



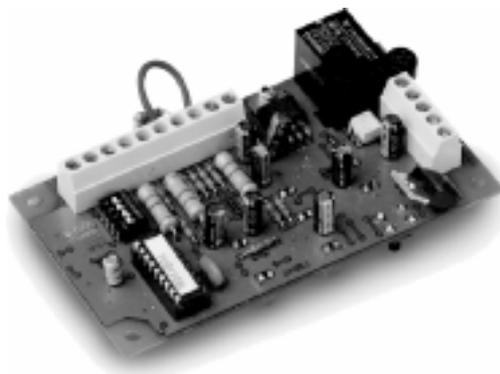
**BENTEL**  
SECURITY



# JME52-F

## EXTINGUISHMENT MODULE for J524-F and J506-F panels

V4.2 BUFME 0.1 200199



### General features

- ❑ Activation of fire-fighting devices with programmable delay (30, 60, 90 or 150 seconds), controlled by 2 inputs with AND/OR modes.
- ❑ CONTROLLED solenoid-valve output programmable as ON/OFF or IMPULSE.
- ❑ The TIME ACTIVE of the solenoid valve is programmable at 30, 60, 90, or 150 seconds.
- ❑ 3 CONTROLLED inputs, one to disable fire-fighting devices, one to activate the fire-fighting devices, and one for pressure switch connection.
- ❑ Repeat outputs for fault, EXTIGUISHMENT DELAY and extinguishment status.
- ❑ Controlled power supply with Module blocking in the event of low voltage.
- ❑ Enable/Disable and LED's test button.

### Description

🔧 **This Module is designed for installation inside the J524-F and J506-F fire control panels.**

Activation of fire-fighting devices can cause inconvenience and damage to the environment where they are installed, therefore, they should be activated only in the event of real danger.

Unwanted intervention of fire-fighting devices can be avoided by installing the JME2/-F Module. The Module activates the connected solenoid valve when its 2 inputs (individually or simultaneously) detect an alarm status for the set time (EXTIGUISHMENT DELAY).

**Extinguishment delay** The EXTIGUISHMENT DELAY starts when one or both of the inputs on the Module (depending on the function mode) is connected to ground. The con-

nected fire-fighting devices are not activated during this delay, thus allowing the user to check for false alarm. The delay is signalled on the **PRE EXT.** LED (solid), and by ground on terminal 14[P].

**Extinguishment** The EXTIGUISHMENT DELAY status lasts for the *set time*, after which, if input IZ1 and/or IZ2 is/are still connected to ground, the Module will go into extinguishment status and activate the connected fire-fighting devices. The extinguishment status is signalled on the **EXTINGUISHMENT** LED (solid), and by ground on terminal 15[OE]. The extinguishment status ends when ground fails on one or both inputs (IZ1 and/or IZ2), or after the set *TIME ACTIVE* (if set in impulse mode). It is also possible to disable the Module by means of the **ON/OFF** button.

**Auxiliary commands** The Module has 3 inputs, one to disable the fire-fighting devices, one for manual activation of the fire-fighting devices, and one for the connection of a pressure switch. All three inputs are controlled, therefore, they must be connected to ground with a 2,700 ohm resistor (red-purple-red-gold) for standby status. If, however, they are in short-circuit or open they will generate a fault status, which will be signalled on the **FAULT INPUTS** LED (solid), and by ground on terminal 13[AV]. The solenoid-valve output is also controlled, and can detect short-circuit, interruption on the line and voltage failure, these faults are signalled on the **FAULT ELECTROVALVE** LED (solid), and ground on terminal 13[AV].

### Installation

The Module should be installed inside the J506-F or J524-F control panel, as illustrated in figure 1:

- only one Module (fig. 1a) can be installed in the J506-F control panel;

- up to 4 Modules (fig. 1b) can be installed in the J524-F control panel.
- Use the plastic spacers and nuts (supplied) to install the Module as illustrated in the diagram in figure 1c.

