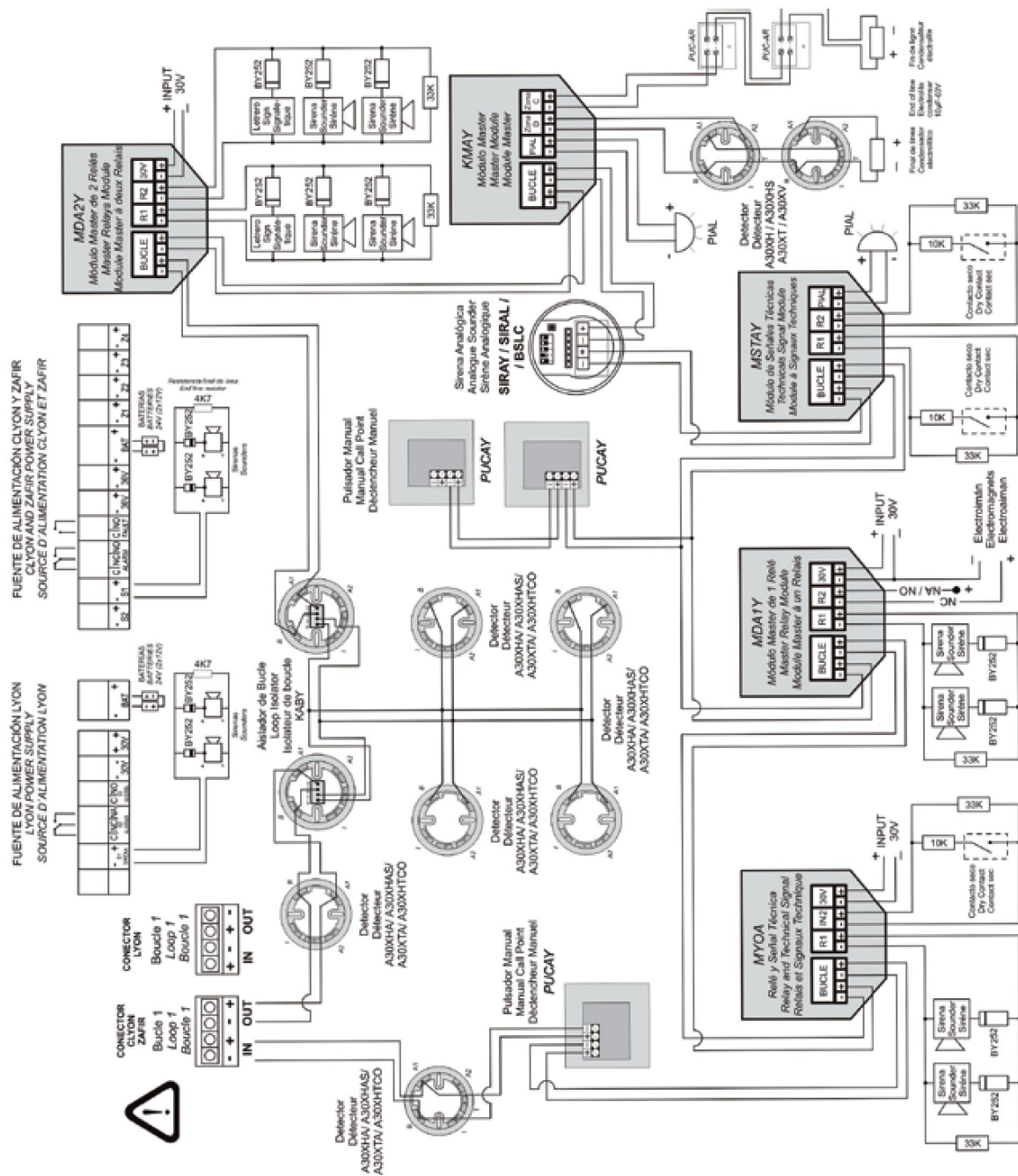
In case the installation should be extended, the Compact Lyon Control Panel has the control panels network function, whereby control panels can be connected together, also showing the information of the control panels connected to a repeater, besides allows an additional functionality of operation.

Features:

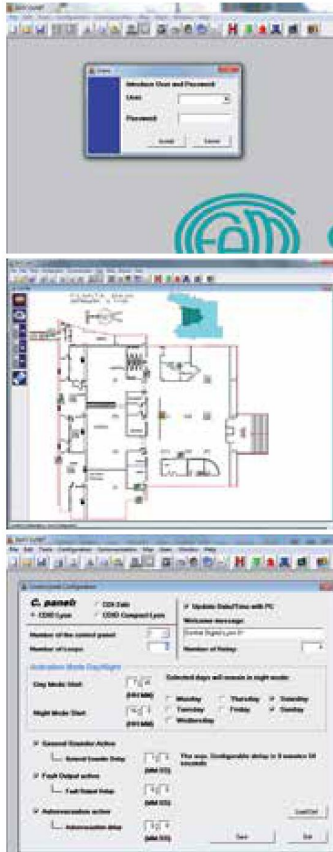
- Control panel configurable with 1 or 2 loops.
- Loop capability 99 points.
- All the points are supervised by the control panel, except the loop isolator KABY.
- Capacity for 64 configurable relays per control panel.
- Can hold up to 99 zones per panel.
- Registry with capacity of 4095 events with date and time.
- Delay of supervised sounder output programmable between 0 to 10 minutes, identified as S1.
- Alarm output as free voltage relay not supervised, identified as ALARM.
- Failure general output, as free voltage relay not supervised, identified as FAULT.
- Allowed to connect addressable sounders in the loop.
- Evacuation push-button.
- Backlit LCD display with 4 lines and 40 characters.
- Incorporates multiple languages by default (Spanish, English, French, Portuguese, etc).
- Configurable with the PC-EASY CoNET software.
- Connectable to external keyboard (standard PC-PS2).
- Access to the control panel keyboard introducing a numeric code.
- Allows connection of up to 8 repeaters and/or 8 control panels in network.
- Contact ID (on specific request).
- Size: 363 x 331 x 96 mm.
- Certified according to EN 54-2 and EN 54-4 and EN 54-4 and CE mark according to the European Regulation of Construction Products (UE) N°305/2011.

TECHNICAL FEATURES

Input Voltage	110/230Vac 50/60Hz	Maximum current per loop	250 mA / 24 to 36V/DC
Output Voltage	24V Nominal	Keyboard connector	PS2 minidin 6
Maximum Consumption	70 VA to 230V/AC	Communications port	USB 2.0/1.1 type B & RS485
Batteries	2 x 12V 7Ah SLA	Environmental conditions	-10°C+50°C 20%-95% RH
Batteries charger	500 mA 27V/DC 20°	Size	363 x 331 x 96 mm
Devices per loop	99	Weight (without batteries)	4,5 Kg
Batteries Fuse	4 A	Standard	EN 54 parts 2 and 4
IP Protection	IP 30	S1 Sounder Fuse	1,85 A auto reset
		30V Fuse Output	0,75 A auto reset



General wiring diagram (Lyon, Zafir and C-Lyon Control Panels)



EASY CoNET is a support software for programming and monitoring the status of Lyon, Zafir and Compact Lyon control panels of Cofem. With control panels at the market that support over 1000 points, it is important to have efficient labelling and programming tools.

The EASY CoNET software is designed for two functions:

Configuration of control panel:

The EASY CoNET software (basic version) can be loaded in any PC (usually a laptop computer). It allows to prepare the information of the installation (programming number, points label, activation of relays, zones, etc) for downloading to control panel through USB connection between PC and control panel. In this way, it is easier to work in configuration of control panel comfortable anyplace, and only going to the place of control panel for downloading configuration and start up system. Furthermore, the EASY CoNET software make also easier the management and control of the configurations with Lyon, Zafir and Compact Lyon control panels.

Control panel management with PC:

The EASY CoNET software (extended version) allows ONLINE and real-time management of control panel with a PC, allowing to interact on it (monitor, disabled zones, put on test, activate the evacuation, etc), as well as showing all the incidents (warning lights, location maps, capability to disabled or reset a detector, a relay, etc).

Features:

- Software for programming and management of Lyon, Zafir and Compact Lyon control panels.
- Software can be installed in any PC (the minim requirements are described in the EASY CoNET manual).

Basic Version (for control panel configuration):

- Allows programming of control panel with a PC (usually a laptop computer) in a Windows environment, later connection to control panel and download the information on it.
- Connection with USB.
- Easy management of all configurations with Lyon, Zafir and Compact Lyon control panels.
- Avoids the control panel configuration in front of it.
- The control panel configuration can be prepared wherever.

Extended Version (for ONLINE management):

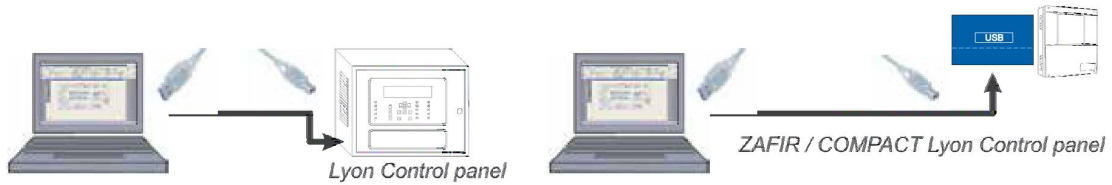
- ONLINE management of control panel, with multiples possibilities of control in a easy Windows environment (monitor, put on test, location maps, disabled or reset relays, etc).
- Distances up to 1200 m between control panel and PC are accepted, using RS232/485 convertors.
- Allow use wiring and TCP/IP protocol in the installation.



