# Module 1 output


## TFM01

RSC® | FORMULAS AND & NOT! OR ! | 1 LOGICAL UNIT | 1 OUTPUT | ABS V0 BOX

Addressable module consisting of a supervised physical/logical unit: 1 output.
Programmable functions - 2 operational criteria: can be muted or not.
2 output modes: contact or controlled line. Output with programmable actuation time and delay, actuation can be based on algebraic formula. Secure service input for powering external devices. 1 LED indicating output state
Full RSC® management of the device: programming, remote management and control of all functional parameters.
Line separator with dual insulator. Connection on LOOP.
Proprietary high speed communication protocol ***FIRE-SPEED***. Surface or omega DIN rail mounting (accessory TFDIN).
Degree of protection IP40. ABS V0 enclosure. Dimensions (L x H x P) 112 x 78 x 25mm. White.
**EN 54-18**: 2005/AC: 2007 - **EN 54-17**: 2005. Certificate of homologation 1293 CPR – 0421

**Item no. TF4TFM01**

### OBLIGATIONS AND NOTICES

The module TFM01 can be used only if connected to a detection loop of the Tecnofire control units models: TFA1-298, TFA2-596, TFA4-1192. During design and installation, it is necessary to observe and apply the applicable regulations.

### LOGIC UNITS

The module consists of a functional physical/logical unit: one output. It is assigned the identification number 1.

| 1 LOGICAL UNIT | Logic unit 1 | Physical address |
|---|---|---|
| | Output 1 | X10 X1 X→ ←X |

### ADDRESSING

The physical address for module identification is programmed by two decimal rotary switches located under the top cover. The two switches enable to set the two digits which make up the physical address number.
The switches are marked by writings which define the position of the digit to set: X10 for tens and X1 for units.
The numeric range of the allowed addresses for the detectors is 01 to 99.
Note: setting the address 00 excludes the module from operation, yet it draws power from the loop.

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## USE MODE OUTPUT

The module has an output which can be assigned one of two available operational criteria: the output can be muted or not.
The output connection can be made using either the Potential free contact mode or the Controlled line mode
With the controlled line mode, the module monitors the termination of the output lines. The output can take the functional state of rest or signalling, the output state is displayed using the dedicated LED.
The operation of the output is characterized by the programming of the switching delay time and of the switching time. Moreover, the operation of the output can also be subject to an algebraic formula.

| | Operational criteria | |
|---|---|---|
| Use mode output | The output can be muted | The output cannot be muted |
| | Connection mode | |
| | Potential free contact | Controlled line |

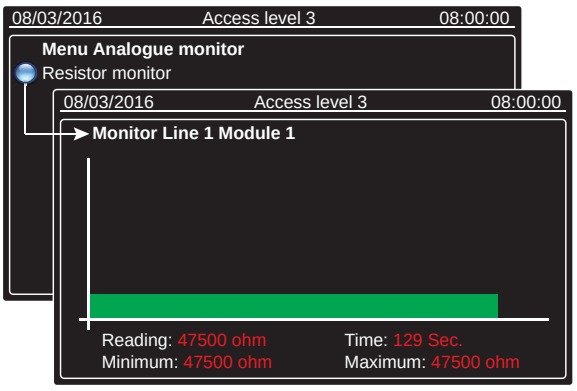
| Functional programming output | Switching delay | Switching time | Can be subject to formula |
|---|---|---|---|
| | 0 to 600 sec. | 0 to 600 sec. | ✔ |

## LINE SPLITTER

The module is provided with a line splitter with dual breaker. In case of short circuit of the Loop line, the splitter trips, switching off the faulty section of the line, safeguarding the correct operation of the devices connected upstream and downstream.
The trip of the splitter ensures the correct operation of the module.
At the same time the detection unit is sent the faulty notice "Splitter open".