### Connection

The Module must be controlled by two distinct fire-panel zones, these must monitor the environment protected by the Module (see figure 1d). The Module is activated by the *alarm repeat outputs* (O1, O2, etc.), of the zones which monitor the environment of the connected fire-fighting devices. The Module controls the solenoid valve by passing a power-supply pole through the [--] terminals. This connection also allows the solenoid valve to check for proper connection and adequate power supply, any anomaly will be signalled on the **FAULT ELECTROVALVE LED** (solid). The example illustrates the connection of an

activation switch for forced activation of the fire-fighting devices (MANUAL EXTINGUISHMENT). The example also shows the connection of a device for EXTINGUISHMENT DELAY signalling, warning those present in the protected area to either leave or, in the event of false alarm, disable the fire-fighting devices, by means of the DISABLE EXTINGUISHMENT switch.

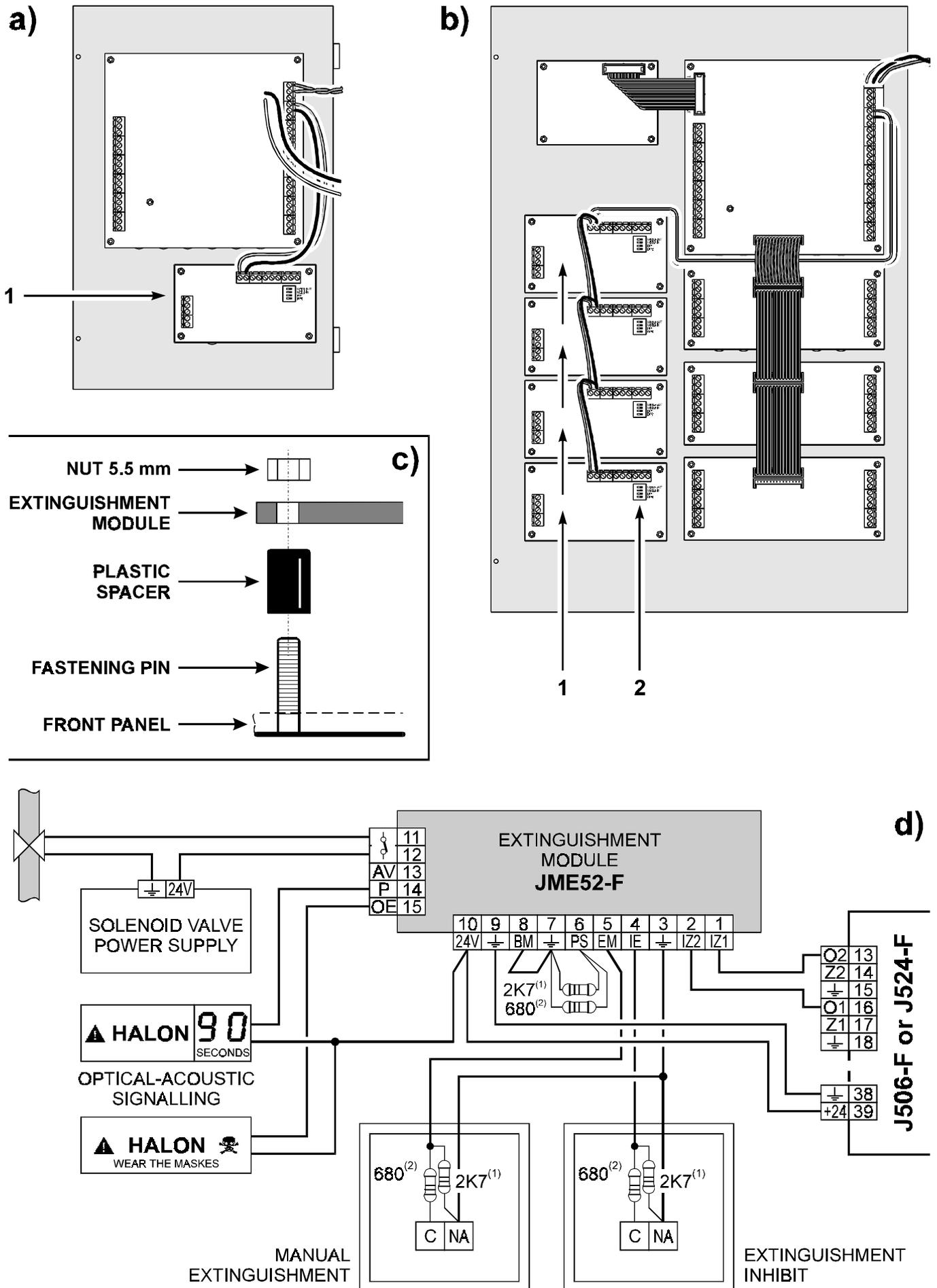
### Terminal description

Following is a detailed description of the Module terminals. See table 3 on the last page for a less detailed description and quick technical guide (voltage and current).

**Controlled inputs** The Module can detect and signal both short-circuit and interruption on the CONTROLLED inputs. The controlled inputs, in standby status, must be connected to ground with a 2,700 ohm resistor (red-pur-

PARTS	DESCRIPTION
1	Module.
2	Microswitches for the Module programming.
LED	DESCRIPTION
EXTINGUISHMENT	<b>ON</b> indicates that the extinguishment phase is active.
PRE EXT.	<b>ON</b> indicates the EXTINGUISHMENT DELAY phase is active: the inputs IZ1 and/or IZ2 are connected to ground but the set EXTINGUISHMENT DELAY has not elapsed.
DIS.EXT.	<b>Flashing</b> indicates that the Module has been disabled by means of the IE input: <b>it is possible however, to force the activation of the fire-prevention devices by means of the EM input.</b>
