



General catalogue



Hi-Tech Fire Alarm Systems

Automatic fire detection systems

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TECNOFIRE AUTOMATIC FIRE DETECTION SYSTEMS



The guarantee of a brand

Tecnoalarm plays a key role in the creation of the Tecnofire brand: research and development, investment capacity, as well as the quality and reliability of high-value-added technological solutions stemming from Tecnoalarm's decades of experience.

The strategic development of the Tecnofire brand involves operational autonomy, the search for innovative technological solutions, the constant expansion of the sales network - tools that in the long run will guarantee both high levels of growth and customer satisfaction.

Utilising the technological resources formed by Tecnoalarm guarantees Tecnofire's customers not only a high-quality product, but also first-rate technical, commercial and logistical support.

RSC® Technology

The huge market success of Tecnoalarm's RSC® technology confirms the strategy of applying the same technological model also within Tecnofire's area of expertise. Taking centre stage among the many technologies, products and services is the RSC® technology model due to its reliability, completeness and operational flexibility.

Including RSC® technology ensures significant added value within system management, as remote management implies a marked reduction in checking and maintenance times and costs.

RSC® technology not only ensures system management benefits for different operating modes, but also in terms of timeliness and cost-effectiveness of service.

EN 54



Security professionals

Designers and installers utilising Tecnofire technologies are professionals able to accurately analyse and thoroughly assess the potential fire risks.

Tecnofire provides its skilled team with all the documentation required to guarantee the upmost professionalism.

The website www.tecnofiredetection.com lets you benefit from the dedicated designer consultancy services. It contains regulatory frameworks, texts for quick drafting of specifications and metric calculations, technical drawings, data sheets, etc.

Tecnofire's Technical-Sales representatives are always on hand to provide consultancy services.



EN 54 certification

Tecnofire by Tecnoalarm designs and manufactures its products within an ISO 9001 certified quality management system.

Tests and trials carried out by accredited Italian and European certification bodies have enabled Tecnofire products to be certified in accordance with current EN 54 standards.



TECNOFIRE SPECIALIST SERVICES



Tecnofire Training Courses

Technical training is an essential aspect for Tecnofire.

The **Tecnofire Training Academy** division runs the courses aimed at designers and installers, with the aim of increasing and strengthening product knowledge and the application of standards that govern the rules for installation and maintenance of fire alarm systems.

Comprehensive and well-structured training allows you to acquire and improve the skills necessary to make the best use of Tecnofire products and technologies.

In-depth topic-based courses for designers, system integrators and installers give them the chance to expand their knowledge of product and application regulations.

The focus is hands-on training: fully-equipped classroom let participants actually configure, program and commission products.

Tecnofire provides a wide range of supporting material designed for technical and marketing needs and to help draw up projects.

The courses seek to train professionals able to develop technical and sales skills fully inline with the growing needs of the market. The course are regularly held at Tecnofire's offices, all equipped with a showroom and an educational workshop.

Courses are free. At the end of the course, Tecnofire issues a certificate of attendance.

TES

TECNOFIRE ENGINEERING SUPPORT

Tecnofire offers system engineers **TES: a team of specialists** with many years of experience in the field of automatic fire alarm systems. Industry professionals can take advantage of the expertise and assistance offered by the Department, which provides support and advice during the implementation of projects meeting increasingly strict standard requirements, right from the initial feasibility study up to the creation of the documents necessary for project implementation.

TES creates the **synergy between the very best technologies around and the most advanced engineering support**, which is tailored to each individual project. Tecnofire offers comprehensive support: system engineers can benefit from the **assistance, during the implementation phase, of the project documentation**.

The TES team uses commercial software development tools to aid the project that are parameterised to contextualise the products according to their technical and physical characteristics of the installation site itself. Design software makes it possible to produce the documents necessary to correctly tackle the project in an extremely simple yet highly detailed way.

TES is in complete synergy with other Tecnofire services such as **TTS** (Tecnofire Technical Service) and **TTA** (Tecnofire Training Academy).

The close interdependence between these Departments creates a strong bond and a fruitful exchange of information aimed at transferring knowledge to installers and designers in the sector.

TTS

TECNOFIRE TECHNICAL SERVICE

The Tecnofire Technical Service **TTS** is a real benefit of Tecnofire Systems.

The TTS Team consists of **specialist technicians who work closely with Tecnofire developers**; it is always on-hand during system programming operations and acts as the driving force behind the search for tailor-made solutions.

TTS professionals are ready to receive and **resolve all the customer's technical questions**, as well as expand on product functions, indicating the most suitable solutions and suggesting the best procedures.

The TTS Team's services make use of **RSC® technology**: connecting to the remote management system the **Tecnofire technician can carry out real-time checks on programming and functional analysis on the devices using RSC® tools**.

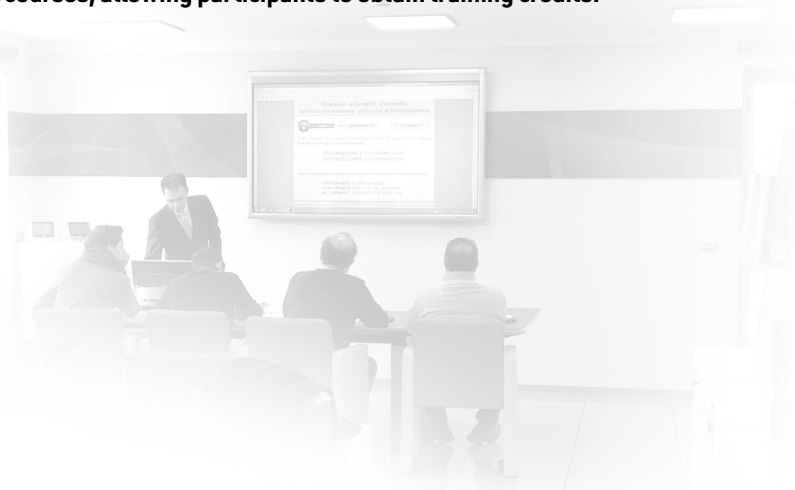
TTA

TECNOFIRE TRAINING ACADEMY

The Tecnofire Training Academy **TTA** is the **company division dedicated to technical training**.

TTA's goal is to ensure sector professionals maintain their expert knowledge about the constantly evolving regulatory standards, systems and the most advanced technologies on the market.

Tecnofire, in collaboration with the main industry Orders, Colleges and Associations, organises regular meetings and workshops on product regulations and applications. **The events organised are recognised as seminars and professional courses, allowing participants to obtain training credits**.



TECNOALARM TELEMATIC SERVICES

The TFNET telecommunication interface integrates the functions necessary for the management of the **DDNS TECNOALARM, TECNOALARM MAIL SERVER** and **SNTP** telematic services.

The telematics services, which are offered free of charge, are automatically managed by the Tecnoalarm Server, make the networking of Tecnofire systems simple and secure.

Services



DDNS TECNOALARM

The DDNS service records the Tecnofire System name and the WAN IP address to which it is connected. Any change in the WAN IP address of the router on which the System is connected is monitored and communicated by the TFNET communication interface to the DDNS TECNOALARM which updates the recording of the System with the new WAN IP Address.



TECNOALARM MAIL SERVER

The TFNET multimodal communication interface implements a Mailer Client that allows you to send emails to the TECNOALARM MAIL SERVER. The TECNOALARM MAIL SERVER has its own account to forward emails to the predefined recipients. The email notifies the event with the certification of date, time and System status.



SNTP

The SNTP service precisely synchronises the control panel's internal clock. The SNTP service is synchronised with a Network Time Protocol (NTP) Server that uses and disseminates coordinated universal time over the network.

RSC[®] TECHNOLOGY

(Remote Sensitivity Control)



Among the many technologies, products and services that Tecnofire has developed over the years, **RSC[®] technology** stands out for its exclusivity and added value. It represents the exclusive technology developed for the installation company's technical control centre. The RSC[®] tool has a series of analysis tools, specifically designed to perform technical checks on the Tecnofire fire detection and extinguishing systems.

RSC[®] tools let you **program, remotely manage and control** the operating parameters of all the Tecnofire devices forming the fire detection system.

RSC[®] technology is the management infrastructure that guarantees the quality and efficiency of management and maintenance services for the installation company, and the **complete reliability of its fire detection system** for the user.



RSC® - Remote Sensitivity Control

RSC® (Remote Sensitivity Control) technology allows the installer to centralise and manage Tecnofire Systems telematically from a remote workstation. The Centro program enables the installer to perform the programming, management and control of the operating parameters of all the devices forming the Tecnofire System.

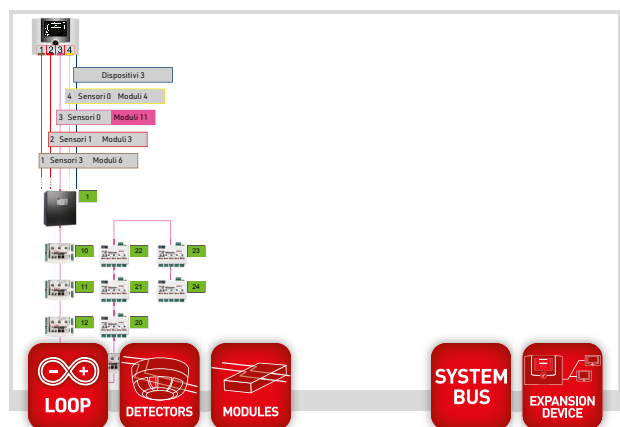


System configuration

Tecnofire's exclusive RSC® (Remote Sensitivity Control) technology allows you to thoroughly program, control and verify, through local connection or remote telematic connection, all the operating parameters of Tecnofire systems.

Starting from the control panel, it is possible to reach all the detectors, the modules connected on the detection loops and the expansion devices connected on the system Master and Slave Bus.

The analysis and diagnosis tools let you check the electrical value operating statuses and threshold levels monitoring device operation on demand, whenever necessary.



Hardware plan

The "Hardware plan" tool forms the control panel icon, with the detection loops available.

At each Loop, a label indicates the respective number of sensors and modules programmed and connected to the Loop.

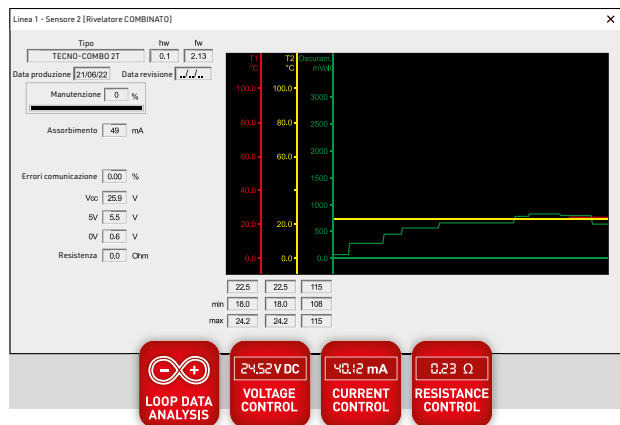
At the control panel, another label indicates the number of programmed expansion devices, connected to the system serial bus.

Click on a label to see display the hardware plan in detail.

The connected devices, represented by icons, have a label on the side indicating the device address.

The label colour indicates the device status.

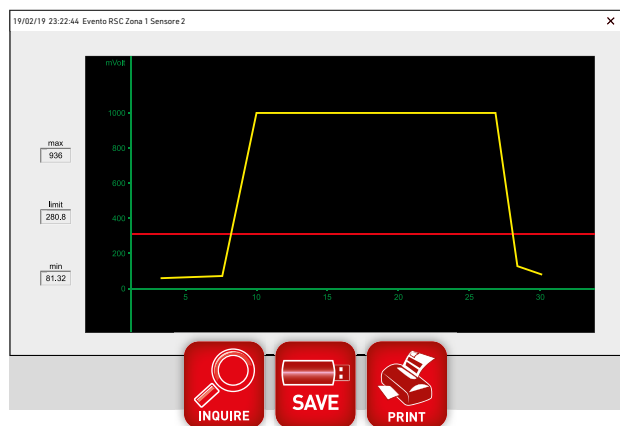
The Hardware Plan lets you exclude devices, activate the monitor LED for identification and activate the signaling outputs of the modules.



Device Monitor

With the RSC® function, the "Device Monitor" lets you access diagnostic screens that monitor device operation. The screens vary depending on the device itself and they dynamically display in real time electrical values affecting device operation.

Depending on the device, the screens show in graph form the trend of the main electrical levels; for example, heat detector graphs show the temperature trend over time, while optical smoke detector graphs show the signal detected by the analysis chamber. The sensitivity of the chamber is also monitored for optical smoke detectors.



Alarm Graph

Each alarm detected by the Tecnofire smoke detectors is digitised and stored in the Event Log in the form of a graph, called "Alarm Graph". The graph displays the dynamic trend of the signal that caused the alarm.

Analysing the graph lets you understand more about the alarm cause.

The graphs downloaded and archived from the Centro program can be saved for later analysis and comparison.

Storico eventi

N.	Data - Ora	Descrizione
1	11/06/22 11:07:20	Ripristino Centrale 1 [Centrale sede Tecnofire] da codice utente
2	11/06/22 11:07:02	Accesso dispositivo da TCP/IP
3	11/06/22 11:07:02	Ricevuto Codice di Accesso Centrale 1 [Centrale sede Tecnofire] da codice installatore
4	11/06/22 11:07:02	Accesso dispositivo 388
5	11/06/22 11:06:54	Aggiornamento Orologio Centrale 1 [Centrale sede Tecnofire] [Centrale SINTOTICO] da Centrale master
6	11/06/22 11:06:50	Aggiornamento Orologio Centrale 1 [Centrale sede Tecnofire] [Centrale Ripetizione] da Centrale master
7	11/06/22 11:06:45	Exito comunicazione Secondo numero Centrale 1 [Centrale sede Tecnofire] Comunicatore A Non reagito: manca numero
8	11/06/22 11:06:45	Exito comunicazione Primo numero Centrale 1 [Centrale sede Tecnofire] Comunicatore A PROG NET - No risposta
9	11/06/22 11:06:17	Exito comunicazione Secondo numero Centrale 1 [Centrale sede Tecnofire] Comunicatore A Non reagito: manca numero
10	11/06/22 11:06:17	Exito comunicazione Primo numero Centrale 1 [Centrale sede Tecnofire] Comunicatore A PROG NET - No risposta
11	11/06/22 11:06:08	Exito comunicazione Secondo numero Centrale 1 [Centrale sede Tecnofire] Combinatore 3 Comunicatore B -
12	11/06/22 11:06:08	Exito comunicazione Primo numero Centrale 1 [Centrale sede Tecnofire] Combinatore 3 Comunicatore B Risposta confermata
13	11/06/22 11:05:49	Exito comunicazione Secondo numero Centrale 1 [Centrale sede Tecnofire] Combinatore A Non reagito: manca numero
14	11/06/22 11:05:49	Exito comunicazione Primo numero Centrale 1 [Centrale sede Tecnofire] Comunicatore A PROG NET - No risposta
15	11/06/22 11:05:35	Auto-ripristino Guasto dispositivo Centrale 1 [Centrale sede Tecnofire] Comunicatore 3 colloquio assente
16	11/06/22 11:05:21	Exito comunicazione Secondo numero Centrale 1 [Centrale sede Tecnofire] Comunicatore A Non reagito: manca numero
17	11/06/22 11:05:21	Exito comunicazione Primo numero Centrale 1 [Centrale sede Tecnofire] Comunicatore A PROG NET - No risposta
18	11/06/22 11:04:53	Exito comunicazione Secondo numero Centrale 1 [Centrale sede Tecnofire] Comunicatore A Non reagito: manca numero
19	11/06/22 11:04:53	Exito comunicazione Primo numero Centrale 1 [Centrale sede Tecnofire] Comunicatore A PROG NET - No risposta
20	11/06/22 11:04:40	Taccitazione Categoria Guasto Centrale 1 [Centrale sede Tecnofire] locale
21	11/06/22 11:04:29	Guasto Centrale 1 [Centrale sede Tecnofire] Comunicatore 3 colloquio assente

Buttons: Start, Stop, Stampa, File: Arc\Tvt\Log0023.txt, File: Arc\Tvt\Log0023.pdf, Salva su file PDF, Uscita



Event log

The Event Log file records all events affecting system operation. The date and time of each event is logged in the order it occurs. All events regarding the operating status of prealarm and fire alarm, prealarm and technological alarm, fault, exclusions, are identified by number and name. Each event has all potential operating statuses logged. Smoke detector alarm events are digitised and stored in graphic format. The Event Log lets you obtain useful information on system operation. Tecnofire System Event Logs can store up to 8,192 events.

Coerenza hardware

Dispositivo	Tipologia	Ter.	Int.	Prod.	Rev.	Descrizione	Zona
- Sensori	2						
- Escalari	0						
- Squall	0						
- Allarmi	8						
- Escalari	0						
- Squall	0						
- Allarmi	0						
- Attivo	0						
- Uscite	5						
- Sensore 1	TECNO - COMBO 2T	0.1	4.1	11/12/20	...	TECNO - COMBO 2T	1-Rivelatore COMBINATO
- Sensore 2	TECNO - ottico	0.3	4.1	09/12/20	...	TECNO - ottico	2-Rivelatore OT TICO
- Modulo 1	TECNO - alimentatore	0.10	0.1			Alimentatore 24V 7FPS-S	1-MODULO Alimentatore
- Modulo 2	TECNO - input	1.3	0.1			MODULO S IN	1-MODULO S INGRESSO
- Modulo 3	TECNO - input	1.3	0.1			MODULO S IN	1-MODULO S INGRESSO
- Modulo 4	TECNO - input	1.3	0.1			MODULO S IN	1-MODULO S INGRESSO
- Modulo 5	TECNO - input	1.3	0.1			MODULO S IN	1-MODULO S INGRESSO
- Modulo 6	TECNO - output	1.0	0.1			MODULO S OUT	2-MODULO S OUT
- Modulo 7	TECNO - output	1.0	0.1			MODULO S OUT	2-MODULO S OUT
- Modulo 8	TECNO - output	1.0	0.1			MODULO S OUT	2-MODULO S OUT

Buttons: Start, Stop, Report, Off Line Report, File: Arc\Tvt\H0023.txt, File: Arc\Tvt\H0023.pdf, Salva su file PDF, Abbandona, OK



Hardware coherence

The "Hardware Coherence" tool scans and analyses all detectors and modules connected on the detection loops and all expansion devices connected on the system bus. The scan generates a report that provides an overview of the operating status of the detected devices, followed by a detailed list that for each device indicates the following information: type, address, specialisation, firmware and hardware versions, alphanumeric description and associated zone. It also verifies the logical coherence between connection, addressing and programming, highlighting any inconsistencies. The "Hardware coherence" analysis generates a file that documents, with objective data, the testing and the consequent system efficiency.

Analisi di sistema RSC

Dispositivo	Tipologia	Descrizione	Assorb.	mA	13/02/18 12:10	21/02/18 12:16
Linea 2 Sensore 1	TECNO - base c...		Assorb.	mA	40.0	45.0
		Vcc	V	24.0	24.0	24.0
		VS	V	0.0	0.0	0.0
		IS	V	0.0	0.0	0.0
		Resistenza	Ohm	0.0	0.0	0.0
		Error	%	0.0	0.0	0.0
		Corrente	mA	0.0	0.0	0.0
Linea 2 Modulo 1	TECNO - alimen...		Assorb.	mA	0.0	0.0
		Vcc	V	24.0	24.0	24.0
		VS	V	0.0	0.0	0.0
		IS	V	0.0	0.0	0.0
		Resistenza	Ohm	0.0	0.0	0.0
		Error	%	0.0	0.0	0.0
		Vcc	V	24.0	24.0	24.0
		Vbat	V	24.0	24.0	24.0
		Shunt	mOhm	0.0	0.0	0.0
Linea 2 Modulo 2	TECNO - output		Assorb.	mA	0.0	0.0
		Vcc	V	24.0	24.0	24.0
		VS	V	0.0	0.0	0.0
		IS	V	0.0	0.0	0.0
		Resistenza	Ohm	0.0	0.0	0.0
		Error	%	0.0	0.0	0.0

Buttons: Start, Stop, Configurazione, Visualizza tutti i controlli, File: Arc\Tvt\AS0005.txt, File: Arc\Tvt\AS0005.pdf, Salva su file PDF, Abbandona, OK



Parametric analysis

Data acquisition is one of the primary activities of RSC® technology, as it represents the way to monitor and check device performance. Here, the parametric analysis tool plays a key role. The tool records the electrical operating parameters of all the devices forming the system. The analysis report, complete with date and time, is archived, to be then compared with the results obtained in subsequent parameter analysis. The comparison highlights the deviations of the current values compared to those in previous analysis. Parametric analysis is a preventive analysis tool that allows you to assess objectively if system devices are functioning correctly based on their electrical operating parameters, before any deterioration may impact operation.

Salva programmazione

Descrizione	Valore
Centrale 1	
Linea	4
Codice accesso	
Costruttore - Livello 4 (costruttore)	Livello 4
Codice	54321
Aborti automatici delle chiamate	
Installatore - Livello 3 (installatore)	Livello 3
Codice	12345
1 - Livello 2 (utente)	Utente
Codice	31111
Aborti automatici delle chiamate	
2 - Livello 2 (utente)	Utente
Codice	22222
Aborti automatici delle chiamate	
3 - Livello 2 (utente)	Utente
Codice	33333
Aborti automatici delle chiamate	
4 - Livello 2 (utente)	Utente
Codice	00000
Aborti automatici delle chiamate	
5 - Livello 2 (utente)	Utente
Codice	00000

Buttons: Start, Stop, Configurazione, Visualizza tutti i controlli, File: Arc\Tvt\PRG5555_01.pdf, Screenshot, Salva su file PDF, OK



Programming report

The Centro program allows you to produce a file that documents Tecnofire System's programming. The file can then be printed and attached to the system documentation. This dated document proves the programming status at the moment the system is delivered. The document can be given to the customer during system delivery.



Software

With three constantly developed and updated operating environments, Tecnofire software includes the sophisticated RSC® technology with its advanced analysis and diagnosis, offering various operational solutions, to program and manage Tecnofire Fire Detection Systems either locally or remotely.

**Programming**

Programming software to configure Tecnofire Systems locally via USB port or LAN network connection.


**Remote management with TCP/IP**

TCP/IP remote management software for programming and remotely managing Tecnofire Systems, using a personal computer connected to the Ethernet WAN network.

**Monitoring**


TECNOMONITOR monitoring software for locally monitoring, in real time, Tecnofire Systems via LAN network connection.

Programming

TFSW-PROGRAMMAZIONE	
	<p>Programming and management software for Windows 32/64 Bit environment. The software allows you to program all the functions of Tecnofire Systems. TFSW-PROGRAMMAZIONE software also makes it possible to locally view and manage all RSC® functions. The Software integrates the floor plan management module. Connection via TCP/IP port via Ethernet LAN or WAN network or direct connection between PC and central via USB port.</p>
	<p>Item no. TF15TFSWPRG</p>




Remote management with TCP/IP

TFSW-TCP/IP	
	<p>Programming and remote management software for Windows 32/64 Bit environment. TFSW-TCP/IP software, installed on a PC connected to an Ethernet network, manages communication between Tecnofire Systems equipped with IP or LTE communication vectors and personal computer. TCP/IP proprietary protocols are used for communication, also in encrypted mode. The software allows you to remotely manage Tecnofire Systems in a simple and user-friendly way. Up to 100 interactive graphic plans can be created for each. The TFPROG USB interface is required to use the TFSW-TCP/IP software (hardware key function, dongle). Available in 2 versions: for 100 or 1000 users.</p>
	<p>TFSW-TCP/IP 100 Item no. TF15TFSWTCP100</p>
	<p>TFSW-TCP/IP 1000 Item no. TF15TFSWTCP1000</p>




Monitoring

TFSW-TECNOMONITOR	
	<p>Management software for Windows 32/64 Bit environment. TFSW-TECNOMONITOR software allows you to monitor and manage Tecnofire System operation locally, with serial or LAN connection. The software integrates the Floor Plan Management module with which you can create up to 100 maps. The TFPROG USB interface (hardware key function, dongle) is required to use the TFSW-TECNOMONITOR software.</p>
	<p>Item no. TF15TFSWTECNOM</p>



SOFTWARE - Accessories

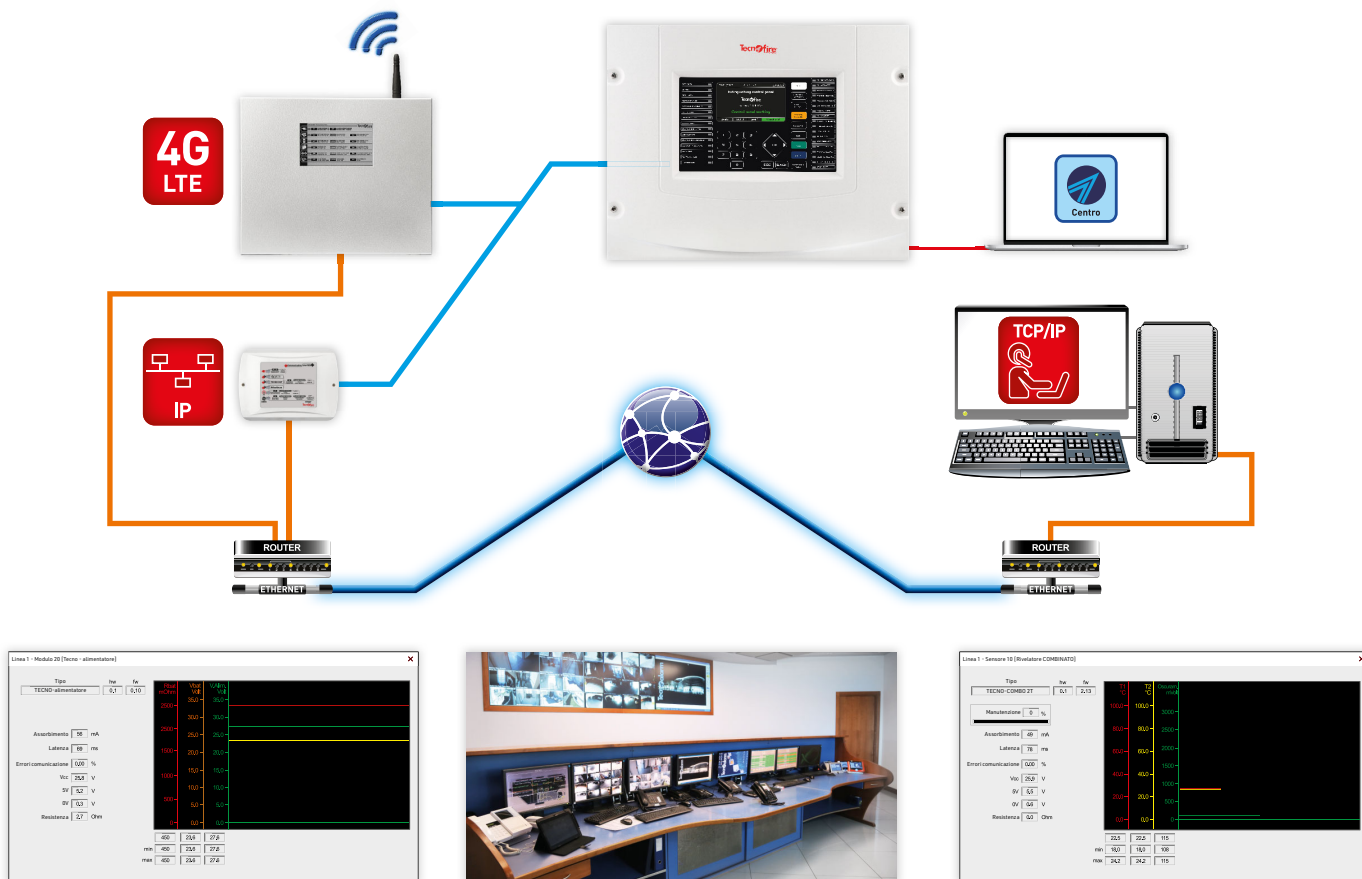
TFPROG USB	
	<p>The TFPROG USB performs the function of hardware key (Dongle), to enable the operation of the TSW-TCP/IP and TFSW-TECNOMONITOR software.</p>
	<p>Item no. TF1TFPROGUSB</p>

Services

TFSW-COPIA	
	<p>Copy of the user license for Tecnofire software.</p>
	<p>Item no. TF15TFSWCOPIA</p>

TFSW-TECNOMSG	License option for TFSW-PROGRAMMAZIONE and TFSW-TCP/IP software. It allows you to customise the vocabulary of Tecnofire Systems.
	Item no. TF15TFSWTMSG
TFTRAS-F-MON	Software transformation from TFSW-TECNOMONITOR to TWINMONITOR.
	Item no. TF15TFTRASFMON

Tecnofire Software is an investment that enhances the professional value of the installation company and reduces its operating costs. Remote management makes it possible to assess and define in advance, remotely, the scale and/or the need for call-outs, routine or extraordinary, thereby minimising travel and benefiting from cost savings.



TFSW-PROGRAMMAZIONE and TFSW-TCP/IP software allows you to produce documentation that certifies system operation and programming.

[illegible]



Supervisor by Tecnoalarm



The Supervisor by Tecnoalarm software is a versatile supervision platform, equipped with a modular architecture, easily configurable thanks to the wide availability of licences and license options.

Supervisor represents the best supervision solution in any application context, from the simple system composed of a central unit to more complex system architectures.

The Supervisor platform realises the perfect operational synergy between the supervision system and the Tecnoalarm and Tecnofire security and fire detection systems, standing as a sure reference for the supervision market, in the Safety, Security and Emergency areas.

