

TFM-1011, TFM-1221 and TFM-1431
 Intelligent Adressable Input-Output Modules
 w/ Isolator
 Installation & User Manual



Release Date: 16/12/2020
 Rev:0

Critical Warnings

General

- ✓ Read this manual with care before operating the device and keep it for further reference.
- ✓ Comply with all warnings and measures provided in the manual. Follow all respective operation and usage instructions.
- ✓ Keep the devices away from water and humidity.

Ambient Conditions

Do not operate the device under extreme temperature conditions that fall outside the following values.
 Temperature: Between -10°C and +70°C
 Relative Humidity: 95% @+40°C

Service

Do not attempt to repair the device on your own, you may be exposed to electric shock in case you open the device housing.
 Contact your dealer or authorized service in case of a failure. Technical interventions to the device must be carried out by qualified personel of authorized service.

Warning: Do not attempt to take the card out of its plastic protection. It is sealed solely for your safety. Users must avoid intervention.

Failures That Require Service Intervention

Contact your authorized service or dealer in case of a failure or in following cases.

- ✓ If the power line or plug is damaged,
- ✓ If any liquid has leaked or a substance has fallen into the device,
- ✓ If the device is exposed to water or rain,
- ✓ If the device is dropped or the housing is damaged,
- ✓ If there is significant performance change in the device,
- ✓ If the device is not operating normally according to the operating instructions in the user manual

Call the service since erroneous operations may cause further failures.

What You Can Do On Your Own

Do not attempt to repair the device on your own since you may be exposed to electric shock in case you open the device housing. Contact your dealer or authorized service in case of a failure. Technical interventions to the device must be carried out by qualified personel of authorized service. The device must be cleaned with a dry cloth. No chemical must be used for cleaning purposes.

Handling and Transportation

The device must be handled with care in manner that it does not get exposed to impacts and liquid influx. The damages that may occur during improper handling are out of guarantee.

Human and Environment Health

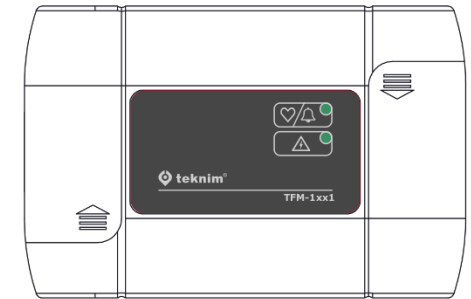
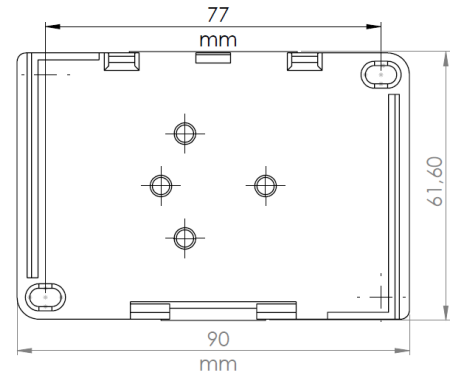
This device does not contain any chemical or biological substance that may harm human health.

Technical Specifications

Loop Voltage Range	15V (min) – 32V (max)
Avrg. Current Consumption (Normal Op.)	180uA (@24V)
Avrg. Current Consumption (Alarm State)	3mA (@24V)
Operating Temperature Range	-10°C ~ 55°C (14°F ~ 131°F)
Humidity	95% RH (max)
Size (HxWxD)	31,1mmx90mmx61,6mm
Weight	50gr(max)

Technical Specifications ; Isolator

Avrg. Current Consumption (Normal Op.) @24V	15uA
Vmax.	32V
Vnom.	28V
Vmin.	15V
Vso_max.	18V
Vso_min.	9V
Vsc_max.	5V
Vsc_min.	0,7V
Ic_max.	0,5A
Is_max.	3A
IL_max.	0,026A
Zc_max.	0,026Ω



Installation

Teknim Analog Addressed Input-Output Modules communicate through Flashlink protocol. Teknim Analog Addressed panels operate in compliance with TFP-100x series. Input-Output connections of each model must be checked prior to making terminal connections. Modules must be used with 33K as line end resistance and with 10K as alarm resistance. Right and left covers must be slided open in order to make cable connections.

