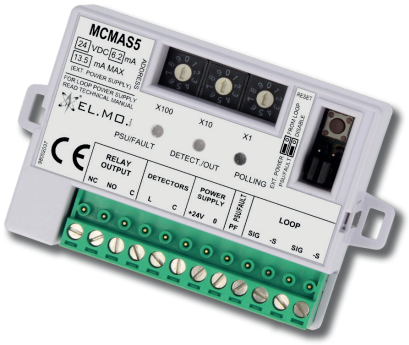
TECHNICAL MANUAL



MCMAS5

Conventional detectors input module for AS protocol loop

090010924

EL.MO. SPA

FOREWORD

FOR THE INSTALLER:

Please follow carefully the specifications relative to electric and security systems realization further to the manufacturer's prescriptions indicated in the manual provided.
Provide the user the necessary indication for use and system's limitations, specifying that there exist precise specifications and different safety performances levels that should be proportioned to the user needs. Have the user view the directions indicated in this document.

FOR THE USER:

Periodically check carefully the system functionality making sure all enabling and disabling operations were made correctly.
Have skilled personnel make the periodic system's maintenance. Contact the installer to verify correct system operation in case its conditions have changed (e.g.: variations in the areas to protect due to extension, change of the access modes, etc…)

This device has been projected, assembled and tested with the maximum care, adopting control procedures in accordance with the laws in force. The full correspondence to the functional characteristics is given exclusively when it is used for the purpose it was projected for, which is as follows:

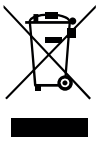
Conventional detectors input module for AS protocol loop.

Any use other than the one mentioned above has not been forecasted and therefore it is not possible to guarantee the correct functioning of the device. Similarly, any other use of this technical manual other than the one it has been compiled for — that is: to illustrate the devices technical features and operating mode - is expressly prohibited.
The manufacturing process is carefully controlled in order to prevent defaults and bad functioning. Nevertheless, an extremely low percentage of the components used is subjected to faults just as any other electronic or mechanic product. As this item is meant to protect both property and people, we invite the user to proportion the level of protection that the system offers to the actual risk (also taking into account the possibility that the system was operated in a degraded manner because of faults and the like), as well reminding that there are precise laws for the design and assemblage of the systems destinated to these kind of applications.

The system's operator is hereby advised to see regularly to the periodic maintenance of the system, at least in accordance with the provisions of current legislation, as well as to carry out checks on the correct running of said system on as regular a basis as the risk involved requires, with particular reference to the control unit, sensors, sounders, dialer(s) and any other device connected. The user must let the installer know how well the system seems to be operating, based on the results of periodic checks, without delay.

Design, installation and servicing of systems which include this product, should be made by skilled staff with the necessary knowledge to operate in safe conditions in order to prevent accidents. These systems' installation must be made in accordance with the laws in force. Some equipment's inner parts are connected to electric main and therefore electrocution may occur if servicing was made before switching off the main and emergency power. Some products incorporate rechargeable or non rechargeable batteries as emergency power supply. Their wrong connection may damage the product, properties and the operator's safety (burst and fire).

DISPOSAL INSTRUCTIONS



According to Directive 2012/19/EU on the Waste of Electric and Electronic Equipment (WEEE), it is here specified that this Electrical-Electromechanic Device started to be commercialized after 13th August 2005, and it shall be disposed of separately from ordinary waste products.

1. GENERAL

EL.MO.'s MCMAS5 is the new conventional detectors input module for AS protocol analogic loop systems.

Born from the experience and from the studies of our R&D team, it can boast several strengths:

- **Easy to install.** Easier wirings thanks to the removable terminal board;
- **Compact.** Compatible with optional 503 flush mount box;
- **Versatile.** Can be powered up from an external power supply unit or directly from the loop;
- **Suitable for power group monitoring.** Where there is no dedicated serial line for monitoring power supply units directly from a control unit, MCMAS5 can monitor the fault status of the PSU through a LED and by bouncing the alarm to the control unit. Since the fault is signalled by lack of power on the fault line, any line interruption is treated as a fault as well.

