

Module 1 output



TFM01						
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.

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.

	Logic unit 1	Physical address
	Output 1	

Module 1 output

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.

Use mode output	Operational criteria	
	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.

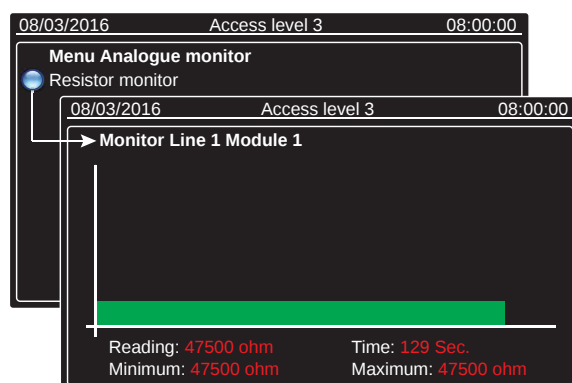
At the same time the detection unit is sent the faulty notice "Splitter open".

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



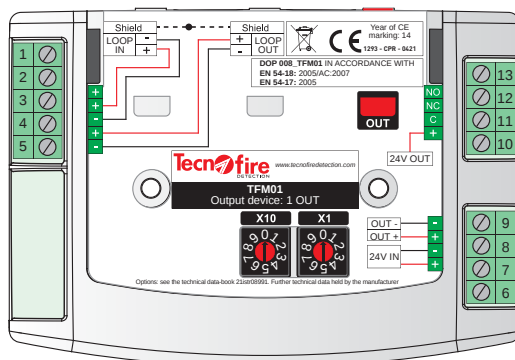
Diagnostic functions of the module	
Identification	Turns off the Leds of the device for its identification
Self declaration	Self declaration of the module type
Hardware version	Self declaration of the hardware version
Firmware version	Self declaration of the firmware version
Level measurement	Measurement 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	Frames sent
Supply level	Errors
Zero level	Success Rate
Draw level	Error rate
Line resistance	Latency time

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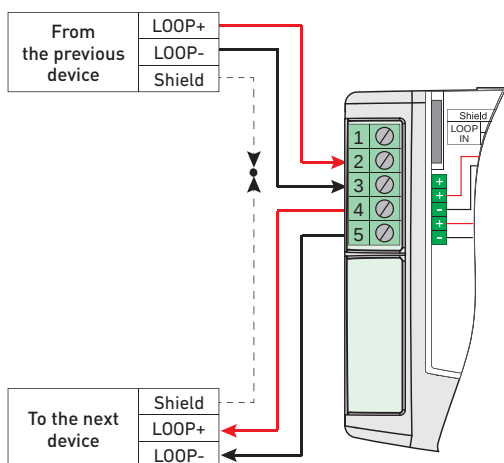
EQUIPMENT

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

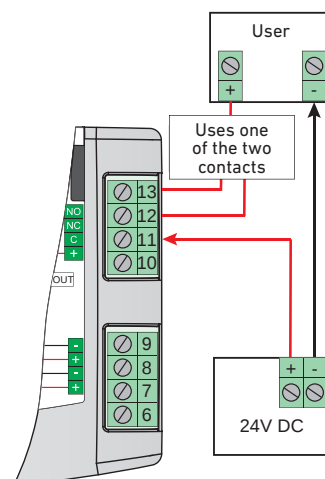


NO contact relay	13	13
NC contact relay	12	12
C contact relay	11	11
OUT +24V	10	10
OUT -24V terminated line	9	9
OUT +24V terminated line	8	8
IN -24V for user	7	7
IN +24V for user	6	6

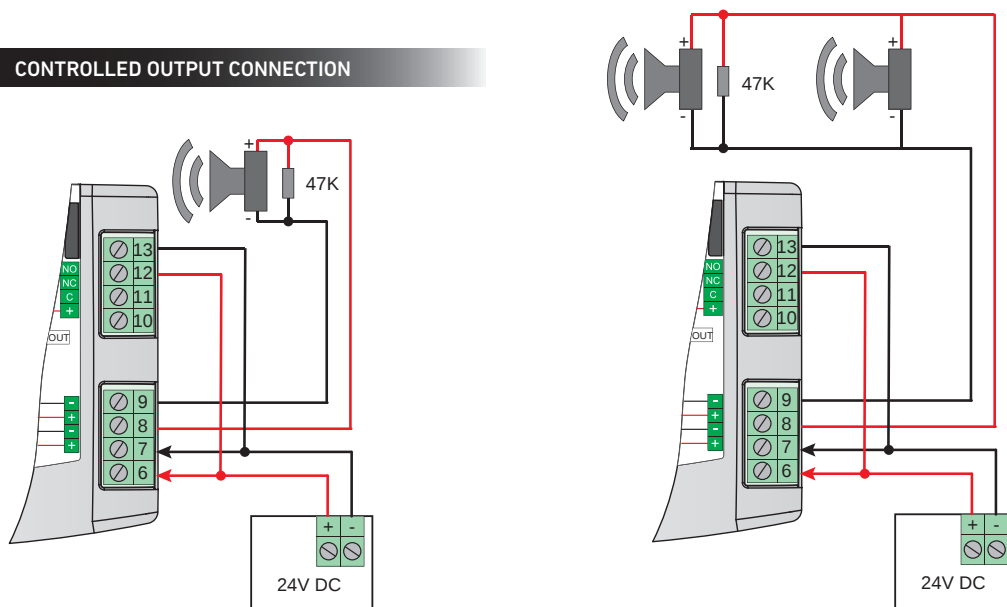
CONNECTION TO THE LOOP



POTENTIAL FREE CONTACT OUTPUT CONNECTION EQUIPMENT



CONTROLLED OUTPUT CONNECTION



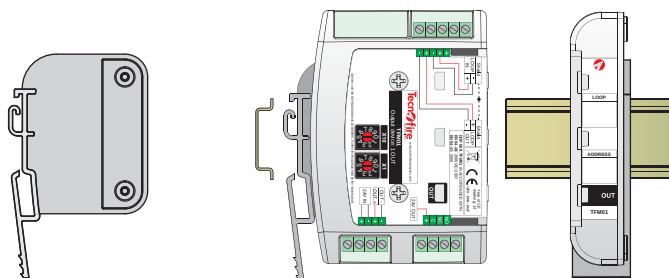
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DEDICATED ACCESSORIES

TFDIN

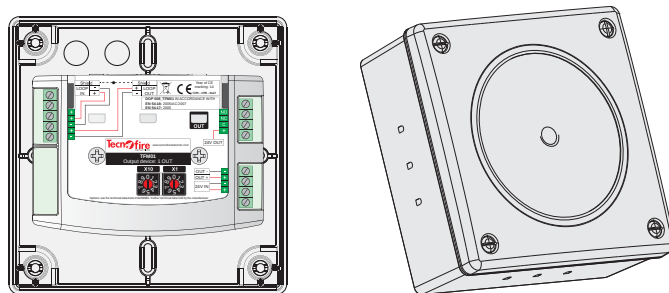
Support accessory for mounting the module on omega DIN rail.

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