Wiring diagram

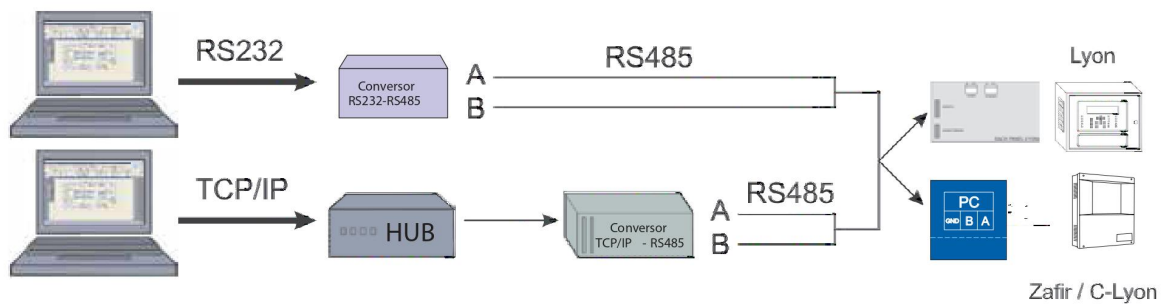
ALGORITHMIC ADDRESSABLE SYSTEM

CONNECTION BY USB (basic version)

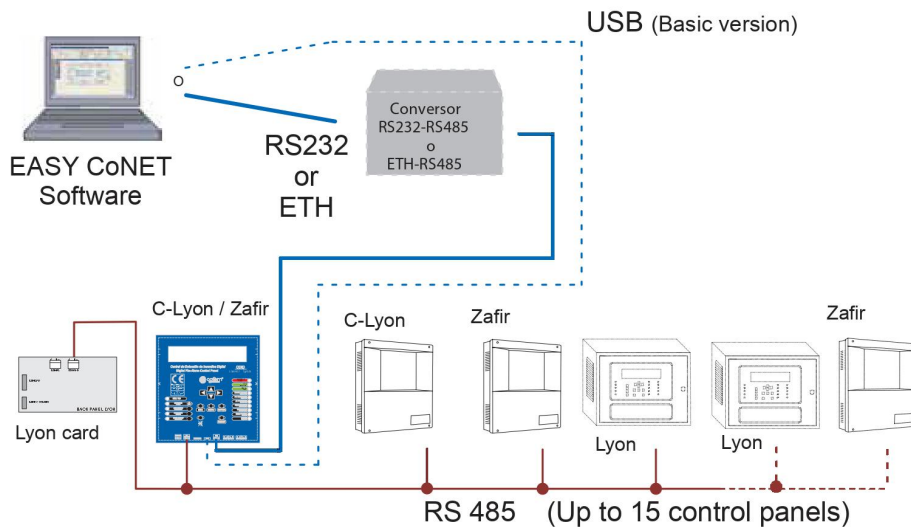


NOTE 1: USB cable length must be less than 3 m.

CONNECTION FOR ONE CONTROL PANEL THROUGH PROTOCOL RS485 OR TCP / IP (Extended Version)



EXAMPLE OF NET CONNECTION AND EASY CoNET



NOTE: The wiring diagrams are valid for EASY CoNET and I-LINK.



I-link is a monitoring and configuration software of algorithmic-addressable Cofem control panels.

This software is installed on a PC and allows two functions:

Control panel configuration:

With the basic version you can set the operating parameters of the system following some simple steps; the general parameters of activation of the control panel, the points definition, the actuation of the relays and the definition of activation an zones lists.

All with features that help the user to simplify the data input information such as the use of the Cofem Installer app (for Mobile Smartphones and tablets), the display of the configuration tree, the ability to copy and move loops, modify the information directly on the tables of points, relays, etc.

In addition, I-Link allows set up video cameras and then associate them in the extended version (ON-LINE) to the detection devices.

ON-LINE:

With software in its extended version, I-Link allows ON-LINE connection (in real-time) with control panel detection and fire alarm, allowing the visualization of events in real time, in addition to acting on it (monitor, cancel, test, activate evacuation, etc.).

For better viewing it can introduce the installation drawings in various formats (autocad included) and locate the different detection devices on these draws. When an event happens, it opens the appropriate draw to focus the event, in which the user can zoom, change of draws, view the sequence of events, etc.

On the draws you can also locate the installation video cameras and linking them with the detection devices. In this way, with an event, it will open the linked video camera to allowing to visualize what is happening in that zone of the installation. Similarly, click can be at any time in any video camera and view your images. To configure the video cameras is also allows the possibility of activation of a Picture Manager that will give us a notice in I-LINK ONLINE of a possible identification of fire.

Login the installation in the application Cofem Guard (for smartphones, tablets, or e-mail), the I-LINK ONLINE also sends the information of the events of the detection and fire alarm system to 5 users who receive it in real time depending on the connectivity/coverage of these devices.

Features:

Basic version (for control panel setup):

- It allows you setup easily the control panel from a PC .
- It allows to easily manage configurations of all Lyon, Zafir and Compact Lyon facilities.
- Load information of the installation points from the Cofem Installer application.
- Video cameras configuration.
-

Extended version (ON-LINE management):

- It allows control panel management ONLINE, offering multiple possibilities for control.
- Visualization of events in the installation draws.
- Under license, sending installation events to the application Cofem Guard (for smartphones, tablets, or e-mail).
- Using converters RS232/485, separation distances between PC and Central cab be up to 1200 m.
- Allows you to use wiring and Protocol TCP/IP installation.



ZYR control panel

ALGORITHMIC ADDRESSABLE SYSTEM



The LYON / ZAFIR / COMPACT Lyon control panel allows to connect up to 15 repeaters, using a 4 wires of 1,5 mm² connection (two for supply and two for communication for RS485 line). The two wires of the RS485 line will be connected from the control panel to the corresponding repeaters. The repeater wiring is realized like the figure attached.

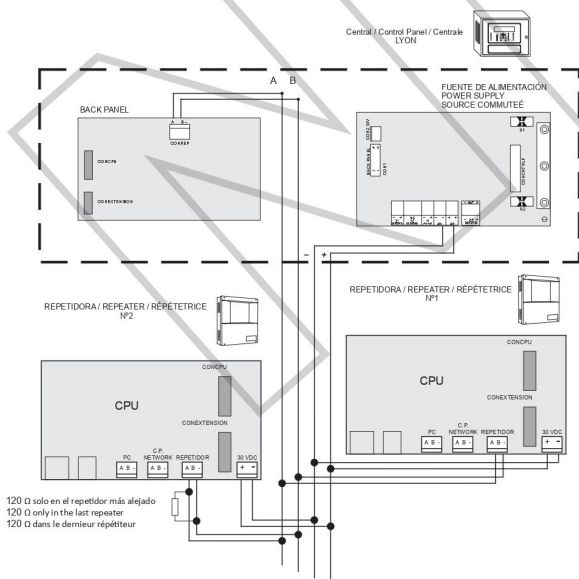
From 30 V output of the control panel power supply is allowed up to 3 repeaters. For C-Lyon and Zafir control panels is allowed supply 1 repeater. The rest of repeaters should be connected from the 30 V output of an external power supply.

The wiring of repeaters, communication and power wires, will be realized with twisted and shielded halogen-free of 2x1,5 mm² wire, maximum length up to 1200 m.

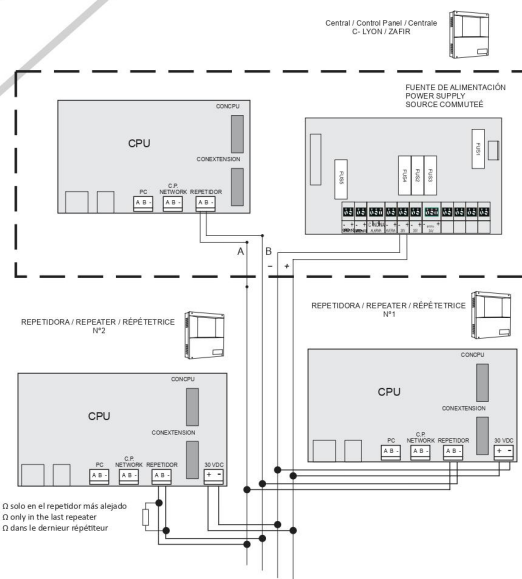
In the end of the line should be connected a 120 Ω resistance, in the back panel of the last repeater.

TECHNICAL FEATURES

Supply	30 V
Standby consumption	150 mA
Humidity	20 - 95% HR
Temperature	-10°C +50°C
Dimensions	283 x 240 x 35 mm
Weight (without batteries)	2,4 kg
IP protection	IP 30



Wiring diagram for a Lyon control panel



Wiring diagram for a Zafir and C-Lyon control panel



Algorithmic addressable heat sensor for fire detection.

The A30XTA sensor is based on the physical properties of a NTC. The variation of the electrical features of the NTC thermistor due to variation of room temperature makes it suitable for a heat sensor.

The A30XTA is capable of registering absolute temperatures (heat sensor) but also temperature rises (rise of heat rate sensor).

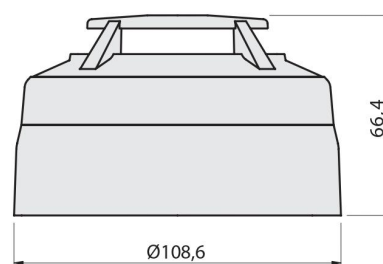
The heat rate function allows detect a fire in the first phases of its growth. If it is very slow, the sensor is activated when temperature reaches 55°C.

Features:

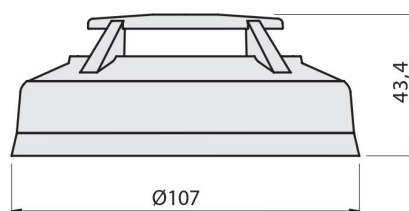
- Low section, total height less than 45 mm (including the base).
- Available with high base for electrical conduit of 20 mm.
- Alarm with two red LED, which makes easier the identification from any direction (360°).
- Possibility to connect a remote action indicator.
- Easy connection, without polarity.
- A single flash of LED indicators shows communication with the control panel, and alarm status with LED on.
- Detector and base with easy installation, interchangeable with the entire of range A30X, and manufactured in white heat-resistant ABS.
- According to EN 54 part 5 class A2R (sensors with heat rise function), and CE mark according to the European Regulation of Construction Products (UE) N°305/2011.

TECHNICAL FEATURES

Power Supply	24 - 35V non-polarized
Standby Current	1 mA
Alarm Current	5 mA
Activation Signal	Two Red LED (360° visibility)
Remote Indicator Output	Yes
Humidity	20 - 95% RH
Temperature	-10°C +50°C
Sensitivity	According to EN 54-5 Class A2R
IP Protection	IP 20



High base assembly



Low base assembly



Other colors on request



A30XHA / A30XHAS Sensor

ALGORITHMIC ADDRESSABLE SYSTEM



A30XHA



A30XHAS

Algorithmic addressable optical smoke sensor for fire detection.

The optical smoke sensor A30XHA / A30XHAS is based on the Tyndall effect (light refraction in a dark chamber) created in an optical chamber.

The variation of the electrical features of the chamber in the presence of combustion aerosols makes it suitable for smoke sensing.