2. TECHNICAL SPECIFICATIONS

Model:	MCMAS5
Protection class:	IP3X
Power supply:	24 V_{DC}
Operating voltage:	20.5 V_{DC} to 27.5 V_{DC}
Power consumption (with a single detector):	idle: 6.2 mA from 24 V PSU and 12.5 mA from the loop, or 18.5 mA from the loop alarm mode: 26 mA from 24 V PSU and 13.5 mA from the loop, or 37.5 mA from the loop
Connections:	terminals for: loop connection, 1 relay output, 1 power supply input, 1 power supply unit monitoring input and 1 conventional detectors line input.
LED indicators:	power supply unit fault LED, polling indicator LED, detectors line fault and relay activation LED
Controls:	rotary dip switches to set ID address jumpers to set operating functions and power supply source
Relay contacts carrying capacity:	0.5 A @ 125 V_{AC}; 2 A @ 30 V_{DC}
Operating temperature:	−10 to +55 °C — 93% r.h.
Weight:	61 g
Dimensions:	W 91.6 × H 54.7 × D 23 mm
Distanc between centers:	W 83 mm
Parts supplied:	technical manual, balancing resistor (1 × 3650 Ω), alarm resistor (1 × 560 Ω)

3. PRODUCT COMPLIANCE

Install the conventional detectors input module MCMAS5 as an accessory of compatible and CE compliant control units only.
Also see the Declaration of Conformity at the end of this manual, or download it from the www.elmospa.com website.

4. INSTALLATION

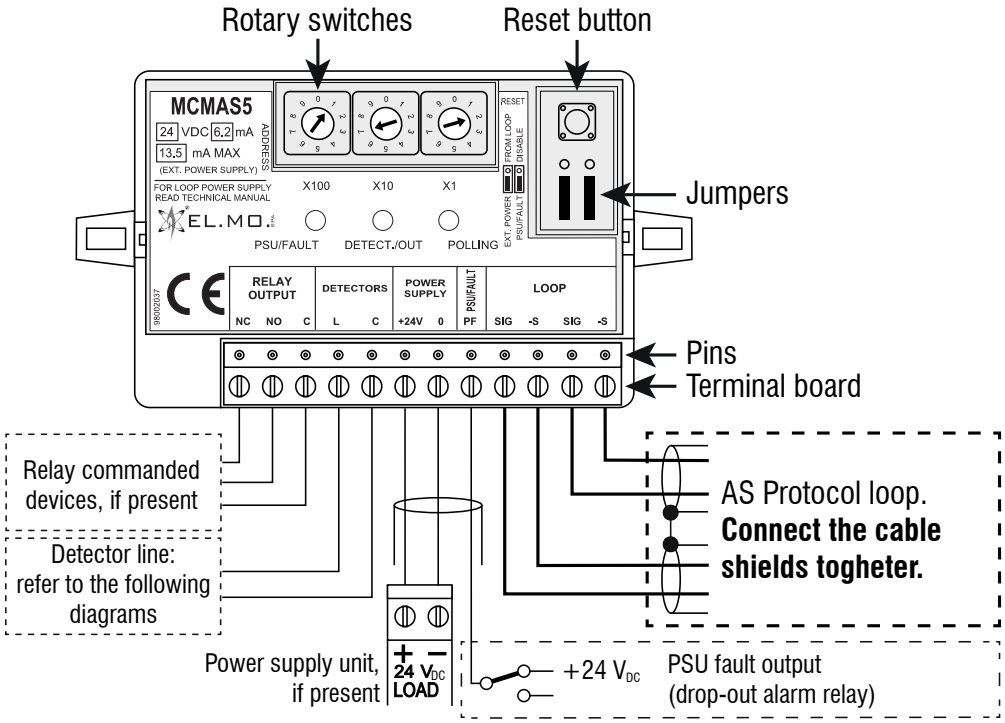
Install MCMAS5 on AS protocol loops only.

WARNING: in order to avoid false alarms or electronic components damage, make sure panel and loop are disconnected from power during wiring, installation and maintenance operations.