FAULT ELECTROVALVE	<b>ON</b> indicates power supply failure to the solenoid valve connected to the output  or that the output is in short-circuit or open.
FAULT PRES.SWITCH	When <b>ON</b> check that terminal [PS] of the corresponding Module is not in short-circuit or open, or that the pressure of the extinguishment gas is not too low.
FAULT INPUTS	<b>ON</b> indicates that input IE, EM or BM is open or in short-circuit (therefore, not connected to ground with a 2,700 ohm resistance).
ON	LED <b>ON</b> indicates that the Module is enabled (standby).
OFF	LED <b>ON</b> indicates that the Module is disabled: in which case also the function LED's are disabled.
BUTTONS	DESCRIPTION
ON/OFF	Button to enable/disable the Module: when the Module is disabled its outputs (  , AV, P and OE) are forced into standby. All LED's light each time the Module is enabled, therefore, it is possible to check their proper functioning.

Table 1 - Description of the parts, LED's and buttons of the Module.



**Figure 1 - Installation of the Module:** a) positioning of the J506-F control panel; b) positioning of the J524-F control panel; c) mounting; d) connections.

ple-red-gold), short-circuited or open inputs will be signalled on the **FAULT INPUTS** LED (solid). Use contacts which close with a 680 ohm resistance for the connection to the **CONTROLLED** inputs, or connect this resistance externally, as shown in figures 2 and 3. The 2,700 ohm resistor must be connected after the last contact, as illustrated.

**[IZ1] [IZ2] Activation inputs.** These terminals control the activation of the Module output (terminals ): activation occurs when both (AND mode), or one of these terminals (OR mode) is connected to ground for the set **EXTIGUISHMENT DELAY**, in accordance with the position of the dip-switch **MODO-IN** (see "Inputs" page 30).