The sensor A30XHA (optical-heat sensor) also has a static heat element that sets it into alarm status when temperature reaches 55°C.

Features:

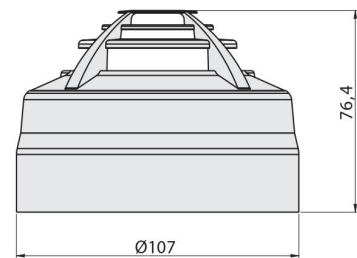
- Low section, total height less than 53,4 mm (including the base).
- Available with high base for electrical conduit of 20 mm.
- Alarm with two red LED, which makes easier the identification from any direction (360°).
- Possibility to connect a remote action indicator.
- Easy connection, without polarity.
- A single flash of LED indicators shows communication with the control panel, and alarm status with LED on.
- Indication of contamination status of the sensor in the control panel display (the sensor discriminates between fast alarm signal

and slow and sustained small increases due to the accumulation of dust and dirt).

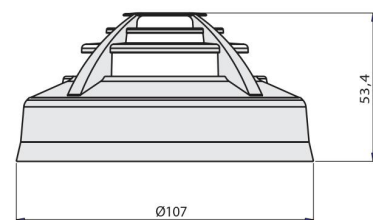
- Detector and base with easy installation, interchangeable with the entire of range A30X, and manufactured in white heat-resistant ABS.
- According to EN 54-7 Standard, and CE mark according to the European Regulation of Construction Products (UE) N°305/2011.

TECHNICAL FEATURES

Power Supply	24 - 35V non-polarized
Standby Current	1 mA
Alarm Current	5 mA
Activation Signal	Two Red LED (360° visibility)
Remote Indicator Output	Yes
Humidity	20 - 95% RH
Temperature	-10°C +50°C
Sensitivity	According to EN 54-7
IP Protection A30XHA	IP 20
IP Protection A30XHAS	IP 40



High base assembly



Low base assembly



Other colors on request

ALGORITHMIC ADDRESSABLE SYSTEM

A30XHTCO Multisensor



Algorithmic addressable multisensor for fire detection.

The A30XHTCO has three different types of sensors: one optical smoke sensor, one heat sensor and one carbon monoxide sensor (CO).

The use of the CO sensor is very valuable for the early detection for some types of fire.

As well, the integration with the optical smoke detector inside its algorithm of dynamic processing, give us, as main results, a compact detector very robust facing the false alarms

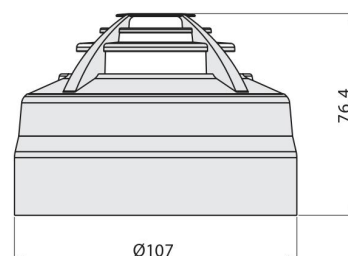
For complete its benefits, the sensor also has a heat element sets it alarm status when temperature reaches 55°C.

Features:

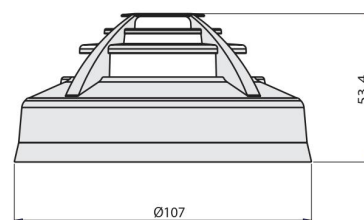
- Low section, total height less than 53,4 mm (including the base).
- Available with high base for electrical conduit of 20 mm.
- Alarm with two red LED, which makes easier the identification from any direction (360°).
- Possibility to connect a remote action indicator.
- Easy connection, without polarity.
- A single flash of LED indicators shows communication with the control panel, and alarm status with LED on.
- Indication of contamination status of the sensor in the control panel display (the sensor discriminates between fast alarm signal and slow and sustained small increases due to the accumulation of dust and dirt).
- Dynamic processing algorithm that reduces drastically incidences due to false alarms.
- Detector and base with easy installation, interchangeable with the entire of range A30X, and manufactured in white heat-resistant ABS.
- According to EN 54-7 Standard, and CE mark according to the European Regulation of Construction Products (UE) N°305/2011.

TECHNICAL FEATURES

Power Supply	24 - 35V non-polarized
Standby Current	1 mA
Alarm Current	5 mA
Activation Signal	Two Red LED (360° visibility)
Remote Indicator Output	Yes
Humidity	20 - 95% RH
Temperature	-10°C +50°C
Sensitivity	According to EN 54-7
IP Protection	IP 40
Lifespan	5 years



High base assembly



Low base assembly



Other colors on request



PUCAY Alarm call point

ALGORITHMIC ADDRESSABLE SYSTEM



Resettable Manual Call Point (with short-circuit isolator) for algorithmic addressable detection systems.

It has a LED that lights up when the call point is manually triggered (alarm), as well as showing a yellow tab on the lower side of the activation face. A single flash shows communication with the control panel.

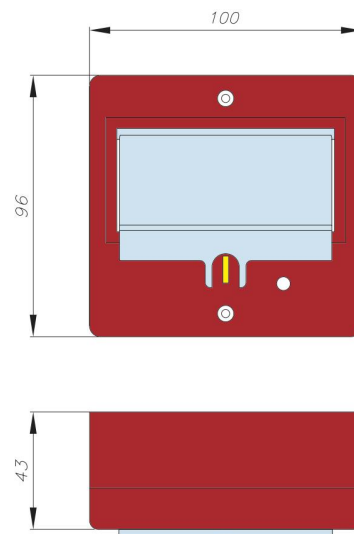
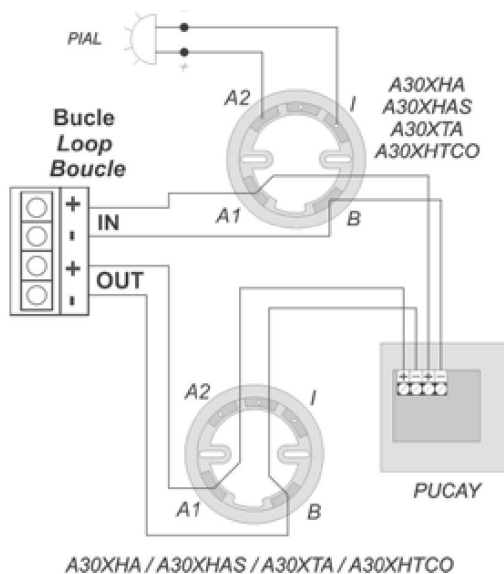
It is easy to reset through activation of the yellow button sited in the front face by means of a screwdriver.

Features:

- Easily resettable call point by pushing yellow button on the front side.
- Transparent protector cover to avoid accidental false alarms.
- Self-identified element in the fire detection algorithmic and addressable.
- Communication with the control panel is indicated by a single flash of the LED.
- Immediate visual recognition of alarm status by the permanent activation of the LED, and the trigger of the yellow tab on the lower side of the activation face.
- According to EN 54-11 Standard, and CE mark according to the European Regulation of Construction Products (UE) N°305/2011.

TECHNICAL FEATURES

Power Supply	24 - 35V with polarity
Standby Current	1 mA
Alarm Current	5 mA
Activation Signal	Red Light
Remote Indicator Output	No
Humidity	20 - 95% RH
Temperature	-10°C +50°C
Standard	EN 54-11
IP Protection	IP 50





Microprocessed algorithmic addressable device (with short-circuit isolator) installed as another element inside the loop.

This is a device that allows connecting conventional detectors and/or manual call point inside an algorithmic addressable fire detection system, performing the interface function between the algorithmic addressable detection system and the conventional one.

In the "Zona C" terminal, a maximum of 10 conventional call points can be installed. In the "Zona D" terminal, it is allowed 20 temperature detectors (A30XT, A30XV) or 15 elements between conventional smoke detectors (A30XH, A30XHS) and manual call points. Both terminals are monitored by an end of line capacitor, 10 μ F/63V. In this way, it is indicated an open line, crossed line, alarm detector or alarm manual call point status.

The flashing of the transparent red LED indicates communication with the control panel, and if it remains on it indicates the alarm status of a detector or manual call point connected to this module.

This module has an output for activation of a remote indicator which will be activated when alarm status is reached. The Master Detection Module takes the power supply from the loop.

The Master Detection Module is placed in a rectangular, heat-resistant ABS box.

The module is certified according to EN 54-18 Standard, and CE mark according to the European Regulation of Construction Products (UE) N°305/2011.

TECHNICAL FEATURES

Power Supply	24 - 35V with polarity
Standby Current	1 mA
Short-Circuit Isolator	Yes
Zone voltage	20V with polarity
Activation Signal	Red Light
Remote Indicator Output	Yes
Humidity	20 - 95% RH
Temperature	-10°C +50°C
Size	140,5 x 73 x 48mm
Standard	EN 54-18
IP Protection	IP 30



Relay module MDA1Y

ALGORITHMIC ADDRESSABLE SYSTEM



Microprocessed algorithmic addressable device (with short-circuit isolator) installed as another element inside the loop.

The module takes the power supply from the loop, but it requires an auxiliary 30V supply to give the necessary energy to the devices controlled by the relays. It monitors the presence of voltage in the auxiliary supply line of 30V and in the output of the monitored relays.

The module is protected by 0,9 A resettable fuse and each monitored output by 0,5 A.

The flashing of the transparent red LED indicates communication with the control panel. Illumination of the green LED indicates the actuation of a relay.

It is a module with two relay outputs of simultaneous activation (with a single function), not only in its type of application (sounder, switches or pre-alarm), but also in their timing and in the combination of sensors that activate them.

The R1 output relay is monitored with a line termination resistance of 33 k Ω , indicating the state of opened line or crossed line. The R2 output relay acts as a dry contact NO and NC, not monitored, which typical application in the energizing of the electromagnets of fire-resistant doors. Considering the consumption produced across the system, it is recommended installation of an external power supply when connecting more than 10 electromagnets altogether per detection system.

The device is placed in a rectangular heat-resistant ABS box.

The module is certified according to EN 54-18 Standard, and CE labelled according to the European Regulation of Construction Products (UE) N $^{\circ}$ 305/2011.

TECHNICAL FEATURES

Power Supply	24 - 35V with polarity
Standby Current	1 mA
Short-Circuit Isolator	Si
Relay supervision voltage	7V with reverse polarity
Relay output voltage	30V
Activation signal	Green Light
Communication Indicator	Red Light
Humidity	20 - 95% RH
Temperature	-10 $^{\circ}$ C +50 $^{\circ}$ C
Size	140,5 x 73 x 48 mm
Standard	EN 54-18
IP Protection	IP 30



Microprocessed algorithmic addressable device (with short-circuit isolator) installed as another element inside the loop.