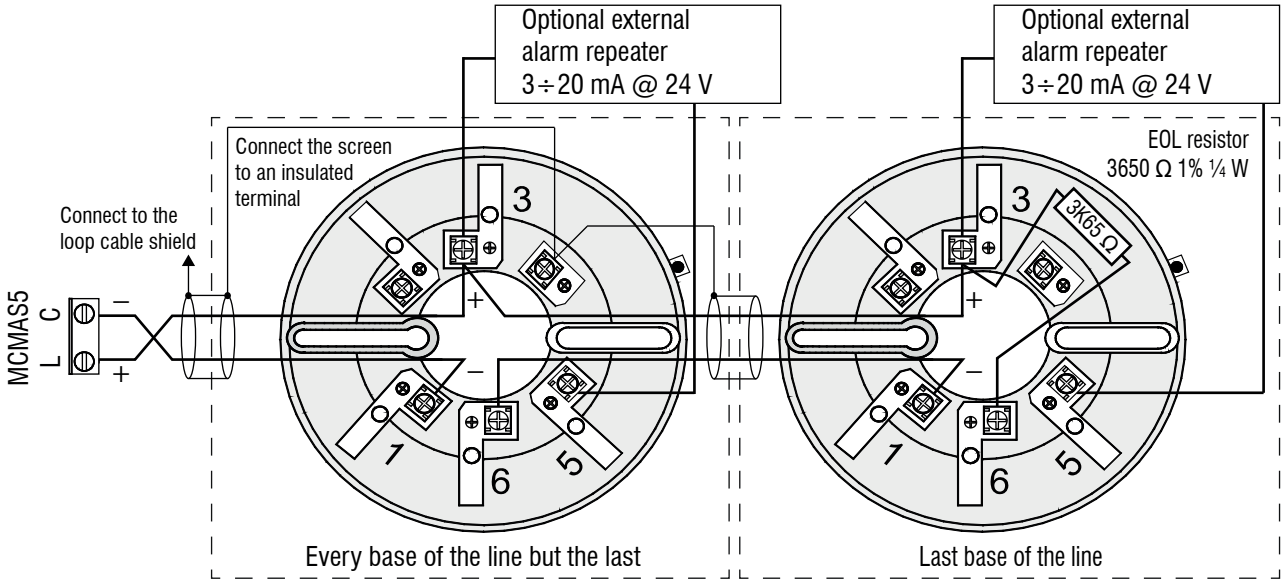
4.1 Overview and wiring diagram

Wire as shown in pic. 1. Diagrams labeled b, c, d and e show tipical wiring examples for some different kind of commonly used detectors: follow the wiring instructions on your detectors' technical manual.
Detectors' line needs a 3650 Ω end of line resistor (included) which is to be installed inside the casing of the last detector of the line.
For further data on how and when to wire supply line terminals, see section 4.4 JUMPERS SETTINGS.

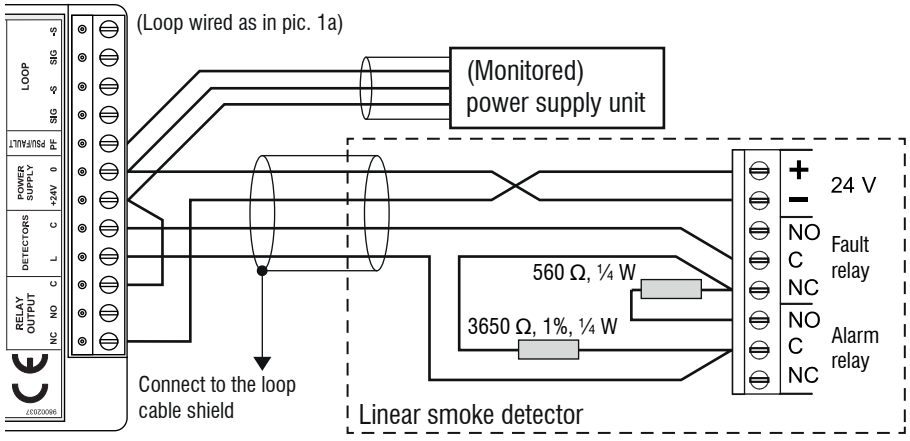
a)



b)

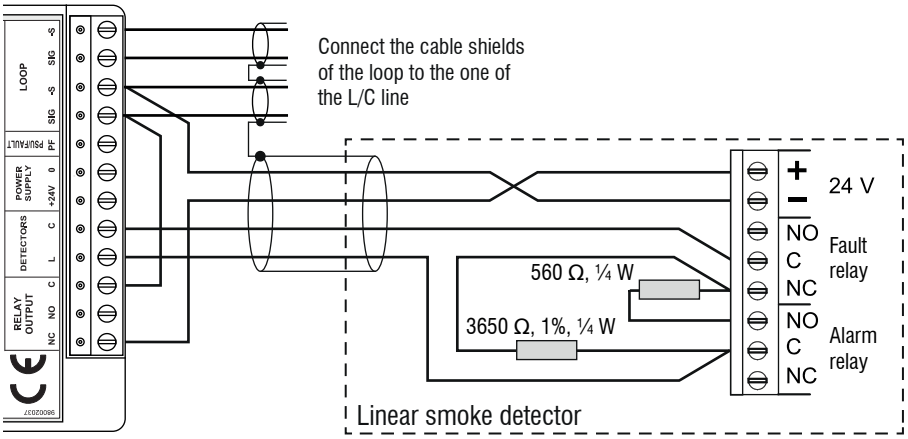


c)

