

**TFM-1010, TFM-1110,  
TFM-1220, TFM-1320**  
Analogue Input / Output Modules  
Installation & Operation Manual



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## Important Warnings

### General

- ✓ Before using the device read this manual carefully. Keep it just in case of necessity.
- ✓ Abide all the rules and precautions stated in the manual. Follow all the instructions one by one.
- ✓ Keep the devices away from water and moisture

### Conditions

Do not energize the device above or below the given limits of extreme hot or cold conditions,  
Temperature: Between -10°C and +55°C  
Relative Humidity: %95 RH max

### Service

Do not try to fix the device on your own. Removal of cover may end up with electricity shock.

In case of any defect or malfunction, contact with your dealer or with authorized service. All the technical interventions have to be done by technicians of company.

**Warning:** Do not attempt to remove the electronic board from its plastic case. The electronic board is closed for your safety. Users should avoid from interference.

### Malfunctions that require technical service

In case of any malfunction or below conditions contact with your authorized service,

- ✓ When Mains cable or the plug is harmed,
  - ✓ Contact of device with a fluid,
  - ✓ Exposure of rain and water,
  - ✓ Fell down of device or harmed outer cover,
  - ✓ Serious performance fall on the device,
  - ✓ Depending on the instructions stated in manual, if your device not working properly
- Contact with your authorized service in such terms.

### Maintenance on your own

Do not try to fix the device on your own. Removal of cover may end up with electricity shock. In case of any defect or malfunction, contact with your dealer or with authorized service. All the technical interventions have to be done by technicians of company. Device must be cleaned up with a dry fabric. No-chemicals are allowed for cleaning

### Transportation

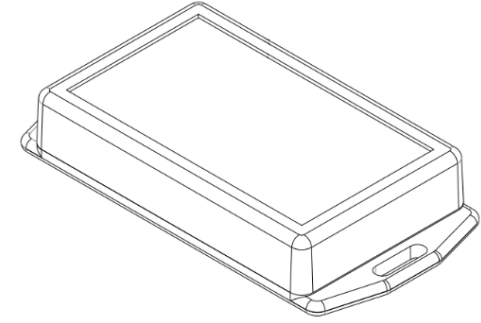
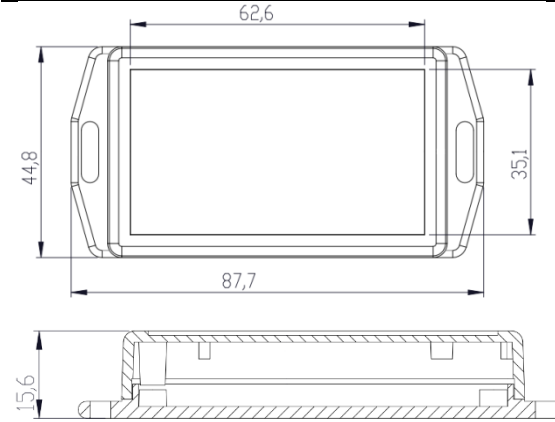
Device must be carefully transported avoiding all physical bump, stroke and possible fluid entry. Malfunctions that caused by improper transportation is not under warranty.

### Human and Environmental Health

This device contains no chemical or biological elements that could harm human condition.

## Technical Features

Power Input	15V (min) – 32V (max)
Average Current Consumption (Normal Condition)	180uA (@24V)
Average Current Consumption (Alarm Condition)	500uA (@24V)
Operating Temperature Range	-10°C ~ 55°C (14°F ~ 131°F)
Humidity	95% RH (max)
Dimensions (mm)	15,6mmx44,8mmx62,6mm
Weight	50gr(max)



## Setup

Teknim Analogue Addressable Input / Output Modules communicate via Flashlink protocol. The device is compatible with Analogue Addressable Panels (TFP-12XX series). The input / output connections of each model must be checked before terminal connections are made. Modules should also use 33K as the line end resistance and 10K as the alarm resistance.

## Addressing

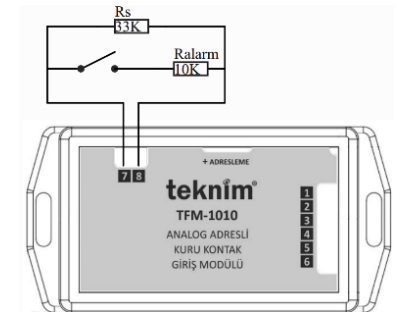
A special addressing module (TFCM-1801) designed by Teknim must be used to address the input and output modules. Modules can be addressed from 1 to 240. It should be noted that the addresses of each device in the vicinity must be unique.