Server licenses

Three modular Server licenses allow you to manage every supervisory situation, from a single control panel to more complex and larger systems.



















Additional licenses

Additional licenses enable you to expand the supervision software alongside the application context, so as to satisfy new management and operating configuration requirements.




License options

Optional license allow you to implement Supervisor software with extra functions and services such as: viewing IP camera video streams, managing Client workstations with multiple monitors, applying management rules to multiuser systems.








Server licenses

TFSV-1PF-1CL						
	Basic Server license for the supervision of 1 Control panel. 1 Management Client that can be installed on the same PC with the Server, or installed on a remote PC connected to the Server via LAN/WAN. The number of Control panels managed by the Server license can be expanded up to a maximum of 20 by purchasing additional TFSV-ADD-1PF licenses. The number of Remote Clients can be extended up to a maximum of 5 by purchasing additional TFSV-ADD-1CL licenses.					
	Item no. TF11SV1PF1CL					
TFSV-10PX-1CL						
	Basic Server license for the supervision of 10 Control panels. 1 Management Client that can be installed on the same PC with the Server, or installed on a remote PC connected to the Server via LAN/WAN. The number of Control panels managed by the Server license can be expanded up to a maximum of 20 by purchasing additional TFSV-ADD-1PA licenses. The number of Remote Clients can be extended up to a maximum of 5 by purchasing additional TFSV-ADD-1CL licenses.					
	Item no. TF11SV10PX1CL					
TFSV-20PX-1CL						
	Basic Server license for the supervision of 20 Control panels. 1 Management Client that can be installed on the same PC with the Server, or installed on a remote PC connected to the Server via LAN/WAN. The number of Remote Clients can be extended up to a maximum of 5 by purchasing additional TFSV-ADD-1CL licenses.					
	Item no. TF11SV20PX1CL					

Additional licenses

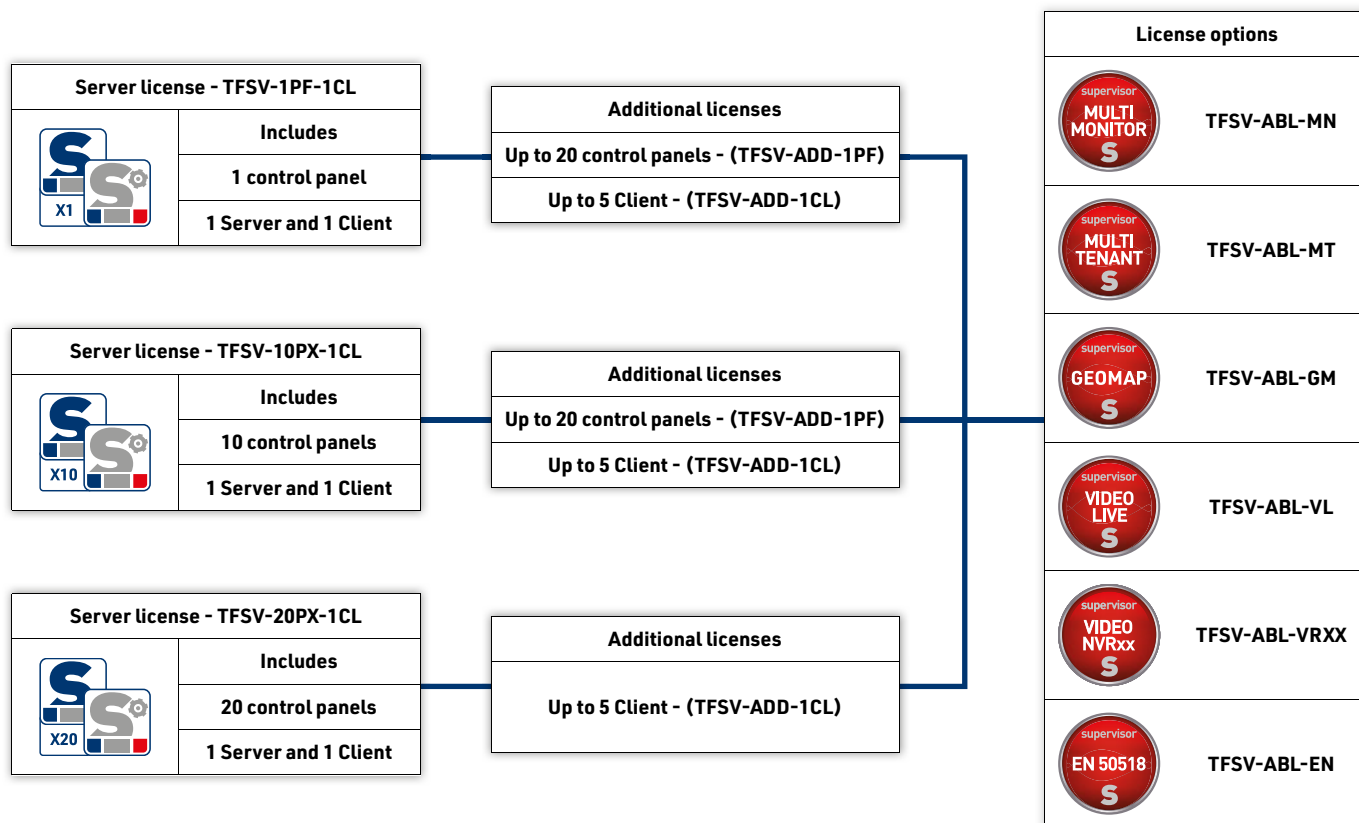
TFSV-ADD-1PF	Additional control panel. License to add the management of a Tecnofire Control panel to the Server licenses: TFSV-1PF-1CL and TFSV-10PX-1CL. Up to a maximum of 20 Control panels.	
	Item no. TF11SVADD1PF	
TASV-ADD-1PA	Additional control panel. License to add the management of a Tecnoalarm Control panel EV 10-50 or TP8-88 or TP20-440 to Server licenses: TFSV-1PF-1CL and TFSV-10PX-1CL. Up to a maximum of 20 Control panels	
	Item no. F140SVADD1PA	
TFSV-ADD-1CL	Additional client. License to add a Management Client, connected to the LAN/WAN Network Server, for Server licenses: TFSV-1PF-1CL, TFSV-10PX-1CL, TFSV-20PX-1CL. Up to a maximum of 5 Clients.	
	Item no. TF11SVADD1CL	

License options

TFSV-ABL-MM	MULTI-MONITOR This option allows you to extend up to four monitors the equipment of all the Client stations of the Supervisor System. Each monitor can be assigned with the desired displaying.	
	Item no. TF11SVABLMM	
TFSV-ABL-MT	MULTI-TENANT The license option allows you to manage up to 5 groups of operating restrictions for employees. For each employee, it is possible to define the Systems, areas and functions on which they can operate or exercise control.	
	Item no. TF11SVABLMT	
TFSV-ABL-GM	GEOMAP This option allows you to define and program the display mode of one or more Html pages, geo-referenced, based on the open source application, OpenStreetMap.	
	Item no. TF11SVALGM	
TFSV-ABL-EN	EN 50518 VdS certified software option, compliant with EN 50518 standard. Certificate for alarm receiving centres and VdS 3534:2018-4 services. Certificate for alarm receiving centres VdS 2344:2014-07.	
	Item no. TF11SVABLEN	
TFSV-ABL-VL	VIDEO LIVE Option to view video streams of an indefinite number of IP cameras, with RTSP or ONVIF RTSP protocol. Video streams can be displayed automatically upon an alarm or on demand.	
	Item no. TF11SVABLVL	
TFSV-ABL-VR09	VIDEO NVR09 Option for the mapping of an indefinite number of standard RTSP video streams, in LIVE mode and the recording of 9 RTSP or ONVIF RTSP streams from IP cameras in LAN network. Management of Plugins for streaming playback.	
	Item no. TF11SVABLVR09	
TFSV-ABL-VR16	VIDEO NVR16 Same features as VIDEO NVR09 option, but capable of recording 16 RTSP or ONVIF RTSP video streams from IP cameras in LAN network.	
	Item no. TF11SVABLVR16	
TFSV-ABL-VR24	VIDEO NVR24 Same features as VIDEO NVR09 option, but capable of recording 24 RTSP or ONVIF RTSP video streams from IP cameras in LAN network.	
	Item no. TF11SVABLVR24	
TFSV-ABL-VR48	VIDEO NVR48 Same features as VIDEO NVR09 option, but capable of recording 48 RTSP or ONVIF RTSP video streams from IP cameras in LAN network.	
	Item no. TF11SVABLVR48	
TFSV-ABL-VR72	VIDEO NVR72 Same features as VIDEO NVR09 option, but capable of recording 72 RTSP or ONVIF RTSP video streams from IP cameras in LAN network.	
	Item no. TF11SVABLVR72	
TFSV-ABL-VR96	VIDEO NVR96 Same features as VIDEO NVR09 option, but capable of recording 96 RTSP or ONVIF RTSP video streams from IP cameras in LAN network.	
	Item no. TF11SVABLVR96	




SUPERVISOR SOFTWARE LICENSES AND OPTIONS SUMMARY

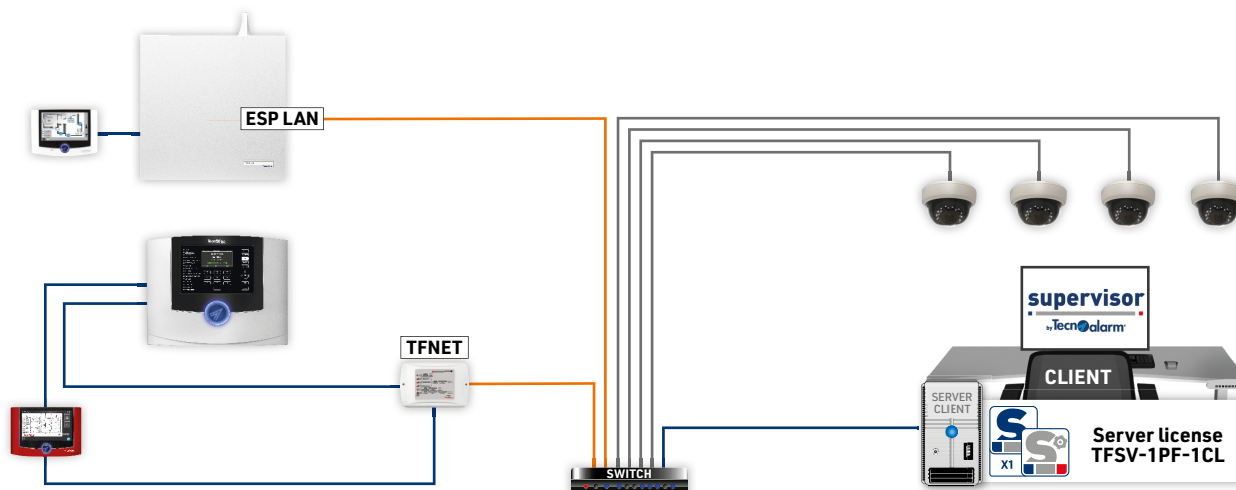
Configuration of the Supervisor software requires a Server licence, chosen according to the number of control panels to be supervised. The Additional licences allow the management of other control panels to be added and the number of Client workstations to be expanded. The licences allow the Supervisor software to be equipped with various functions and services.



ON-SITE SUPERVISION









Application example of Supervision of a system connected on the same Lan local network, consisting of: a supervisory station, a fire control panel, a burglar control panel and IP cameras. The table indicates the licenses and option necessary for the configuration of the Supervisor software.

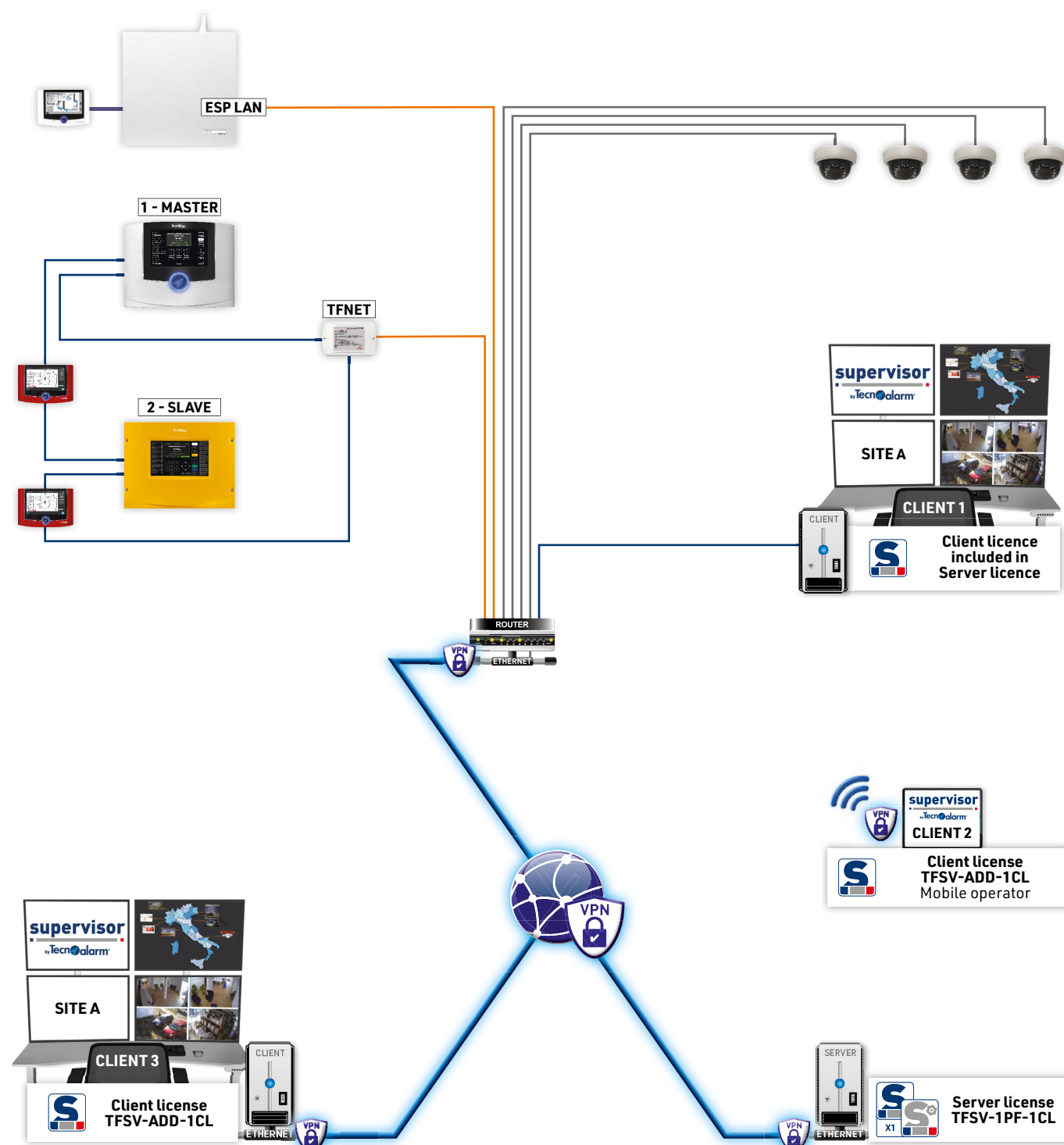
	1 Server license TFSV-1PF-1CL Management of a control panel		1 additional license TASV-ADD-1PA Tecnoalarm control panel		1 license option TFSV-ABL-VL VIDEO LIVE
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REMOTE AND ON-SITE SUPERVISION








Application example of Supervision of a system connected on the same Lan local network, consisting of: a supervisory station, two fire control panels, a burglar control panel and IP cameras. The system is also supervised by a remote station and a mobile operator, connected to the WAN network. The tables indicate the licenses and options necessary for the configuration of the Supervisor software.

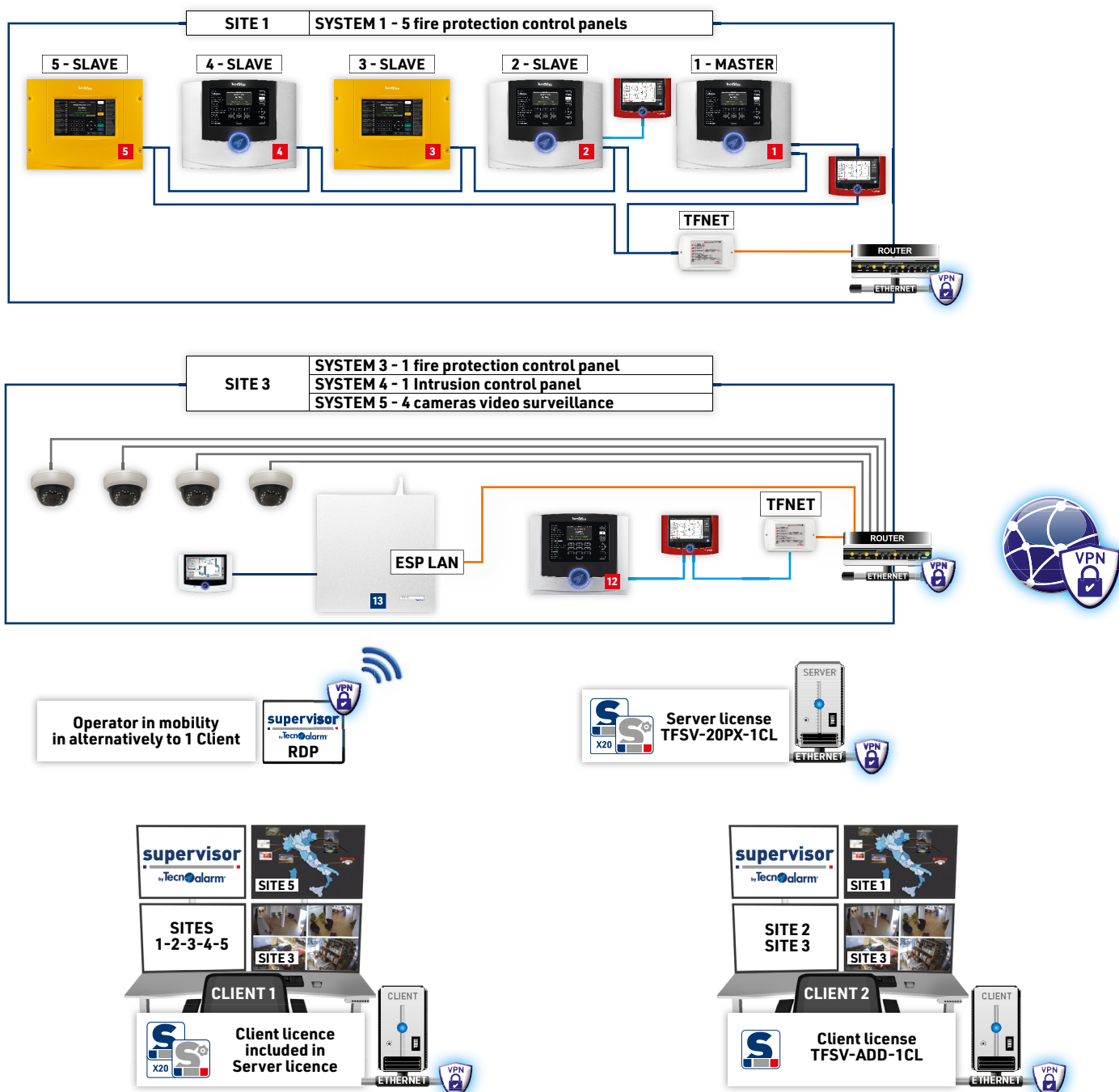
	1 Server license TFSV-1PF-1CL Management 1 control panel		2 licences TFSV-ADD-1CL Additional client		1 license TASV-ADD-1PF Additional Tecnofire control panel		1 license TASV-ADD-1PA Additional Tecnoalarm control panel
	1 license option TFSV-ABL-VL VIDEO LIVE		1 license option TFSV-ABL-MM MULTI-MONITOR		1 license option TFSV-ABL-GM GEOMAP		1 license option TFSV-ABL-VR09 VIDEO NVR09

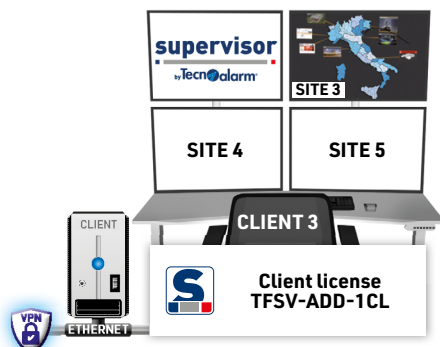
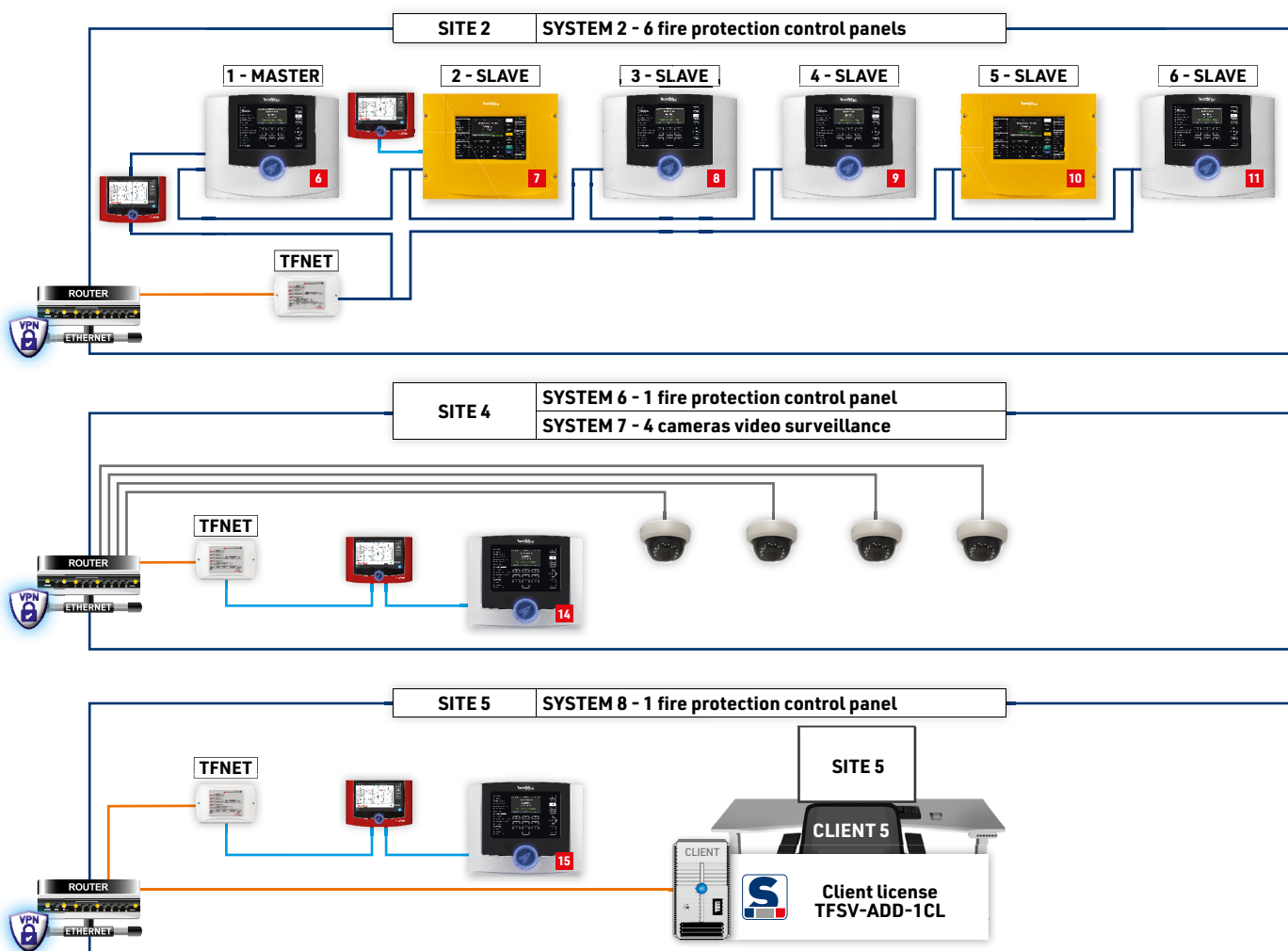


GEOGRAPHICALLY DISTRIBUTED SITE SUPERVISION

Application example of Supervision of five geographically distributed sites composed of one or more systems, connected to the WAN network. The sites are supervised by 4 remote stations and a mobile operator. Site 5 is also supervised locally. In the example, some Client stations are subject to operating restrictions, managed by the MULTI-TENANT option, which limits operations of the Clients only to their respective sites. The tables indicate the licenses and options necessary for the configuration of the Supervisor. software

	1 Server license TFSV-20PX-1CL Management of twenty control panels. The example depicts the management of 15 control panels.	1	2	3	4	5	6	7	8	9	10
		11	12	13	14	15	16	17	18	19	20
	5 licences TFSV-ADD-1CL Additional client		1 license option TFSV-ABL-MM MULTI-MONITOR		1 license option TFSV-ABL-MT MULTI-TENANT						
	1 license option TFSV-ABL-GM GEOMAP		1 license option TFSV-ABL-VL VIDEO LIVE		1 license option TFSV-ABL-VR09 VIDEO NVR09						







Addressable control panels

TFA
SYSTEMS

TSA
SYSTEMS

Tecnofire's addressable automatic fire detection systems guarantee the highest standards of protection and safety against fire risks.

The available control panel models make it possible to create:
fire detection systems, mixed detection systems
with fire detection zones and gas detection zones,
fire detection and extinguishing systems
even with multiple independent extinguishing channels.

Tecnofire Systems can meet every system requirement,
from small to medium to large detection systems.
The great operational flexibility of Tecnofire addressable control panels
also allows the creation of systems
composed of several units connected to each other in the network.



TFA2-596
TFA4-1192



TFA1-298



TSA1



TFA1-298

EN 54



Addressable fire detection control panel 1 Loop



Addressable fire detection control panel. Equipped with 1 detection loop.

The loop can manage: 199 detectors and 99 modules. 1 RS485 serial bus for expansion device connection, up to 5 devices chosen from: repeater panels and/or communication devices.

The control panel manages 150 fire detection or technical zones and 100 virtual detection zones.

Automated management: 50 alarm plans, 8 time ranges, 100 formulas and customisable or permanent four-year calendar.

Advanced management with logic based on the application of formulas that dynamically relate the operating status of the system devices.

The control panel is equipped with 3 specialist signal outputs and 2 openly programmable signal outputs.

Monitored system mode functions. User interface: 4.3" colour display, programming and management keypad, 16 signal LED, speech synthesis and multifunctional acoustic signal buzzer. USB port. Serial printer management.

System RSC® management: programming, remote management and control.

Modular 2.7A switching power supply unit. Battery capability: 2 x 12V-7.2Ah. Aluminum and steel casing.

Protection rating IP3x. Dimensions (L x H x D) 361 x 301 x 107mm.












Approved EN 54-2: 1997+ A1:2006 - EN 54-4: 1997+ A2:2006.

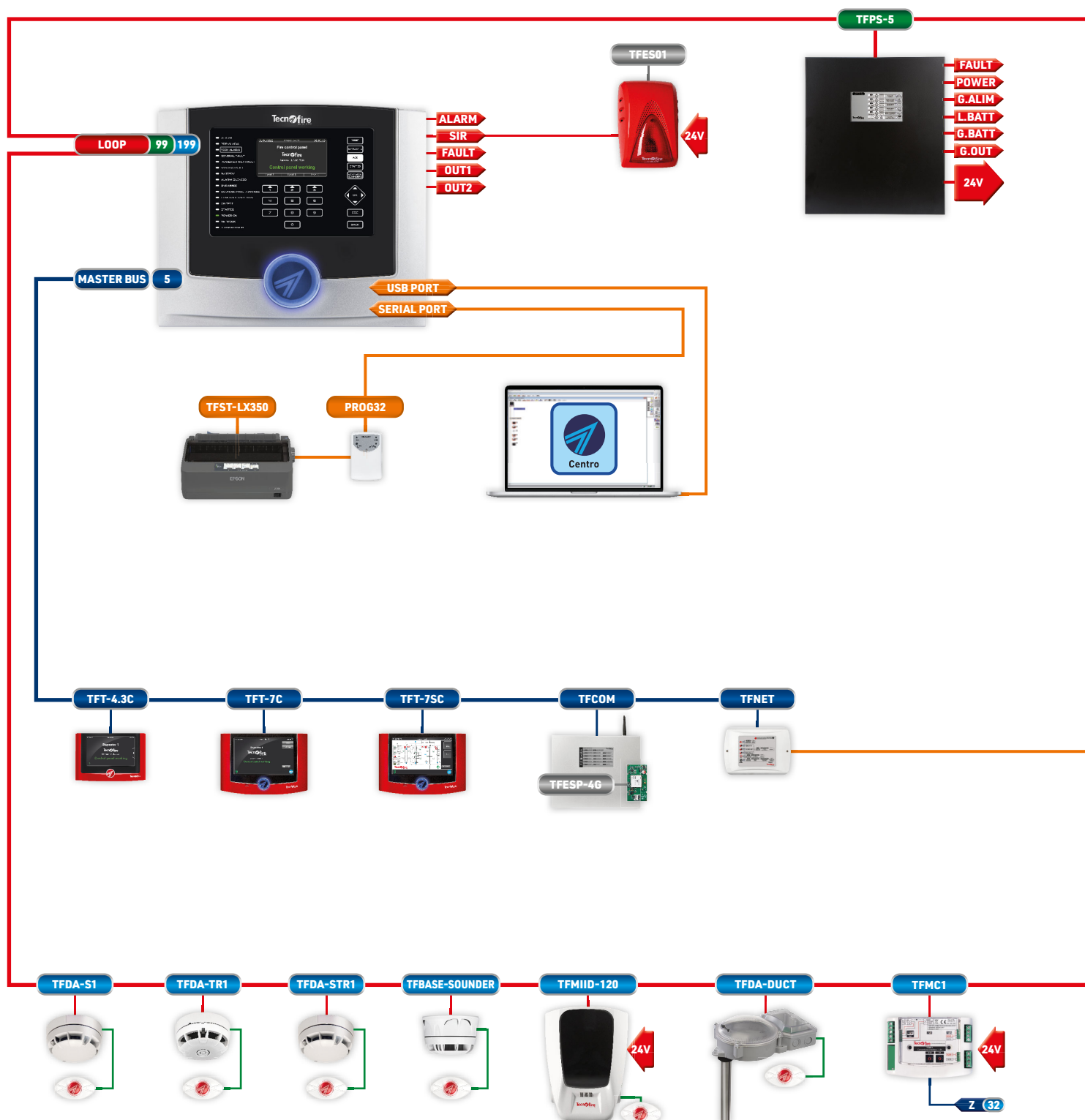
Certificate 0051-CPR-0444.