The module takes the power supply from the loop, but it requires an auxiliary 30 V supply to give the necessary energy to the devices controlled by the relays. It monitors the presence of voltage in the auxiliary supply line of 30V and in the output of the monitored relays.

The module is protected by 0,9 A resettable fuse and each monitored output by 0,5 A.

The flashing of the transparent red LED indicates communication with the control panel. Illumination of the green LED indicates the actuation of a relay.

It is a module with two relay outputs of independent activation (two functions), not only in their type of application (sounder, switches or crossed relay), but also in their timing and in the combination of sensors that activate them.

In the standby state, the MDA2Y monitors both external line by means of a 33 k Ω resistance, indicating the state of open line or crossed line.

The device is placed in a rectangular heat-resistant ABS box.

The module is certified according to EN 54-18 Standard, and CE labelled according to the European Regulation of Construction Products (UE) N°305/2011.

TECHNICAL FEATURES

Power Supply	24 - 35V with polarity
Standby Current	1 mA
Short-Circuit Isolator	Si
Relay supervision voltage	7V with reverse polarity
Relay output voltage	30V
Activation Signal	Green Light
Communication Indicator	Red Light
Humidity	20 - 95% RH
Temperature	-10°C +50°C
Size	140,5 x 73 x 48 mm
Standard	EN 54-18
IP Protection	IP 30



Signals module MSTAY

ALGORITHMIC ADDRESSABLE SYSTEM



Microprocessed algorithmic addressable device (with short-circuit isolator) installed as another element inside the loop.

It has two inputs to distinguish between the open or close state of a dry contact connected in series with a 10 k Ω resistor. In quiescent condition, the contact has to be open, and in anomaly condition, the contact has to be closed. In the first input (marked with IN1), the closed contact is detected as an ALARM condition. In the second input (marked with IN2), the closed contact is detected as FAULT warning condition. It is possible to associate both inputs having an alarm and fault conditions information.

In the quiescent condition, the device supervises the electrical connection through a 33 k Ω resistor, which allows indication of open or closed electrical connection status.

It is typically used to signal the status of other detection systems that may exist, as for example, connection of flow sensors in the case of sprinkler installations, end of travel in the case of fire-resistant doors, elevators, level of deposits, etc.

The flashing of the transparent red LED indicates communication with the control panel, and if it remains lit, it indicates an alarm status. The illumination of the green LED indicates activation of one or both inputs.

This device has an output for connection to a remote action indicator, which is activated when in alarm status. This element is electrical fed through the loop connection.

The device is placed in a rectangular, heat-resistant ABS box.

The module is certified according to EN 54-18 Standard, and CE mark according to the European Regulation of Construction Products (UE) N°305/2011.

TECHNICAL FEATURES

Power Supply	24 - 35V with polarity
Standby Current	1 mA
Short-Circuit Isolator	Yes
Supervision voltage	7V with reverse polarity
Remote Indicator Output	Yes
Activation signal	Green Light
Communication/Alarm Indicator	Red Light
Humidity	20 - 95% RH
Temperature	-10°C +50°C
Size	140,5 x 73 x 48 mm
Standard	EN 54-18
IP Protection	IP 30



Microprocessed algorithmic addressable device (with short-circuit isolator) installed as another element inside the loop.

It has two inputs to distinguish between the open or close state of a dry contact connected in series with a 10 k Ω resistor. In quiescent condition, the contact has to be open, and in anomaly condition, the contact has to be closed. In the first input (marked with IN1), the closed contact is detected as an ALARM condition. In the second input (marked with IN2), the closed contact is detected as FAULT warning condition. It is possible to associate both inputs having an alarm and fault conditions information.

In the quiescent condition, the device supervises the electrical connection through a 33 k Ω resistor, which allows indication of open or closed electrical connection status.

It is typically used to signal the status of other detection systems that may exist, as for example, connection of flow sensors in the case of sprinkler installations, end of travel in the case of fire-resistant doors, elevators, level of deposits, etc.

The flashing of the transparent red LED indicates communication with the control panel, and if it remains lit, it indicates an alarm status. The illumination of the green LED indicates activation of one or both inputs.

This device has an output for connection to a remote action indicator, which is activated when in alarm status. This element is electrical fed through the loop connection.

The device is placed in a rectangular, heat-resistant ABS box.

The module is certified according to EN 54-18 Standard, and CE mark according to the European Regulation of Construction Products (UE) N°305/2011.

TECHNICAL FEATURES

Power Supply	24 - 35V with polarity
Standby Current	1 mA
Short-Circuit Isolator	Yes
Supervision voltage	7V with reverse polarity
Remote Indicator Output	Yes
Activation signal	Green Light
Communication/Alarm Indicator	Red Light
Humidity	20 - 95% RH
Temperature	-10°C +50°C
Size	140,5 x 73 x 48 mm
Standard	EN 54-18
IP Protection	IP 30



Input output module MYOA

ALGORITHMIC ADDRESSABLE SYSTEM



Microprocessed algorithmic addressable device (with short-circuit isolator) installed as another element inside the loop.

This module has one relay output fed by external 30V and one technical signal input to distinguish the open or closed state of a dry contact. The Module is protected by 0,9 A resettable fuse and the relay by 0,5 A.

This module is electrical fed through the loop connection, but it is required auxiliary 30V for feeding the equipment's connected to the relay output. The relay is configured with only one function (sounder, switched or crossed relay), but also in its timing and in the combination of sensors that activate it. The module monitors the presence of voltage in the auxiliary supply line of 30V and in the output of the monitored rely. The voltage output of the relay is 30V.

The technical signal input has a 10 k Ω resistor connected in series with the dry contact. In quiescent condition, the contact has to be open, and in anomaly condition, the contact has to be closed. In the input (marked with IN2), the closed contact is detected as ALARM condition.

The MYOA supervises each external line (relay output and technical signal input) through a 33k Ω each one, which allows indication of open or closed electrical connection status.

The flashing of the transparent red LED indicates communication with the control panel, the fix light of red led indicates the alarm status of the input, and the illuminated green LED indicates the activation of the relay.

The Relay and Technical Signal Module is placed in a rectangular, head-resistant ABS box.

The module is certified according to EN 54-18 Standard, and labelled according to the European Regulation of Construction Products (UE) N°305/2011.

TECHNICAL FEATURES

Power Supply	24 - 35V with polarity
Standby Current	1 mA
Short-Circuit Isolator	Yes
Supervision voltage	7V with reverse polarity
Remote Indicator Output	No
Activation signal	Green Light
Communication/Alarm Indicator	Red Light
Humidity	20 - 95% RH
Temperature	-10°C +50°C
Size	140,5 x 73 x 48 mm
Standard	EN 54-18
IP Protection	IP 30

ALGORITHMIC ADDRESSABLE SYSTEM

Isolator Module KABY



Microprocessed algorithmic element installed as another element inside the loop (It is not addressable – There is not need to configure this element).

This is a protection element that is connected into the detection loop, with the aim of isolating stretches with crossed line failures, and allowing therefore the rest of the loop to operate normally.

It is supplied installed inside of a high base. This assembly allows having it in the same place as the detector, making easy the connection of the loop wiring.

We recommend installing a module or element with isolator, minimum every 32 elements of the loop.

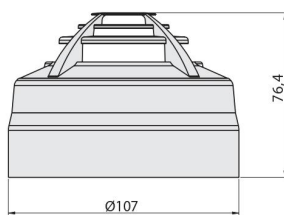
The base has two stickers in the outer side with the word “KABY” to allow easy recognition.

The element is feed from the loop connection.

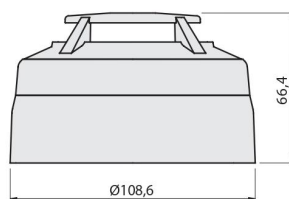
The module is certified according to EN 54-17 Standard, and CE labelled according to the European Regulation of Construction Products (UE) N°305/2011.

TECHNICAL FEATURES

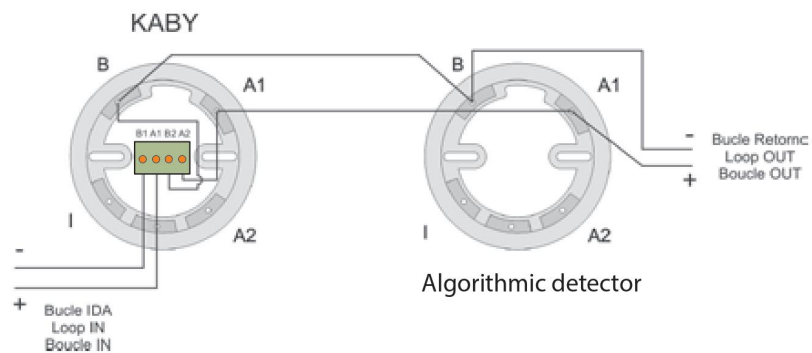
Power Supply	24 - 35V with polarity
Standby Current	110 µA
Short-Circuit Isolator	Yes
Remote Indicator Output	No
Humidity	20 - 95% RH
Temperature	-10°C + 50°C
Standard	EN 54-17
IP Protection	IP 30



Montaje para A30XHA
Assembly for A30XHA
Assemblage pour A30XHA



Montaje para A30XT A / A30XHAS
Assembly for A30XT A / A30XHAS
Assemblage pour A30XT A / A30XHAS





PIAL Remote indicator

ALGORITHMIC ADDRESSABLE SYSTEM



Remote action indicator of fire detection system.

The PIAL allows showing alarm status of sensors and modules of algorithmic systems, as well as of sensors of conventional systems.

Typical cases of use:

- Places where elements of the detection system are not visible, for example, inside false ceiling, in which the PIAL can be visibly situated on the lower part of the ceiling or near the wall.

- Reduced accessibility rooms or that is needed do a big inspection range for the identification of the element in alarm, for example in hotel rooms, where the PIAL can be situated above the door frame of each room, making very easy its identification.

Permanent activation of the red LED indicates alarm status.