## DIAGNOSTIC FUNCTIONS

The control unit manages a set of diagnostic functions specialized for the different types of module.
The diagnostic functions that are available for the input/output modules allow to:
- Physically identify the module
- Identify the type of module, the HW and FW version
- Measure the electric data of operation
- Monitor the termination resistance value
- Read the statistics from the communication monitor
- Test the activation of the output module




| Diagnostic functions of the module | |
|---|---|
| **Identification** | Turns off the Leds of the device for its identification |
| **Self declaration** | Self declaration of the module type |
| **Hardware version** | Self declaration of the hardware version |
| **Firmware version** | Self declaration of the firmware version |
| **Level measurement** | Measurement of the electric values of operation |
| **Analog monitor** | Monitor of line termination resistance value |
| **Statistics** | Statistic/functional values related to communication |
| **Activation** | Activates the output (function valid only for output modules) |

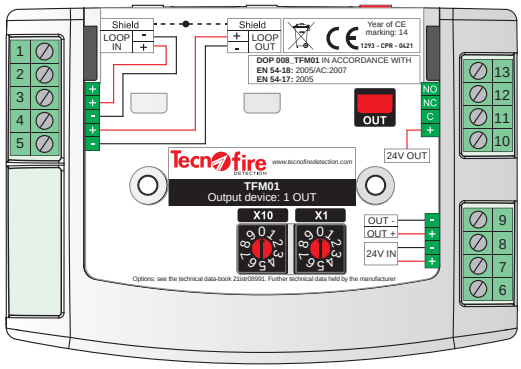
| |
|---|
| Draw |
| Supply level |
| Zero level |
| Draw level |
| Line resistance |

| |
|---|
| Frames sent |
| Errors |
| Success Rate |
| Error rate |
| Latency time |

# Module 1 output

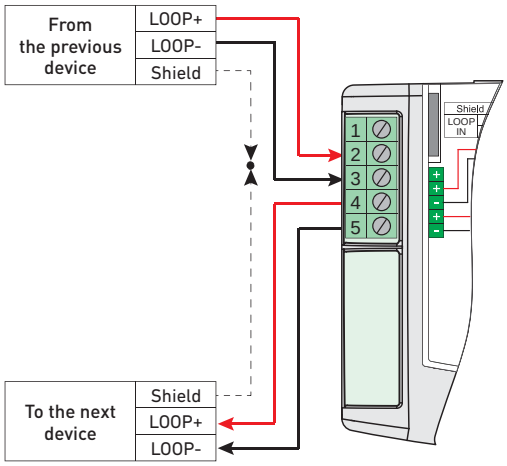
## EQUIPMENT

| | |
|---|---|
| 1 | LOOP + input (no breaker) |
| 2 | LOOP+ input |
| 3 | LOOP- input |
| 4 | LOOP+ output |
| 5 | LOOP- output |

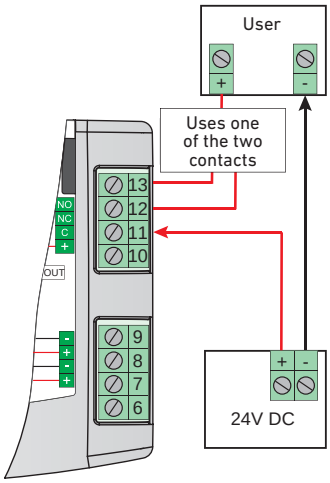



| | | |
|---|---|---|
| NO contact relay | 13 | |
| NC contact relay | 12 | |
| C contact relay | 11 | |
| OUT +24V | 10 | |
| OUT -24V terminated line | 9 | |
| OUT +24V terminated line | 8 | |
| IN -24V for user | 7 | |
| IN +24V for user | 6 | |