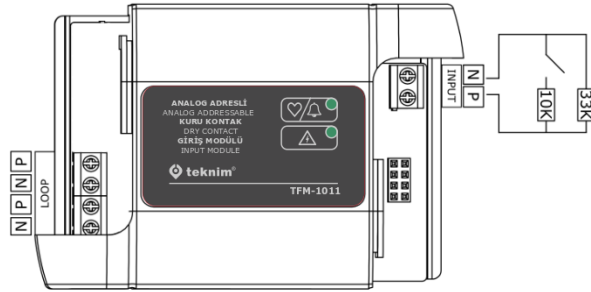
Addressing

Special addressing apparatus (TCFM-1801) designed by Teknim must be used for addressing Input-Output modules. The modules can be assigned with any address between 1 and 240. It must be remembered that each device throughout the loop must have a unique address.

TFM-1011 Dry Contact Input Module

TFM-1011 module is used for dry contact monitoring purposes. The "Normally Open" or "Normally Closed" operation of the Input is determined from the panel. (For details, see, TFP-100x Analog Addressed Panel User Manual – Monitoring Type). Also, the option of monitoring the status changes once or continuously can be selected from the panel. (For details, see, TFP-100x Analog Addressed Panel User Manual - Latch Type) 33K must be used for line end resistance (R_s) and 10K must be used for alarm resistance (R_{alarm}).

#	Description
LOOP (P)	Loop line INPUT(+)
LOOP (N)	Loop line INPUT(-)
LOOP (P)	Loop line OUTPUT(+)
LOOP (N)	Loop line OUTPUT (-)
INPUT (P)	Input (+)
INPUT (N)	Input (-)



Indicator LED's

	Blue LED	Red LED	Yellow LED
Any error situation (Short circuit, open circuit, power source)	Blinks with 1 sec. intervals	X	X
The device is in normal operation mode (can be turned off.)	Blinks with 20 sec. intervals	X	X
Input alarm state	X	Constant	X
Output alarm state	X	Blinks with 1 sec. intervals	X
Short circuit state	X	X	Constant

Note : Purple color occurs when blue and red LED's light at the same time.

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1922-CPR-1455

EN 54-18:2005, EN 54-18:2005/AC:2007
INPUT/OUTPUT DEVICES

EN 54-17:2005
Fire Detection and Fire Alarm Systems – Short Circuit Isolators

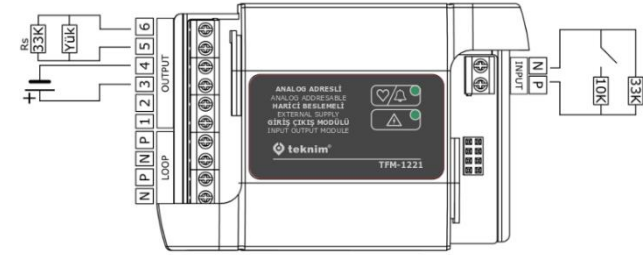
TFM-1011
Technical data: See BİLGİ-TEC-191018 kept by the manufacturer.

TFM-1221 External-Fed Input-Output Module

TFM-1221 modülü, is a combination of TFM-1111 and TFM-1011 modules. It is used for controlling auxiliary alarm devices that need both dry contact monitoring and feeding. Monitorable load is monitored against connection errors.

33K must be used for line end resistance (R_s) and 10K must be used for alarm resistance (R_{alarm}). Relay contacts are 30Vdc 2A Form C.