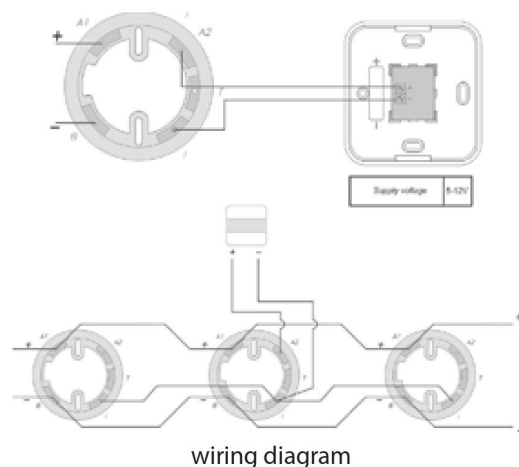
It is an element easy to install, both for its electrical wiring and its fixation. Furthermore, can be adapted to the conduit boxes and switchgear.

Features:

- Alarm status can be identified in any perpendicular direction at its installation.
- Easy connection, with polarity.
- Can be adapted to the conduit boxes and switchgear.
- The red light is produced by two LEDs, increasing reliability against failure of any of them.
- Manufactured in heat-resistant ABS. Base and lid are white, red viewer.

TECHNICAL FEATURES

Supply	5 - 12 V/DC with polarity
Standby consumption	0 mA
Alarm consumption	5 mA
Activation signal	Red led
Humidity	20 - 95% RH
Temperature	-10°C +50°C
IP protection	IP 50





A30XZSL



A30XZSD

Base with EN 54-23 visual alarm certified, EN 54-3 sound certified and base detector.

Typical uses of A30XZSD and A30XZSL are spaces or rooms that need a fire detector integrated with sounder and visual alarm such as hotel rooms.

The coverage of the set should not be more than the coverage of detector with which it is installed, except purposes or uses justified.

From functionally point of view, the detector is wired according to the criteria of the fire control panel. Regarding the sounder and visual alarm base, it is a conventional sounder wired according to the criteria of the equipment which feed it (Sounder output at fire control panel, MDA1Y, MDA2Y, MYOA, etc).

TECHNICAL FEATURES

	A30XZSD	A30XZSL
Supply	18-30 V with polarity	18-30 V with polarity
Standby consumption	0 mA	0 mA
Alarm consumption	5 mA / 7 mA (Low/High dB)	9 mA / 11 mA (Low/High dB)
Operating temperature	-10°C +50°C	-10°C +50°C
Dimensions	Ø114mm x high 45 mm (without detector)	Ø114mm x high 45 mm (without detector)
IP protection	IP 30	IP 30
Sound intensity	Low 80 / High 90 dB-1m	Low 80 / High 90 dB-1m
Tones	8 types	3 types
Standard	EN 54-3	EN 54-23 & EN 54-3
Flash	-	0,5 Hz (60 ms)



SIRAY



SIRAYL



SIRAY+BSLC

Microprocessed digital and addressable device (with short-circuit isolator) installed as another element inside the loop. The sounder is made of in ABS heat-resistant plastic red color.

Is a module with a single programming function in terms of the timing and combination of sensors that trigger it. This sounder is configured as a relay acting as sounder.

The variant SIRAYL and SIRAY+BSLC additionally emit light signals, where in addition, the SIRAY+BSLC makes it according to EN 54-23 (visual alarm device). The fact that specifically these sounders emitting light does not affect the programming of the control panel. For this reason, these devices are programmed in the control panel as if they were the reference SIRAY.

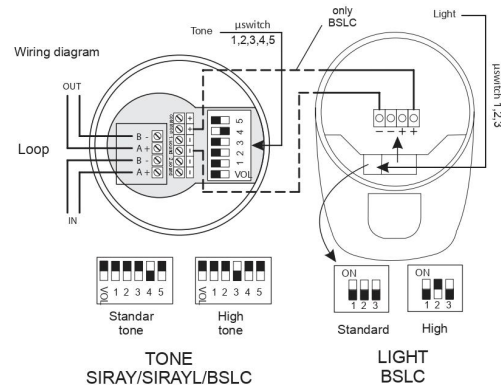
The standard configuration of the sound of the sounder is shown in the bottom figure according to EN 54-3 (acoustic device). The same figure shows the standard configuration of the light signal at the base of the sounder SIRAY+BSLC according to EN 54-23 (visual alarm device).

It is possible to change the tone and light signal selection, but this operation affects the power consumption of the sounder, and therefore, the consumption of the device points. The bottom figure shows a table of equivalence for tone selections (standard 95 dB - 1m and maximum sound intensity 105 dB - 1m) and visual signal (W-2, 4-2, 37, 5). It is possible to calculate the precise calculation with the software of loop elements capacity.

Internal wiring and other microswitchs positions must be unmodified selected by the manufacturer.

TECHNICAL FEATURES

Power supply	24 - 35V with polarity
Standby current	1 mA
Alarm current	5 - 50 mA
Short-circuit isolator	Yes
Operating temperature	-10°C + 55°C
Size	Ø95 x 91 mm / Ø95 x 107 mm (SIRAYL) Ø95 x 95 (high) x 135 mm (SIRAY+BSLC)
Standard	EN 54-3 / EN 54-23 (BSLC)
IP protection	IP 65
Sound intensity	95 / 105 dB - 1m (SIRAY / SIRAYL)
Light intensity	w 2,4 - 2,3 / 7,5 m (BSLC)



		Devices limits per Control Panel						
Reference	Description	LYON & ZAFIR control panel				C-Lyon Control Panel		
		Loop limit	Element equivalence			Loop limit	Element equivalence	Cable section
		Cable length	≤ 800 m	≤ 500 m	≤ 300 m	2x1,5 mm ²	Cable length	≤ 800 m
->	≤ 1350 m	≤ 850 m	≤ 500 m	2x2,5mm ²	>	≤ 1350 m	2x2,5mm ²	
SIRAY	Addressable sounder	32	8/16 ^A	6/12 ^A	4/8 ^A	32	4/8 ^A	
SIRAYL	Addressable sounder with light	32	10/20 ^A	8/14 ^A	6/10 ^A	25	6/10 ^A	
SIRAY+BSLC	Addressable sounder with EN 54-23 light	19	25/35/40 ^B	16/24/26 ^B	12/20/22 ^B	10	12/20/22 ^B	

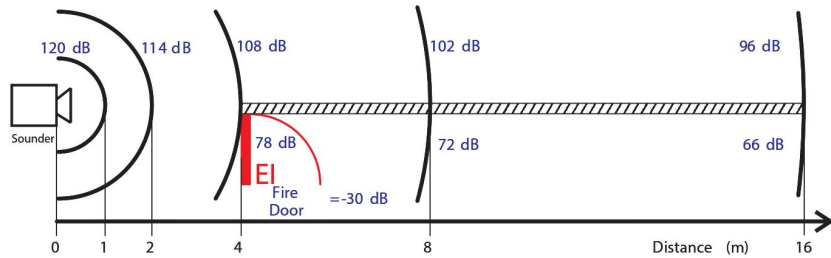
^A) Values correspond with the standard/maximum sound intensity of the sounder.
^B) Value corresponds with the sound-light standard/ sound or light at maximum/ sound and light at maximum, sounder intensity
 Note: The cable is considered with resistance of 32,9 Ω/Km*mm² (Copper cable).



Sound level (dB- (A))	Distance (m)
120	1
114	2
108	4
102	8
96	16
90	32
84	64

ACOUSTIC GENERAL RULES

- Every time you double the distance, 6 dBs are lost.
- 30 dBs are lost for every fire door.
- 20 dBs are lost for every normal door.



Indoor sounders to be directly connected to the output of control panels or relay modules.

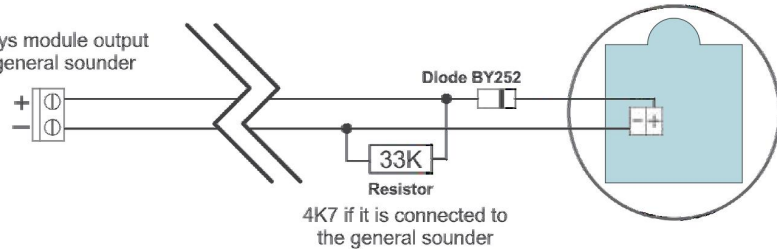


ALARM BELL 6'' CA6

Output voltage	24 Vcc
Consumption	25 mA
Output volume	95 dBA at 1 meter 92 dBA at 3 meters
Operative temperature	-20°C to 60°C
Humidity	Max. 90% RH
Size	6" (150 mm x 56 mm)
Weight	764g
IP protection	IP33



Relays module output or general sounder

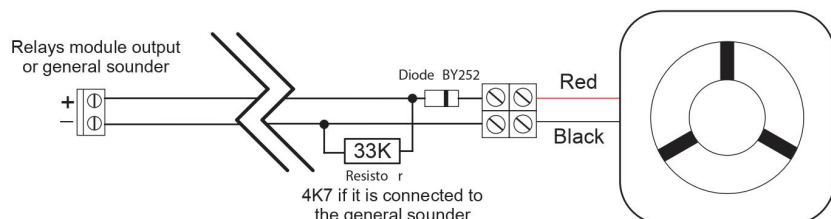


SIR24P & SIR24F SOUNDERS

Material	red P.V.C.
Operating voltage	30 Vdc
Consumption at 30 Vdc	70 mA
Sound level	85 dB
Operating temperature	5°C to 40°C
Size	80 x 80 x 30 mm
With intermittent flash	Only SIR24F model



Relays module output or general sounder





SIR24B



SIR24BL



SIR24B+BSLC



SIR24C

List of indoor and outdoor sounders to connect directly to the sounder output of the control panels or relay modules.

SOUNDER SIR24B, SIR24BL, SIR24BZA and BSLC

- Indoor and outdoor sounder made of red ABS.
- Great sound level. Low consumption.
- 32 selectable tones. Volume control.
- Automatic synchronization.
- SIR24B: Sounder.
- SIR24C: Sounder with light, certified EN54-23.
- SIR24BL: Sounder with light.
- SIR24BZA: Sounder with high base.
- BSLC: Base with light, certified EN54-23.

Voltage range	9-28 Vdc
Consumption (using tone 3)	at 24 Vdc 16 mA (SIR24B)/20 mA (SIR24BL) 49mA (SIR24C tone 7)
Consumption (tone 3/0,5Hz/high power)	at 24 Vdc 32 mA (SIR24B+BSLC)
Output volume	at 24 Vdc 102 dB (A) (tone 3) SIR24C 107dB (tone 23)
Operating temperature	-25°C to +70°C
Size	Ø95 x 91 mm (SIR24B) Ø95 x 107 mm (SIR24BL/SIR24BZA) Ø95 x 95 x 135 mm (SIR24B+BSLC) Ø100 x 98 mm (SIR24C)
IP protection	IP54-SIR24B IP65-SIR24BL IP65-SIR24BZA IP21C-SIR24C (low base) IP65-SIR24C (high base)



CAEPLH



CAEPL

SOUNDER CAEPL and CAEPLH

- Outdoor red sounder made of ABS plastic.
- Back cover to protect the PCB's.
- They work like power sounders at 24V.
- Piezobuzzer sounder.