MODELS		RSC	EN 54-2 54-4	1 LOOP	VOICE SYNTHESIS	COLOR DISPLAY 4.3"	24V 2.7A POWER SUPPLY	STEEL ALUMINUM BOX
Name	Item no.							
TFA1-298	TF1TFA1298-UK							



TEA - SYSTEMS

Basic equipment				
Manageable devices				
Automated managements				







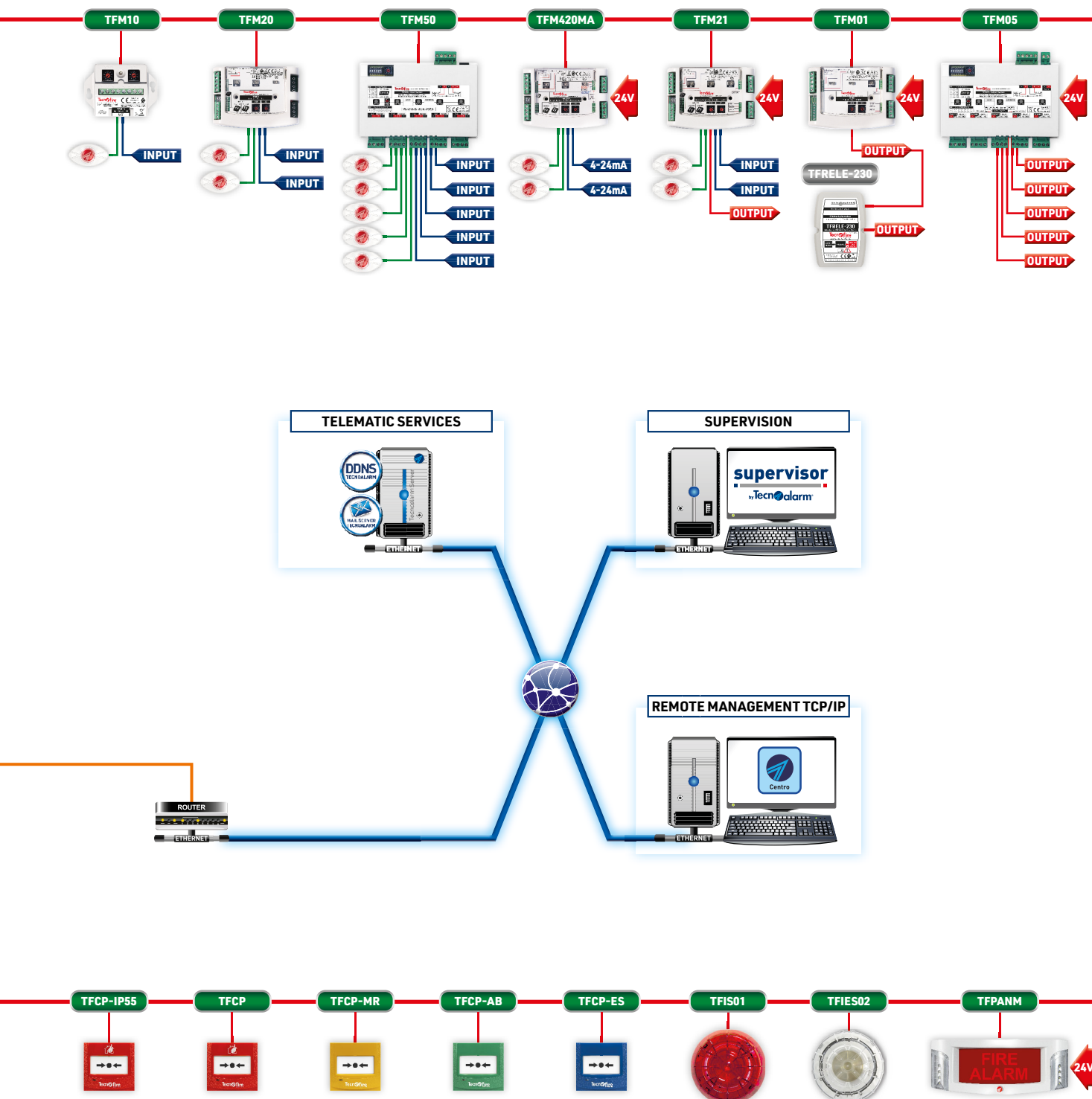
System configuration

Tecnofire

EN
54-13

EN 54-13:2020
Compatibility
and connectivity
of system
components

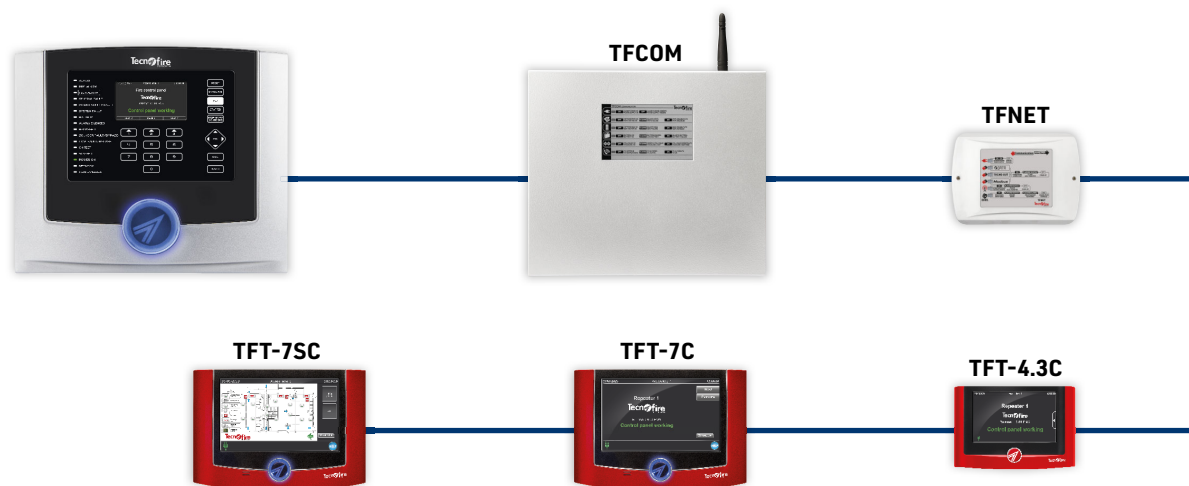
Technologies	
Services	  













Addressable control panels - TFA1-298

Expansion devices

MANAGEMENT DEVICES	TFT-4.3C	Repeater panel - System command management	Max. 5 devices
	TFT-7C	Repeater panel - System command management	
	TFT-7SC	Synoptic repeater panel - Zone repeater - System command management	
TELECOMMUNICATION DEVICES	TFCOM	Telephone communicator - PSTN and GSM 4G communication vectors	
	TFNET	Communication Interface - IP communication vector	



Telecommunications services and functions

Devices	Vectors										
		DDNS	MAIL	Vocal	Vocal	SMS	Remote management	Supervisor	Tecno out	Modbus	CMS
TFCOM*	PSTN	-	-	-	✓	-	-	-	-	-	-
TFESP-4G*	GSM-LTE	-	-	✓	✓	✓	✓	-	-	-	✓
TFNET*	IP	✓	✓	-	-	-	✓	✓	✓	✓	✓

* Optional telecommunications devices

TFA1-298 - Technical and functional specifications

General information	Addressable fire detection control panel	TFA1-298
Control panel equipment	Detection loop	1
	System bus	Master Bus
	Display	Color 4.3" TFT 480 x 272 pixel
	Voice synthesis	Vocabulary customisable
	Event buffer capacity	8.192
Detection and signaling	Addressable detectors	199
	Addressable modules	99
	Detection zones	150
	Virtual detection zones	100
	Default Zone	1
	Specialised relay outputs Max 1A @ 30V DC	Alarm Fault
	Monitored output Max 750mA @ 24V DC	Siren
	Open collector outputs Max 50mA @ 24V DC	2 programmable
System management	Access levels	4
	Access codes	10
	Monitored system mode	Programmable
Automated managements	Formulas	100
	Alarm plans	50
	Time periods	8
	Programmable calendar	Quadrennial or perpetual
Communication protocols	Detection loop	FIRE-SPEED
	Master and Slave Bus	FIRE-BUS
Equipment	Management interface	USB port
System expandability	Expansion devices	Max. 5
	Management devices	TFT-4.3C TFT-7C TFT-7SC
	Telecommunication devices	TFCOM TFNET
	Serial printer	TFST-LX350
	Role in a network of control panels	Central not network usable

Electrical specifications	TFA1-298 consumption	200mA @ 24V DC
	Supply voltage for external devices	20V...27.6V DC
Power supply	Modular power supply	Type A (switching)
	Operating voltage	230V AC +10% -15% 50Hz
	Power supply consumption	600mA AC
	Nominal values	2.7A @ 27.6V DC
	Maximum output current	I max 2.7A
	Ripple max	≤230mVpp (<1%)
	Protection fuse	T-1A
Battery	Battery housing	2 x 12V-7.2Ah
	Flammability class	UL94-V2 or superior
	Internal resistance	Max. 1.5Ω
	Release voltage	Per Vbat <17.6V
	Charging time (2 x 12V-7.2Ah)	100% in 24h
Physical specifications	Environmental class	3K5 EN 60721-3-3:1995
	Operating temperature	-5°C...+40°C
	Relative humidity (without condensation)	10%...93%
	Protection class	IP3x
	Casing	Aluminum - Steel
	Dimensions (L x H x D)	361 x 301 x 107mm
Conformity	Weight	2.7kg
	Addressable fire detection control panel	EN 54-2: 1997+ A1:2006
	Power supply	EN 54-4:1997+ A2:2006
	System compatibility	UNI EN 54-13:2020
	Certification number	0051-CPR-0444
	Year of CE marking	15
	Number of declaration of performance	015_TFA1-298
	Notified body	IMQ



TFA2-596

EN 54



Addressable fire detection control panel 2 Loops

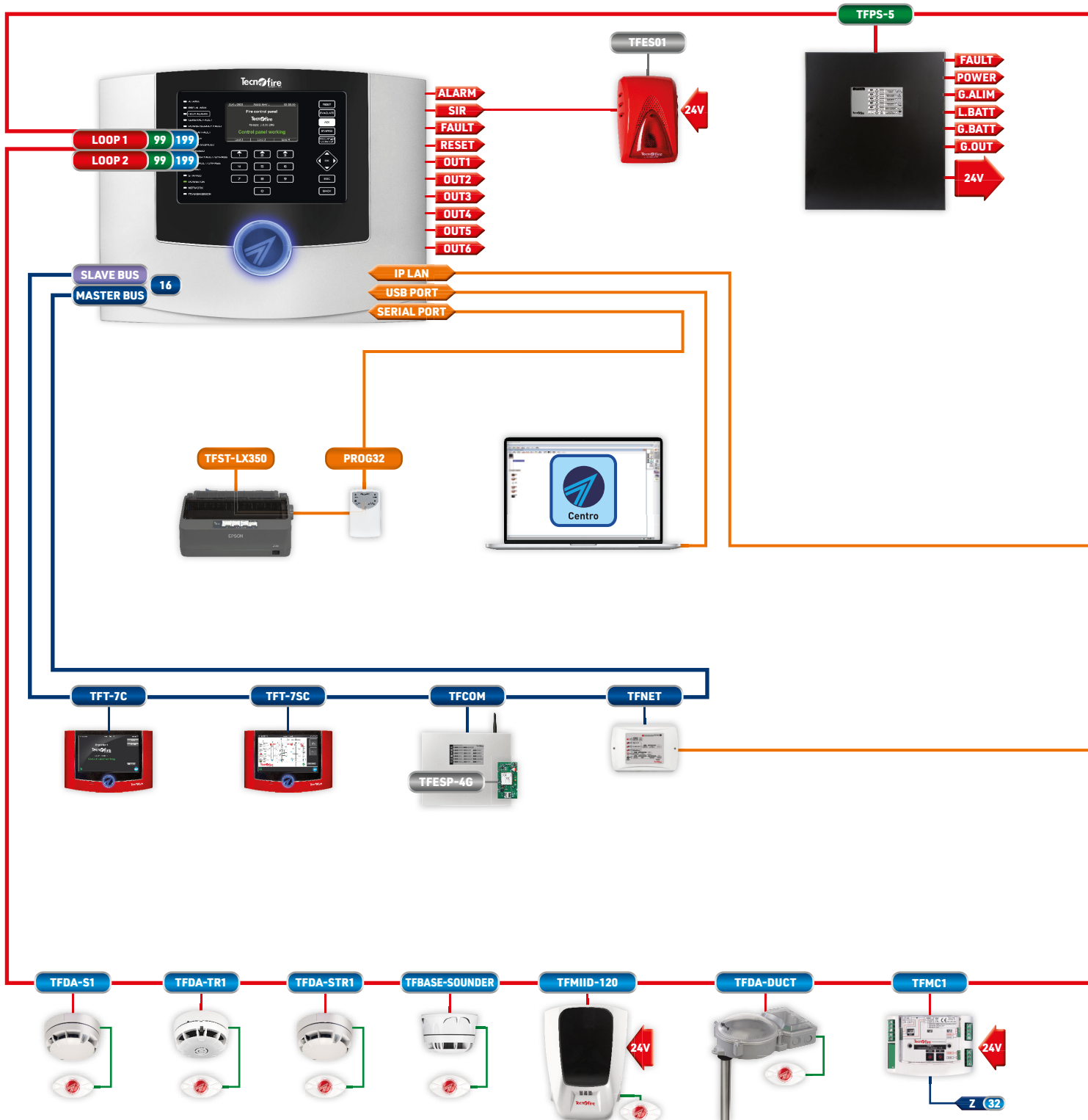


Addressable fire detection control panel. With 2 detection loops.
Each detection loop can manage: 199 detectors and 99 modules. 2 RS485 serial buses for expansion device connection, up to 16 devices chosen from: repeater panels and/or communication devices.
The TFA2-596 control panel can be part of a network of Tecnofire units. The control panel manages 300 fire detection or technical zones and 100 virtual detection zones. Automated management: 100 alarm plans, 32 time ranges, 200 formulas, server cyclic testing and customisable or permanent four-year calendar.
Advanced management with logic based on the application of formulas that dynamically relate the operating status of the system devices.
The control panel is equipped with 4 specialist signal outputs and 6 openly programmable signal outputs.
TLC Section: IP communication port, 4 communication channels: Local Server, Remote Server, Tecnoserver, Call back, 8 event notification communicators, 2 IP address contacts for each communicator, 5 communication protocols, 15 transmissible event categories.
Monitored system mode functions User interface: 4.3" colour display, programming and management keypad, 16 signal LED, speech synthesis and multifunctional acoustic signal buzzer.
USB port. Serial printer management. System RSC® management: programming, remote management and control.
Modular 5A switching power supply unit. Battery capability: 2 x 12V-12Ah. Aluminum and steel casing.
Protection rating IP3x. Dimensions (L x H x D) 441 x 347 x 149mm.
Approved EN 54-2: 1997+ A1:2006 - EN 54-4: 1997+ A2:2006.
Certificate 0051-CPR-0389.

MODELS									
Name	Item no.								
TFA2-596	TF1TFA2596-UK								



Basic equipment	2 LOOPS	300 ZONES	100 VIRTUAL ZONES
Manageable devices	16 EXPANSION DEVICE	396 DETECTORS	198 MODULES
Automated managements	200 FORMULAS AND NOT OR I	100 ALARM PLANS	32 ACCESS PERIODS FROM TO
		4Y/∞	



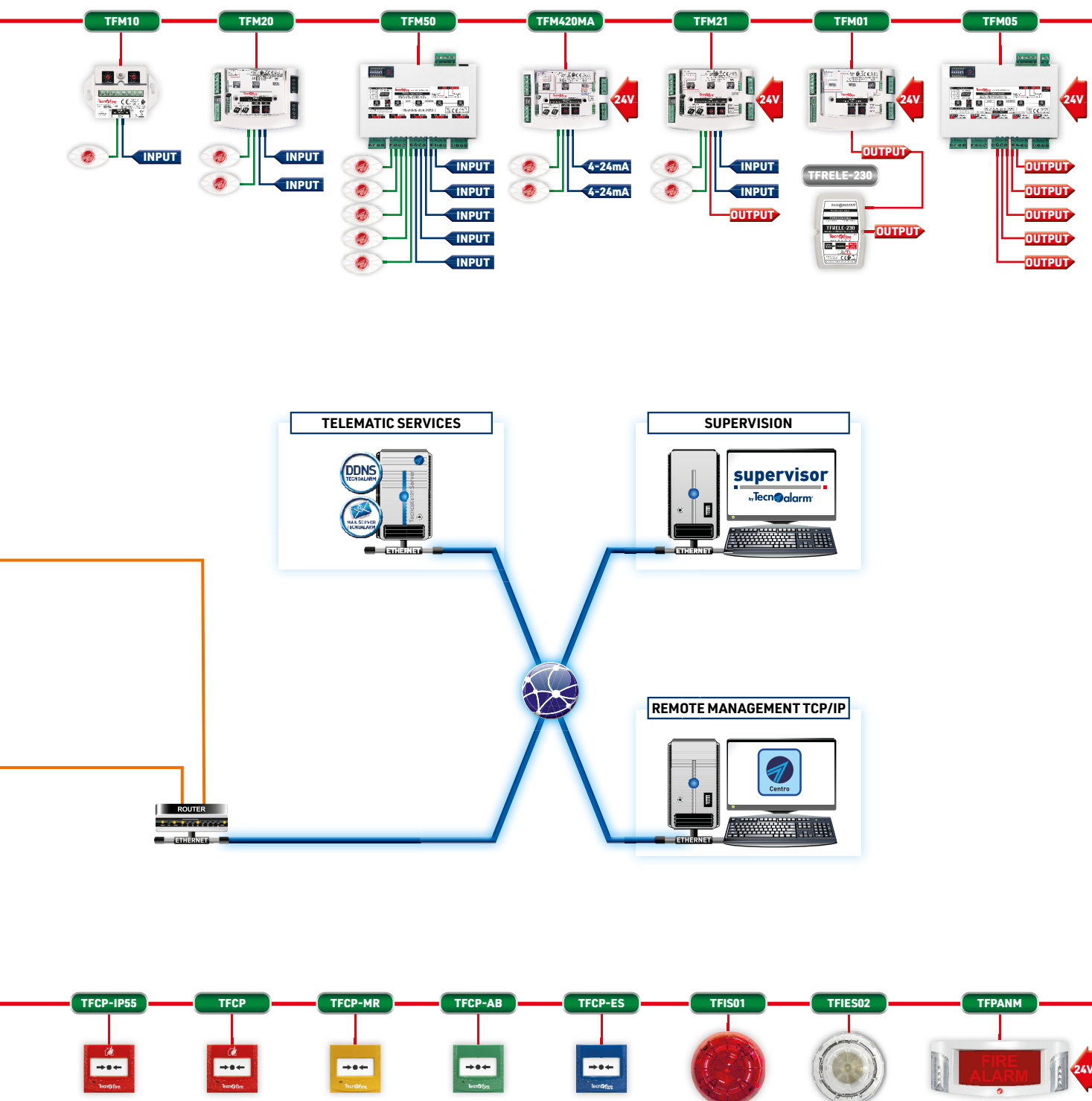
System configuration

Tecnofire

EN
54-13

EN 54-13:2020
Compatibility
and connectivity
of system
components

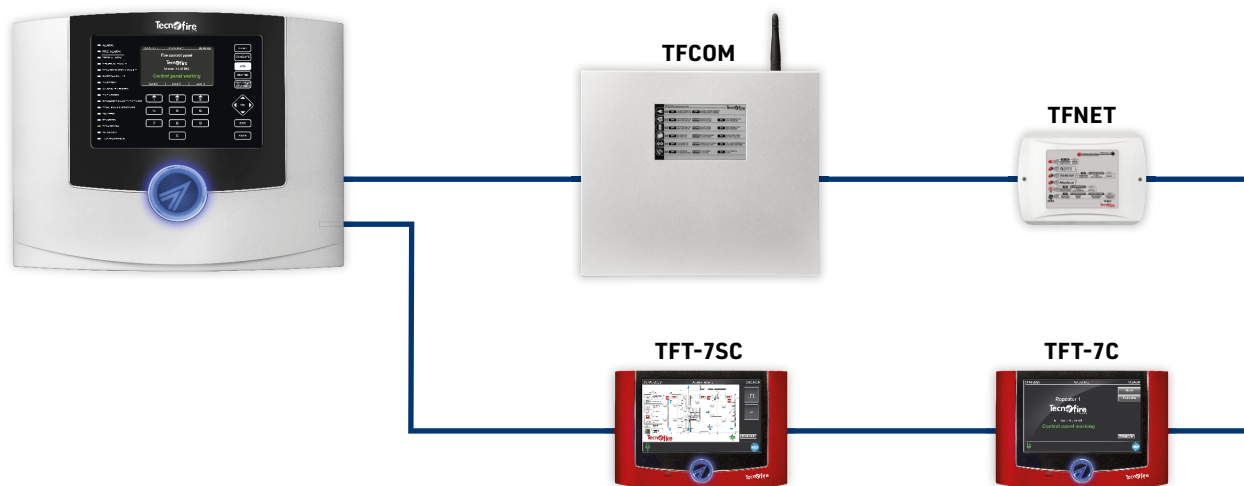
Technologies	
Services	  













Addressable control panels - TFA2-596

Expansion devices

MANAGEMENT DEVICES	TFT-7C	Repeater panel - System command management	Max. 16 devices
	TFT-7SC	Synoptic repeater panel - Zone repeater - System command management	
TELECOMMUNICATION DEVICES	TFCOM	Telephone communicator - PSTN and GSM 4G communication vectors	
	TFNET	Communication Interface - IP communication vector	



Telecommunications services and functions

Devices	Devices										
		DDNS	MAIL	Vocal	Vocal	SMS	Remote management	Supervisor	Tecno out	Modbus	CMS
Integrated	IP	-	-	-	-	-	✓	-	-	-	✓
TFCOM*	PSTN	-	-	-	✓	-	-	-	-	-	-
TFESP-4G*	GSM-LTE	-	-	✓	✓	✓	✓	-	-	-	✓
TFNET*	IP	✓	✓	-	-	-	✓	✓	✓	✓	✓

* Optional telecommunications devices

TFA2-596 - Technical and functional specifications

General information	Addressable fire detection control panel	TFA2-596
Control panel equipment	Detection loop	2
	System bus	Master Bus Slave Bus
	Display	Color 4.3" TFT 480 x 272 pixel
	Voice synthesis	Vocabulary customisable
	Event buffer capacity	8.192
Detection and signaling	Addressable detectors	396 (199 x Loop)
	Addressable modules	198 (99 x Loop)
	Detection zones	200
	Virtual detection zones	100
	Default Zone	1
	Specialised relay outputs Max 1A @ 30V DC	Alarm Fault Reset
	Monitored output Max 1A @ 30V DC	Siren
	Relay outputs Max 750mA @ 24V DC	3 programmable
	Open collector outputs Max 50mA @ 24V DC	3 programmable
System management	Access levels	4
	Access codes	10
	Monitored system mode	Programmable
Automated managements	Formulas	200
	Alarm plans	100
	Time periods	32
	Programmable calendar	Quadrennial or perpetual
	Cyclic communication test	Programmable
Communication protocols	Detection loop	FIRE-SPEED
	Master and Slave Bus	FIRE-BUS
Equipment	Management interface	USB port
TLC features	Telecommunications vector	IP
	Telecommunication channels	8 + 1
	IP addresses	2 for each channel
	Report codes	15 categories
	Notification queue to be transmitted	64 events
	Communication protocols	5
	Encryption	AES 128 bit
	Passphrase	Programmable
	Server TCP/IP channels	Local Server Remote Server Tecnoserver Call back
System expandability	Expansion devices	Max. 16
	Management devices	TFT-7C TFT-7SC
	Telecommunication devices	TFCOM TFNET
	Serial printer	TFST-LX350
	Role in a network of control panels	Master or Slave
Electrical specifications	TFA2-596 consumption	200mA @ 24V DC
	Supply voltage for external devices	20V...27.6V DC
Power supply	Modular power supply	Type A (switching flyback)
	Operating voltage	230V AC +10% -15% 50Hz
	Power supply consumption	700mA AC
	Nominal values	5A @ 27.6V DC
	Maximum output current	I max 5A
	Ripple max	≤150mVpp (<1%)
	Protection fuse	T-1.6A
Battery	Battery housing	2 x 12V-12Ah
	Flammability class	UL94-V2 or superior
	Internal resistance	Max. 1.5Ω
	Release voltage	Per Vbat <17.6V
	Charging time (2 x 12V-12Ah)	100% in 24h
Physical specifications	Environmental class	3K5 EN 60721-3-3:1995
	Operating temperature	-5°C...+40°C
	Relative humidity (without condensation)	10%...93%
	Protection class	IP3x
	Casing	Aluminum - Steel
	Dimensions (L x H x D)	441 x 347 x 149mm
	Weight	6.2kg
Conformity	Addressable fire detection control panel	EN 54-2: 1997+ A1:2006
	Power supply	EN 54-4:1997+ A2:2006
	System compatibility	UNI EN 54-13:2020
	Certification number	0051-CPR-0389
	Year of CE marking	14
	Number of declaration of performance	003_TFA2-596
	Notified body	IMQ



TFA4-1192

EN 54














Addressable fire detection control panel 4 Loops

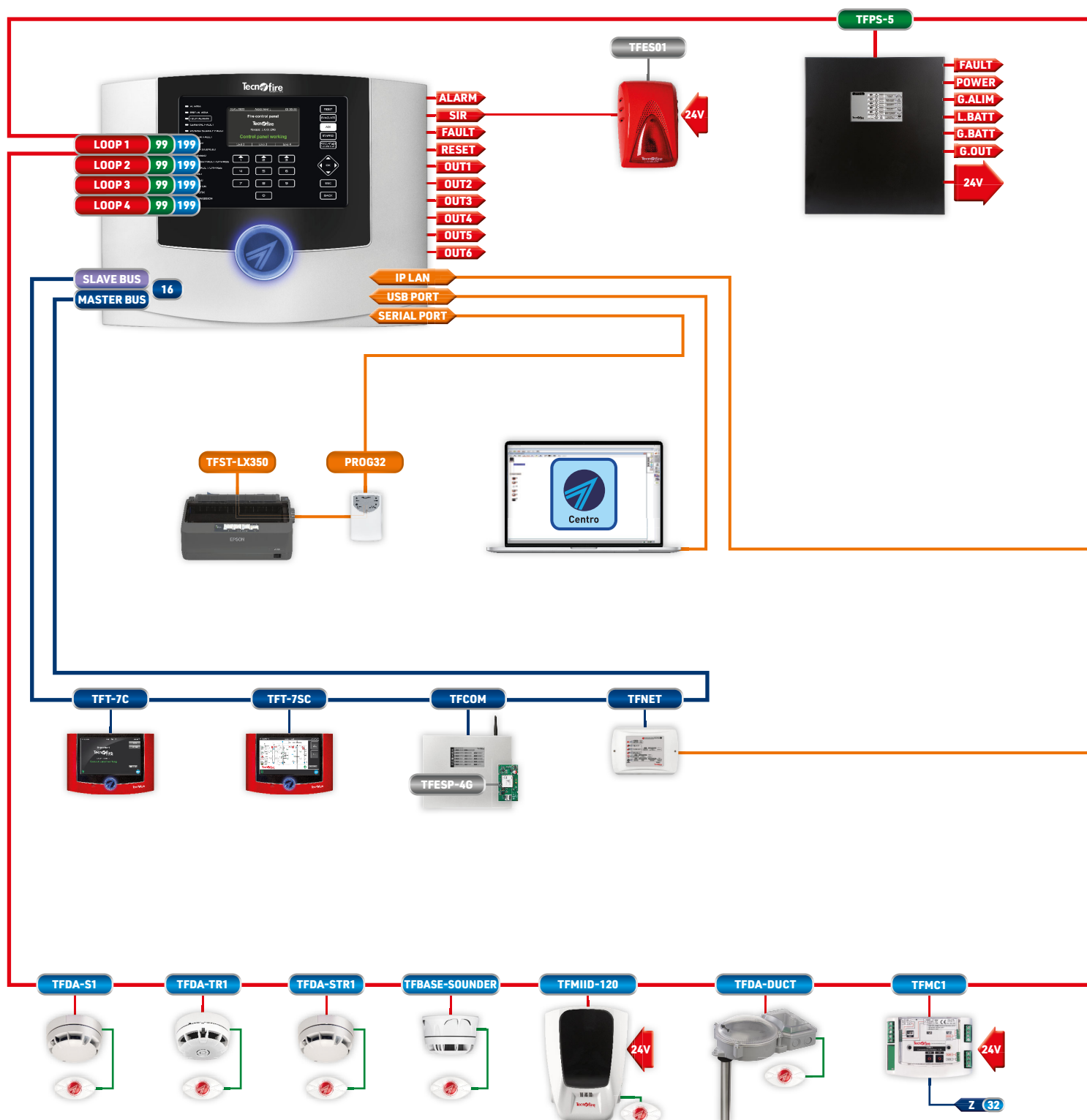


Addressable fire detection control panel. With 4 detection loop lines.
Each detection loop can manage: 199 detectors and 99 modules. 2 RS485 serial buses for expansion device connection, up to 16 devices chosen from: repeater panels and/or communication devices.
The TFA4-1192 control panel can be part of a network of Tecnofire units.
The control panel manages 300 fire detection or technical zones and 100 virtual detection zones.
Automated management: 200 alarm plans, 32 time ranges, 400 formulas, server cyclic testing and customisable or permanent four-year calendar. Advanced management with logic determined by the application of formulas that dynamically relate the operating status of the system devices.
The control panel is equipped with 4 specialist signal outputs and 6 openly programmable signal outputs.
TLC Section: IP communication port, 4 communication channels: Local Server, Remote Server, Tecnoserver, Call back, 8 communicators for event notification, 2 IP address contacts for each communicator, 5 communication protocols, 15 transmittable event categories.
Monitored system mode functions. User interface: 4.3" colour display, programming and management keypad, 16 signal LED, speech synthesis and multifunctional acoustic signal buzzer. USB port. Serial printer management.
System RSC® management: programming, remote management and control.
Modular 5A switching power supply unit. Battery capability: 2 x 12V-12Ah.
Aluminum and steel casing. Protection rating IP3x. Dimensions (L x H x D) 441 x 347 x 149mm.
Approved EN 54-2: 1997+ A1:2006 - EN 54-4: 1997+ A2:2006.
Certification 0051-CPR-0388.