**Activation occurs when the Module has been enabled by means of the specific button (ON/OFF): activation does not occur if the Module has been disabled by terminal [IE] or [BM].**

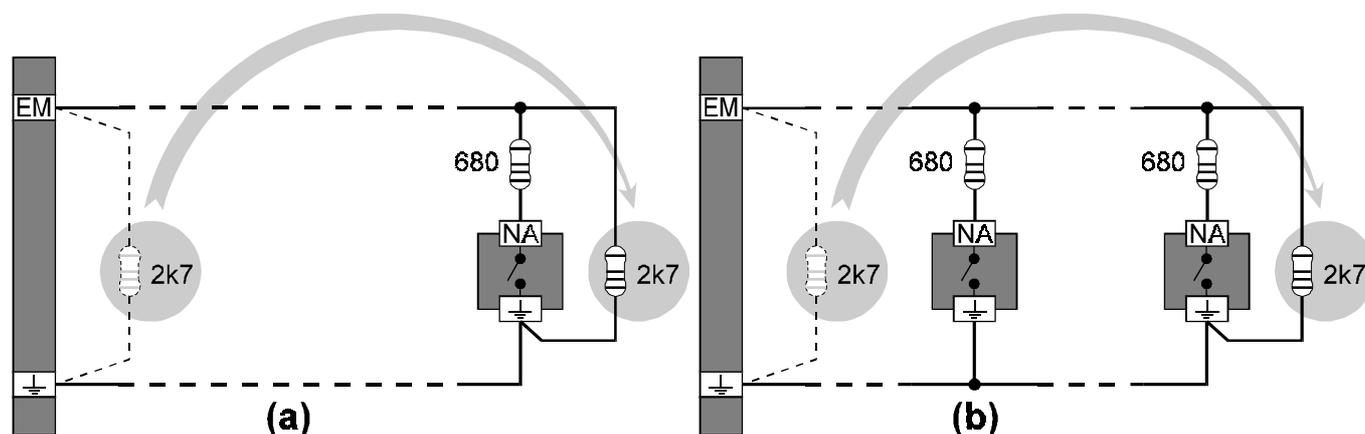
**[IE] Controlled Disable extinguishment input.** This is a **controlled terminal**, therefore, in standby status, it must be connected to ground with a 2,700 ohm resistor (red-purple-red-gold). The Module, in standby or extinguishment status, is disabled when terminal [IE] is connected to ground with a 680 ohm resistor (blue-grey-brown-gold). When the Module is in standby status, the status of the activation inputs is ignored, whilst, when in **EXTIGUISHMENT DELAY** status, terminal [IE] stops the delay count-down. **However, if the Module is already in the extinguishment status, or the latter is forced by means of the Manual Extinguishment input, terminal [IE] will have no effect.** The disabled status of the Module is signalled by the **DIS.EXT.**

LED (flashing). This terminal is for remote disablement of the **EXTIGUISHMENT DELAY**, for example, in the event of false alarm.

**[EM] Controlled Manual extinguishment input.** This is a **controlled terminal** and therefore, when in standby status, must be connected to ground with a 2,700 ohm resistor (red-purple-red-gold). However, when this terminal is connected to ground with 680 ohm resistor (blue-grey-brown-gold) it forces contact  to close, thus activating the fire-fighting devices, irrespective of the status of terminals [IZ1], [IZ2] and [IE]. This terminal is **ineffective** when the Module is disabled or blocked by means of terminal [BM], or when its power supply voltage is less than 18 V.

**[PS] Controlled Pressure Switch input.** This is a **normally closed controlled terminal** and therefore, when in standby status, must be connected to ground with a 2,700 ohm resistor (red-purple-red-gold), **and with another of 680 ohm resistor** (blue-grey-brown-gold): if the latter is not present or the terminal is in short-circuit or open, fault status will be signalled on the **FAULT PRES.SWITCH** LED (solid), and by ground on terminal [AV]. This terminal can be used to check the efficiency of the fire-fighting devices, by means of a pressure switch with a normally closed output.

**[BM] Block Module input.** In standby status this terminal must be connected to ground. When ground is not present, the Module is disabled: all outputs in standby status. Terminal [BM] can be used to block the Module when the status of its outputs (terminals [Ox]) is un-



**Figure 2 - Cable-and-trunk schematic for the connection to the normally open controlled inputs with one contact (a) and with several contacts (b).**

certain, due to an excessive drop in the power supply voltage to the control panel. The Module also checks that the power supply voltage does not fall below a critical value, therefore, the connection of terminal [BM] is required when a different power-supply source, to that of the control panel, is used.