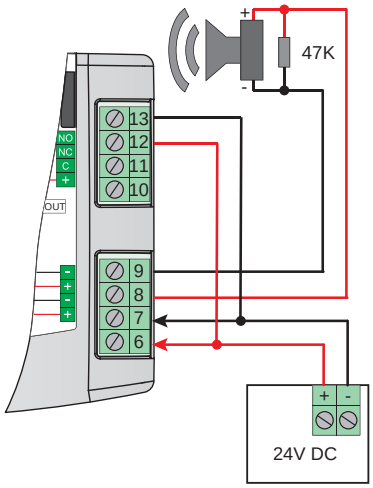
## CONNECTION TO THE LOOP

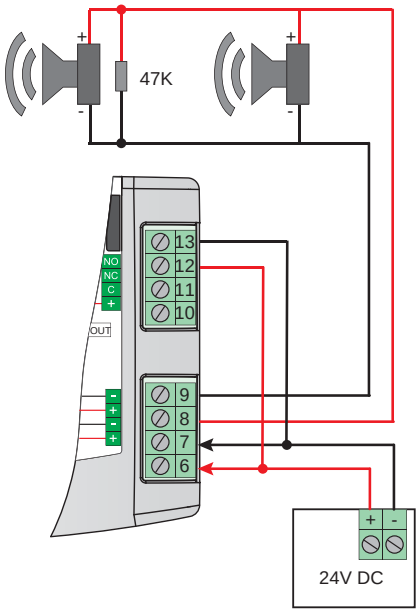



## POTENTIAL FREE CONTACT OUTPUT CONNECTION EQUIPMENT




## CONTROLLED OUTPUT CONNECTION



# TFM01

## Module 1 output

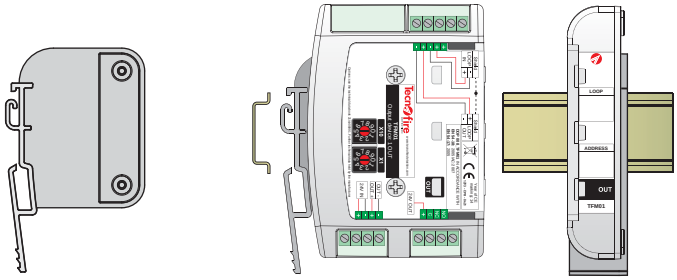
Moduli indirizzati - Addressable peripheral devices - Périphériques adressables - Periféricos direccionables

### DEDICATED ACCESSORIES

#### TFDIN

Support accessory for mounting the module on omega DIN rail.

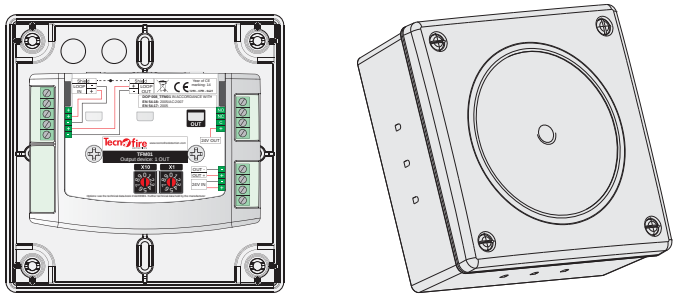
**Item no. TF5TFDIN**



#### TFBOX-M

Junction box with mounting footprints for the interface modules. ABS V0 enclosure. Dimensions (L x H x P) 136 x 136 x 63mm. White.

**Item no. TF5TFBOXM**



### TFM01 - Technical and functional specifications

| | | |
|---|---|---|
| Overview | Device Name | **TFM01** |
| | Description | **Module 1 output** |
| | Communication protocol | **FIRE-SPEED** |
| | Addressing | **2 rotary switches** |
| Programming | Polling frequency | **2 levels** |
| | Transmission LED | **Excludable signal** |
| | Operational criteria | **2** |
| | Type of output | **Contact or controlled line** |
| | Activation delay | **Programmable** |
| | Activation time | **Programmable** |
| | Output activation | **Subject to algebraic formula** |
| Electrical specifications | Power supply | **From loop** |
| | Rated Voltage | **24V DC** |
| | Operating voltage | **18V...30V DC** |
| | Draw when on | **500µA @ 24V DC when non transmitting** |
| | Power requirements in alarm | **2.3mA @ 24V DC** |
| | Line splitter | **Intelligent breaker (without loss of devices)** |
| | Relay contacts | **Max 30V DC 1A (resistive load)** |
| | Out auxiliary supply | **18V...30V DC (max. 500mA)** |
| Physical specifications | Operating temperature | **-15°C...+70°C** |
| | Relative humidity | **10%...93% (non-condensing)** |
| | Protection degree | **IP40** |
| | Enclosure | **ABS V0** |
| | Dimensions (L x H x D) | **112 x 78 x 25mm** |
| | Weight | **165g** |
| Conformity | Standards | **EN 54-18: 2005/AC: 2007 - EN 54-17: 2005** |
| | Certification number | **1293-CPR-0421** |
| | Year of CE marking | **14** |
| | Number of declaration of performance | **008_TFM01** |
| | Notified body | **EVPU** |

N.B. The declarations of conformity and performance are available on the website: www.tecnofiredetection.com

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