MODELS									
Name	Item no.								
TFA4-1192	TF1TFA41192-UK								



Basic equipment	 4 LOOPS	 300 ZONES	 100 VIRTUAL ZONES	
Manageable devices	 16 EXPANSION DEVICE	 796 DETECTORS	 396 MODULES	 PRINTER
Automated managements	 400 FORMULAS AND & NOT OR I	 200 ALARM PLANS	 32 ACCESS PERIODS 24 24 24 FROM TO	 CALENDAR YEARS 4Y/∞



System configuration

Tecnofire

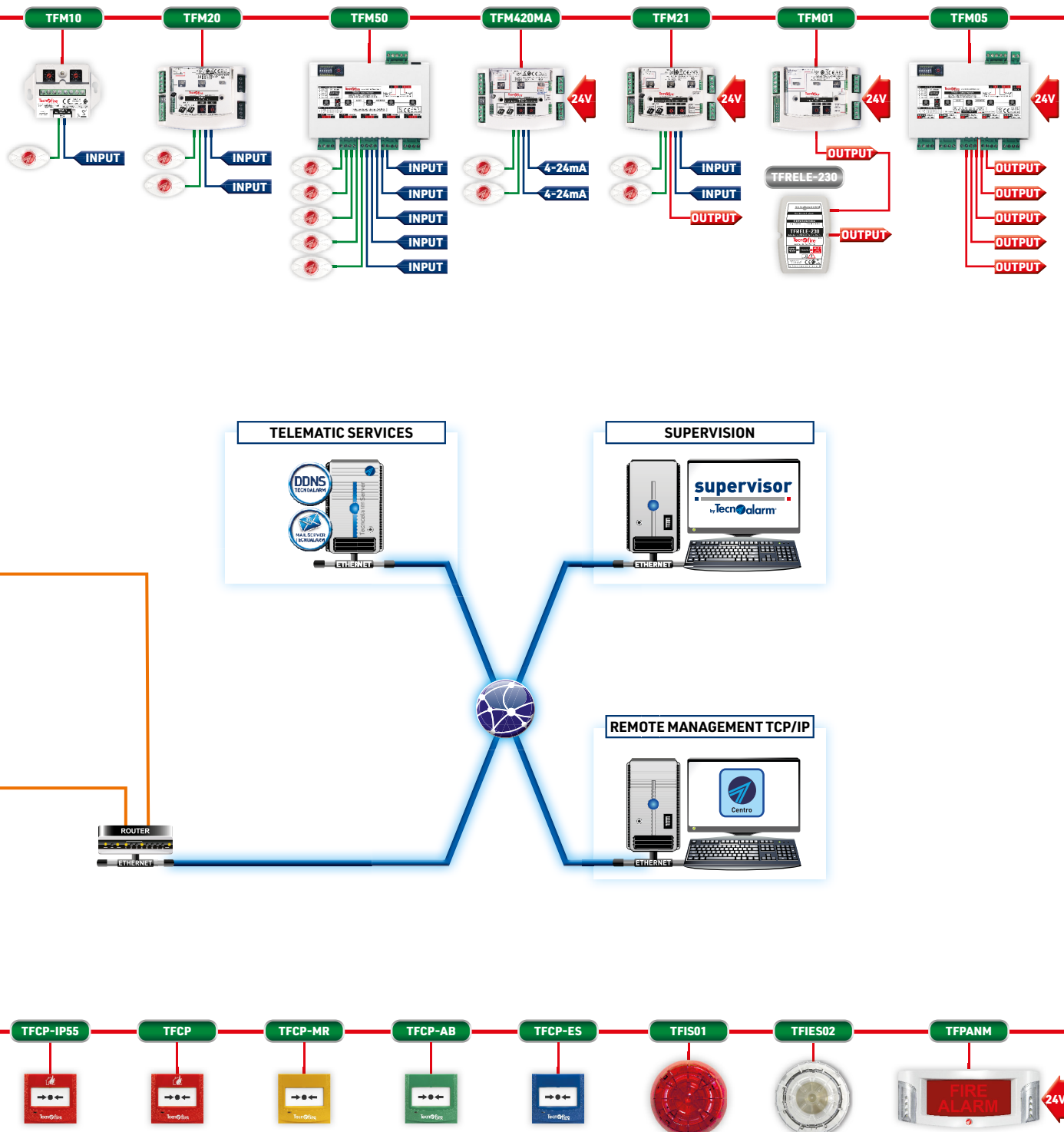
EN
54-13

EN 54-13:2020
Compatibility
and connectivity
of system
components

Technologies



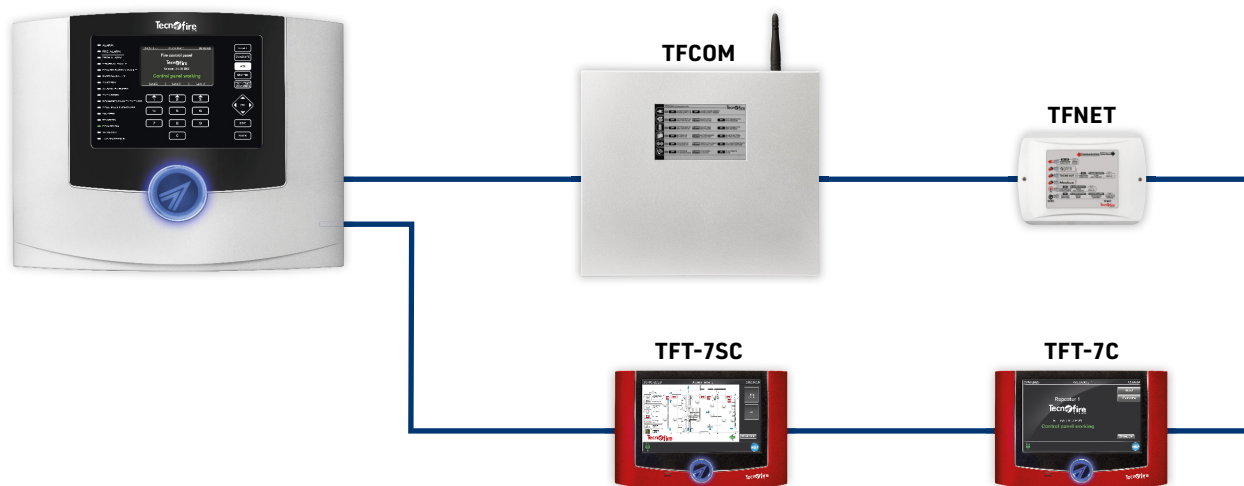
Services













Addressable control panels - TFA4-1192

Expansion devices

MANAGEMENT DEVICES	TFT-7C	Repeater panel - System command management	Max. 16 devices
	TFT-7SC	Synoptic repeater panel - Zone repeater - System command management	
TELECOMMUNICATION DEVICES	TFCOM	Telephone communicator - PSTN and GSM 4G communication vectors	
	TFNET	Communication Interface - IP communication vector	



Telecommunications services and functions

Devices	Vectors										
		DDNS	MAIL	Vocal	Vocal	SMS	Remote management	Supervisor	Tecno out	Modbus	CMS
Integrated	IP	-	-	-	-	-	✓	-	-	-	✓
TFCOM*	PSTN	-	-	-	✓	-	-	-	-	-	-
TFESP-4G*	GSM-LTE	-	-	✓	✓	✓	✓	-	-	-	✓
TFNET*	IP	✓	✓	-	-	-	✓	✓	✓	✓	✓

* Optional telecommunications devices

TFA4-1192 - Technical and functional specifications

General information	Addressable fire detection control panel	TFA4-1192
Control panel equipment	Detection loop	4
	System bus	Master Bus Slave Bus
	Display	Color 4.3" TFT 480 x 272 pixel
	Voice synthesis	Vocabulary customisable
	Event buffer capacity	8.192
Detection and signaling	Addressable detectors	796 (199 x Loop)
	Addressable modules	396 (99 x Loop)
	Detection zones	300
	Virtual detection zones	100
	Default Zone	1
	Specialised relay outputs Max 1A @ 30V DC	Alarm Fault Reset
	Monitored output Max 1A @ 30V DC	Siren
	Relay outputs Max 750mA @ 24V DC	3 programmable
	Open collector outputs Max 50mA @ 24V DC	3 programmable
System management	Access levels	4
	Access codes	10
	Monitored system mode	Programmable
Automated managements	Formulas	400
	Alarm plans	200
	Time periods	32
	Programmable calendar	Quadrennial or perpetual
	Cyclic communication test	Programmable
Communication protocols	Detection loop	<i>FIRE-SPEED</i>
	Master and Slave Bus	<i>FIRE-BUS</i>
Equipment	Management interface	USB port
TLC features	Telecommunications vector	IP
	Telecommunication channels	8 + 1
	IP addresses	2 for each channel
	Report codes	15 categories
	Call event queue	64 events
	Communication protocols	5
	Encryption	AES 128 bit
	Passphrase	Programmable
	Server TCP/IP channels	Local Server Remote Server Tecnoserver Call back

System expandability	Expansion devices	Max. 16
	Management devices	TFT-7C TFT-7SC
	Telecommunication devices	TFCOM TFNET
	Serial printer	TFST-LX350
	Role in a network of control panels	Master or Slave
Electrical specifications	TFA4-1192 consumption	200mA @ 24V DC
	Supply voltage for external devices	20V...27.6V DC
Power supply	Modular power supply	Type A (switching flyback)
	Operating voltage	230V AC +10% -15% 50Hz
	Power supply consumption	700mA AC
	Nominal values	5A @ 27.6V DC
	Maximum output current	I max 5A
	Ripple max	≤150mVpp (<1%)
	Protection fuse	T-1.6A
Battery	Battery housing	2 x 12V-12Ah
	Flammability class	UL94-V2 or superior
	Internal resistance	Max. 1.5Ω
	Release voltage	Per Vbat <17.6V
	Charging time (2 x 12V-12Ah)	100% in 24h
Physical specifications	Environmental class	3K5 EN 60721-3-3:1995
	Operating temperature	-5°C...+40°C
	Relative humidity (without condensation)	10%...93%
	Protection class	IP3x
	Casing	Aluminum - Steel
	Dimensions (L x H x D)	441 x 347 x 149mm
	Weight	6.2kg
Conformity	Addressable fire detection control panel	EN 54-2: 1997+ A1:2006
	Power supply	EN 54-4:1997+ A2:2006
	System compatibility	UNI EN 54-13:2020
	Certification number	0051-CPR-0388
	Year of CE marking	14
	Number of declaration of performance	002_TFA4-1192
	Notified body	IMQ



EN 54
EN 12094-1



Addressable fire detection and extinguishing control panel 1 Loop



Addressable fire detection and extinguishing control panel. The characteristics listed refer to the TSA1 EXTENDED set-up. Equipped with a detection loop and an Extinguishing Device Unit (EDU).

The detection loop can handle up to 199 detectors, 99 modules and 9 TSM1 modules (peripheral EDU extinguishing channels). 2 RS485 serial buses for expansion device connection, up to 5 devices chosen from: repeater panels and/or communication devices. Serial buses also allow you to connect the unit in a network of Tecnofire control panels.

The control panel manages 150 detection zones associated with 100 alarm plans, 8 time ranges. Advanced management with logic based on the application of formulas that dynamically relate the operating status of the system devices.

100 formulas. 100 Virtual detection zones. The control panel is equipped with 3 specialist signal outputs and 2 openly programmable signal outputs. The integrated EDU is equipped with: 3 conventional detection zone inputs, 7 controlled inputs for the management of the actuating and control devices, 2 controlled outputs for the management of the extinguishing valves, 2 controlled outputs for the management of the optical-acoustic alarm devices, 5 specialist signal outputs. Automatic or manual operating mode.

Extinguishing cycle with 5 execution modes. Centralised or local management of 10 independent EDU, with local or centralised extinguishing cycle control, also in switching execution mode. User interface: 4.3" colour display, soft touch programming and management keyboard, 33 signal LED. Multifunctional acoustic warning buzzer. System RSC® management: programming, remote management and control. Customisable or permanent four-year calendar management. Event memory managed in FIFO logic capacity 8192 events. Modular 2.7A switching power supply unit. Battery capability: 2 x 12V-7Ah.

ABS and steel casing. Surface mounting or via optional adapters in 19" rack casing. Protection rating IP3x. Available in the following colours: White, Grey, Red, Yellow. Dimensions (L x H x D) 440 x 345 x 146mm.

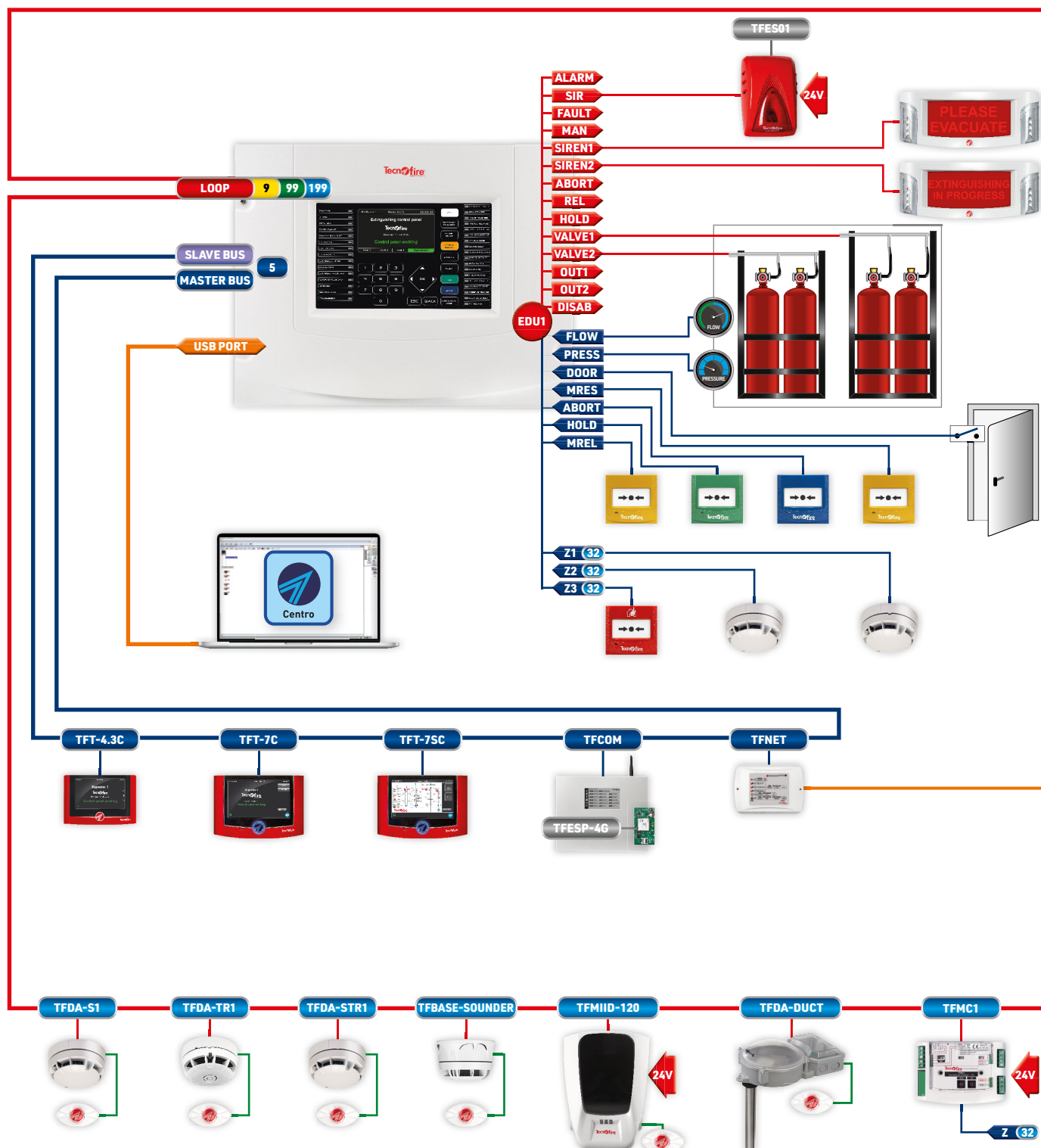
Approved EN 54-2: 1997+ A1:2006 - EN 54-4: 1997+ A2:2006 - EN 12094-1: 2003.

Certification 0051-CPR-2816.

MODELS											
Name	Item no.	Colour									
TSA1	TF1TSA1-UK	White									
	TF1TSA1Y-UK	Yellow									
	TF1TSA1R-UK	Red									
	TF1TSA1G-UK	Grey									



Basic equipment	1 LOOP	EDU EXTINGUISHING DEVICE UNIT	3 CONVENTIONAL ZONES Z1 Z2 Z3 32 32 32	150 ZONES	100 VIRTUAL ZONES
Manageable devices	5 EXPANSION DEVICE	199 DETECTORS	99 MODULES	9 EDU	
Automated managements	100 FORMULAS AND NOT OR I	50 ALARM PLANS	8 ACCESS PERIODS 00:00 24:00 FROM TO	CALENDAR YEARS 4Y/∞	



System configuration

Tecnofire

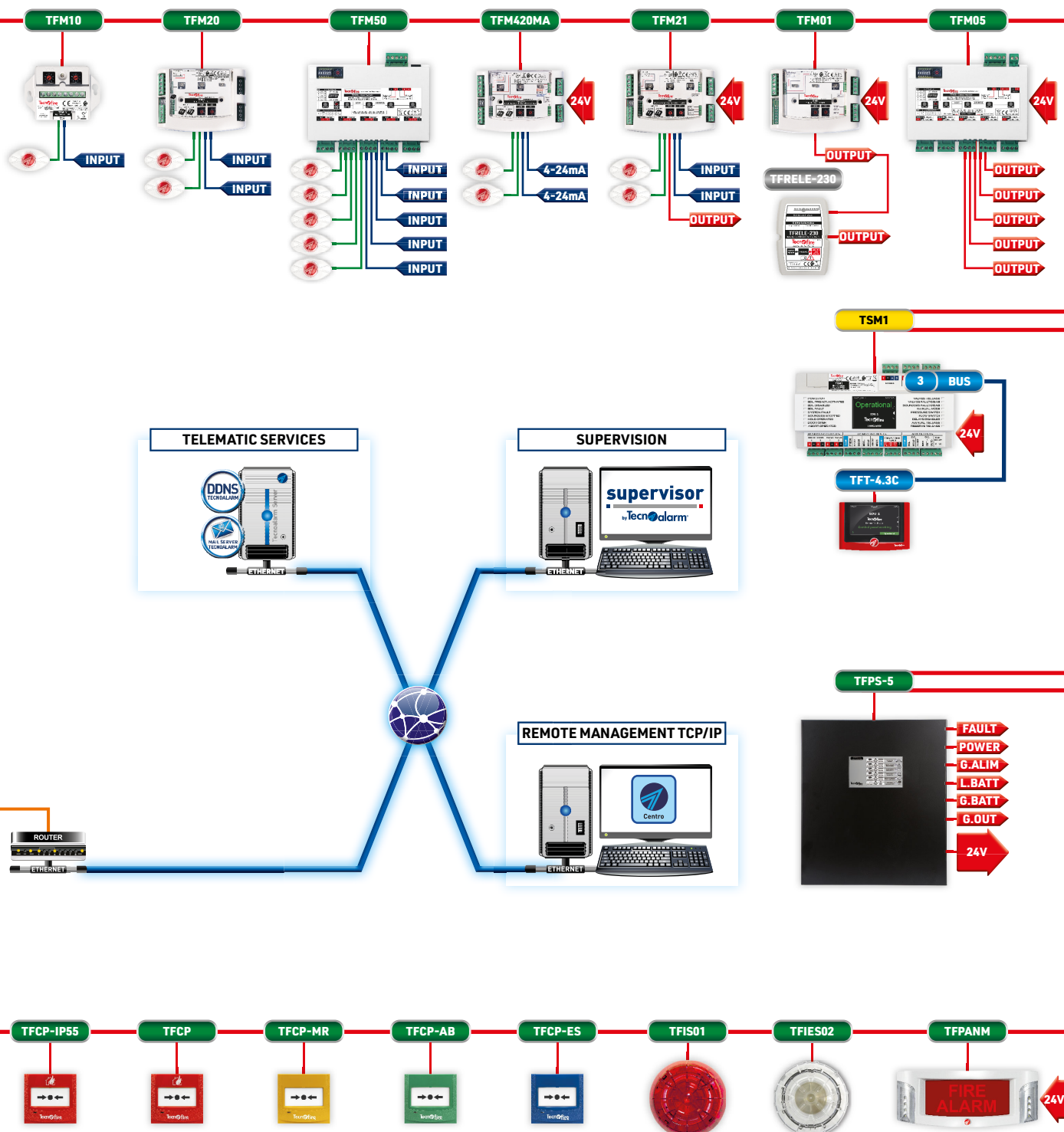
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Compatibility
and connectivity
of system
components

Technologies



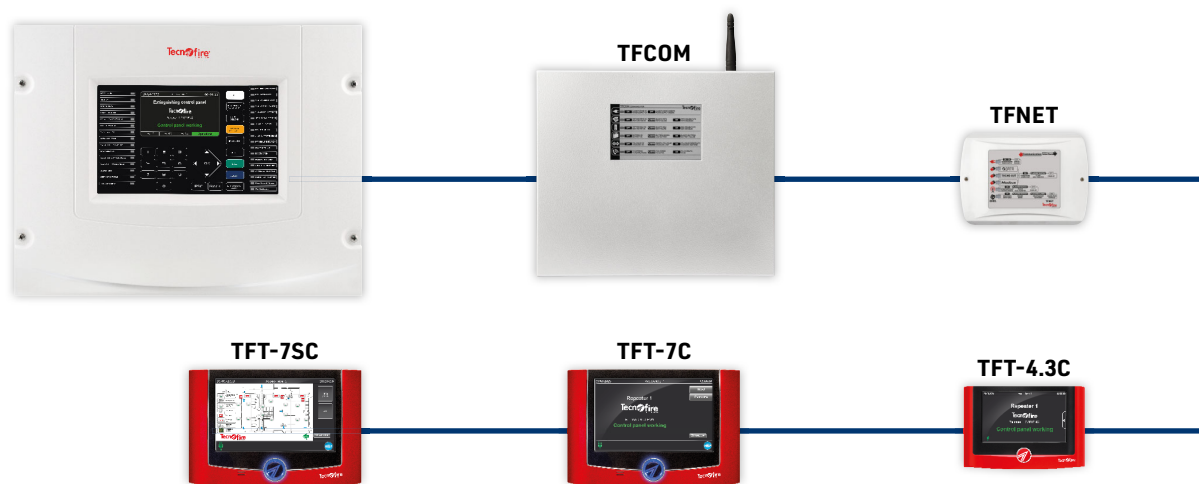
Services













Addressable control panels - TSA1

Expansion devices

MANAGEMENT DEVICES	TFT-4.3C	Repeater panel - System command management - EDU command management	Max. 5 devices
	TFT-7C	Repeater panel - System command management	
	TFT-7SC	Synoptic repeater panel - Zone repeater - System command management	
TELECOMMUNICATION DEVICES	TFCOM	Telephone communicator - PSTN and GSM 4G communication vectors	
	TFNET	Communication Interface - IP communication vector	



Telecommunications services and functions

Devices	Vectors										
		DDNS	MAIL	Vocal	Vocal	SMS	Remote management	Supervisor	Tecno out	Modbus	CMS
TFCOM*	PSTN	-	-	-	✓	-	-	-	-	-	-
TFESP-4G*	GSM-LTE	-	-	✓	✓	✓	✓	-	-	-	✓
TFNET*	IP	✓	✓	-	-	-	✓	✓	✓	✓	✓

* Optional telecommunications devices











TSA1 EXTENDED- Technical and functional specifications

General information	Addressable fire detection and extinguishing control panel	TSA1 EXTENDED
	EDU extinguishing units managed	1 integrated + 9 modules
Control panel equipment	Detection loop	1
	EDU extinction channels	1
	System bus	Bus Master Bus Slave
	Display	Color TFT4.3" 480 x 272 pixel
	Event buffer capacity	8.192
Detection section	Addressable detectors	199
	Addressable modules	99
	EDU modules addressable	9
	Detection zones	150
	Virtual detection zones	100
	Default Zone	1
	Specialised relay outputs Max 1A @ 30V DC	Alarm Fault
	Monitored output Max 750mA @ 24V DC	Siren
	Open collector outputs Max 50mA @ 24V DC	2 programmable
Extinguishing section EDU	Management mode	Automatic or manual
	Dedicated detection zones	3 conventional zones
	Alternative detection zones	Control panel zones
	Monitored inputs	Pressure switch Flow switch Door Manual activation Ascertainment Abort Manual reserve activation
	Monitored outputs Max 750mA @ 24V DC	Evacuation siren Extinction siren Valve 1 Valve 2
	Specialised relay outputs Max 1A @30V DC	Extinction Ascertainment Abort Manual mode EDU excluded
Cycle of extinction	Cycle run command	Local or centralised
	Execution modes programmable options	Standard Pilot mode Secondary flooding Reserve Sorting
System management	Access levels	4
	Access codes	10
Automated managements	Formulas	100
	Alarm plans	100
	Time periods	8
	Programmable calendar	Quadrennial or perpetual


Communication protocols	Detection loop	FIRE-SPEED
	Master and Slave Bus	FIRE-BUS
Equipment	Management interface	USB port
System expandability	Expansion devices	Max. 5
	Management devices	TFT-4.3C TFT-7C TFT-7SC
	Telecommunication devices	TFCOM TFNET
	Role in a network of control panels	Slave
Electrical specifications	TSA1 consumption	200mA @ 24V DC
	Supply voltage for external devices	20V...27.6V DC
Power supply	Modular power supply	Type A (switching)
	Operating voltage	230V AC +10% -15% 50Hz
	Power supply consumption	600mA AC
	Nominal values	2.7A @ 27.6V DC
	Maximum output current	I max 2.7A
	Ripple max	≤230mVpp (<1%)
	Protection fuse	T-1A
Battery	Battery housing	2 x 12V-7.2Ah
	Flammability class	UL94-V2 or superior
	Internal resistance	Max. 1.5Ω
	Release voltage	For Vbat <17.6V
	Charging time (2 x 12V-7.2Ah)	100% in 24h
Physical specifications	Environmental class	A - EN 12094-1:2003
	Operating temperature	-5°C...+40°C
	Relative humidity (without condensation)	10%...93%
	Protection class	IP3x
	Casing	ABS - Steel
	Dimensions (L x H x D)	440 x 345 x 146mm
	Weight	6.8kg
Conformity	Addressable fire detection and extinguishing control panel	EN 54-2: 1997+ A1:2006 EN 12094-1:2003
	Power supply	EN 54-4:1997+ A2:2006
	System compatibility	UNI EN 54-13:2020
	Certification number	0051-CPR-2816
	Year of CE marking	22
	Number of declaration of performance	044_TSA1
	Notified body	IMQ

SOFTWARE PLUG-INS

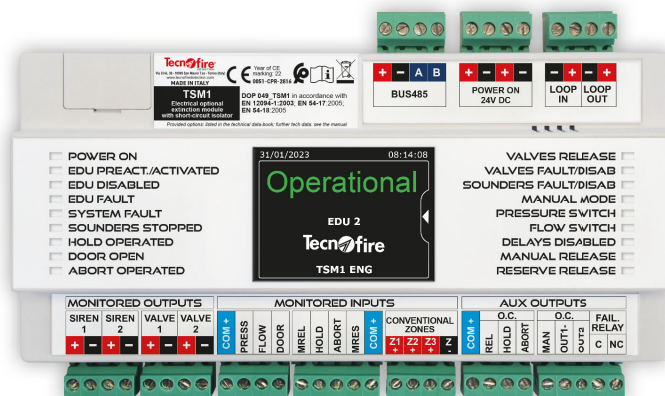
TSA1ABIL-LIM	Software plug-in for setup upgrades, converts the TSA1 BASE control panel into the TSA1 LIMITED set-up.	BASE TO LIMITED
	Item no. TF1TSABILLIM	
TSA1ABIL-EXT	Software plug-in for setup upgrades, converts the TSA1 LIMITED control panel into the TSA1 EXTENDED set-up.	LIMITED TO EXTENDED
	Item no. TF1TSABILEXT	

OUTFITTING	 LOOP	 EDU EXTINGUISHING DEVICE UNIT	 DETECTORS	 MODULES	 TSM1	 ZONES	 VIRTUAL ZONES	 WARNING! ALARM PLANS	 FORMULAS AND & NOT! OR !	 EXPANSION DEVICE
TSA1 BASE	1	1	32	16	-	5	5	100	5	5
TSA1 LIMITED	1	1	64	32	5	50	50	100	50	5
TSA1 EXTENDED	1	1	199	99	9	150	100	100	100	5

TSA1 - Accessories

	RACK BRACKETS
	Pair of adapter brackets for mounting the TSA1 control panel in a 19" rack cabinet.
	Item no. TF1TSSTRACK

TSM1 - Detection and extinguishing module



Addressable control panels - TSA1

Addressable fire detection and extinguishing module. Complete management of a decentralised extinguishing channel. Operating mode: autonomous or following the extinguishing logic given by the TSA1 control panel.