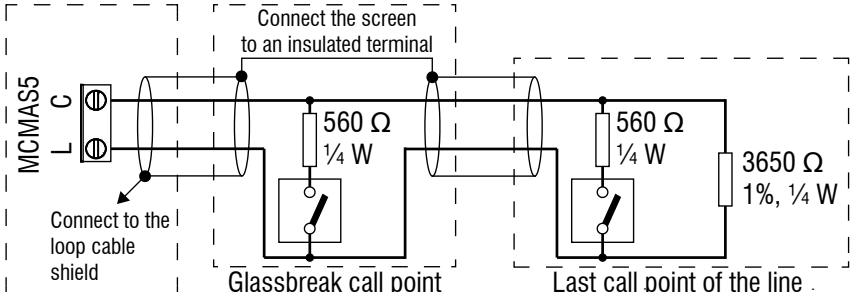


Pic. 1a – Overview and wiring diagram
Pic. 1b – Sample wiring for UB6 bases
Pic. 1c – Sample wiring for a linear smoke detector (external power supply)

d)



e)



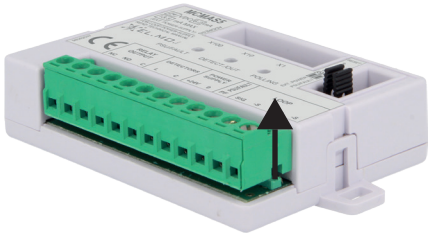
Pic. 1d – Sample wiring for a linear smoke detector (power supplied by the loop)
Pic. 1e – Sample wiring for a glassbreak call point line

4.2 Unplugging and plugging back the terminal board

In order to clip the wires without holding the whole box in your hand, the terminal board can be detached.

To unplug the terminal board:

- Insert the point of a small screwdriver between the green plasic block of the terminal board and the white plastic of the bottom side of the box;
- Gently lever over the whole lenght of the board to make it raise in the arrow's direction (pic. 2);
- Pull the board out in the arrow's direction.



Pic. 2 — Detachable terminal board

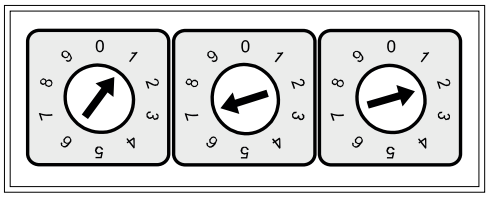
To plug the terminal board back:

- Align the holes on the terminal board's back with the pins;
- Slide back the board, pushing it as far as possible towards the box.

4.3 Serial address programming

Every module on the loop has a unique ID **between 1 and 254**.

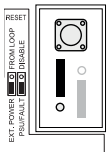
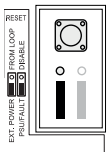
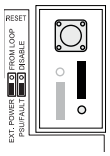
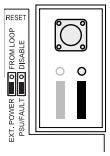
- Set the address by maneuvering the rotary switches labeled ×100 (hundreds), ×10 (tens), and ×1 (units) on the front of the box.