Activation	By supply activation
Supply	24 Vcc
Power	85 dB / 112 dB
Cycles	2 / 3 / 5 / 10 cycles
Timing by cycle	60 sec ON / 30 sec OFF
LEDs	2 LEDs of voidable option
Size	320 x 218 x 77 mm (CAEPLH) 220 x 315 x 70 mm (CAEPL)
Current / consumption	450 mA
IP protection	IP65 (sealed with silicone)



SIRCEI



SIRWAL



SIR-PIT



SIR24SC



SIR24SC+BSLC

Luminous warning devices:

Devices that when are activated emit flashes of light in order to alert people with hearing disabilities:

A. SIRWAL and SIRCEI:

- Certified EN54-23.
- Supply: 9 ÷ 60 Vdc.
- Operating temperature: -25°C a 70°C.
- High base.
- Protection IP65.
- Red color.
- Dimensions: Ø93 mm x 65 mm.
- Flash: White 1Hz (0,5 Hz selectable).
- Consumption: 10-25 mA according selection.

A1. SIRWAL:

- Wall device.
- W 2,4 - 7,5.

A2. SIRCEI:

- Ceiling device.
- C 3 - 7,5.

B. SIR-PIT:

- Supply: 9 - 60 Vdc.
- Consumption: 3 ÷ 15 mA according selection.
- Flash: 1 flash 1Hz.
2 flashes 1Hz.
Continuous 1Hz.
- Temperature: -20°C a 55°C.
- Protection: IP21C.
- Color: red.
- Red flash.

Voice alarm device:

Device that activates a voice message with sound of fire alarm. The message is selectable from its internal list.

A. SIR24SC and SIR24SC + BSLC:

- Voltage: 18 ÷ 28 Vdc.
- Consumption: 4 ÷ 8 mA.
- Sound: 90/100 dB selectable.
- Several selectable alarm tones.
- Temperature: -10°C a 55°C.
- Protection: IP21C.
- Color: red.
- Dimensions: 106 x 106 x 91mm.

B. SIR24SC+BSLC:

Set alarm voice with bright warning based device.

- Certified EN54-23.
- W 2,4 - 7,5.
- Consumption: 18 ÷ 28 mA.
- 1 Hz (0,5 Hz selectable).

Features of the base



External power supply ZAFIRPWS

ALGORITHMIC ADDRESSABLE SYSTEM






External Power Supply (with batteries charge incorporated) for fire detection and fire alarm systems. Certified according EN 54-4.

This equipment is specially recommended for properly feeding any fire detection device which requires external power supply.

It has two outputs:

- Two 30V output monitored and protected by a fuse, for easy connection.
- Dry contact fault output, for integration with other systems.

The system has three indication leds to show system status:

-  RED (green): system operating through 110/230 V/AC power supply.
-  BATTERY (green): system operating under batteries.
-  FAULT (amber): system fault, general power supply fault or fault in the auxiliary battery supply.

There are 2 models available depending on the needs of the system:

- ZAFIRPWS2 (65W): supply capacity 1,5A (65w).
- ZAFIRPWS5 (150W): supply capacity 4A (150w).

General power supply connection is different between the two models. ZAFIRPWS2 is connected to electrical network by a connector located on the right side of the box. ZAFIRPWS5 is connected to electrical network directly to the switching power supply.

External Power Supply is placed inside a metallic box of 363 x 331 x 96 mm, which allow additional space for installing batteries (2x12 Vdc7Ah).

TECHNICAL FEATURES

Power supply	110/230V 50-60Hz/AC
Consumption in standby	50 mA
Output voltage	29 ~ 29,5 V/AC
Output current	ZAFIRPWS2: 1,5A ZAFIRPWS5: 4A
Batteries charger	Yes
Humidity	20 - 95% HR
Temperature	-10°C to +50°C
Dimensions	363 x 331 x 96 mm
IP protection	IP 30
Standard	EN 54-4



External power supply for fire detection system.

It has two outputs depending on the system supply need:

- FAE 03: Supply capacity 3A (100W).
- FAE 05: Supply capacity 5A (155W).

FAE is installed inside a chest of 418 x 324 x 150 mm, allowing you to have additional space to place the necessary batteries inside.

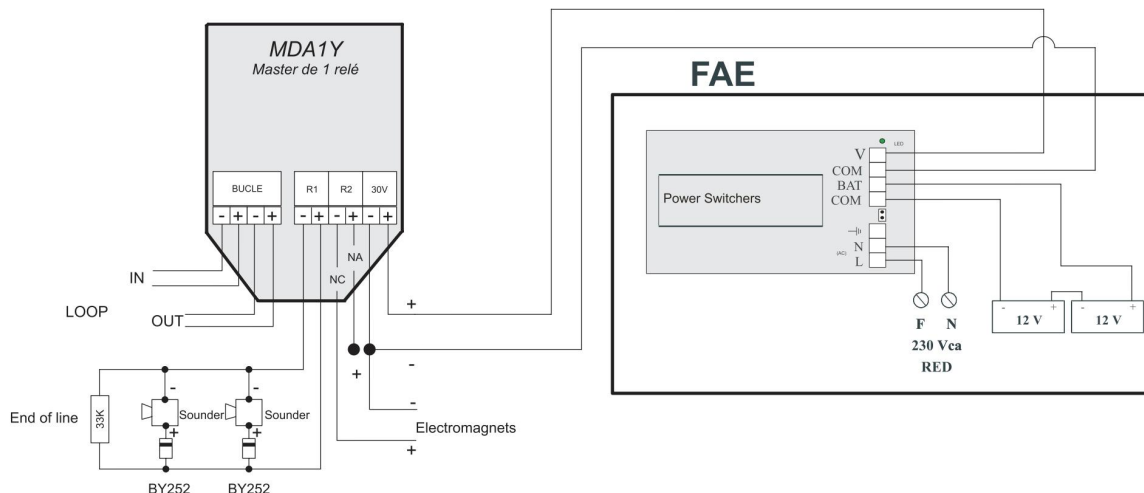
Features:

- Supply capacity 3A (model FAE03) or 5A (model FAE05).
- FAE installed inside a chest, allowing you to have additional space to place the necessary batteries inside.
- Dimensions: 418x324x150 mm.
- Metallic chest.
- Built-in battery charger.
- Existing variant with chest in grey.

TECHNICAL FEATURES

Power Supply	230 V/AC 50 Hz
Output Voltage	30 V/DC
Standby Current	100 mA
Output Current	FAE 03: 3A / FAE 05: 5A
Batteries Charger	Yes
Humidity	20 - 95% RH
Temperature	-10°C +50°C
Size	418 x 324 x 150 mm
IP Protection	IP 30

Wiring diagram
FAE03/05 with relays module





cofem,s.a.
Desde 1973



SAFETY FROM ANYWAY

The remote Cofem system of the Lyon, Compact Lyon and Zafir algorithmic-addressable panel allows to connect to them from any place, allowing to act in the configuration, visualize maintenance data and have on-line management (see installation drawings, view events and act on them).

In this way you can interact with the panel during the start-up of the installation and later to manage the maintenance planning or give support to online clients in real time, from their offices or any other place by means of a tablet, mobile phone or PC with internet access.

Lyon  Remote



*On-line
Maintenance
Configurations*



*Connection
card
remote*



Ethernet network

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Karbonmonoksit Algılama Sistemleri



DESIGN GUIDE AND SELECTION OF CO SYSTEMS



The basic purpose of a CO detection system, resides in ensuring a minimum conditions of sanitation of air in terms of carbon monoxide (CO) is concerned.

The main sources of CO are the engines of gasoline and diesel vehicles.

The basic applications are garages and tunnels, although not for this reason it can be used in other venues.

According to the rules, although the CO detection systems may arise technologically from fire detection systems, they are not collected by these.

By R/D 2367/1985 requirement, all CO detection systems must be certified according to standard UNE 23.300.

According to their installation, some useful references may include the following:

Buildings and garages: CTE Basic Document of Salubrity, Section Indoor quality air: DB HS 3.

It should be installed in mechanically ventilated car parks:

- With more than 5 places.
- Activation of the ventilation with concentration of 100 ppm.
- If there are employees, with 50 ppm.

Tunnels: *Real Decreto 635/2006* on minimum requirements for safety in tunnels.

Installation requirements:
Reglamento Electrotécnico de Baja Tensión (REBT).

Recommendations and clarifications.

- Coverage between 200 and 300 m²
- Install the detectors between 1,5 and 2 m high.



MiniCO control panel

CARBON MONOXIDE DETECTION SYSTEM



Conventional Control panel with diffusion sensors of carbon monoxide (CO) and nitrogen dioxide (NO₂) UNE 23300 certified.

This control panel provides the MiniCO110 (Ref. MCO110), MiniCO120 (Ref. MCO120) and MiniCO120DVB (Ref. MCO120DVB) references with 10 and 20 sensors respectively.

They are particularly suitable for parking or areas that need only 1 ventilation zone or installation of a few sensors in it.

The control panel displays the maximum concentration of CO in the detection zone, activating the ventilation and alarm when a specific concentration is reached after expiry of the set delay.

It has dry contact outputs for ventilation and a 24 Vdc alarm output.

The system works with CO sensor ("SCO" reference) and NO₂ sensors ("SDN" reference) in the same area.

NO₂ sensors transform measures of NO₂ concentration in an equivalent measure of CO, and shown it in the display as a single concentration of CO, activating the ventilation and alarm when established CO levels are reached.

The control panel allows manual activation and deactivation of ventilation.

The equipment is designed for using diffusion sensors calibrated at factory for operation throughout the operational life of their sensors, and UNE 23300 certified.

Features:

- Control panel of 1 ventilation zone with diffusion sensor brand COsensor model SCO (CO sensor) and SDN (NO₂ sensor).
- Dry contact output (COM / NA) for ventilation 1 and ventilation 2 (DVB model only).
- Alarm output 24 Vdc 0.8 A.
- Space for 2x12 Vdc 2 Ah batteries (DVB model only)
- Display 3-digit, 7-segment.
- Dimensions: 280 x 225 x 105 mm.
- UNE 23300 certified.