**[24V] [1]** **Power supply.** These terminals are for the connection of the Module power-supply: 27.6 V $\overline{\text{---}}$ , 30 mA min.

**If power to the Module fails, all its outputs will go into standby status: terminals [ ] open; terminals [AV], [P] and [OE] open.**

**[ ] Solenoid valve output.** This contact  $\text{---}$  is normally open; it closes when the set EXTIGUISHMENT DELAY ends, it opens when the active status ends or, if set in Impulse Mode, when the set TIME ACTIVE elapses (see "Output" on page 31). Closing of the contact  $\text{---}$  is signalled on the **EXTINGUISHMENT LED** (solid). The **EXTINGUISHMENT LED** signals the active status, therefore, if set in Impulse Mode, the **EXTINGUISHMENT LED** may remain solid even after the contact  $\text{---}$  opens. The Module also checks the solenoid valve for proper connection and voltage: connection or voltage fault will be signalled on the **FAULT ELECTROVALVE LED** (solid).

**[AV] Fault repeat output.** This terminal is normally open; it connects to ground when:

- terminal [IE], [EM] or [PS] is short-circuited to ground or is open;
- terminal [PS] is not connected to ground with 680 ohm resistor (blue-grey-brown-gold);

- terminals [ ] are short-circuited or are not connected, or the connected solenoid valve is not powered.

This terminal is for remote acoustic and visual signalling of Module **FAULT** status (solenoid valve, pressure switch and inputs).

**[P] EXTIGUISHMENT DELAY repeat output.** Normally open terminal; connected to ground during EXTIGUISHMENT DELAY. This terminal is for remote signalling of the EXTIGUISHMENT DELAY, for example, in the area where fire-fighting devices are to be activated, thus warning people to evacuate the area.

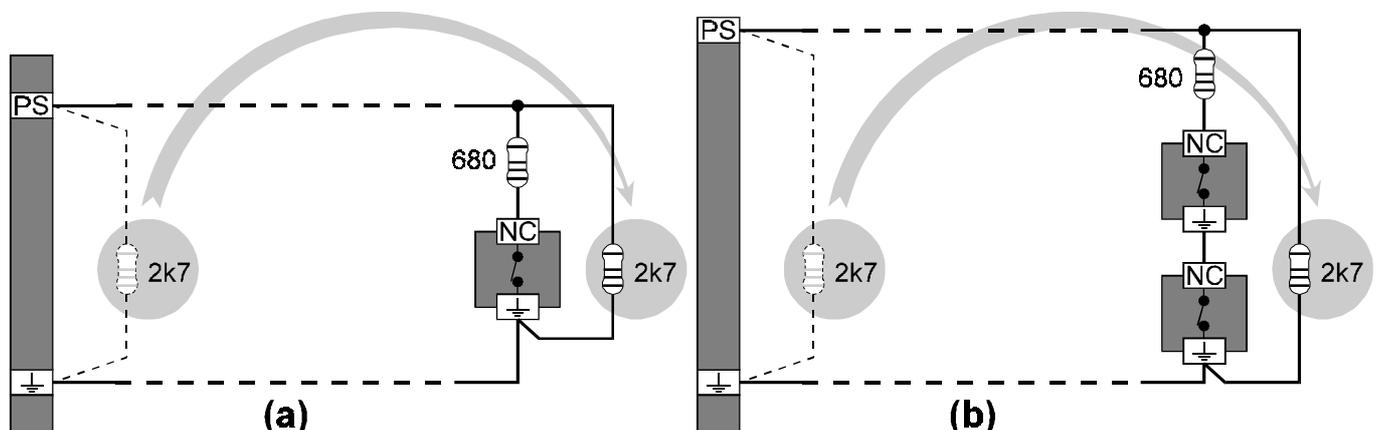
**[OE] Extinguishment repeat output.** Normally open terminal; connected to ground during the extinguishment status. This terminal is for remote signalling of the extinguishment status, for fire signs or bells, in the vicinity and/or inside the area where the fire-fighting devices are in function, thus warning people to keep away from the danger area.