#	Description
LOOP (P)	Loop line INPUT (+)
LOOP (N)	Loop line INPUT (-)
LOOP (P)	Loop line OUTPUT (+)
LOOP (N)	Loop line OUTPUT (-)
1	Normally closed contact 1
2	Normally closed contact 2
3	Load feeding (+)
4	Load Feeding (-)
5	Monitorable Load (+)
6	Monitorable Load (-)
INPUT (P)	Input (+)
INPUT (N)	Input (-)



Indicator LED's

	Blue LED	Red LED	Yellow LED
Any error situation (Short circuit, open circuit, power source)	Blinks with 1 sec. intervals	X	X
The device is in normal operation mode (can be turned off.)	Blinks with 20 sec. intervals	X	X
Input alarm state	X	Constant	X
Output alarm state	X	Blinks with 1 sec. intervals	X
Short circuit state	X	X	Constant

Note : Purple color occurs when blue and red LED's light at the same time.

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1922-CPR-1456

EN 54-18:2005, EN 54-18:2005/AC:2007
INPUT/OUTPUT DEVICES

EN 54-17:2005
Fire Detection and Fire Alarm Systems – Short Circuit Isolators

TFM-1221
Technical data: See BİLGİ-TEC-191018 kept by the manufacturer.

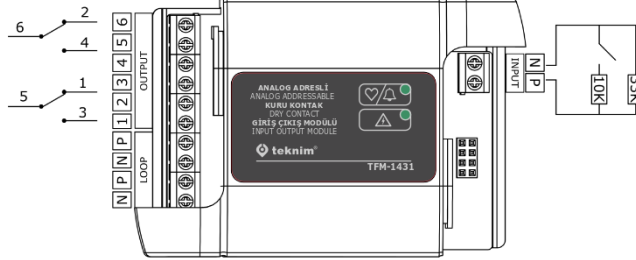
TFM-1431 Dry Contact Input-Output Module

TFM-1431 module is a combination of TFM-1011 and TFM-1321 modules. It both performs dry contact monitoring and provides dry contact output for the operation of external alarm devices.

33K must be used for line end resistance (R_s) and 10K must be used for alarm resistance (R_{alarm}).

Relay contacts are 30Vdc 2A Form C'.

#	Description
LOOP (P)	Loop line INPUT (+)
LOOP (N)	Loop line INPUT (-)
LOOP (P)	Loop line OUTPUT (+)
LOOP (N)	Loop line OUTPUT (-)
1	Normally closed contact 1
2	Normally closed contact 2
3	Normally open contact 1
4	Normally open contact 2
5	Common Contact 1
6	Common Contact 2
INPUT (P)	Input (+)
INPUT (N)	Input (-)



Indicator LED's

	Blue LED	Red LED	Yellow LED
Any error situation (Short circuit, open circuit, power source)	Blinks with 1 sec. intervals	X	X
The device is in normal operation mode (can be turned off.)	Blinks with 20 sec. intervals	X	X
Input alarm state	X	Constant	X
Output alarm state	X	Blinks with 1 sec. intervals	X
Short circuit state	X	X	Constant

Note : Purple color occurs when blue and red LED's light at the same time.

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1922-CPR-1458

EN 54-18:2005, EN 54-18:2005/AC:2007
INPUT/OUTPUT DEVICES
EN 54-17:2005
Fire Detection and Fire Alarm Systems – Short Circuit Isolators
TFM-1431
Technical data: See BİLGİ-TEC-170907-1 kept by the
manufacturer.

Manufacturer Company and Main Service

Bilgi Elektronik San. ve Tic. A.Ş.

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* In compliance with AEEE regulations. This product is manufactured from recyclable and reusable high quality parts and materials. Therefore, do not dispose of the product together with domestic or other wastes at the end of its service lifetime. Take it to a drop-off point for the recycling of electrical and electronic devices.

* Lifetime of this product specified and announced in the list attached to the After Sales Services Regulations published in the Official Gazette No 29029 dated 13/6/2014 is 5 years.

* The consumer may apply to the Consumer Arbitration Board or Consumer Court of the place of residence or of the consumer transactions in case of disputes arising from exercising the rights granted by the guarantee.