The integrated EDU is equipped with: 3 conventional detection zone inputs, 7 controlled inputs for the management of the actuating and control devices, 2 controlled outputs for the management of the extinguishing valves, 2 controlled outputs for the management of the optical-acoustic alarm devices, 5 specialist signal outputs, 2 openly programmable signal outputs.

Automatic or manual operating mode. Extinguishing cycle with 4 execution modes.

RS485 serial bus for connecting TFT-4.3C repeater panels. Connection on detection loop, double line isolator.

Power from external source, rated voltage 24V DC. User interface: 2.4" capacitive colour touch screen display, 18 signal LED.

Multifunctional acoustic warning buzzer.

Detection logic of the three conventional zones determined by the associated detection formula.

The three conventional zones can be replaced with other analogue detection zones operated by the TSA1 unit.

RSC® management of the device: programming, remote management and control of all operating parameters.

Surface mounting or direct coupling to DIN omega bar. ABS casing. Protection rating IP3x. White colour.

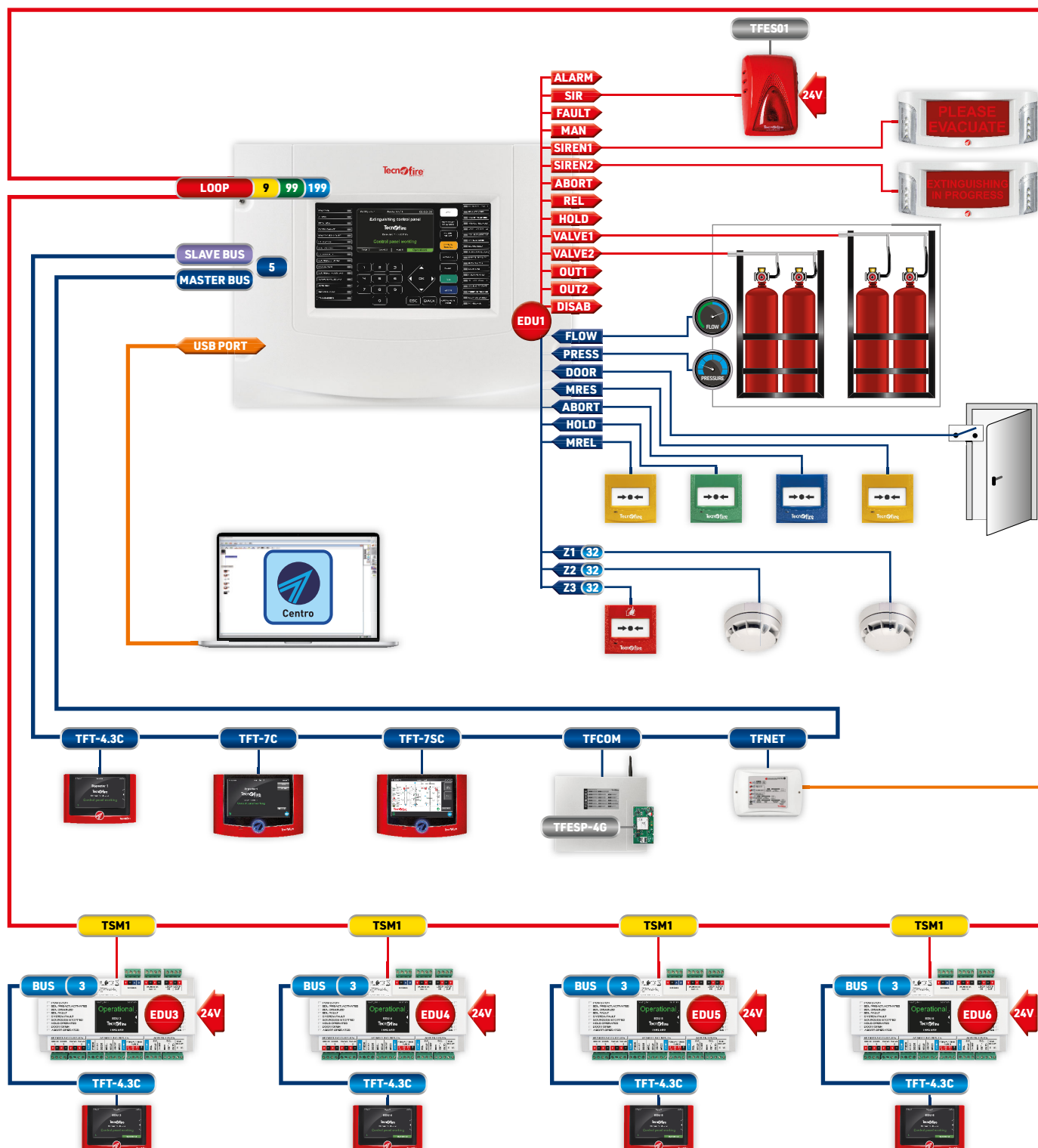
Dimensions (L x H x D) 189 x 117 x 61mm.

Module conforming to EN 54-18:2005/AC:2007 - EN 54-17:2005 - EN 12094-1: 2003.

Certification 0051-CPR-2816.

MODELS									
Name	Item no.								
TSM1	TF4TSM1-UK								

TSM1	
Conventional zones	3
Detectors / call points	32 (x zone)
Expansion devices	3
Monitored inputs	7
Monitored outputs	4
Outputs	7



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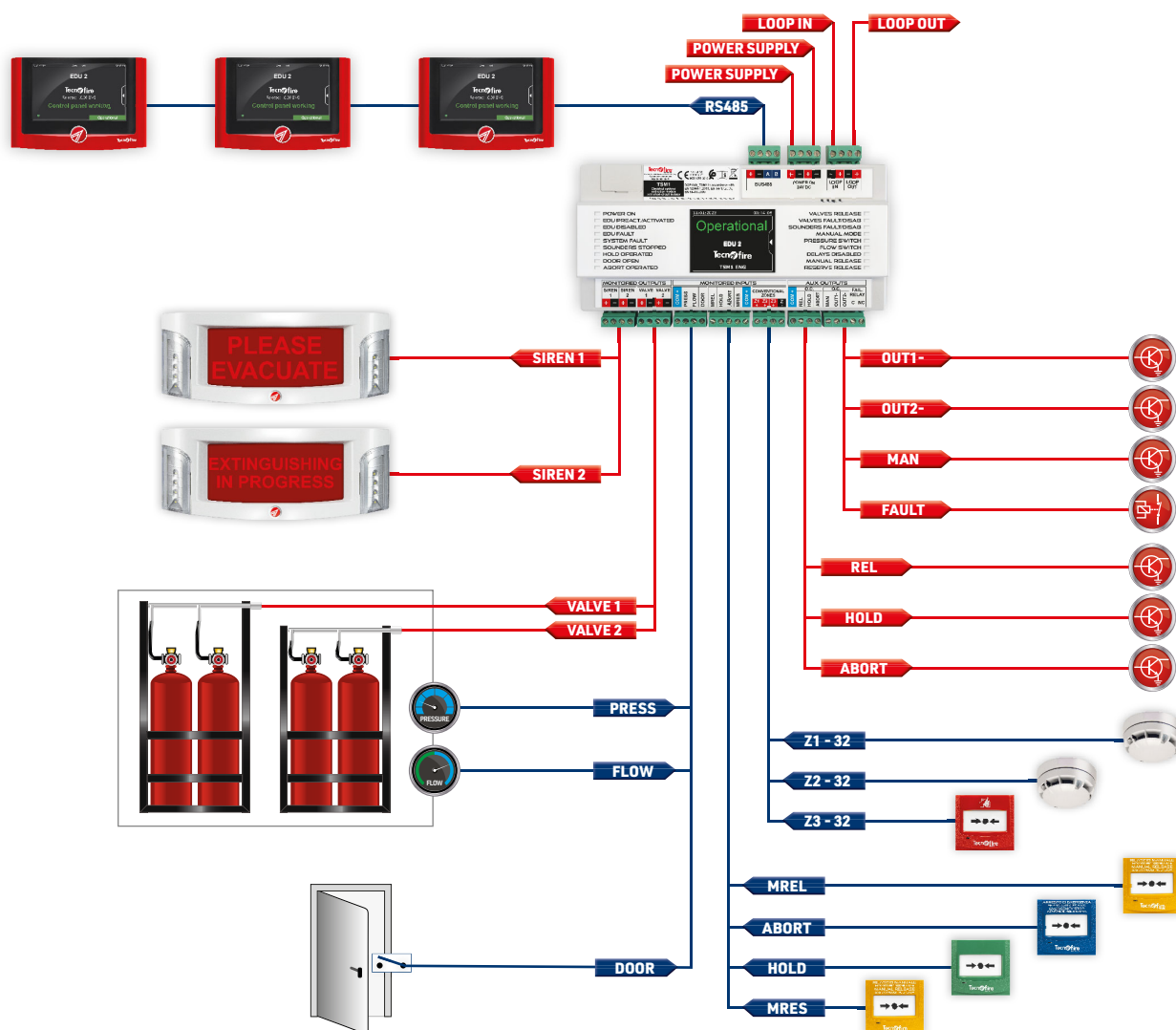
Addressable control panels - TSA1

of the system composed of detectors and/or addressable modules.



Expansion devices

MANAGEMENT DEVICES	TFT-4.3C	Repeater panel - EDU command management	Max. 3 devices
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TSM1 - Technical and functional specifications

General information	Addressable detection and extinction module	TSM1
	Connection	Detection loop
EDU equipment	EDU extinction channels	1
	Module addressing	Digital
	Polling frequency	Programmable
	Expansion Bus	RS485
	Display	Capacitive touch screen Color TFT2.4" 320 x 240 pixel
	Dedicated detection zones	3 conventional zones
	Alternative detection zones	Control panel zones
	Monitored inputs	Pressure switch Flow switch Door Manual activation Ascertainment Abort Manual reserve activation
	Monitored outputs Max 750mA @ 24V DC	Evacuation siren Extinction siren Valve 1 Valve 2
	Specialised relay outputs Max 1A @ 30V DC	Fault
Cycle of extinction	Specialised open collector outputs Max 50mA @ 24V DC	Extinction Ascertainment Abort Manual mode
	Open collector outputs Max 50mA @ 24V DC	2 programmable
Cycle of extinction	Cycle run command	Local or centralised
	Execution modes programmable options	Standard Pilot mode Secondary flooding Reserve
EDU management	Access levels	4
	Access codes	10
	Management mode	Automatic or manual
Communication protocols	Detection loop	FIRE-SPEED
	Bus	FIRE-BUS

Equipment	Management interface	USB port
Module expandability	Expansion devices	Max. 3
	Management devices	TFT-4.3C
Loop Electrical Characteristics	Nominal voltage	24V DC
	Operating voltage	20V...27.6V DC
	Absorption from Loop	No
	Loop isolator	Double insulator
Electrical specifications	Module power supply	From external power supply
	Module power supply control	Report voltage fault <15V DC
	Nominal voltage	24V DC
	Operating voltage	20V...27.6V DC
	Consumption in stand-by	90mA @ 24V DC
	Maximum consumption	360mA @ 24V DC
	Supply voltage for external devices	20V...27.6V DC
Physical specifications	Environmental class	A - EN 12094-1:2003
	Operating temperature	-5°C...+40°C
	Relative humidity (without condensation)	10%...93%
	Protection class	IP3x
	Casing	ABS
	DIN rail mounting	✓
	DIN dimensions	12 modules
	Dimensions (L x H x D)	189 x 117 x 61mm
	Weight	0.5kg
Conformity	Addressable detection and extinction module	EN 54-18:2005/ AC:2007 EN 54-17:2005 EN 12094-1:2003
	Certification number	0051-CPR-2816
	Year of CE marking	22
	Number of declaration of performance	049_TSM1
	Notified body	IMQ



Control panel network

Control panel network



Tecnofire detection systems can be composed of several control panels connected in a network, with an RS485 Bus connection infrastructure.

The network uses the proprietary Fire-Bus protocol for communication.

The network connection infrastructure can be made with copper or fibre optic cables. The network hierarchy includes a Master control panel that assumes complete control of the System with one or more Slave control panels up to a maximum of 15 units.

The network configuration of the control panels allows the creation of detection systems with modular, open and flexible architecture, or fire protection of rather complex sites, even large ones, distributed in areas found one or more buildings.

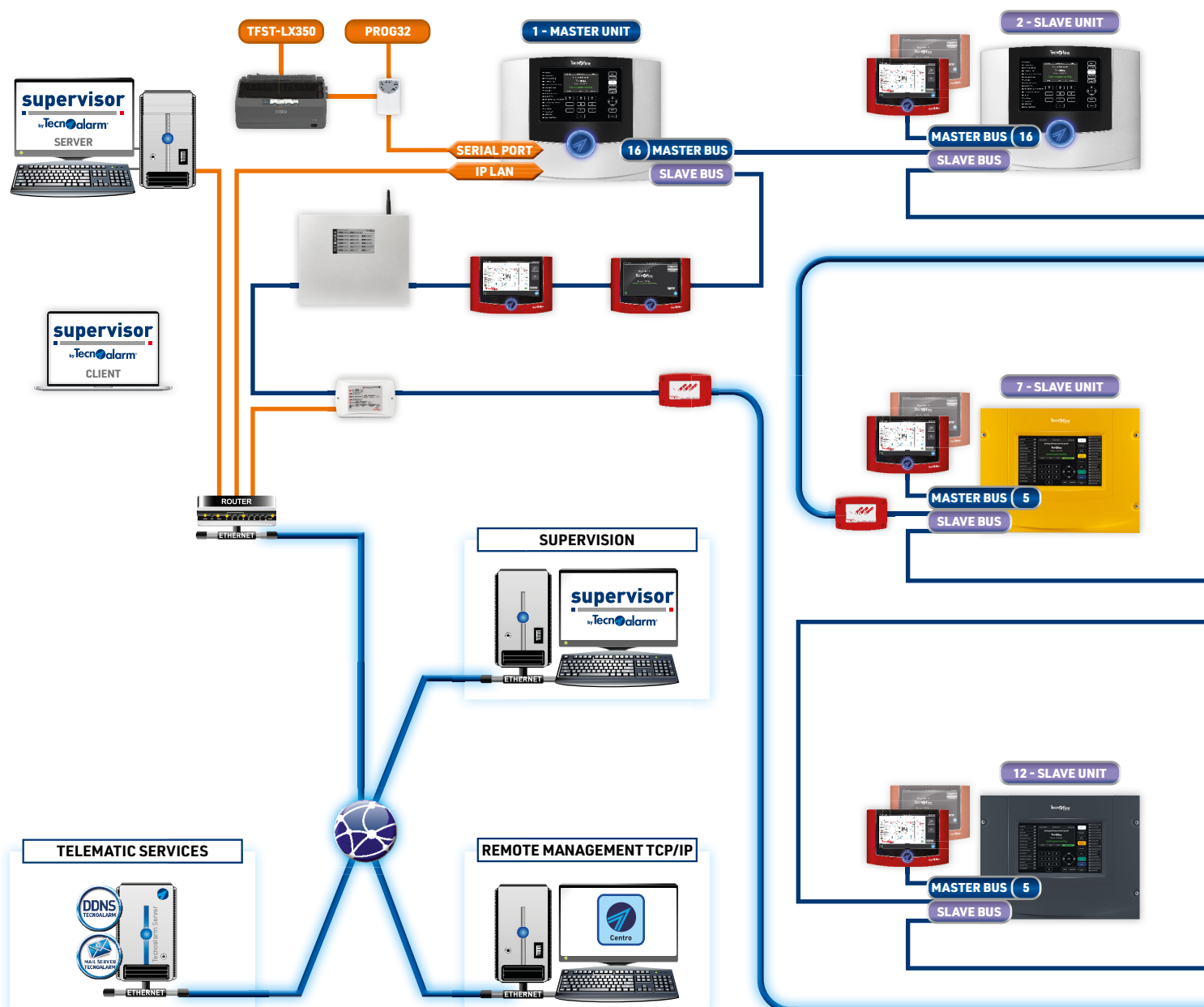
Control panel network



Control panel network

	TFA2-596	TFA4-1192	TSA1 BASE	TSA1 LIMITED	TSA1 EXTENDED
Role in the System	Master / Slave	Master / Slave	Slave	Slave	Slave
Expansion devices	16	16	5	5	5
Detection loops	2	4	1	1	1
Integrated EDU	-	-	1	1	1
Managed detectors	398 (199 x 2)	796 (199 x 4)*	32	64	199
Managed modules	198 (99 x 2)	396 (99 x 4)	16	32	99
Managed EDU modules	-	-	-	5	9
Managed zones	300	300	5	50	150

* The EN 54-2 standard allows to connect 512 detectors and/or manual call points to one single fire alarm panel.
Therefore, the maximum number of detectors managed by a Tecnofire network is 8,192 (512 devices multiplied by 16 fire alarm panels).



TFA2-596 - TFA4-1192 - TSA1

The Tecnofire System can be composed of several control panels, up to a maximum of 16 units, connected to each other in the network via RS485 Fire-Bus.

The infrastructure of the control panel network can be built with copper or fibre optic cables.

The network hierarchy includes a Master unit (main) and up to 15 Slave units.

The Master control panel has complete control of the Slave control panels, all the information and reports generated by the Slave control panels are conveyed to the Master control panel.

The role of the Master unit can only be assumed by the detection units: TFA2-596 or TFA4-1192.

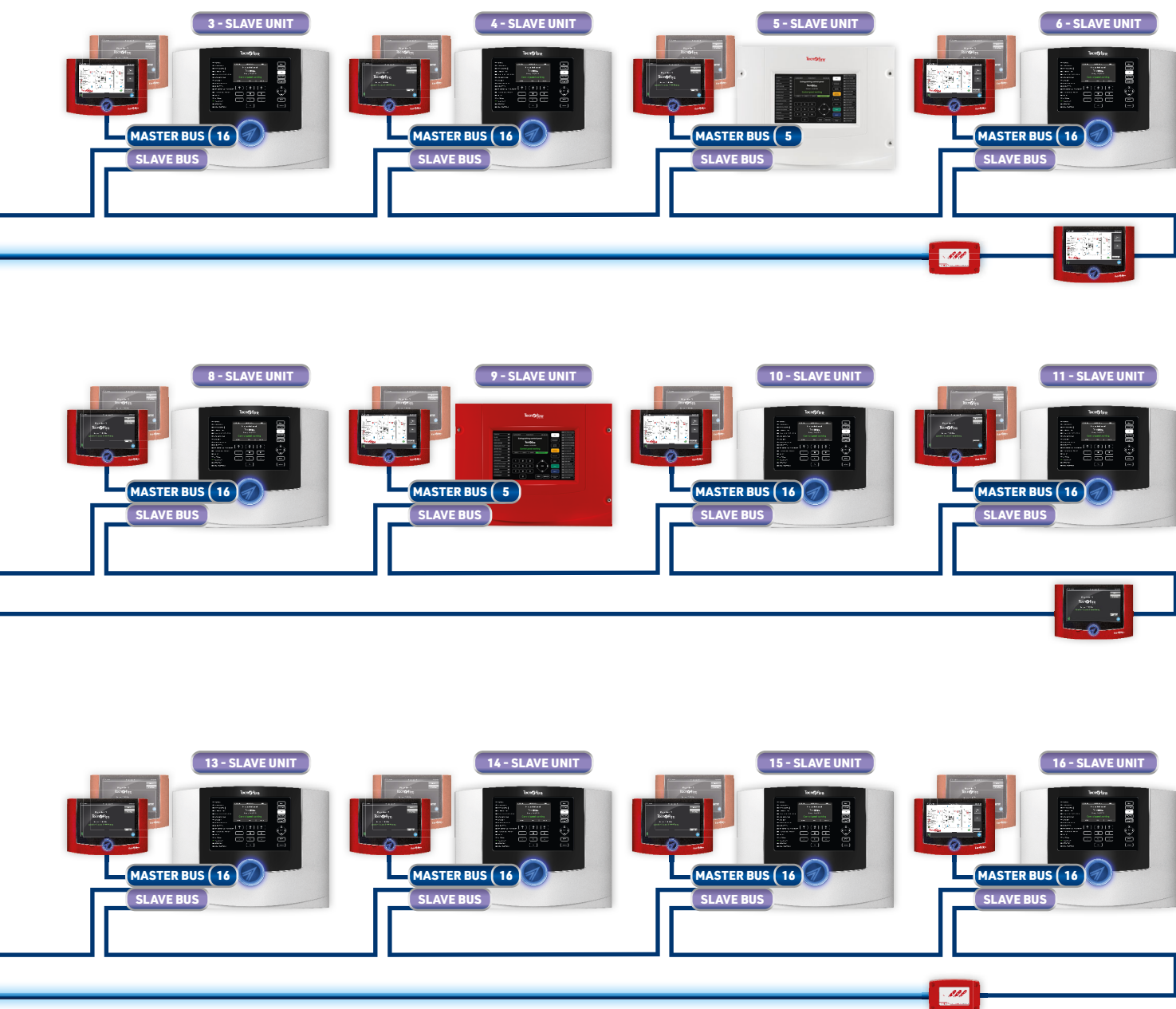
The role of a Slave control panel can be taken by the following control panels:

TFA2-596, TFA4-1192 and the TSA1 detection and extinguishing unit.


The operation of the Control panels in network mode complies with the current EN 54-13 standard.

Standard restriction: EN 54-2 chapter 13.6 provides that, in the event of a fault, no more than 512 fire detection points and/or manual signaling points and their mandatory functions are affected.

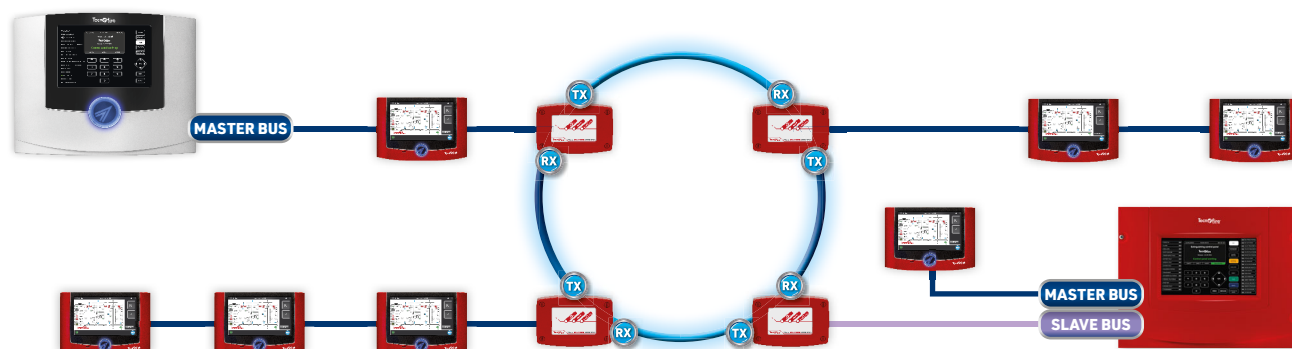
Consequently, to maintain compliance with EN 54-2, it is not possible to mount more than 512 detection devices and/or manual signaling points on each unit. Therefore, the maximum number of detection points that can be managed by a network of Tecnofire units is 8,192 points (512 points maximum for each of the 16 units).



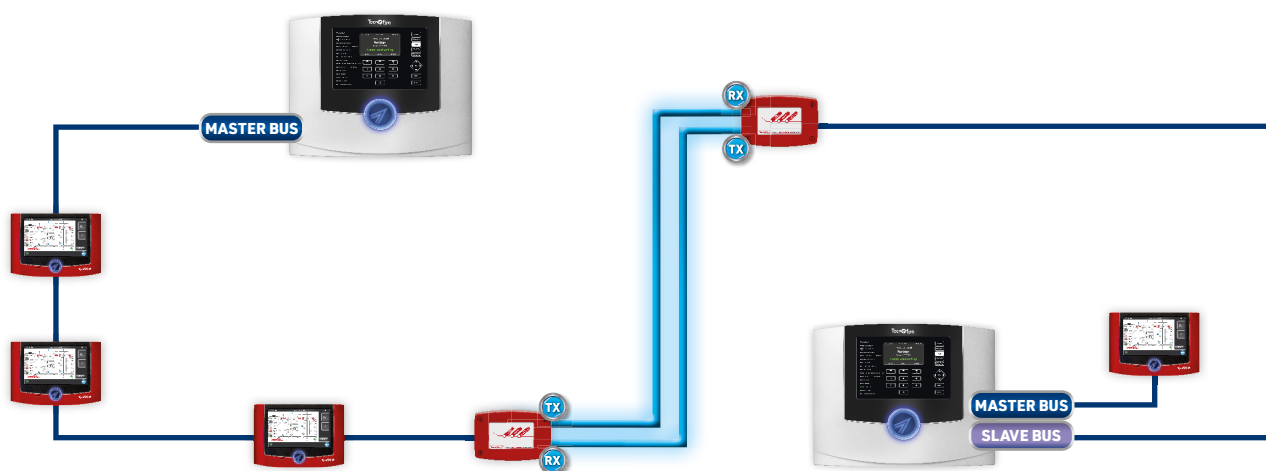
System accessories

TFSFC01		RS485 - FIBER OPTIC CONVERTER	POINT TO POINT ←2KM→	RING 4KM	ABS BOX
	<p>RS485-fibre optic converter for long-distance data transfer of an RS485 line, via a fibre optic backbone. The converter can be used in point-to-point topology, with sections of maximum length of 2km or in ring topology, maximum 4km.</p> <p>The converter allows you to increase the extension of the serial line, beyond the physical limits of RS485; it is also particularly recommended to transport data in highly disturbed environments, create open field connection backbones, immune to the effects of atmospheric discharges, eliminating mass loops between devices. Master/Slave operating mode. Functional programming can be set via dip-switch. Activity monitored by 3 signal LED: power supply unit, fibre optic data reception, RS485 Bus data reception.</p> <p>ABS casing. Dimensions (L x H x D) 140 x 92 x 38mm. Red colour.</p>				
	Item no. TF1TFSFC01				

Ring topology



Point-to-point topology


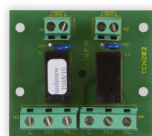




TFSC01 - Technical and functional specifications

General information	Serial converter	RS485-optical fiber
	Data interface	RS485
	Transfer vector	Fiber optic
Supported bus	Tecnofire Fire-Bus	115.200 baud
Fiber optics	Multimode glass fibre cable	50/125µm o 62,5/125µm
	Wavelength	850nm
	Connection type	ST connector
	Topology and extension	Point-to-pointo 2km Ring 4km
Status signaling	Power	Power supply
	RX485	RS485 receiving
	RX Fiber optic	Fiber optic reception

Electrical specifications	Nominal voltage	24V DC
	Operating voltage	8V...31V DC
	Consumption	50mA @ 12V DC 27mA @ 28V DC
Physical specifications	Environmental class	3K5 EN 60721-3-3:1995
	Operating temperature	-20°C...+70°C
	Relative humidity (without condensation)	10%...93%
	Protection class	IP42
	Casing	ABS
	Dimensions (L x H x D)	140 x 92 x 38mm
	Weight	130g







TFA - TSA - Accessories

	TFST-LX350 Table-top Printer, Dot-Matrix Printing Technology, 80 Columns. Paper: continuous feed. Black colour. Power Supply 230V AC Dimensions (L x H x D) 362 x 199 x 335mm.		TFBIRELE-24 Relay board equipped with 2 control inputs and 2 independent actuation outputs. Signal relay (contact 24V DC 0.3A). Free changeover contacts. Dimensions (L x H x D) 59 x 52 x 20mm.
	Item no. TF1TFSTLX350		Item no. TF1TFBIRELE24
	TFPROG32 Interface for connecting the TFST-LX350 printer to the TFA series control panels. RS232/RJ45 connection cable supplied.		TFCAVO-USB TFA USB cable to connect the TFA and TSA series control panels to the personal computer, the cable allows you to program the system in local mode.
	Item no. TF1TFPROG32		Item no. TF1TFCAVOUSB



Expansion devices

Management devices

TFT-4.3C	    
	<p>Management and control repeater panel, equipped with a multifunctional user interface consisting of: 4.3" TFT capacitive touch screen display, speech synthesis with customisable vocabulary, multifunctional acoustic signal device.</p> <p>The TFT-4.3C panel automatically recognises the device to which it is connected and consequently adapts its functions to the particular operating context.</p> <p>The panel connected to the bus of the TSA1 and TFA1-298 control panels acts as the control panel repeater panel.</p> <p>The panel connected to the TSM1 extinction module bus acts as the management panel, taking complete control of the module functions.</p> <p>The panel displays the commands that manage the operation of the module and, in the event of activation, makes the sequence of the extinguishing cycle visible, dynamically notifying the countdown of the delays that control the different phases.</p> <p>Supported System Commands: Silencing and Control panel Restoring/Associated Module, Silencing and Siren Restoring, Evacuation, Extinguishing Events, Monitored Mode, Exclusion and Inclusion of devices. Built-in flash memory for vocabulary customisation, manageable from a personal computer as an external disk. RS485 bus connection.</p> <p>Surface or flush box 503 mounting. Refined ultra-thin design. Red cover.</p> <p>Certification integrated in TSA1 series control panels and TSM1 extinguishing module.</p> <p>Item no. TF2TFT43C</p>

TFT-4.3C - Technical and functional specifications

General information	Repeater panel	TFT-4.3C
	Communication protocols	FIRE-BUS
	Addressing	Digital
	Connection	Bus RS485
User interface	Display	Color 4.3" TFT
	Resolution	480 x 272 pixel
	Touch screen	Capacitive
	Infographic	Contextual
	Voice synthesis	Monolingual vocabulary
	Speaker	Multifunction
Equipment	Contextual help	Graphic
	Flash memory	32Mbit
Electrical specifications	Power supply	From serial Bus
	Nominal voltage	24V DC
	Operating voltage	18V...30V DC
	Consumption in stand-by	60mA @ 24V DC
	Maximum consumption	80mA @ 24V DC
Physical specifications	Environmental class	3K5 EN 60721-3-3:1995
	Operating temperature	-5°C...+40°C
	Relative humidity (without condensation)	10%...93%
	Protection class	IP4x
	Casing	ABS
	Dimensions (L x H x D)	154 x 104.6 x 23mm
	Weight	230g
	Conformity Repeater panel approved for use with TFA1-298, TSA1 control panels and TSM1 extinguishing module	

COMPATIBILITY TFT-4.3C	TFA1-298	TFA2-596	TFA4-1192	TSA1	TSM1
	✓	-	-	✓	✓

TFT-7C



Management and control repeater panel, equipped with a multifunctional user interface consisting of: 7" TFT capacitive touch screen display, speech synthesis with customisable multilingual vocabulary, multifunctional acoustic alarm device, contextual, voice and graphic Help function, callable by the user.
Multilingual management: the repeater panel provides voice and text information in two languages. Supported System Commands: Silencing and Control panel Restoring, Silencing and Siren Restoring, Evacuation, Monitored Mode, Exclusion and Inclusion of devices. Built-in flash memory for customising the graphical and vocabulary interface, manageable from a personal computer as an external disk, via USB interface.
RS485 bus connection. Surface or flush mounting. Refined ultra-thin design. Red cover. Certification integrated in TFA series control panels (0051 CPR 0388 - 0389).