TECHNICAL FEATURES

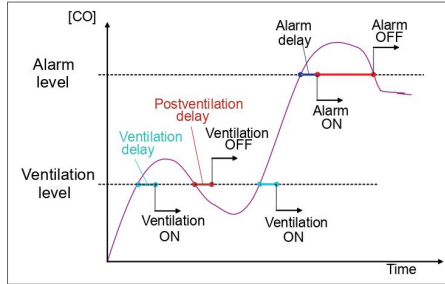
Power supply	230V 50-60Hz/AC	Intensity alarm output	24 Vdc 0,8 A
Maximum consumption	20 VA. 230 Vac	Alarm output fuse	Resettable
Batteries (only DVB model)	2 x 12 Vdc 2 Ah SLA	Zone output voltage	26 Vdc
Power supply fuse	4 A	Zone fuse	2 A
Battery charger	500 mA 27Vdc 20°C	Dry contact fault	230 Vac / 30 Vdc 1 A
Sensors by zone	10 CO / NO ₂ (MCO110)	Environmental conditions	-10°C +50°C
	20 CO / NO ₂ (MCO120)	Dimensions	280x225x105 mm
IP	30	Weight	3,45 kg
Dry contact ventilation	230 Vac / 30 Vdc 2A	Standard	UNE 23300

CARBON MONOXIDE DETECTION SYSTEM

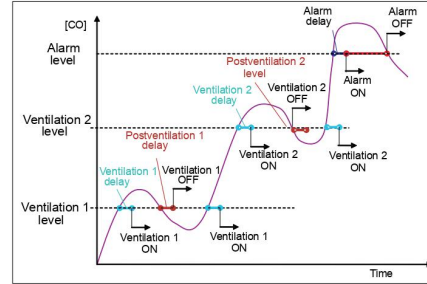
Wiring diagram



MiniCO110 / MiniCO120



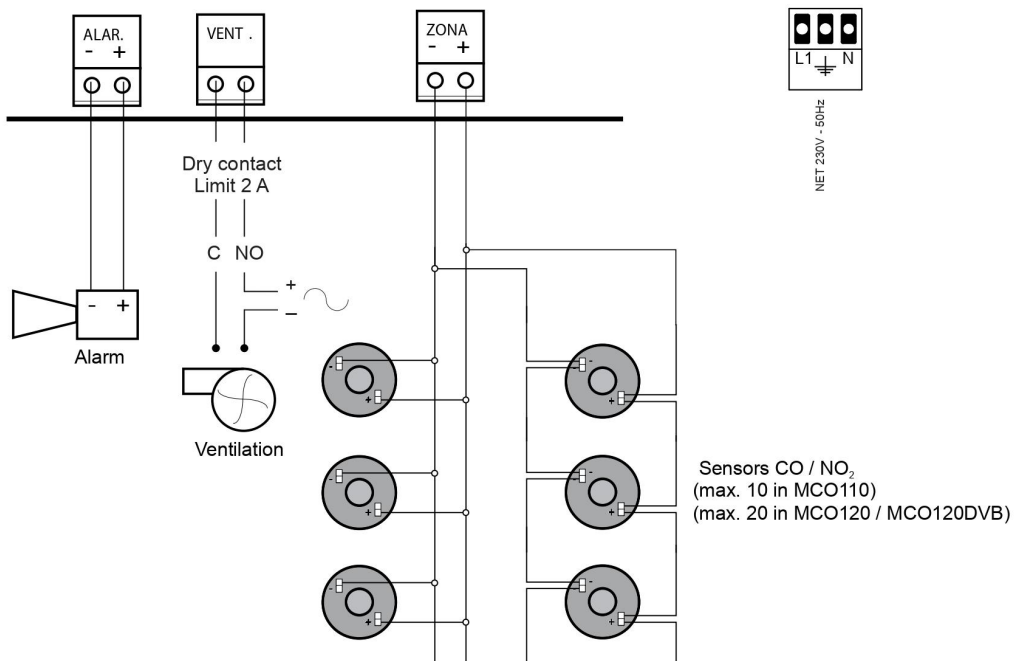
MiniCO120DVB



Parameter	Value	Margin
Ventilation level:	50 ppm	Programmable(20÷150 ppm, on a 10ppm increase rate)
Ventilation delay:	4 min	Programmable(1÷9 min, on a 1 min increase)
Postventilation delay:	4 min	Fixed
Alarm level:	200 ppm	Fixed
Alarm delay:	1 min	Fixed

Parameter	Value	Margin
Ventilation 1 level:	50 ppm	Fixed
Ventilation 1 delay:	4 min	Programmable (1 ÷ 9 min)
Postventilation 1 delay:	4 min	Fixed
Ventilation 2 level:	100 ppm	Fixed
Ventilation 2 delay:	0 min	Fixed
Postventilation 2 delay:	0 min	Fixed
Alarm level:	200 ppm	Fixed
Alarm delay:	0 min	Fixed

Scheme of operation for control panels with 1 output ventilation



Structure by zone



Addressable COsensor control panel for carbon monoxide (CO) and di-oxide nitrogen (NO₂) diffusion sensors designed with EN 50545-1 and UNE 23300 certified.

It has the following models ZafirCO2 (Ref. ZCO2), ZafirCO3 (Ref. ZCO3) and ZafirCO4 (Ref. ZCO4). They correspond with 2, 3 or 4 zones and up to 25 CO and/or 25 NO₂ sensors by zone. These models have DVB version (Double Ventilation and Batteries).

The COsensor ZafirCO control panel allows setting the activation concentration for ventilation level 1, 2 and alarm, as well as the delays for the activation and delays for the stop of these levels/alarm.

It has independent dry contact outputs per zone for each level of ventilation and alarm, as well as general fault output and auxiliary supply 30 Vdc.

The control panel has a maintenance mode for easy testing the operation of sensors by watching the flashing LEDs of the sensors when they face to the test gas.

The control panel can identify all sensors at the installation by their programming number. The auto configuration feature of the control panel will automatically detect all sensors and display a summary in the display. Confirming this information, control panel goes directly into "work" mode.

The philosophy and operation mode of the equipment is designed according to European standard EN 50545-1, using diffusion sensors and factory calibration for operation during the operational life of the sensors, and UNE 23300 certified.

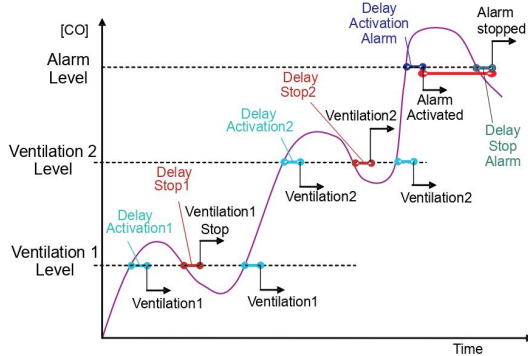
Features:

- Control panel up to 4 ventilation zones with diffusion sensors brand COsensor model SCO (CO sensor) and SDN (NO₂ sensor).
- Dry contact output (COM/NO) Ventilation 1, Ventilation 2 (DVB models only) and alarm.
- Fault dry contact output (COM/NO/NC).
- Auxiliary 30 Vdc 1A power output.
- Concentration measures averaged according to EN 50545-1 up to 60 minutes.
- Ventilation level 1, ventilation level 2 (models DVB) and alarm selectable from 5 to 300 ppm of CO and from 0,1 to 30 ppm of NO₂.
- Delay time for activation and delay time to stop of ventilation 1 and ventilation 2 (models DVB), selectable between 0 and 10 minutes.
- Delay time for activation and delay time to stop of the alarm selectable between 0 and 5 minutes.
- Maintenance mode to check operation of sensors.
- System with auto configuration functionality.
- Space for batteries 2 x 12 Vdc 7 Ah (DVB models only).
- Backlit LCD Display 4 lines and 40 characters.
- Dimensions: 418 x 324 x 150 mm.
- Designed according to European standard EN 50545-1.
- UNE 23300 Certified.

Power supply	230V AC 50 Hz / AC	Maximum current per zone	150 mA / 26 at 32 Vdc
Maximum consumption	70 VA a 230 V / AC	Ventilation dry contact	230 Vac / 30 Vdc 1 A
Control panel power supply	2,5 A	Alarm dry contact	230 Vac / 30 Vdc 1 A
Batteries (only DVB model)	2 x 12 V 7 Ah SLA	Fault dry contact	230 Vac / 30 Vdc 1 A
Supply fuse	4 A	Environmental conditions	-10°C +50°C
Battery charger	500 mA 27 V/DC 20°C	Dimensions	418x324x150 mm
Sensors per zone	25 CO and/or 25 NO ₂	Weight (without batteries)	7 kg
IP	30	Standar	EN 50545-1 & UNE 23300
		Max. output current at 30 V	1 A