## Programming

The Module parameters are set by means of the dip-switches **2** as described in table 2.

**EXTIGUISHMENT DELAY** The EXTIGUISHMENT DELAY starts when an activation status occurs. Contact  $\text{---}$  closes when the delay elapses, and is signalled on the **PRE.EXT. LED** (solid). The EXTIGUISHMENT DELAY is set by means of the dip-switches **DIP0** and **DIP1** (see part 2).

**TIME ACTIVE** This is the maximum time that the contact  $\text{---}$  may remain closed, when



**Figure 3 - Cable-and-trunk schematic for the connection to the normally closed inputs with one contact (a) and with several contacts (b).**

set in impulse mode. The TIME ACTIVE is equal to the EXTIGUISHMENT DELAY.

**Input mode** The function mode of the Module inputs is set by means of the dip-switch **MODO-IN** (see part 2).

**Output mode** The function mode of the Module output is set by means of the dip-switch **MODO-OUT** (see part 2).

### Installation table

Fill in Table 4 on the back page as follows.

Specify the following settings for each of the Modules listed in the MODULE column:

- the zones which control the Module, and whether one or both zones must go into alarm to activate the fire-fighting devices (DEPENDS ON column);
- the environment where the connected fire-fighting devices perform (DESCRIPTION column);
- the EXTIGUISHMENT DELAY setting (DELAY column);
- the TIME ACTIVE setting (TIME ACTIVE column), if the Module is set in impulse mode.

☞ **The numbers in the MODULE column identify the Modules starting from the top of the panel.**

### Use

The commands relating to the automatic fire-fighting devices are grouped in the EXTIGUISHMENT area.

Press the **ON/OFF** button of the relevant Module to enable the automatic fire-fighting devices in the event of fire.

☞ **All the LED's light (solid) each time a Module is enabled, therefore, it is possible to check proper functioning of the LED's.**

☞ **The EXTIGUISHMENT DELAY (see table 4 DELAY column) must elapse before activation of any fire-fighting devices, thus giving time to check for false alarm. The EXTIGUISHMENT DELAY is signalled on the PRE. EXT. LED and by the activation of the signalling devices connected to the extinguishment-delay output.**

The Extinguishment Module can be disabled, and the automatic procedure interrupted by means of the **ON/OFF** button, or by pressing one of the buttons connected to the **Disable extinguishment** input.

Once the EXTIGUISHMENT DELAY elapses, the **EXTINGUISHMENT** LED will light (solid), and the signalling devices, connected to the **extinguishment output**, will signal the intervention of fire-fighting devices. The fire-fighting devices will perform for the duration of the fire or, at least, for the set TIME ACTIVE .

TIME	30 seconds	60 seconds	90 seconds	150 seconds
DIP0	OFF	ON	OFF	ON
DIP1	OFF	OFF	ON	ON
<b>INPUT MODE</b>	Activation of the output occurs when <b>both</b> terminals [IZ1] and [IZ2] are connected to ground. Disablement of the output occurs when one of the terminals disconnects from ground (AND mode).		Activation of the output occurs when <b>one or both</b> terminals [IZ1] and [IZ2] is/are connected to ground. Disablement of the same output occurs when both terminals disconnect from ground (OR mode).	
MODO-IN	OFF		ON	
<b>OUTPUT MODE</b>	The contact  remains closed during active status (ON/OFF mode).		The contact  remains closed during active status or for at least the set TIME ACTIVE, (IMPULSE mode).	
MODO-OUT	OFF		ON	

Table 2 - Description of the dip-switches.

☞ **Use the ON/OFF button to disable the Module, and therefore, stop Automatic extinguishment.**

By pressing one of the buttons connected to the **manual extinguishment** input, it is possible to activate the fire-fighting devices manually (forced intervention). Only the **ON/OFF** button can stop this kind of intervention.