Item no. TF2TFT7C



TFT-7C - Technical and functional specifications










General information	Repeater panel	TFT-7C
	Communication protocols	FIRE-BUS
	Addressing	Digital
	Connection	Bus RS485
User interface	Display	Color 7" TFT
	Resolution	800 x 480 pixel
	Touch screen	Capacitive
	Infographic	Contextual
	Voice synthesis	Multilingual vocabulary
	Speaker	Multifunction
	Contextual help	Graphic
Equipment	Flash memory	1Gbit
	Management interface	USB port
Electrical specifications	Power supply	From serial Bus
	Nominal voltage	24V DC
	Operating voltage	18V...30V DC
	Consumption in stand-by	90mA @ 24V DC
	Maximum consumption	240mA @ 24V DC
Physical specifications	Environmental class	3K5 EN 60721-3-3:1995
	Operating temperature	-5°C...+40°C
	Relative humidity (without condensation)	10%...93%
	Protection class	IP4x
	Casing	ABS
	Dimensions (L x H x D)	225 x 157 x 35mm
	Weight	350g
Conformity	Repeater panel approved for use with control panels: TFA1-298, TFA2-596, TFA4-1192 and TSA1	

SOFTWARE PLUG-INS

TFABIL-TFTS	Software plug-in for repeater upgrade converts the TFT-7C repeater panel into a TFT-7SC synoptic panel.	TFT-7C TO TFT-7SC
	Item no. TF2TFABILTFTS	

TFT-7C - Accessories

	TFBASE-TFT7TC		TFBOX-TFT7C
	Table support base for TFT-7 series repeater panels. Adjustable tilt ABS casing. White colour. Protection rating IP4x. Dimensions (L x H) 200 x 110mm.		Junction box for flush mounting of TFT-7 series repeater panels. The box can be fitted in-wall or fixed to plasterboard walls and panels. Dimensions (L x H x D) 195 x 147 x 35mm.
Item no. TF2TFBASETFT7TC		Item no. TF2TFBOXTFT7C	

TFT-7SC	       
	<p>Control and management synoptic repeater panel, with the same features and functionality as the TFT-7C panel, with the implementation of interactive synoptic management of 32 custom graphics maps.</p> <p>Supported System Commands: Silencing and Control panel Restoring, Silencing and Siren Restoring, Evacuation, Monitored Mode, Exclusion and Inclusion of devices.</p> <p>Graphics maps can be displayed in manual or automatic mode.</p> <p>Up to 32 graphic icons can be placed on each map.</p> <p>Each icon can be associated with a system device or a navigation button.</p> <p>In the event of an alarm, the system automatically displays the map that identifies the location of the device being signalled.</p> <p>Alternatively, the panel can be configured as a repeater of a zone, of an area, or of freely chosen points between the devices, areas and lines that make up the system.</p> <p>For the zones and devices associated with the repeater, you can choose according to the type of control panel, how many and which signals to display.</p> <p>The signals can be chosen from: fire prealarm, fire alarm, technical prealarm, technical alarm, fault, test area, test points, display extinguishing events.</p> <p>The zone or department repeater panel mode, for example, allows the filter zones in hospitals to be created as required. RSC® management of the device: programming, remote management and control of all operating parameters. RS485 bus connection.</p> <p>Surface or flush mounting. Refined ultra-thin design. Red cover.</p> <p>Certification integrated in TFA series control panels (0051 CPR 0388 – 0389).</p>
	Item no. TF2TFT7SC

TFT-7SC - Technical and functional specifications

General information	Synoptic repeater panel	TFT-7SC	Equipment	Flash memory	1Gbit
	Communication protocols	FIRE-BUS		Management interface	USB port
	Addressing	Digital	Electrical specifications	Power supply	From serial Bus
	Connection	Bus RS485		Nominal voltage	24V DC
User interface	Display	Color 7" TFT		Operating voltage	18V...30V DC
	Resolution	800 x 480 pixel		Consumption in stand-by	90mA @ 24V DC
	Touch screen	Capacitive		Maximum consumption	240mA @ 24V DC
	Infographic	Contextual	Physical specificatons	Environmental class	3K5 EN 60721-3-3:1995
	Voice synthesis	Multilingual vocabulary		Operating temperature	-5°C...+40°C
	Speaker	Multifunction		Relative humidity (without condensation)	10%...93%
	Contextual help	Graphic		Protection class	IP4x
	Graphical interface	Customisable		Casing	ABS
	Manageable maps	32		Dimensions (L x H x D)	225 x 157 x 35mm
	Icons for map	32		Weight	350g
Repeater configuration	Event reporting filter	Programmable		Conformity	Repeater panel approved for use with control panels: TFA1-298, TFA2-596, TFA4-1192 and TSA1
	Repetitions that can be associated	Control panel Zone Area Points			





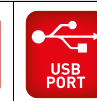


COMPATIBILITY TFT-7C TFT-7SC	TFA1-298	TFA2-596	TFA4-1192	TSA1	TSM1
	✓	✓	✓	✓	-





Telecommunication devices

TELEPHONE COMMUNICATOR



The TFCOM telephone communicator performs the functions of transmitting the fire alarm and transmitting the fault signals, in accordance with the procedures prescribed by EN 54-21.

The communicator is equipped with a management interface for switched telephone line (PSTN communication vector). The array of vectors can be expanded using the optional TFESP-4G expansion module, equipped with GSM and LTE vectors. The availability of multiple communication vectors expands and diversifies the event notification capabilities of Tecnofire Systems.

TFCOM		EN 54-21	EN 50136			SELF-POWERED			
	<p>Telecommunication device, integrated PSTN vector. Optional GSM and LTE telephone vectors available with the TFESP-4G expansion module. 8 communicators/channels for event notification, 1 specialised call back communicator/channel for connection to the monitoring centre. 33 transmissible event categories. 5 transmissible zone event types. 2 telephone numbers or IP addresses for each communicator. 29 communication protocols. Transmission formats: Voice, SMS, Ring, DTMF, Data. Security: encrypted communications, AES 128-bit and AES 256-bit supported encryptions, independent passphrase programming for each communicator. Self-diagnosis functions: communication vectors, power supply, battery, serial call. Front panel with 6 LED for signaling the operating statuses. Fault output. RSC® management of the device: programming, remote management and control of all operating parameters. On-board flash memory for vocabulary customisation. USB interface. RS485 bus connection. Addressable device. Metal casing. Protection rating IP3x. Battery capability: 1 x 12V-7Ah. Dimensions (L x H x D) 315 x 255 x 82mm. Grey colour. EN 54-21:2006. Certification: 0051-CPR-0454.</p>								
	Item no. TF2TFCOM								

TFESP-4G		EN 54-21	EN 50136		VoLTE Voice over LTE	
	<p>Expansion module for TFCOM telephone communicator. It integrates GSM and LTE telecommunication vectors (4G standard). 16 communication protocols, plus 5 backup protocols for the PSTN vector. Transmission formats: Voice, SMS, Ring, DTMF, Data. Security: encrypted communications, supported 128-bit and 256-bit AES encryption, independent passphrase programming for each communicator. The module manages the VoLTE service (high resolution voice calls). Plug-in mounting on TFCOM board. EN 54-21:2006. Certification: 0051-CPR-0454.</p>					
	Item no. TF2TFESP4G					

TFCOM - Accessories

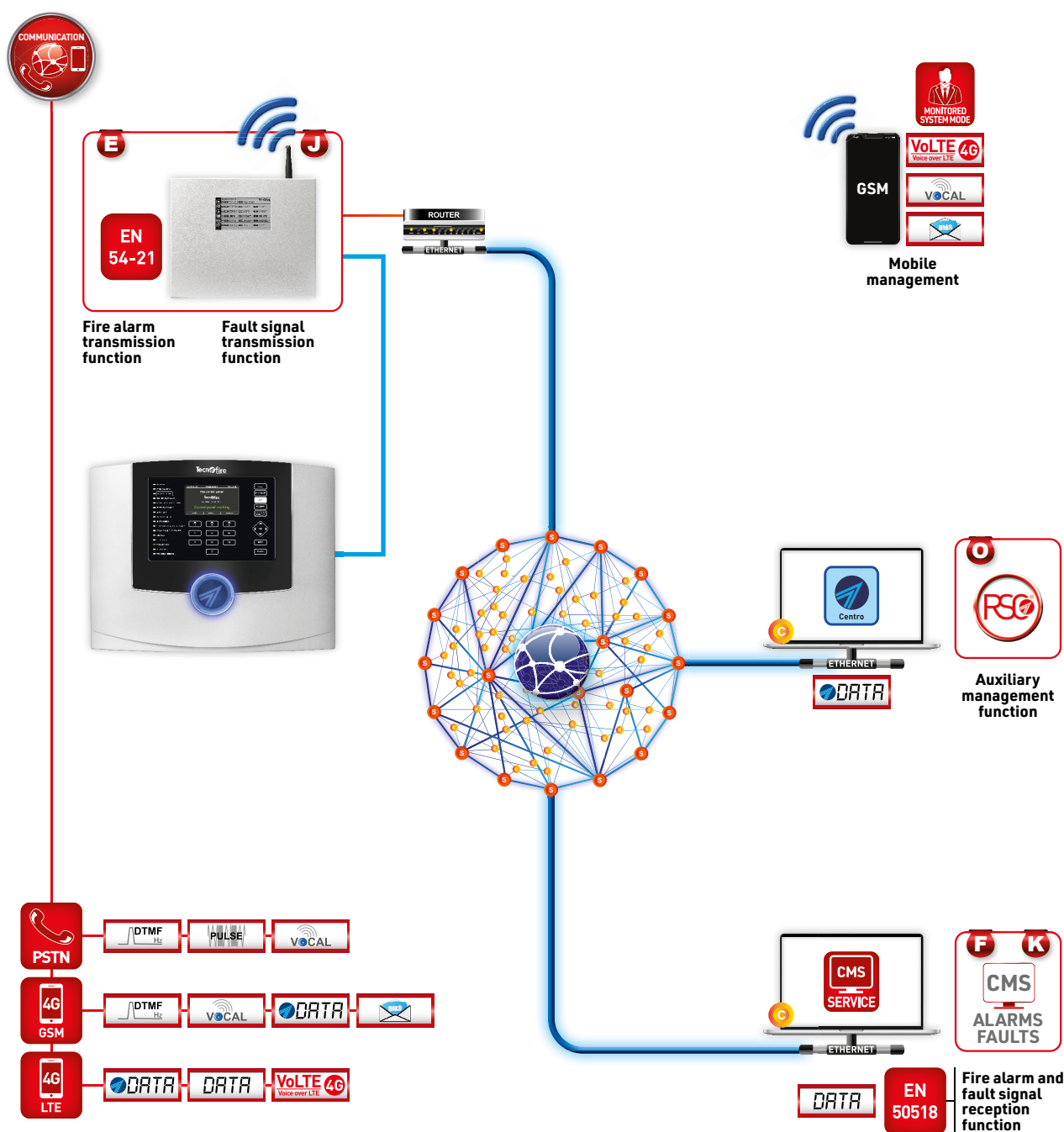
	<p>TFPROLANTENNA</p> <p>Extension cable for antenna. Length: 4m. For connecting the antenna to the TFESP-4G telephone module.</p> <p>Item no. TF2TFPROLANTENN</p>		<p>TFPROLANTENNA 12MT</p> <p>Extension cable for antenna. Length: 12m. For connecting the antenna to the TFESP-4G telephone module.</p> <p>Item no. TF2TFPROLANT12</p>
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TFCOM - Technical and functional specifications











General information	Telephone communicator	TFCOM
	Communication protocols	FIRE-BUS
	Addressing	Dip-switch
	Connection	Bus RS485
TLC features	Telecommunication channels	8 + 1
	Telephone numbers IP addresses	2 for each channel
	Report codes	33 categories
	Report codes Zones	5 typology
	Call event queue	32
	Communication protocols	29
	Encryption	AES 128/256 bit
	Passphrase	Programmable
PSTN vector	Integrated vector	PSTN
	Compliant	ETSI ES 203 021-1
	Transmission time max. value D4	8 seconds
	Transmission time max. value M3	9 seconds
GSM-LTE vector	Optional 4G vector	TFESP-4G
	Transmission time max. value D4	5 seconds
	Transmission time max. value M3	5 seconds
Equipment	Voice synthesis	Vocabulary customisable
	Flash memory	1Gbit
	Management interface	USB port
Outputs	Specialised relay output Max 750mA @ 30V DC	Fault

Battery	Battery housing	1 x 12V-7.2Ah
	Flammability class	UL94-V2 or superior
	Release voltage	Per Vbat <8.9V
	Current for battery charge	Máx. 0.85A
	Charging time	100% in 12h
Electrical specifications	Power supply	From serial Bus
	Nominal voltage	24V DC
	Operating voltage	20V...27.6V DC
	Consumption in stand-by	90mA @ 24V DC
	Maximum consumption	140mA @ 24V DC
Physical specifications	Environmental class	3K5 EN 60721-3-3:1995
	Operating temperature	-5°C...+40°C
	Relative humidity (without condensation)	10%...93%
	Protection class	IP3x
	Casing	Steel
	Dimensions (L x H x D)	315 x 255 x 82mm
	Antenna height	65mm
Conformity	Weight	2,5kg
	Standards	EN 50136-1-1 EN 50136-2-1 EN 54-21:2006
	Certification number	0051-CPR-0454
	Year of CE marking	16
	Number of declaration of performance	016_TFCOM
	Notified body	IMQ
	Telephone communicator approved for use with control panels: TFA1-298, TFA2-596, TFA4-1192 and TSA1	

COMPATIBILITY TFCOM	TFA1-298	TFA2-596	TFA4-1192	TSA1	TSM1
	✓	✓	✓	✓	-



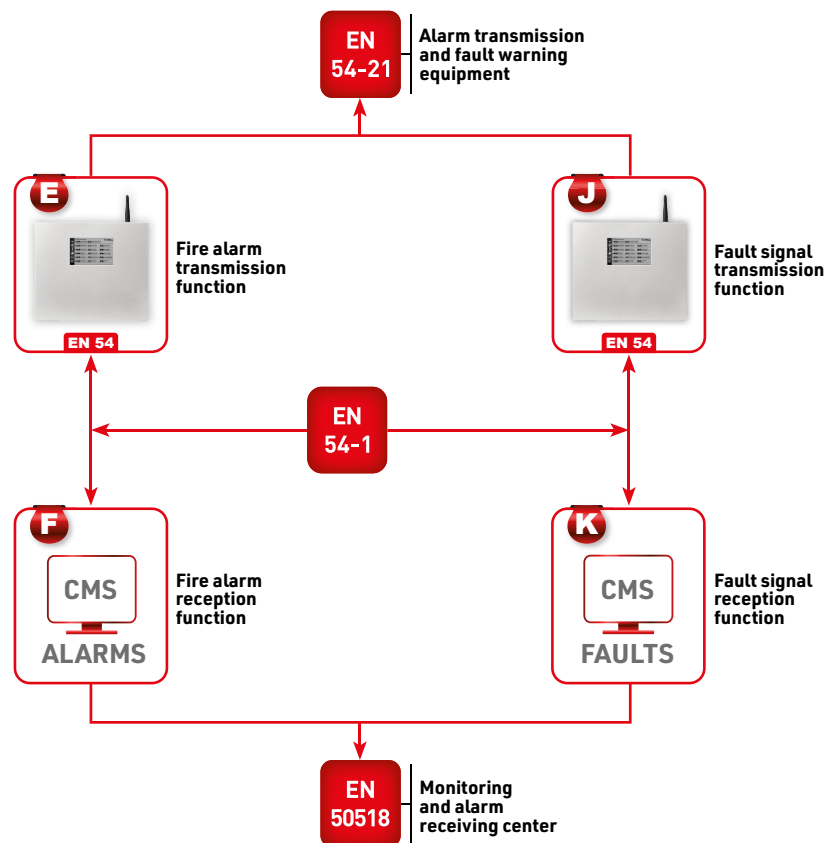
Telecommunications services and functions

Devices	Vectors										
		DDNS	MAIL	Vocal	Vocal	SMS	Remote management	Supervisor	Tecno out	Modbus	CMS
TFCOM	PSTN	-	-	-	✓	-	-	-	-	-	-
TFESP-4G	GSM-LTE	-	-	✓	✓	✓	✓	-	-	-	✓

STANDARDS	
EN 54-1	Figure 1 of EN 54-1 describes the functions: E, J, F, K. E-J functions are responsible for transmission of alarm and fault notification activities. The F-K functions are entrusted with the relative activities of receiving notifications and operational supervision of the means of notification (vectors). E-J functions seem similar, but actually convey notifications to receiving functions with different values and areas of specialisation.
EN 54-21	EN 54-21 is the reference standard for the functions: E-Transmission of fire alarm and J-Transmission of fault signals. The two functions, even if indicated separately, can be performed by a single device, provided that it has the ability to manage multiple transmission channels, subject to forwarding priority logic. The protocols used for communication must be equipped with the appropriate security standards. The notification devices must be equipped with the automatic forwarding function of the Cyclic Test notification. The notification of the Cyclic Test must be forwarded with the Reporting time interval, prescribed by the classification of the communication attributed to the System.
EN 50518	EN 50518 is the reference standard for the functions: F-Receiving of fire alarm and K-Receiving of fault signals. The 2 functions, even if indicated separately, can be carried out by a single alarm receiving centre, provided that it has the certification EN 50518 "Alarm monitoring and receiving centre". EN 50518 prescribes the characteristics, security standards and operating procedures necessary to carry out the activities of receiving fire alarm notifications and fault reporting.

EN 54-1 - Figure 1 functions: E, J, F, K






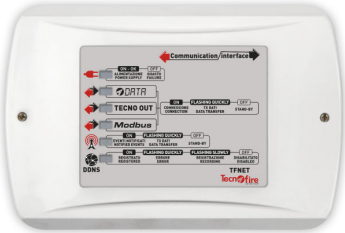
The EN 54-21 is the reference standard for E and J
The EN 50518 is the reference standard for F and K








COMMUNICATION INTERFACE

The TFNET communication interface integrates a 10/100 Mbit Ethernet IP communication node that can be used in a LAN or WAN environment. The TFNET interface integrates the management of Tecnoalarm telematic services: DDNS, SNTP, and MAIL SERVER. The IP communication vector expands and diversifies the event telematic capabilities of Tecnofire Systems.

Specific software options allow the TFNET interface to perform the auxiliary management function, with proprietary and third-party environments and applications. In particular, with the Tecnoalarm Supervisor management environment, the TFNET interface guarantees the most complete functional and operational integration, for the auxiliary management function of the fire detection system.

TFNET	    
	<p>IP vector telecommunication device. 8 communicators/channels dedicated to event telematic activities and 6 TCP/IP telecommunication channels dedicated to remote control and management activities.</p> <p>Integrated option for the Tecnoalarm Supervisor remote management environment.</p> <p>Event notification: 33 categories of General Association, 5 categories of Specific Association to System zones.</p> <p>Functional associations: 2 IP addresses for each communicator. 11 Communication protocols.</p> <p>Transmission formats: Data, and Email.</p> <p>Security: encrypted communications, AES 128-bit and AES 256-bit supported encryptions, independent passphrase programming for each communicator.</p> <p>Automatic diagnostic functions: communication vector, power supply, serial call.</p> <p>Front panel with 6 LED signaling operating statuses.</p> <p>RSC® management of the device: programming, remote management and control of all operating parameters. RS485 bus connection. Protection rating IP3x. ABS casing. White colour.</p> <p>Dimensions (L x H x D) 165 x 110 x 41mm. Standard EN 54-1</p>
	Item no. TF2TFNET

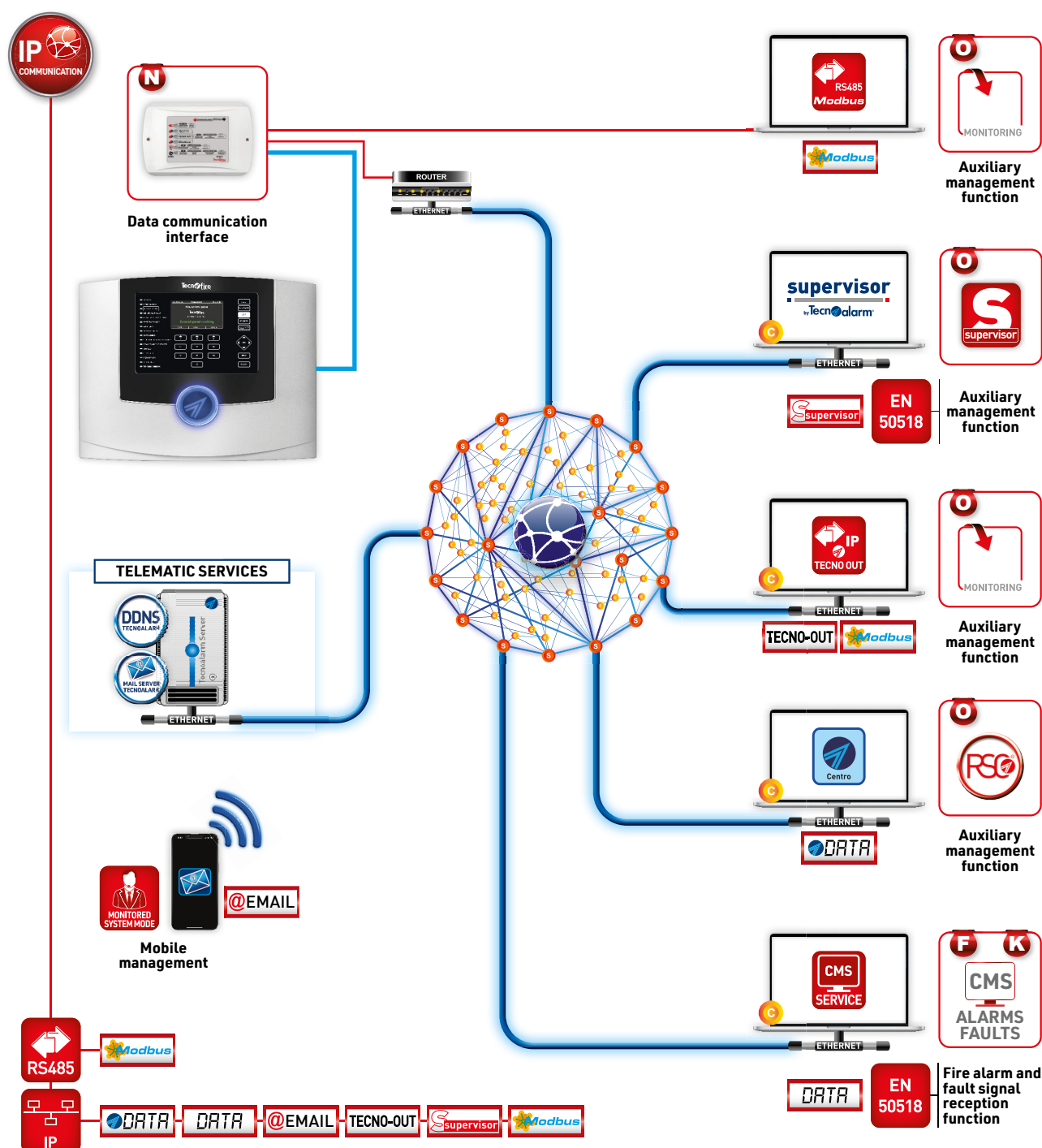
SOFTWARE PLUG-INS	
TFABIL-MODBUS	<p>Enables the TFNET to manage the ModBus communication protocol. For the MODBUS protocol, the TFNET uses either the RS485 communication ports and/or the LAN/WAN port.</p>   <p>Item no. TF2TFABILMODBUS</p>
TFABIL-TECNO	<p>Enables the TFNET to manage the TECNO OUT communication protocol. For the TECNO OUT protocol, the TFNET uses the LAN/WAN communication port.</p>  <p>Item no. TF2TFABILTECNO</p>
TFABIL-FAT FBF	<p>Enables the TFNET to manage the FAT and FBF4000 communication protocols. For both protocols, the TFNET uses the RS485 communication port.</p>   <p>Item no. TF2TFABILFATFBF</p>

TFNET - Technical and functional specifications





General information	Communication interface	TFNET
	Communication protocols	FIRE-BUS
	Addressing	Dip-switch
	Connection	Bus RS485
TLC features	Telecommunications vector	IP
	Telecommunication channels	8
	IP addresses	2 for each channel
	Report codes	33 categories
	Report codes Zones	5 typology
	Communication protocols	11
	Call event queue	64
	Encryption	AES 128/256 bit
	Passphrase	Programmable
	TCP/IP Server channels	Server 1 Server 2 Tecno server Tecnoalarm Service Tecnoalarm Tecno out Modbus
Advanced management	Integrated enabling	Supervisor
	Optionals software plug-in	Tecno out ModBus FAT FBF4000
Servizi telematici	DDNS Tecnoalarm	✓
	Mail Server Tecnoalarm	✓
	SNTP	✓

Automated managements	Cyclic communication test	Programmabile
ModBus	Management interfaces	RS485
		Ethernet port
	TCP/IP protocols	TCP RTU TCP ASCII TCP
	RS485 protocols	RTU485 ASCII485
	RS485 parameters	Programmables
Electrical specifications	LAN address	Programmable
	Power supply	From serial Bus
	Nominal voltage	24V DC
	Operating voltage	20V...27.6V DC
	Consumption in stand-by	90mA @ 24V DC
Physical specifications	Maximum consumption	140mA @ 24V DC
	Environmental class	3K5 EN 60721-3-3:1995
	Operating temperature	-5°C...+40°C
	Relative humidity (without condensation)	10%...93%
	Protection class	IP3x
	Casing	ABS
	Dimensions (L x H x D)	165 x 110 x 41mm
Conformity	Weight	200g
	Reference standard	EN 54-1

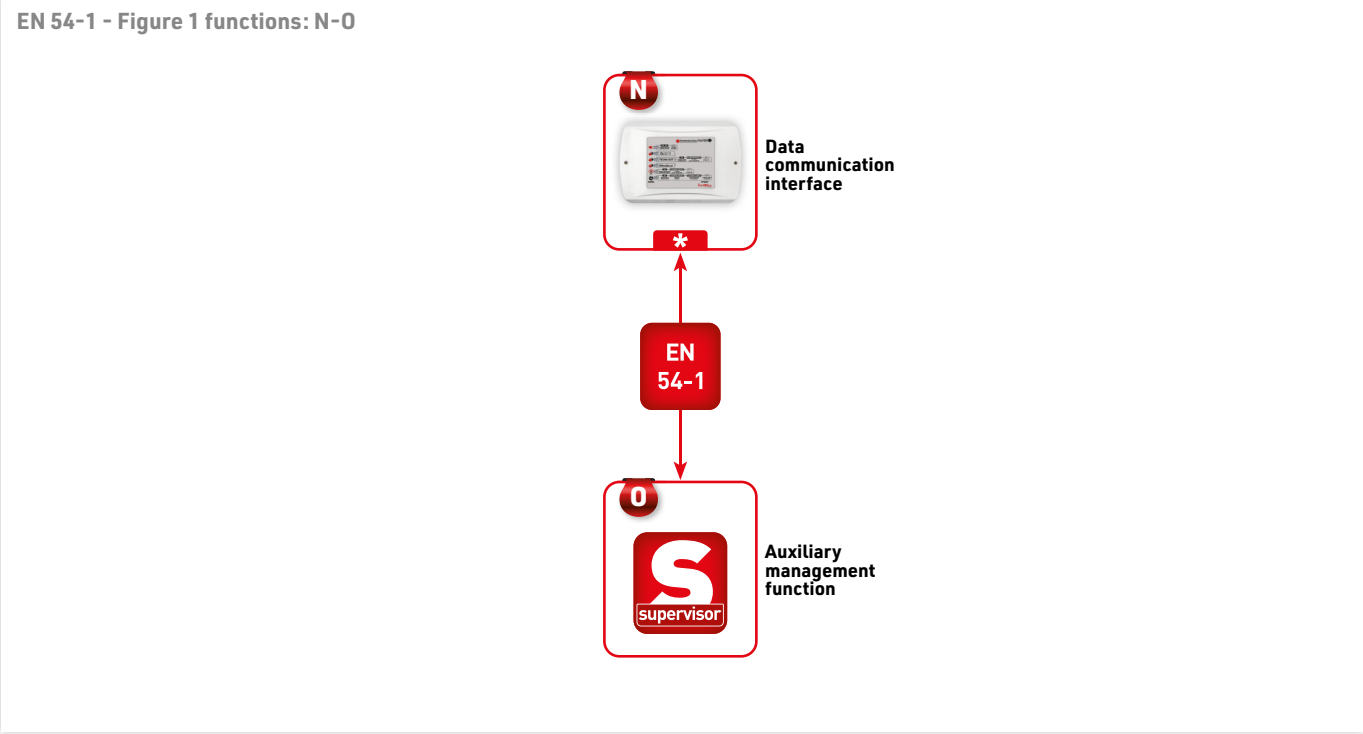
COMPATIBILITY TFNET	TFA1-298	TFA2-596	TFA4-1192	TSA1	TSM1
	✓	✓	✓	✓	-



Telecommunications services and functions

Devices	Vectors										
		DDNS	MAIL	Vocal	Vocal	SMS	Remote management	Supervisor	Tecno out	Modbus	CMS
TFNET	IP	✓	✓	-	-	-	✓	✓	Optional	Optional	✓

STANDARDS	
EN 54-1	The EN 54-1 standard defines the “N” function as “Auxiliary input or output function”, citing as an example the product that performs the “Data communication interface” function. Currently, for this type of product, the EN 54-1 standard does not indicate a reference construction specification.