CARBON MONOXIDE DETECTION SYSTEM

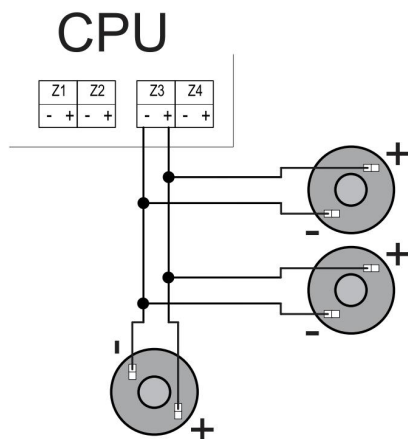
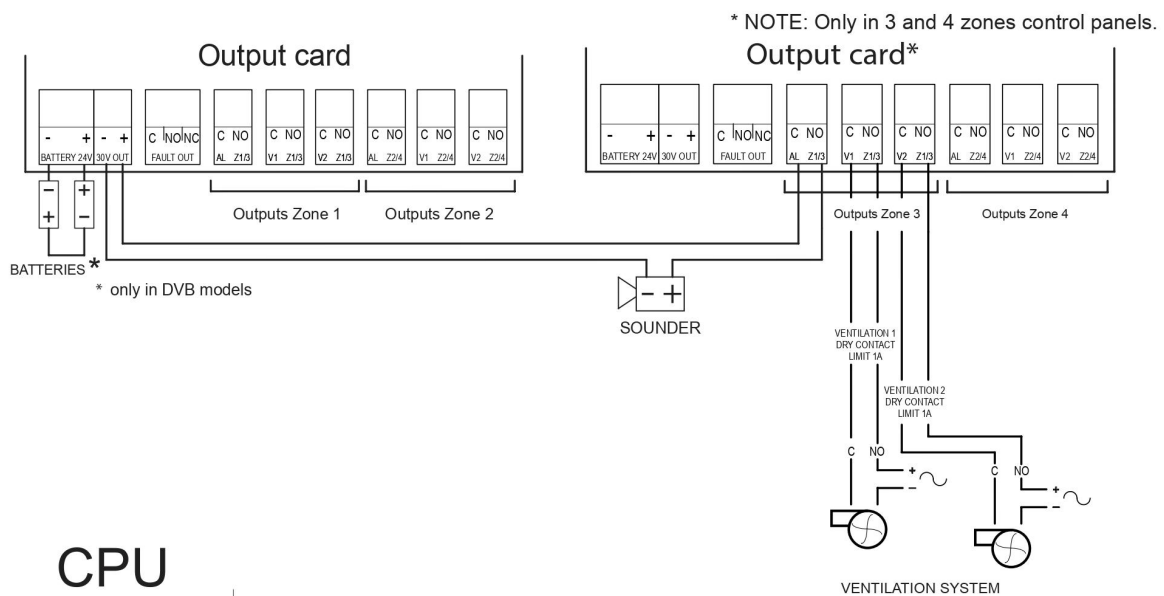
Wiring diagram



Parameter	Value	Margin
Ventilation 1 level	50 ppm (CO) 1 ppm (NO ₂)	5-300 ppm (CO) 0,1-30 ppm (NO ₂)
Vent. 1 activation delay	4 min	0-10 min
Vent. 1 stop delay	4 min	0-10 min
Vent. 2 level	100 ppm (CO) 3 ppm (NO ₂)	Vent1-300 ppm (CO) Vent1-30 ppm
Vent. 2 activation delay	4 min	0-10 min
Vent. 2 stop delay	4 min	0-10 min
Alarm level	200 ppm (CO) 5 ppm (NO ₂)	Vent1/vent2-300 ppm (CO) Vent1/vent2-30 ppm
Alarm activation delay	1 min	0-5 min
Alarm stop delay	1 min	0-5 min
Concentration average	0 min (instantaneous)	0-60 min

NOTE: Don't have in consideration ventilation 2 in models of only 1 ventiliation

Operation scheme of DVB control panels



NOTE: Scheme applicable only to zone 3.
The other zones are connected in the same way.
Control panels with other capacities should not have some connectors.

Connection scheme for 4 zones DVB control panel



SCO Carbon monoxide sensor

CARBON MONOXIDE DETECTION SYSTEM



Carbon monoxide (CO) diffusion sensor for COsensor system designed according to the **European standard EN 50545-1 and UNE 23300 certified.**

The sensor is designed to work with all models of COsensor control panels, both conventional (CCO and MiniCO models) and addressable (ZafirCO). In this way, when control panel start up , the sensor recognizes control panel and adapts its communication.

The sensor is based on electrochemical technology that allows adequately answer to CO concentration in the environment, and send this information to the control panel. Then, control panel active properly activate ventilation and alarms.

The sensor has a red LED red that flashes every 10 seconds in normal operation. Connected with conventional control panel, it makes double flash to indicate that it has reached a concentration of 50 ppm of CO, and fix light when the concentration reaches 200 ppm of CO. Connected with addressable control panel, it makes double flash when the concentration read by the sensor is equal or higher than the ventilation level programmed at control panel, and fixed light when concentration read by the sensor is equal or higher than the alarm level programmed at control panel.

CO sensors must be distributed at the installation in accordance with standards and/or regulation. A recommendable coverage for these devices are between 200 and 300 m² and place in a height between 1,5 and 2 m from the floor.

In addressable control panels with maintenance mode active, it can be easily checked the operation of sensors by observing flashing of sensor led when faces to test gas.

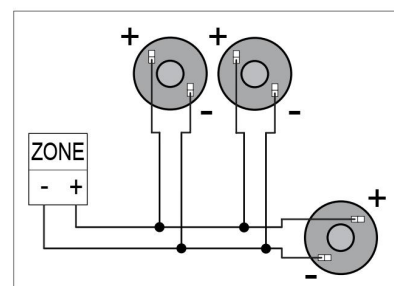
The philosophy and operation mode of the equipment is designed according to European standard EN 50545-1, using diffusion sensors and factory calibration for operation during the operational life of the sensors, and UNE 23300 certified.

Features:

- Compatible with conventional control panel CCO and MiniCO models and addressable control panel ZafirCO.
- The sensor base support installations with 16 mm diameter pipe.
- It has red LED which identifies the sensor communication and concentrations of ventilations and alarm.
- Connected with addressable control panels, it supports maintenance mode to check the status of the sensor when face to test gas.
- It contains programming number to allow identification of sensor at addressable control panel.
- Designed according to European standard EN 50545-1.
- UNE 23300 certified.

TECHNICAL FEATURES:

Supply	24 - 34V with polarity
Current in standby	2 mA
Current in alarm	4 mA
Activation indicator	Red led
Dimensions	Ø 115 mm / 60 mm
Humidity	20 - 95 % RH
Temperature	-10°C +50°C
Standards	UNE 23300 / EN 50545-1
IP	30
Life time	Up to 10 years





Dioxide Nitrogen (NO₂) diffusion sensor for CO sensor system designed according to the **European standard EN 50545-1 and UNE 23300 certified.**

The sensor is designed to work with all models of CO sensor control panels, both conventional (CCO and MiniCO models) and addressable (ZafirCO). In this way, when control panel start up, the sensor recognizes control panel and adapts its communication.

The sensor is based on electrochemical technology that allows adequately answer to CO concentration in the environment, and send this information to the control panel. Then, control panel active properly activate ventilation and alarms.

The sensor has a red LED that flashes every 10 seconds in normal operation. Connected with conventional control panel, the measures of NO₂ are transformed in a equivalent ppm CO concentration. In this way, it is allowed installation of CO and NO₂ sensors in the same detection zone line. Relation between NO₂ and CO is lineal indicating 100 ppm of CO with 2,5 ppm of NO₂. SDN sensor makes double led flash when reaches measures of equivalent 50 ppm CO concentration, and fix light led when reaches measures of equivalent 200 ppm CO concentration. Connected with addressable control panel, it makes double flash when the concentration read by the sensor is equal or higher than the ventilation level programmed at control panel, and fixed light when concentration read by the sensor is equal or higher than the alarm level programmed at control panel.

NO₂ sensors must be distributed at the installation in accordance with standards and/or regulation. A recommendable coverage for these devices are between 200 and 300 m² and place in a height between 1,5 and 2 m from the floor.

In addressable control panels with maintenance mode active, it can be easily checked the operation of sensors by observing flashing of sensor leds when faces to test gas.

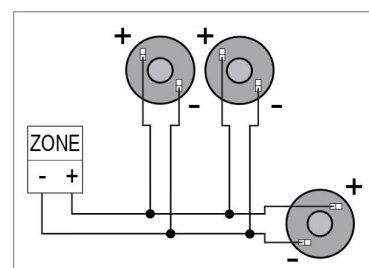
The philosophy and operation mode of the equipment is designed according to European standard EN 50545-1, using diffusion sensors and factory calibration for operation during the operational life of the sensors, and UNE 23300 certified.

Features:

- Compatible with conventional control panel CCO and MiniCO models and addressable control panel ZafirCO.
- The sensor base support installations with 16 mm diameter pipe.
- It has red LED which identifies the sensor communication and concentrations of ventilations and alarm.
- Connected with addressable control panels, it supports maintenance mode to check the status of the sensor when face to test gas.
- It contains programming number to allow identification of sensor at addressable control panel.
- Designed according to European standard EN 50545-1.
- UNE 23300 certified.

TECHNICAL FEATURES:

Supply	24 - 34V with polarity
Current in standby	2 mA
Current in alarm	4 mA
Activation indicator	Red led
Dimensions	Ø 115 mm / 60 mm
Humidity	20 - 95 % RH
Temperature	-10°C +50°C
Standards	UNE 23300 / EN 50545-1
IP	30
Life time	Until 4 years





Sounders for CO / NO₂ system

CARBON MONOXIDE DETECTION SYSTEM

When the CO / NO₂ concentration accumulated in the compound is sufficiently high as to be dangerous to people, COsensor detection control panels activate alarm output. The function of these sounders is warning its occupants so they leave it and will not come until the alarm stops. Different models are shown below:

Sign to be directly connected to the output of the control panels or relay modules. With indication adhesive.



Label for light sign

LLHCO LIGHT SIGN

Operating voltage	12-30 Vdc
Consumption	80mA at 30Vdc
Power	80dB at 1m
IP protection	IP40
Standard	EN 60598, EN 60598-2-1, EN 61547, EN 55015
Temperature	0 at 40°C
Humidity	95% RH
Size	262x100x51 mm
Weight	340gr
Jumper	Fixed / flashing lighting Active / no active buzzer



SIR24B



SIR24BL



SIR24F



SIR24P

SIR24B, SIR24BL and SIR24BZA SOUNDERS

- Output and indoor sounder made of red ABS plastic.
- High volume sound. Low consumption.
- 32 tones. Volume control.
- Automatic synchronization.
- SIR24B: Sounder.
- SIR24BL: Sounder with light.
- SIR24BZA: Sounder with high base.

Voltage range	9-28 Vdc
Consumption (using tone 3)	at 24Vdc 16mA (SIR24B)/20mA (SIR24BL)
Consumption (tone 3/0,5Hz/high power)	at 24Vdc 32mA (SIR24B+BSLC)
Output volume (tone 3)	at 24 Vdc 102 dB (A)
Operating temperature	-25°C at +70°C
Size	Ø95 x 91 mm Ø95 x 107 mm (SIR24BL/SIR24BZA)
IP protection	IP54-SIR24B IP65-SIR24BL IP65-SIR24BZA

SIR24P and SIR24F SOUNDERS

Material	Red P.V.C.
Operating voltage	30 Vdc
Consumption at 30 Vdc	70 mA
Power	85 dB
Operating temperature	5°C to 40°C
Size	80 x 80 x 30 mm
With intermittent flash	Only SIR24F model



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