---

## Summary

---

This page contains all the necessary information for proper use of the Module. Therefore, it should be cut out, protected by a plastic cover and be kept near the control panel.

Only the **ON** LED should be lit (solid) during standby status. Following is the procedure to follow when a Module LED switches from standby status into alarm status.

**EXTINGUISHMENT SOLID** indicates that the fire-fighting devices are in action; press the **ON/OFF** button to disable the devices when they are no longer required.

**PRE EXT.** The EXTINGUISHMENT DELAY starts from the moment that this LED lights (solid). The delay must elapse before the fire-fighting devices are activated; in the event of false alarm, press the **ON/OFF** button to stop the automatic procedure.

**DIS.EXT. ON** (solid) signal that fire extinguishment cannot be performed, as this operation has been disabled by means of one of the relevant buttons.

**ELECTROVALVE FAULT** When **ON** call assistance; please note that in the event of fire the fire-fighting devices will not be activated.

**PRES.SWITCH FAULT ON** indicates that the pressure of the extinguishment gas is too low: call assistance.

**INPUTS FAULT ON** indicates that the manual extinguishment switches or those for stopping extinguishment are not functioning properly: call assistance.

**ON** The solid **ON** Led indicates that the Module is enabled.

**OFF** The solid **OFF** LED indicates that the Module is disabled, and therefore, cannot activate the respective fire-fighting devices in the event of fire.

**Table 4** This table specifies the following for each of the Modules listed in the MODULE column:

- the zones which control the Module, and whether one or both zones must go into alarm to activate the fire-fighting devices (DEPENDS ON column);
  - the environment where the connected fire-fighting devices perform (DESCRIPTION column);
  - the EXTINGUISHMENT DELAY setting (DELAY column);
  - the TIME ACTIVE setting (TIME ACTIVE column).
- ☞ **The numbers in the MODULE column identify the Modules starting from the top of the panel.**

TERMINAL	DESCRIPTION	v(V)	i(A)
[IZ1] [IZ2]	<b>ACTIVATION inputs:</b> open terminals → contact  open; ground on one or both terminals → EXTIGUISHMENT DELAY status.	0	—
[⏚]	<b>GROUND</b>	0	—
[IE]	<b>Controlled DISABLE EXTINGUISHMENT input:</b> balanced terminal with 2,700 ohm → extinguishment possible; unbalanced terminal → extinguishment disabled; terminal in short-circuit or open → fault signal.	—	—
[EM]	<b>Controlled MANUAL EXTINGUISHMENT input:</b> balanced terminal with 2,700 ohm → contact  open; unbalanced terminal → contact  closed; terminal in short-circuit or open → fault signal.	—	—
[PS]	<b>Controlled PRESSURE SWITCH input:</b> unbalanced terminal → no signal; balanced terminal with 2,700 ohm → pressure switch fault signal; terminal in short-circuit or open → general fault signal.	—	—
[⏚]	<b>GROUND.</b>	0	—
[BM]	<b>BLOCK MODULE input:</b> ground on terminal → standby status; terminal open → Module blocked.	0	—
[⏚] [24V]	<b>POWER SUPPLY.</b>	27.6	0.03
[  ]	<b>SOLENOID VALVE output:</b> in standby status → contact open; in extinguishment phase → contact closed.	—	5
[AV]	<b>FAULT repeat output:</b> in standby status → terminal open; in the event of fault → ground on terminal.	0	0.1
[P]	<b>EXTIGUISHMENT DELAY repeat output:</b> in standby status → terminal open; in EXTIGUISHMENT DELAY status → ground on terminal.	0	0.1
[OE]	<b>EXTINGUISHMENT repeat output:</b> in standby status → terminal open; in extinguishment phase → ground on terminal.	0	0.1

Table 3 - Description of Extinguishment Module terminals:

MODULE	DEPENDS ON	DESCRIPTION	DELAY	TIME ACTIVE
1	and/or			
2	and/or			
3	and/or			

Table 4 - Description of the Extinguishment Modules.