Pic. 3 – Sample programming for serial address 172 = 1×100 + 7×10 + 2×1

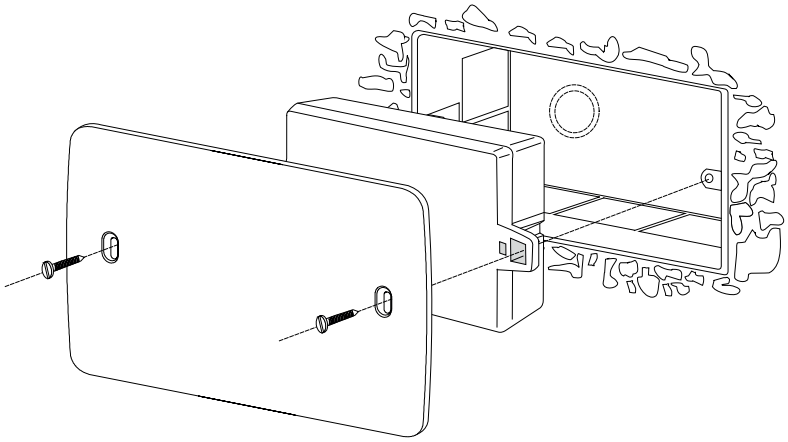
4.4 Jumpers settings

Each jumper (pic. 1a) is a plastic cap with a protruding tab allowing for an easy removal and containing a conductive element on the inside. The conductive element realizes an electric bridge between two of the three vertically aligned pins protruding from the board. Connecting the lower pins activates the function described below the jumpers' picture on the label; connecting the upper pins activates the above function.

JUMPER	SETTINGS
FROM LOOP 	Connected devices are powered by the loop ("Power supply" terminals left empty).
EXT. POWER 	24 V_{DC} voltage provided by an external power supply unit through the "Power supply" terminals.
DISABLE 	No power supply unit monitoring ("PSU/fault" terminal left empty).
PSU/FAULT 	Power supply unit monitoring. The device expects to see a 24 V_{DC} line voltage at the PSU/fault terminal. A fault signal is sent to the control unit and through the LED indicator if tension goes to 0 V (including if the line to the PSU/fault terminal gets cut).

4.5 Flush-mount installation

Use a 503 box with blank cover.



Pic. 4 — Flush mounting

5. PROGRAMMING

- Following the instructions in the control unit programming manual, set the activation of MCMAS5's relay output whenever an alarm signal comes from the module's detector line.

This setting is mandatory for every detector type, but give special attention if it is used to power off a linear smoke detector in order to reset it (pic. 1b and 1c).

WARNING: once the relay has been activated it will be necessary to send a reset signal from the control unit to power the linear smoke detector again.

6. LED MEANING

LED	LIGHT	MEANING
PSU/FAULT	Green steady light	Regular functioning
	Red blinking light	Power supply unit fault
DETECT./OUT	Spento	Regular functioning
	Red blinking light	Controlled detectors line fault (open / shorted / not supplied L–C line) or lack of end of line resistor
	Red steady light	Relay output activation
POLLING	Green blinking light	Regular functioning (loop polling)

7. TEST

Reproduce a fault and an alarm signal on the detectors' line to ensure the module responds correctly. It should warn the control unit, LEDs should correctly light up and the relay output should properly function.
If the PSU monitoring function is active, reproduce a line interruction and verify the proper propagation of the fault signal.

8. SUMMARY

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DICHIARAZIONE DI CONFORMITA' CE DECLARATION OF CONFORMITY

EL.MO. spa
dichiara sotto la propria responsabilità che il prodotto / *declares that the product:*

MCMAS5

Interfaccia /*interface*
al quale questa dichiarazione si riferisce, è conforme alle seguenti norme:
to which this declaration is referred to is in conformity with the following:

EN 50130-4 2011-06	Sistemi d'allarme Parte 4: Compatibilità elettromagnetica Norma per famiglia di prodotto: Requisiti di immunità per componenti di sistemi antincendio, antintrusione e di allarme personale. *Alarm systems* *Part 4: Electromagnetic compatibility* *Product family standard: Immunity requirements for components of fire, Intruder and social alarm system*
EN61000-6-3 2007-01 +A1 2011-03	Compatibilità elettromagnetica(EMC). Parte 6-3: Norme generiche – Emissione per gli ambienti residenziali, commerciali e dell'industria leggera. *Electromagnetic compatibility (EMC). Part 6-3:Generic standards – Emission standard for residential, commercial and light-industrial environments.*

e quindi rispondente ai requisiti essenziali delle direttive:
and then in accordance with the following directives:

☒ 2004/108/CE Compatibilità elettromagnetica *Electromagnetic compatibility*	☐ 2006/95/CE Sicurezza di bassa tensione *Low voltage security*
☐ 1999/5/CE (R&TTE)	Direttiva Europea apparati radio e apparecchiature terminali di telecomunicazione. *European Directive wireless equipment and telecommunication apparatus.*
☒ 2002/95/CE (RoHS)	Direttiva Europea sulla restrizione dell'uso di determinate sostanze pericolose nelle apparecchiature elettriche ed elettroniche *European Directive Reduction of Hazardous Substances*

Campodarsego 13/10/2014

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