Fire detection and alarm devices addressed and conventional

ADDRESSABLE







CONVENTIONAL










The range of Tecnofire addressable detectors includes point and linear optical sensors, for detecting actual smoke and/or heat. The available point detectors are: optical smoke detector, rate-of-rise detector and the combined optical smoke and rate-of-rise detector.

Detectors	TFDA-S1	TFDA-TR1	TFDA-STR1	TFMIID-120
	Optical smoke	Rate-of-rise	Combined optical smoke and heat detector	Linear optical
Sensitivity levels	3	-	3	8 x Prealarm + 8 x Alarm
Thermal class	-	A1-58° / A2-68° / B-78°	A1-58°	-
Suffix	-	R o S	R	-
Prealarm management	-	-	Si	Si
Accessories managed with the formula	TFBASE-SOUNDER TFRIP-SMART	TFBASE-SOUNDER TFRIP-SMART	TFBASE-SOUNDER TFRIP-SMART	TFRIP-SMART
Formula criteria	1	1	1	3









Optical smoke detectors

TFDA-S1						
	<p>Addressable optical smoke detector, Tyndall effect technology. Maximum analysis precision of smoke captured by the optical chamber. Optical chamber maintenance control, dynamic sensitivity compensation and automatic signaling of maintenance request.</p> <p>Programmable functions: 3 sensitivity levels, formula and management criteria association for TFBASE-SOUNDER or TFRIP-SMART. With electrical test actuator.</p> <p>The operating statuses of the detector can be used as operands in the formulas managed by the control panels. RSC® management: programming, remote management and control. Loop connection. Dual short-circuit isolator. Mounting with universal base TFBASE01. Protection rating IP22. ABS casing. Colours available, black or white. Dimensions with base (D x H) 100 x 52mm. Approved EN 54-7:2018 - EN 54-17:2005. Certification: 1293-CPR-0424 rv.1</p>					
	Item no. TF3TFDAS1N (white)					
	Item no. TF3TFDAS1BKN (black)					







Rate-of-rise detector


TFDA-TR1							
	<p>Addressable rate-of-rise detector. Maximum precision in determining the ambient temperature. Programmable functions: thermal class: A1-58° / A2-68° / B-78°, rate-of-rise suffix: R or S, formula and management criteria association for TFBASE-SOUNDER or TFRIP-SMART. With electrical test actuator.</p> <p>The operating statuses of the detector can be used as operands in the formulas managed by the control panels. RSC® management: programming, remote management and control. Loop connection. Dual short-circuit isolator. Mounting with universal base TFBASE01. Protection rating IP22. ABS casing. White colour. Dimensions with base (D x H) 100 x 52mm. Approved EN 54-5:2017 + A1:2018 - EN 54-17:2005. Certification: 1293-CPR-0526 rv.1</p>						
	Item no. TF3TFDATR1						


Combined optical smoke and heat detector

TFDA-STR1							
	<p>Addressable detector consisting of 2 separate and independent detection sections. One optical smoke detector and one thermovelocimetric detector Class A1-58°, Suffix R. Highest precision in the determination of ambient temperature and analysis of smoke captured by the optical chamber.</p> <p>Optical chamber maintenance control, dynamic sensitivity compensation and automatic signaling of maintenance request. Programmable functions: 3 sensitivity levels, excludable prealarm signaling, individually excludable detection sections, formula and management criteria association for TFBASE-SOUNDER or TFRIP-SMART. With electrical test actuator.</p> <p>The functional states of the detector can be used as operands in the formulas managed by the control unit. RSC® management: programming, remote management and control. Loop connection. Dual short-circuit isolator. Mounting with universal base TFBASE01. Protection rating IP22. ABS casing. White colour. Dimensions with base (D x H) 100 x 52mm. Approved EN 54-7:2018 - EN 54-5:2017 + A1:2018 - EN 54-17:2005. Certification: 1293-CPR-0423 rv.1</p>						
Item no. TF3TFDASTR1N							

Mounting bases

TFBASE-SOUNDER	    					
	<p>Mounting base for addressable detectors, with integrated acoustic alarm device. Acoustic signaling follows the management formula associated with the detector. Programmable functions: 8 sound modes, 2 level volume adjustment. RSC® management: programming, remote management and control. Protection rating IP22. Polycarbonate casing. White colour. Dimensions (D x H) 108 x 35mm. Approved EN 54-3:2001 + A1:2002 + A2:2006. Certification: 1293-CPR-0558.</p>					
Item no. TF6TFSOUNDERN						

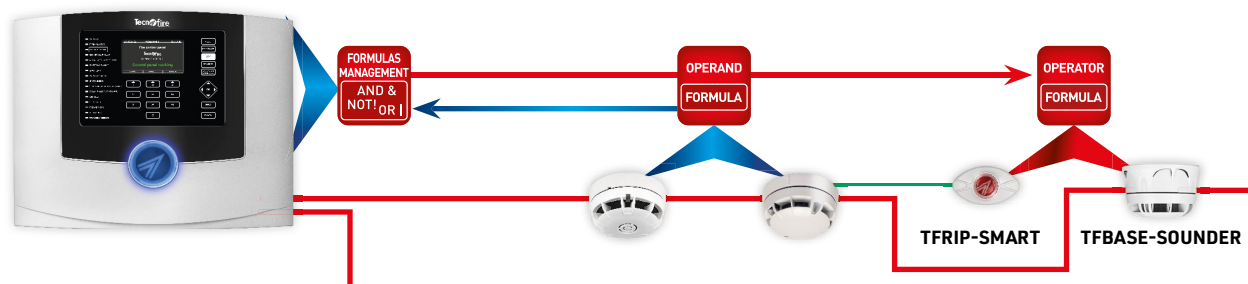
	TFBASE01	<p>Mounting base for detectors and sirens TFIS01, TFIES02. ABS material. White colour. Dimensions (D x H) 100 x 19mm.</p>
		Item no. TF6TFBASE01N (white)
		Item no. TF6TFBASE01BKN (black)

	TFBOX-SB	<p>Junction box for mounting base TFBASE01. Circular shape with 2 flat walls, pre-marked plugs for mounting 2 PG9 pipe sockets in opposing or side-by-side arrangement. Profile with condensation protection. Degree of protection of TFBOX-SB IP44. Casing in ABS. Colour white. Dimensions (D x H) 121 x 36mm.</p>
		Item no. TF5TFBOXSB









Managing Formulas

The operating statuses of the Tecnofire detectors, prealarm, alarm, fault, exclusion, can be used as operands, in the programming of the formulas managed by the control panels. The formulas, through logical operators, relate the operating statuses of the devices indicated as operands. The control panel verifies the criteria set out in the formula and, if it considers it satisfied, implements the outputs and activates the associated optical-acoustic alarm devices.




ADDRESSED DETECTORS - Accessories

	TFBOX-B Junction box for fixing a detector base. Fittings for 20mm tubes. ABS casing. White colour. Dimensions (D x H) 101 x 38mm. Item no. TF6TFBOXB		TFRIP-R Optical repeater, red LED. 360° visibility. Surface mounting. ABS casing. IP22. White colour. Dimensions (L x H x D) 78 x 45 x 25mm. Item no. TF3TFRIPR
	TF-BRP Test can for optical point smoke detectors. Smoke injection with telescopic cylinder with "Venturi" effect, quick and effective test. Pack: 12 pieces. Item no. TF3TFBRP		TFRIP-SMART Smart optical repeater, red LED. 360° visibility. Formula-managed signaling. 3 wire connection to detector. ABS casing. IP22. Colour white. Dimensions (W x H x D) 78 x 45 x 25mm. Item no. TF3TFRIPSMART
	TFDA-REMOVAL Tool for removing Tecnofire detectors. Articulated head to facilitate the removal and fitting of the detector. Standard telescopic pole coupling. Item no. TF3TFDAREMOVAL		TFRIP-R INC Optical repeater, red LED. 360° visibility. Flush mounting. Protection rating IP67. Item no. TF3TFRIPRINC

ADDRESSABLE

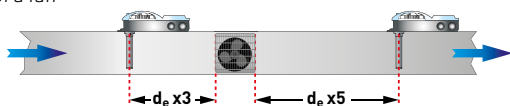
Analysis chamber for ducts

TFDA-DUCT		EN 54-27	ANALYSIS CHAMBER FOR DUCT	AIR SAMPLING	ABS BOX
	<p>Analysis chamber for ventilation and air conditioning ducts. Venturi tube operating principle, sampling mode, single tube with double duct for air intake and discharge.</p> <p>The analysis chamber is equipped with TFBASE01 connection base, for TFDA-S1 optical smoke detector.</p> <p>Protection rating IP54. ABS casing. Grey colour. Dimensions (L x H x D) 165 x 279 x 83mm.</p> <p>The device must be equipped with: TFDA-S1 detector and sampling tube of appropriate length.</p> <p>Approved EN 54-27.</p> <p>Item no. TF3TFDADUCT</p>				

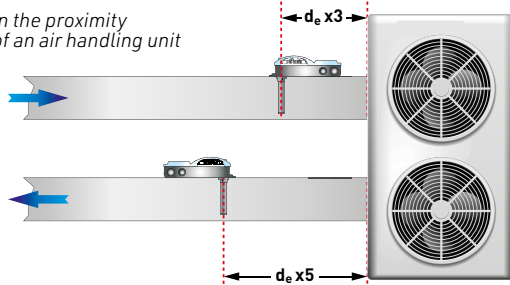
Application drawings

Below are some examples of the positioning of the analysis chambers near interference sources: bends, intersections and fans. In particular, the minimum distances are indicated, for the upstream and downstream positions with respect to the direction of the air flow. Calculation of the d_h size (hydraulic diameter expressed in mm) in the case of ducts with circular cross-section d_h is equal to the diameter of the duct, while in the case of ducts with rectangular cross-section, the d_h size is calculated with the formula, $d_h = 2\sqrt{L \times H / \pi}$.

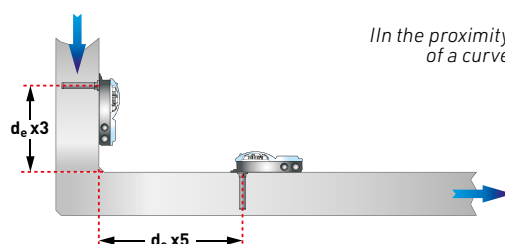
In the proximity
of a fan



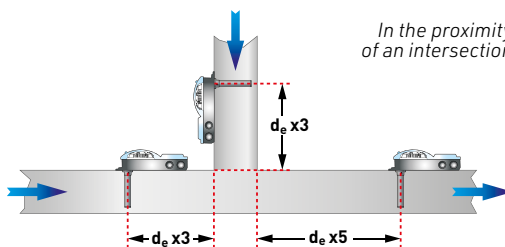
In the proximity
of an air handling unit



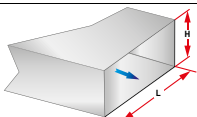
In the proximity
of a curve



In the proximity
of an intersection



Quantity and position of the sampling tubes according to the dimensions of the air duct

	$L \leq 900\text{mm}$	$H \leq 900\text{mm}$	1 detector in the centre of one side
	$L > 900\text{mm}$ $L \leq 1800\text{mm}$	$H \leq 900\text{mm}$	2 detectors on one of the horizontal sides evenly distributed, or 1 detector on each side in the centre
	$L > 900\text{mm}$ $L \leq 1800\text{mm}$	$H > 900\text{mm}$ $H \leq 1800\text{mm}$	4 detectors positioned two by two on opposite sides evenly distributed

TFDA-DUCT - Accessories

	TFTUBO-DUCT 60		TFTUBO-DUCT 150
	Sampling tube with dual duct for air intake and discharge, length 60cm.		Sampling tube with dual duct for air intake and discharge, length 150cm.
	Item no. TF3TFTUBODUCT60		Item no. TF3TFTUBODUCT15








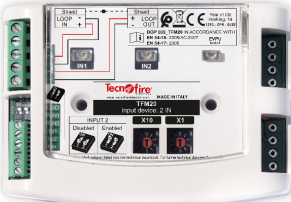






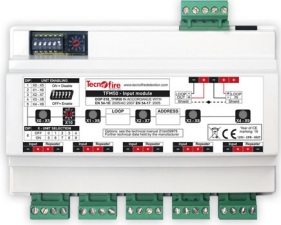







	TFCOVER-DUCT
	Protective cover for TFDA-DUCT, in polycarbonate with internal insulation in polyethylene foam. Dimensions (L x H x D) 292 x 460 x 122mm.
	Item no. TF3TFCOVERDUCT

Addressable modules




The range of addressable Tecnofire modules is composed of devices with various operating specialisations: input and output modules, interface modules for conventional detectors and technological detectors.



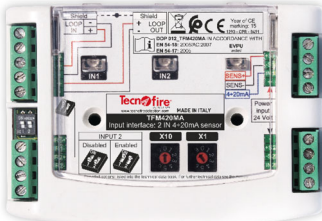
Input modules

Input modules	TFM10	TFM20	TFM50	TFMC1	TFM420MA
Composition	1 input	2 inputs	5 inputs	1 conventional input	2 inputs 4-20mA
Addresses used	1 address	2 addresses	5 addresses	1 address	2 addresses
Input type	Alarm / Fault	Alarm / Fault	Alarm / Fault	Prealarm / Alarm / Fault	Prealarm / Alarm / Fault
Operating criteria	8	8	8	8	5
Evacuation alarm	Programmable	Programmable	Programmable	Programmable	-
Prealarm management	-	-	-	-	Programmable

TFM10 	     
<p>Addressable module with 1 input. Input connection in Alarm or Fault mode. Programmable operating criteria. 1 output per repeater. 1 input status indicator LED. Module operating statuses can be used as operands in formulas. RSC® management: programming, remote management and control. Loop connection. Dual short-circuit isolator. Surface mounting. Protection rating IP4x. ABS casing. White colour. Dimensions (L x H x D) 69.5 x 49.8 x 17mm (dimension L can be reduced to 49.8mm). Approved EN 54-18:2005/AC:2007 - EN 54-17:2005. Certification: 1293-CPR-0490.</p>	<p>Item no. TF4TFM10</p>
TFM20 	     
<p>Addressable module equipped with 2 inputs, individually identified by the system. Inputs connection in Alarm or Fault mode. Programmable operating criteria. 2 outputs for repeaters. 2 input status indicator LED. Module operating statuses can be used as operands in formulas. RSC® management: programming, remote management and control. Loop connection. Dual short-circuit isolator. Fixing on a surface or on a DIN bar with TFDIN accessory. Protection rating IP4x. ABS casing. White colour. Dimensions (L x H x D) 112 x 78 x 25mm. Approved EN 54-18:2005/AC:2007 - EN 54-17:2005. Certification: 1293-CPR-0420.</p>	<p>Item no. TF4TFM20</p>
TFM50-HP 	      
<p>Addressable module equipped with 5 inputs, individually identified by the system. Inputs connection in Alarm or Fault mode. Programmable operating criteria. 5 outputs for repeaters. 5 input status indicator LED. Module operating statuses can be used as operands in formulas. RSC® management: programming, remote management and control. Loop connection. Dual short-circuit isolator. Fixing on a surface or on a DIN bar. Protection rating IP4x. ABS casing. White colour. Dimensions (L x H x D) 144 x 92 x 71,5mm. EN 54-18:2005/AC:2007 - EN 54-17:2005. Certificato di omologazione: 1293-CPR-0527.</p>	<p>Item no. TF4TFM50HP</p>
TFM50-LP	<p>Addressable module with the same electrical functional characteristics of the TFM50-HP model, but with installation in reduced height casing. Dimensions (L x H x D) 144 x 92 x 38.5mm.</p> <p>Item no. TF4TFM50LP</p>



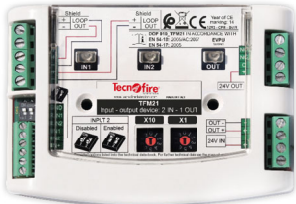
ADDRESSABLE

TFMC1		EN 54-18 54-17	1 INPUT CONVENTIONAL DETECTORS	1 LOGICAL UNIT	OPERAND FORMULA	
	<p>Addressable module equipped with 1 input for conventional detectors. Opto-isolated power supply. Programmable functions: Prealarm signaling. 1 input status indicator LED. Module operating statuses can be used as operands in formulas. RSC® management: programming, remote management and control. Loop connection. Dual short-circuit isolator. Fixing on a surface or on a DIN bar with TFDIN accessory. Protection rating IP4x. ABS casing. White colour. Dimensions (L x H x D) 112 x 78 x 25mm. Approved EN 54-18:2005/AC:2007 - EN 54-17:2005. Certification: 1293-CPR-0492.</p>					
Item no. TF4TFMC1						

TFM420MA		EN 54-18 54-17	2 4-20mA INPUTS	2 LOGICAL UNITS	OPERAND FORMULA	
	<p>Addressable module equipped with 2 inputs for 4-20mA devices, individually identified by the system. Programmable functions: Prealarm signaling, operating criteria, prealarm threshold, alarm threshold. Criterion for detecting inputs for increasing or decreasing current. 2 outputs for repeaters. 2 input status indicator LED. Module operating statuses can be used as operands in formulas. RSC® management: programming, remote management and control. Loop connection. Dual short-circuit isolator. Fixing on a surface or on a DIN bar with TFDIN accessory. Protection rating IP4x. ABS casing. White colour. Dimensions (L x H x D) 112 x 78 x 25mm. Approved EN 54-18:2005/AC:2007 - EN 54-17:2005. Certification: 1293-CPR-0491.</p>					
Item no. TF4TFM420MA						

Input/output module

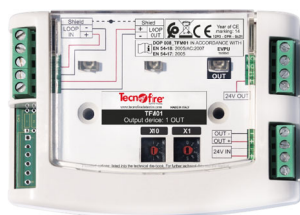
Input/output module	TFM21		
Composition	2 inputs - 1 output		
Addresses used	3 addresses		
Input type	Alarm / Fault	Output type	Contact / Controlled line
Operating criteria	8	Operating criteria	6
Evacuation alarm	Programmable	Delay and activation time	Programmables
		Formula association	Yes

<div>TFM21</div>	<div><div></div><div><div>EN 54-18 54-17</div></div><div><div>2 INPUTS 1 OUTPUT</div></div><div><div>3 LOGICAL UNITS</div></div><div><div>OPERAND AND OPERATOR FORMULA</div></div><div><div></div><div>ABS BOX</div></div></div>
<div></div>	<div><p>Addressable module equipped with 2 inputs and one output, individually identified by the system. Inputs: connection in Alarm or Fault mode, programmable operating criteria. 2 outputs for repeaters. Inputs operating statuses can be used as operands in formulas. Output: connection in contact mode or controlled line. Programming: operating criteria, activation time and delay. Output activation subject to formula. 3 input and output status indicator LED. Protected service input for powering external devices. RSC® management: programming, remote management and control. Loop connection. Dual short-circuit isolator. Fixing on a surface or on a DIN bar with TFDIN accessory. Protection rating IP4x. ABS casing. White colour. Dimensions (L x H x D) 112 x 78 x 25mm. Approved EN 54-18:2005/AC:2007 - EN 54-17:2005. Certification: 1293-CPR-0419.</p></div>
<div>Item no. TF4TFM21</div>	

Output Modules

Output Modules	TFM01	TFM05
Composition	1 output	5 outputs
Addresses used	1 address	5 addresses
Output type	Contact / Controlled line	Contact / Controlled line
Operating criteria	6	6
Evacuation alarm	Programmable	Programmable
Prealarm management	Yes	Yes

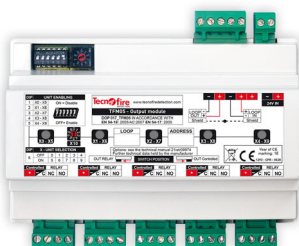
TFM01



Addressable module with 1 output. Output connection in contact mode or controlled line. Programming: operating criteria, activation time and delay. Output activation subject to formula. 1 output status indicator LED. Protected service input for powering external devices. RSC® management: programming, remote management and control. Loop connection. Dual short-circuit isolator. Fixing on a surface or on a DIN bar with TFDIN accessory. Protection rating IP4x. ABS casing. White colour. Dimensions (L x H x D) 112 x 78 x 25mm. Approved EN 54-18:2005/AC:2007 - EN 54-17:2005. Certification: 1293-CPR-0421.

Item no. TF4TFM01

TFM05-HP



Addressable module equipped with 5 outputs, individually identified by the system. Output connection in contact mode or controlled line. Programming: operating criteria, activation time and delay. Outputs activation subject to formula. 5 output status indicator LED. Protected service inputs for powering external devices. RSC® management: programming, remote management and control. Loop connection. Dual short-circuit isolator. Fixing on a surface or on a DIN bar. Protection rating IP4x. ABS casing. White colour. Dimensions (L x H x D) 144 x 92 x 71.5mm. Approved EN 54-18:2005/AC:2007 - EN 54-17:2005. Certification: 1293-CPR-0528.

Item no. TF4TFM05HP

TFM05-LP

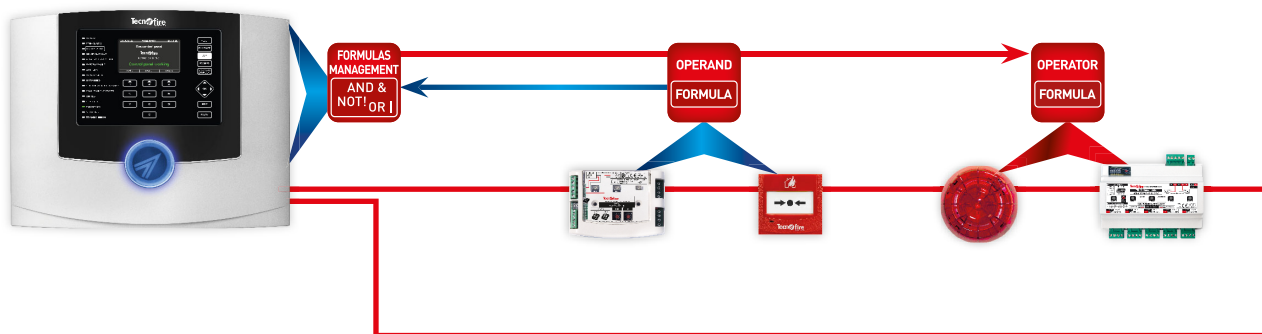
Addressable module with the same electrical functional characteristics of the TFM05 -HP model, but with installation in reduced height casing. Dimensions (L x H x D) 144 x 92 x 38.5mm.

Item no. TF4TFM05LP

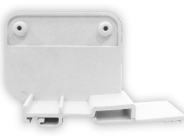






ADDRESSABLE

Managing Formulas

The operating statuses of the Tecnofire modules, prealarm, alarm, fault, exclusion, can be used as operands, in the programming of the formulas managed by the control panels. The formulas, through logical operators, relate the operating statuses of the devices indicated as operands. The control panel verifies the criteria set out in the formula and, if it considers it satisfied, implements the outputs and activates the associated optical-acoustic alarm devices.




ADDRESSABLE MODULE - Accessories

	TFDIN Support bracket for mounting standard format addressable modules, on DIN omega bar. ABS material. White colour. Item no. TF5TFDIN		TFRIP-V Optical repeater, green LED. 360° visibility Surface mounting. ABS casing. IP22. White colour. Dimensions (L x H x D) 78 x 45 x 25mm. Item no. TF3TFRIPV
	TFBOX-M Junction box with fixing templates for addressable modules. ABS casing. White colour. Dimensions (L x H x D) 136 x 136 x 63mm. Item no. TF5TFBOXM		TFRIP-R Optical repeater, red LED. 360° visibility Surface mounting. ABS casing. IP22. White colour. Dimensions (L x H x D) 78 x 45 x 25mm. Item no. TF3TFRIPR
	TFRELE-230 Relay module for managing 230V AC electrical loads. Command serviced by an output module. 5A maximum over contact load. Dimensions (L x H x D) 66 x 95 x 29mm. Item no. TF5TFRELE230		TFRIP-G Optical repeater, yellow LED. 360° visibility Surface mounting. ABS casing. IP22. White colour. Dimensions (L x H x D) 78 x 45 x 25mm. Item no. TF3TFRIPG
			TFRIP-R INC Optical repeater, red LED. 360° visibility Flush mounting. Protection rating IP67. Item no. TF3TFRIPRINC

Addressable manual alarm call points


The range of manual alarm call points consists of addressable and conventional devices, available in the colours required by the various application contexts. Addressable alarm call points are also available with IP55 protection rating.

TFCP		RSC	EN 54-11 54-17	TYPE A	FIRE ALARM	1 LOGICAL UNIT	OPERAND FORMULA	PC BOX
	<p>Addressable resettable call point, for manual fire alarm signaling. Manual operation, Type A (direct). Module operating statuses can be used as operands in formulas. RSC® management: programming, remote management and control. Loop connection. Dual short-circuit isolator.</p> <p>Installation method: with piping in visible execution with pipe box, with piping in sub-track execution, on flush box 502, or, on flush box 503 with optional base TFCP-FRAME.</p> <p>Supplied accessories: tube box, opening key and reset button. Indoor use. Protection rating IP44. Polycarbonate casing V0. Red colour. Dimensions (L x H x D) 93 x 88 x 41mm. With the tube box the dimension D becomes 76mm.</p> <p>Approved EN 54-11:2001+A1:2005 - EN 54-17:2005. Certification 1293-CPR-0662.</p>							
	TFCP	Item no. TF5TFCP (red)						
	TFCP-MR	Item no. TF5TFCPMR (yellow) - product not complying with EN 54						
	TFCP-ES	Item no. TF5TFCPES (blue) - product not complying with EN 54						
	TFCP-AB	Item no. TF5TFCPAB (green) - product not complying with EN 54						

<div>TFCP-IP55</div>	<div><div><div><div><div></div><div></div><div></div><div></div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><di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CONVENTIONAL

Conventional manual alarm call points

TFCP-C		EN 54-11	TYPE A	FIRE ALARM	PC BOX
	Resettable conventional call point, for manual fire alarm signaling. Manual operation, Type A (direct). Installation method: with piping in visible execution with pipe box, with piping in sub-track execution, on flush box 502, or, on flush box 503 with optional base TFCP-FRAME. Supplied accessories: tube box, opening key and reset button. Indoor use. Protection rating IP44. Polycarbonate casing V0. Red colour. Dimensions (L x H x D) 93 x 88 x 41 mm. With the tube box the dimension D becomes 76 mm. Approved EN 54-11:2001+A1:2005. Certification 1293-CPR-0663.				
	TFCP-C	Item no. TF5TFCPC (red)			
	TFCP-CMR	Item no. TF5TFCPCMR (yellow) - product not complying with EN 54			
	TFCP-CES	Item no. TF5TFCPCES (blue) - product not complying with EN 54			
	TFCP-CAB	Item no. TF5TFCPCAB (green) - product not complying with EN 54			

Mounting mode



Exposed with
or without tube box







With TFCP-FRAME
adapter on 502 / 503 box



With TFCP-PLEXI sign











MANUAL ALARM CALL POINTS TFCP - TFCP-C - TFCP-IP55 - Accessories





	TFCP-COP Transparent anti-vandal cover with anti-opening clamp, for TFCP-C and TFCP IP55 series call points. Pack: 10 pieces. Item no. TF5TFCOPCP		TFCP-KEY Opening and reset key for TFCP-C and TFCP IP55 series call points. Pack: 10 pieces. Item no. TF5TFKEYCP
	TFCP-FRAME Adapter for mounting TFCP-C series call points on 503 flush box. Pack: 5 pieces. Item no. TF5TFCPFRAME		TFCP-PLEXI Plexiglass location sign, with push-button lock, reversible position. Conforms to UNI EN ISO 7010. Dimensions (L x H) 153 x 153 mm. Item no. TF5TFCPPX

Addressable optical-acoustic alarm devices


Addressable optical-acoustic alarm devices; extremely versatile, the devices can manage two signaling modes, for example Prealarm and Alarm. Optical synchronised signaling.