## TFM-1010 Dry Contact Input Module

The TFM-1010 module is used for dry contact monitoring. The input is determined via the panel that will operate as "Normally Open" or "Normally Closed". (TFP-12XX Analogue Addressable Panel Operating Guide - Monitoring Type for details). Whether the status changes in the input modules are monitored once or continuously can be selected again via the panel. (For details TFP-12XX Analogue Addressable Panel Operating Guide - Latch Type)

The line end resistance is ( $R_s$ ) 33K and the alarm resistance ( $R_{alarm}$ ) is 10K.

Terminal	Explanation
1	Loop line INPUT (+)
2	Loop line INPUT (-)
3-4	Earth connection
5	Loop line OUTPUT(-)
6	Loop line OUTPUT(+)
7	Input (+)
8	Input (-)

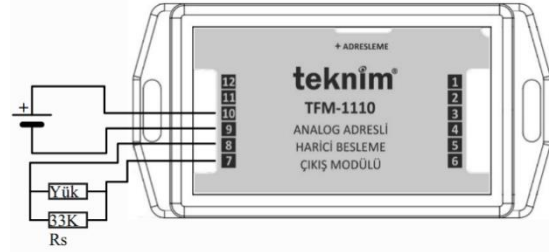


### TFM-1110 External Supply Output Module

The TFM-1110 module is used to control auxiliary alarm devices that require a supply. The external supply is monitored by the module. Monitored loads are monitored for failure to connect.

The line end resistance ( $R_s$ ) is 33K .  
Relay contacts are 30Vdc 2A Form C.

Terminal	Explanation
1	Loop line INPUT (+)
2	Loop line INPUT (-)
3-4	Earth connection
5	Loop line OUTPUT(-)
6	Loop line OUTPUT(+)
7	Monitored Load (-)
8	Monitored Load (+)
9	Load supply (-)
10	Load supply (+)

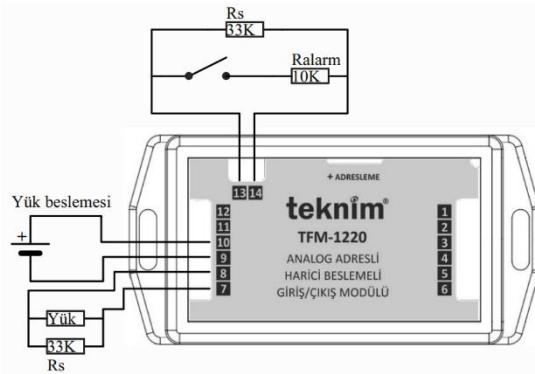


### TFM-1220 External Supply Input / Output Module

The TFM-1220 module consists of a combination of TFM-1110 and TFM-1010 modules. It is used both for dry contact monitoring and for control of auxiliary alarm devices that require feeding. Monitored loads are monitored for failure to connect.

End of line as resistance ( $R_s$ ) 33K, as an alarm resistor ( $R_{alarm}$ ) 10K must be used.  
Relay contacts are 30Vdc 2A Form C.

Terminal	Explanation
1	Loop line INPUT (+)
2	Loop line INPUT (-)
3-4	Earth connection
5	Loop line OUTPUT(-)
6	Loop line OUTPUT(+)
7	Monitored Load (-)
8	Monitored Load (+)
9	Load supply (-)
10	Load supply (+)
13	Input (+)
14	Input (-)



### TFM-1320 Dry Contact Output Module

The TFM-1320 module is used to provide dry contact for the operation of external alarm devices. Relay contacts are 30Vdc 2A Form C

Terminal	Explanation
1	Loop line INPUT (+)
2	Loop line INPUT (-)
3-4	Earth connection
5	Loop line OUTPUT(-)
6	Loop line OUTPUT(+)
7	Common Contact 1
8	Common Contact 2
9	Normally open contact 1
10	Normally open contact 2
11	Normally closed contact 1
12	Normally closed contact 2



### Indicator Leds

	Blue Led	Red Led
Any error condition (Short-Circuit, Open-Circuit power failure)	Blinks for 1s period	X
In normal operating condition (can be closed via panel)	Blinks for 20s period	X
In the case of input alarm	X	It is constantly lit
In case of output alarm	X	Blinks for 1s period

Note: When the blue led and the red led are lit at the same time, a purple color appears.

### Manufacture

#### Bilgi Elektronik San. ve Tic. A.Ş.

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\* 2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: [www.recyclethis.info](http://www.recyclethis.info).