Optical-acoustic alarm devices	TFPANM	TFIS01	TFIES02
Logical units managed	2	2	2
Addresses used	1 or 2 addresses	1 or 2 addresses	1 or 2 addresses
Sound modes	8	64	64
Operating criteria	6	6	6
Optical signaling	Excludible	Excludible	Excludible
Acoustic signaling	Excludible	-	Excludible
Backlighting	Programmable	-	-
Delay and activation time	Programmables	Programmables	Programmables
Formula association	Yes	Yes	Yes






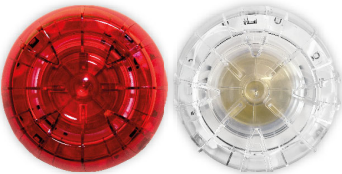
TFPANM-AI	        
	<p>Optical-acoustic fire alarm panel, VAD category W. Optical coverage W-4,6-7,7, volume 272m³. Sound pressure 99dB(A) @ 1m. Dual address for operation duplication. Programmable functions: 6 operating criteria, 8 sound modes, activation time and delay, flashing and/or acoustic signal can be excluded. Optical synchronised signaling. Signaling activation subject to formula. RSC® management: programming, remote management and control. Loop connection. Dual short-circuit isolator. Semi-flush mounting on box type 503 or on surface via TFBOX-P accessory. 24V DC power supply from external source. Maximum consumption 65 mA. Protection rating IP21C. ABS casing. White colour. Semi-flush mounting dimensions (L x W x D) 373 x 150 x 33mm. Approved EN 54-3:2001 + A2:2006 - EN 54-23:2010 - EN 54-17:2005. Certification: 0051-CPR-0532.</p>
	Item no. TF5TFPANMAI-UK









	TFPANM-AC	<p>Panel with the words "ALARM IN PROGRESS". Technical characteristics equal to the TFPANM-AI model.</p>
		Item no. TF5TFPANMAC-UK
	TFPANM-EL	<p>Panel with the words "PLEASE EVACUATE". Technical characteristics equal to the TFPANM-AI model.</p>
		Item no. TF5TFPANMEL-UK
	TFPANM-VE	<p>Panel with the words "DO NOT ENTER EXTINGUISHING IN PROGRESS". Technical characteristics equal to the TFPANM-AI.</p>
		Item no. TF5TFPANMVE-UK
	TFPANM-AG	<p>Panel with the words "GAS ALARM". Technical characteristics equal to the TFPANM-AI model.</p>
		Item no. TF5TFPANMAG-UK

TFPANM - Accessories




	TFBOX-P <p>Mounting base for TFAPANM panel. Fittings for 20mm tubes. Wall or box 503 mounting. Dimensions (L x H x D) 373 x 150 x 63mm.</p>
	Item no. TF5TFBOXP

ADDRESSABLE

TFIS01								
	<p>Optical-acoustic warning device for signaling fire alarm VID. Sound pressure 102dB(A) @ 1m. Type A for indoors. Dual address for operation duplication. Programmable functions: 6 operating criteria, 64 sound modes, volume adjustment 2 levels, activation time and delay, flashing excluded, activation. Signaling activation subject to formula. RSC® management: programming, remote management and control. Loop connection. Dual short-circuit isolator. Mounting with universal base TFBASE01. Protection rating IP22. Operating temperature -15°C...+70°C. PC-ABS casing. Red or white optical diffuser colour. Dimensions (D x H) 120 x 65mm. Approved EN 54-3:2001 + A1:2002 + A2:2006 - EN 54-17:2005. Certification: 1293-CPR-0422.</p> <p>Item no. TF5TFIS01 (optical diffuser red)</p> <p>Item no. TF5TFIS01W (optical diffuser white)</p>							

TFIES02										
	<p>Optical-acoustic warning device for VAD fire alarm signal, category 0 (Open class). Optical coverage 0-4,6-2, volume 15m³. Sound pressure 101dB(A) @ 1m. Type B for outdoor use. Dual address for operation duplication. Programmable functions: 6 operating criteria, 64 sound modes, volume adjustment 2 levels, activation time and delay, flashing and/or acoustic signal can be excluded. Optical synchronised signaling. Signaling activation subject to formula. RSC® management: programming, remote management and control. Loop connection. Dual short-circuit isolator. Mounting with universal base TFBASE01. Protection rating IP33C. Operating temperature -25°C...+70°C. PC-ABS casing. White optical diffuser colour. Dimensions (D x H) 120 x 65mm. Approved EN 54-3:2001 + A1:2002 + A2:2006 - EN 54-23:2010 - EN 54-17:2005. Certification: 1293-CPR-0825.</p> <p>Item no. TF5TFIES02</p>									

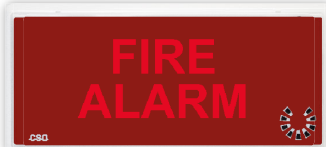

TFIS01 - TFIES02 - Accessories

	<p>TFBASE01</p> <p>Mounting base for sirens TFIS01 and TFIES02. ABS material. White colour. Dimensions (D x H) 100 x 19mm.</p> <p>Item no. TF6TFBASE01N</p>	 <p>TFBOX-SBWP</p> <p>Junction box for mounting base TFBASE01, with additional seal for mounting siren module TFIES02. Circular shape with 2 flat walls, pre-marked plugs for mounting 2 PG9 pipe sockets in opposing or side-by-side arrangement. Plug for plexiglass signage. Protection rating of TFBOX-SBWP IP65. ABS enclosure. Colour white. Dimensions (D x H) 121 x 40mm.</p> <p>Item no. TF5TFBOXSBWP</p>
	<p>TFIS01-PLEXI</p> <p>Plexiglass signage, with mounting location for TFIS01 and TFIES02 sirens. Wording "FIRE ALARM". Dimensions (L x H) 360 x 121mm.</p> <p>Item no. TF5TFIS01PX-UK</p>	





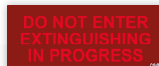
Conventional optical-acoustic alarm devices

TFES01							
	<p>Optical-acoustic alarm device, self-powered, for outdoor use, VID. Maximum sound pressure 107dB(A) @ 1m. Magneto-dynamic type acoustic diffuser. High-efficiency optical signaling LED. Wall mounting. Programmable functions, alarm tone. Automatic self-test functions to control: power supply, battery, horn, flashing. Fault signal output. Step-down converter for battery charging. Allocable battery 12V-2.1Ah. 24V DC supply voltage. Maximum consumption in signaling 350mA. Protection rating IP33C. Outdoor use. Operating temperature -25°C...+70°C. PC-ABS casing. Red colour. Dimensions (L x H x D) 211 x 315 x 98mm. Approved EN 54-3. Certification: 1293-CPR-0493.</p>						
Item no. TF7TFES01							



Conventional optical-acoustic panels

TFPAN-05		EN 54-3	VID VISUAL INDICATION DEVICE	SOUND LEVEL 88dB(A) @1m	IP54	ABS BOX
	<p>Optical-acoustic fire alarm panel, VID. Surface mounting or semi-flush. Maximum installation height 4.2m. Can be used indoors and outdoors. Sound pressure 88dB(A) @ 1m. 24V DC supply voltage. Maximum consumption in signaling 100mA. Protection rating IP54. Operating temperature -10°C...+50°C. ABS casing. White colour. Semi-flush mounting dimensions (L x W x D) 365 x 147 x 50mm. Approved EN 54-3. Certification: 0051-CPD-0256.</p>					
Item no. TF7TFPAN05-UK						




















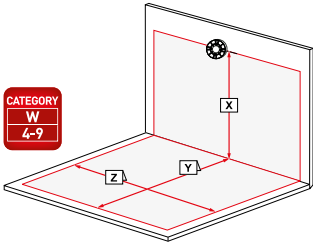
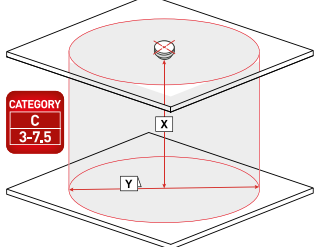
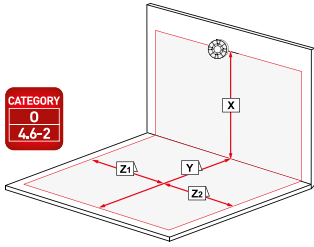
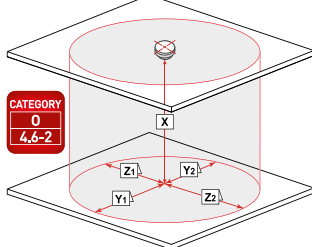
TFPAN-04		EN 54-3 54-23	VAD VISUAL ALARM DEVICE	CATEGORY W 4.6-9.1	380m³ COVERAGE VOLUME	SOUND LEVEL 92dB(A) @1m	ABS BOX
		<p>Optical-acoustic fire alarm panel, VAD category W. Interchangeable signaling film. Optical coverage W-4.6-9.1. Sound pressure 92dB(A) @ 1m. Surface or semi-flush mounting on box type 503. 24V DC supply voltage. Maximum consumption in 50mA signal. Protection rating IP21C. Operating temperature -10°C...+55°C. ABS casing. White colour. Semi-flush mounting dimensions (L x W x D) 292 x 130 x 14mm. Approved EN 54-3 - EN 54-23. Certification: 1328-CPR-0427.</p> <p>Item no. TF7TFPAN04-UK</p>					
TFPAN-06		EN 54-3	VID VISUAL INDICATION DEVICE	SOUND LEVEL 92dB(A) @1m	ABS BOX		
		<p>Optical-acoustic fire alarm panel, VID. Interchangeable signaling film. Sound pressure 92dB(A) @ 1m. Surface or semi-flush mounting on box type 503. 24V DC supply voltage. Maximum consumption in signaling 40mA. Protection rating IP21C. Operating temperature -10°C...+55°C. ABS casing. White colour. Semi-flush mounting dimensions (L x W x D) 292 x 130 x 14mm. Approved EN 54-3. Certification: 1328-CPR-0584.</p> <p>Item no. TF7TFPAN06-UK</p>					
	TFPELL4-AG	Replacement film for TFPAN-04 and TFPAN-06 "GAS ALARM".					
		Item no. TF7TFPELL4AG-UK					
	TFPELL4-EL	Replacement film for TFPAN-04 and TFPAN-06 "PLEASE EVACUATE".					
		Item no. TF7TFPELL4EL-UK					
	TFPELL4-SC	Replacement film for TFPAN-04 and TFPAN-06 "DO NOT ENTER EXTINGUISHING IN PROGRESS".					
		Item no. TF7TFPELL4SC-UK					

Conventional optical alarm devices

TFL10W		EN 54-23	VAD VISUAL ALARM DEVICE	CATEGORY W 4-9	324m³ COVERAGE VOLUME	IP21	ABS BOX
	<p>Optical fire alarm device VAD category W. Wall installation. Optical Coverage W-4.9. Volume 324m³. White flashing light. Programmable optical coverage. Power supply voltage 9...60V DC. Maximum consumption in signaling 14.5mA. Indoor use. Protection rating IP21. Operating temperature -10°C...+55°C. ABS casing. Red colour. Dimensions (L x H x D) 109 x 45 x 121mm. Approved EN 54-23. Certification: 2852-CPR-0121.</p>						
Item no. TF7TFL10W							
TFL10W-WP	<p>Device with the same characteristics as the TFL10W model, but with IP65 protection rating. Outdoor use. Dimensions (L x H x D) 118 x 63 x 121mm. Approved EN 54-3 - EN 54-23. Certification: 2852-CPR-0120.</p>						IP65
Item no. TF7TFL10WWP							
TFL20W		EN 54-23	VAD VISUAL ALARM DEVICE	CATEGORY C 3-7.5	132m³ COVERAGE VOLUME	IP21	POLYAMIDE BOX
	<p>Optical fire alarm device VAD category C. Ceiling installation. Optical Coverage C-3-7.5. Volume 132m³. White flashing light. Power supply voltage 15...40V DC. Maximum consumption in signaling 10mA. Indoor use. Protection rating IP21. Operating temperature -30°C...+70°C. PA polyamide casing. White colour. Dimensions (D x H) 104 x 45mm. Approved EN 54-23. Certification: 2831 CPR-F0568.</p>						
Item no. TFL20W							

Conventional optical-acoustic alarm devices

TFSL20	       
	<p>Optical-acoustic fire alarm device, VAD category W. Wall-mounted installation. Optical Coverage W-4.9. Volume 324m³. Sound pressure 100dB(A) @ 1m. 2 control inputs. Programmable functions: optical coverage, acoustic power, alarm tone. Power supply voltage 9V...60V DC. Maximum consumption in signaling 14.5mA. Protection rating IP21. Indoor use. Operating temperature -10°C...+55°C. ABS PC casing. Red colour. Dimensions (L x H x D) 121 x 109 x 45mm. Approved EN 54-3 - EN 54-23. Certification: 2852-CPR-0117.</p>
Item no. TF7TFSL20	
TFSL20-WP	<p>Device with the same characteristics as the TFSL20 model, but with IP65 protection rating. Outdoor use. Dimensions (L x H x D) 121 x 118 x 63mm. Approved EN 54-3 - EN 54-23. Certification: 2852-CPR-0116.</p> 
Item no. TF7TFSL20WP	
TFSL03	     
	<p>High-power optical-acoustic fire alarm device, VID. Wall mounting. Maximum sound pressure 120dB(A) @ 1m. 3 control inputs. Programmable functions: alarm tone, acoustic power. 24V DC supply voltage. Maximum consumption in signaling 1.5A. Protection rating IP66. Outdoor use. Operating temperature -25°C...+70°C. ABS casing. Red colour. Dimensions (L x H x D) 168 x 212 x 155mm. Approved EN 54-3. Certification: 0832-CPD-0568.</p>
Item no. TF7TFSL03	
TFSL04	<p>Device with the same characteristics as the TFSL03 model, but with flashing amber colour and grey casing. Approved EN 54-3. Certification: 0832-CPD-0568.</p>
Item no. TF7TFSL04	

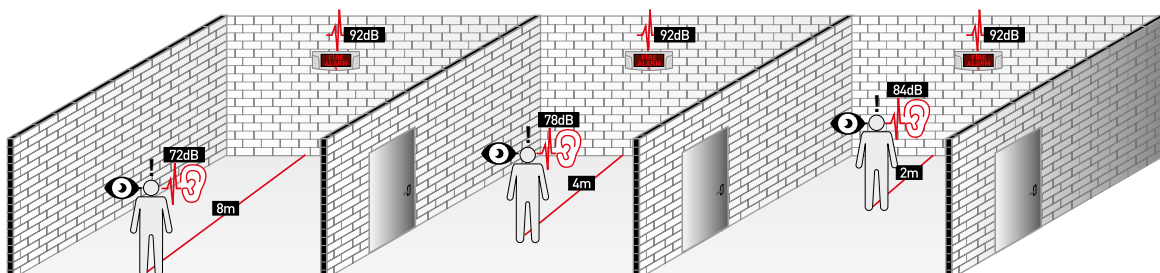
VAD category W wall mounted	VAD category C ceiling mounted	VAD category O wall mounted	VAD Category O ceiling mounted
			
<p>The first digit indicates the maximum installation height X=4m, the second digit indicates the width and length of the cover cube Y=9m.</p>	<p>The first digit indicates the maximum installation height X=3m, the second digit indicates the diameter of the cover cylinder Y=7.5m.</p>	<p>The first digit indicates the maximum installation height X=4.6m, the second digit indicates the sides of the optical cover cube base: Y side and Z side (Z1+Z2).</p>	<p>The first digit indicates the maximum installation height X=4.6m, the second digit indicates the radii of the cover cylinder: the sum of the Y side (Y1+Y2) and the sum of Z side (Z1+Z2).</p>
<p>N.B. The digits indicated on the labels: Z1, Z2, Y1, Y2, may be different, to indicate asymmetrical optical coverage.</p>			

CONVENTIONAL


Conventional acoustic alarm devices

TFS10		EN 54-3	SOUND LEVEL 105dB(A) @1m	2 ALARM CONTROL INPUTS	IP21	ABS BOX
	<p>Acoustic fire alarm device. Wall mounting. Sound pressure 105dB(A) @ 1m. 2 control inputs. Programmable functions: acoustic power, alarm tone. Power supply voltage 9V...60V DC. Maximum consumption in signaling 4mA. Protection rating IP21. Indoor use. Operating temperature -10°C...+55°C. ABS casing. Red colour. Dimensions (L x H x D) 121 x 109 x 45mm. Approved EN 54-3. Certification: 2852-CPR-0119.</p>					
Item no. TF7TFS10						
TFS10-WP	<p>Device with the same characteristics as the TFS10 model, but with IP65 protection rating. Outdoor use. Dimensions (L x H x D) 121 x 118 x 63mm. Approved EN 54-3. Certification: 2852-CPR-0118.</p>					IP65
Item no. TF7TFS10WP						
TFC05		EN 54-3	SOUND LEVEL 95dB(A) @1m	IP44	STEEL BOX	
	<p>Acoustic fire alarm device. Wall mounting. Sound pressure 95dB(A) @ 1m. 24V DC supply voltage. Maximum consumption in signaling 35mA. Protection rating IP44. Indoor use. Operating temperature -25°C...+70°C. Metal casing. Red colour. Dimensions (D x H) 155 x 85mm. Approved EN 54-3. Certification: 0832-CPD-0137.</p>					
Item no. TF7TFC05						
TFS04		EN 54-3	SOUND LEVEL 120dB(A) @1m	3 ALARM CONTROL INPUTS	IP66	ABS BOX
	<p>Acoustic fire alarm device. Wall mounting. Sound pressure 120dB(A) @ 1m. 3 control inputs. Programmable functions: acoustic power, alarm tone. 24V DC supply voltage. Maximum consumption in signaling 450mA. Protection rating IP66. Outdoor use. Operating temperature -25°C...+70°C. ABS casing. Red colour. Dimensions (L x H x D) 168 x 168 x 155mm. Approved EN 54-3. Certification: 0832-CPD-0566.</p>					
Item no. TF7TFS04						

Sound attenuation with distance



Conventional ATEX optical signaling devices

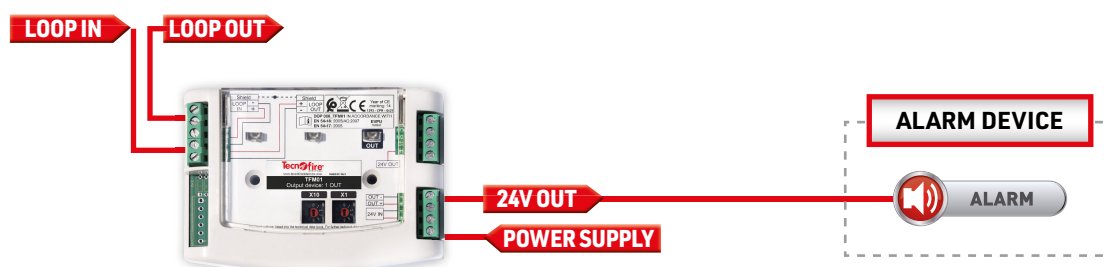
TFL06-EX	<div><div>ATEX CATEGORY Ex II 2 G D</div><div>ATEX ZONE 1 2 21 22</div><div>XENON FLASH</div><div>IP65</div><div>CAST ALUMINUM BOX</div></div>
	<p>Optical signaling device for technology alarm. Indoor and outdoor use. Hazardous areas, Zones: 1, 2, 21, 22. High-efficiency xenon flash. Red modular flashing body. Surface mounting. Connection for 3/4" diameter tube. Power supply voltage 12...24V AC/DC. Maximum consumption in signaling 130mA. Protection rating IP65. Operating temperature -20°C...+60°C. Die-cast aluminum casing. Red colour. Transparent white polycarbonate protective dome. Dimensions (L x H) 365 x 135mm. Certification: ATEX II 2G Ex d IIC T6 Gb. II 2D Ex tb IIIC T200°C Db IP65.</p>
Item no. TF7TFL06EX	

Conventional ATEX acoustic signaling devices

TFS06-EX	<div><div>ATEX CATEGORY Ex II 2 G D</div><div>ATEX ZONE 1 2 21 22</div><div>SOUND LEVEL 102dB(A) @1m</div><div>IP65</div><div>CAST ALUMINUM BOX</div></div>
	<p>Acoustic technological alarm device. Indoor and outdoor use. Hazardous areas, Zones: 1, 2, 21, 22. Sound pressure 102dB(A) @ 1m. Programmable functions, alarm tone, 32 modes. Surface mounting on adjustable mounting bracket. Connection for 3/4" diameter tube. Power supply voltage 12...24V AC/DC. Maximum consumption in signaling 160mA. Protection rating IP65. Operating temperature -20°C...+55°C. Die-cast aluminum casing. Red colour. Metallic grey ABS horn. Dimensions (L x H x D) 230 x 150 x 150mm. Certification: ATEX II 2GD. Ex d IIC T6 Gb. Ex tb IIIC T85°C Db IP65.</p>
Item no. TF7TFS06EX	









TFS07-EX	<div><div>ATEX CATEGORY Ex II 2 G D</div><div>ATEX ZONE 1 2 21 22</div><div>SOUND LEVEL 105dB(A) @1m</div><div>IP6x</div><div>CAST ALUMINUM BOX</div></div>
	<p>Acoustic technological alarm device. Indoor and outdoor use. Hazardous areas, Zones: 1, 2, 21, 22. Sound pressure 105dB(A) @ 1m. Programmable functions, alarm tone, 32 modes. Surface mounting on adjustable mounting bracket. Connection for 3/4" diameter tube. Power supply voltage 12...24V AC/DC. Maximum consumption in signaling 800mA. Protection rating IP6x. Operating temperature -50°C...+60°C. Die-cast aluminum casing. Red colour. Metallic grey ABS horn. Dimensions (L x H x D) 390 x 280 x 280mm. Certification: ATEX II 2G Ex d IIC T4 Gb. IID Ex tb IIIC T130°C Db IP6x.</p>
Item no. TF7TFS07EX	

Module TFM01 - Application scheme





Power supply unit

TFPS-5								
	<p>Additional addressable power supply unit. EN 54-4 approved for the supply of fire detection and alarm systems for buildings. EN 12101-10 approved for the supply of smoke and heat evacuation equipment and systems and smoke control systems. Power supply voltage 230V AC. Rated output data: voltage 27.6V DC maximum current 5A.</p> <p>The unit is equipped with 3 independent outputs for the power supply of utilities. Each output delivers a maximum current of 1.1A.</p> <p>Automatic testing and battery release functions for deep discharge.</p> <p>Front control panel with 6 operating status LED. Fault signal output: free changeover relay.</p> <p>Casing for 2 x 12V 17Ah buffer batteries. RSC® management: programming, remote management and control. Loop connection. Dual short-circuit isolator. Operating temperature -5°C...+40°C. Protection rating IP3x. Metal casing. Black colour. Dimensions (L x H x D) 320 x 365 x 170mm.</p> <p>Approved EN 54-4:1997 + A1:2002 + A2:2006 - EN 54-17:2005. EN 12101-10</p> <p>Certification: 0051-CPR-0432.</p>							
	Item no. TF5TFPS5							

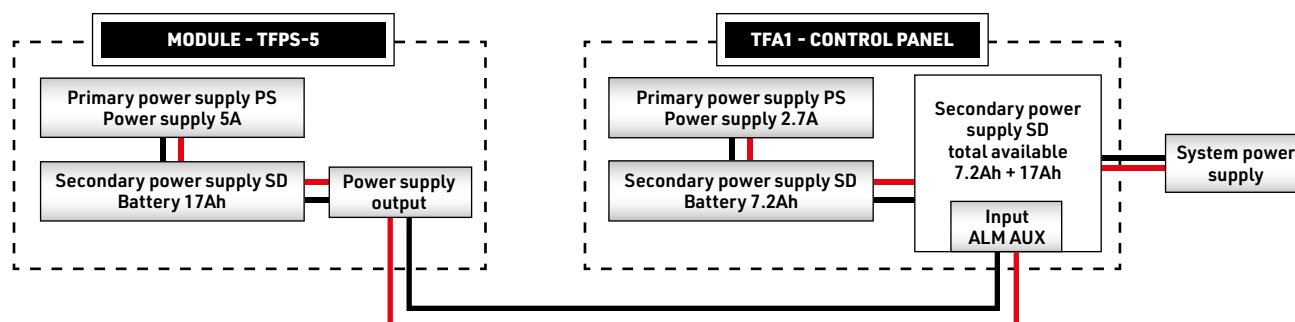
SYSTEM AUTONOMY

Fire detection systems in case of absence of primary power supply from the mains must guarantee the hours of autonomy of operation, prescribed by the respective national regulations.

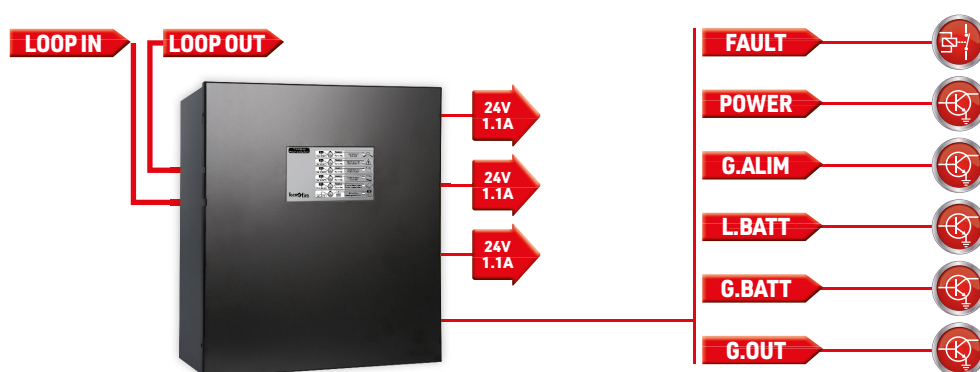
The operating autonomy of the system is guaranteed by the secondary power supply, consisting of the backup batteries.

If the batteries housed in the control panel cannot guarantee the required operating autonomy, it is possible to boost the secondary power supply by adding one or more TFPS-5 supplementary power supply units.

The TFPS-5 power supply unit connected to the detection loop is supervised by the control panel, its power output is connected to the auxiliary power input available on all Tecnofire control panels.






Module TFPS-5 - Application scheme












Addressable linear optical detectors

Linear optical smoke detection systems, with point-to-point or reflection operating mode.

The Tecnofire TFMIID-120 linear optical detection system is equipped with an automatic servo-assisted **OAS** (Optical Alignment System), managed by the alignment menu of the Tecnofire control panels.

DETECTION AND ALIGNMENT TECHNIQUE	
	Linear optical detectors with adjusted reflection Detector composed of two active units: a transceiver unit is a unit of reflection and telemetry. During the automatic alignment procedure, the telemetry unit transmits the alignment coordinates to the transceiver unit, the transceiver unit controls and adjusts the necessary transmission power.
	Linear optical detectors with reflection Detector consisting of two units: an active unit that contains the transmitter and receiver and a passive unit that is the reflection panel. The active unit transmits and receives the reflected infrared light beam from the reflection panel. Some models are equipped with auxiliary devices for optical alignment.
	Point-to-point linear optical detectors Detector consisting of two active units: a transmitting unit and a receiving unit. The infrared light beam is transmitted from the transmitter to the receiver. Some models are equipped with auxiliary devices for optical alignment.

TFMIID-120	       
	<p>Addressable smoke detection system, linear optical reflection type. Optical attenuation detection technology of the reflected infrared beam. The TFMIID-120 detector is equipped with an OAS (Optical Alignment System) automatic servo-assisted alignment system, covered by an international patent. System composed of two devices, the detection and control panel and the reflection and telemetry unit.</p> <p>Optical range 8...50m, extendable to 120m with optional additional reflector TFMIID120-LRK. Automatic compensation for optical deterioration due to dust deposits. Excellent tolerance to vibration disturbances. High false alarm immunity. Programmable functions: prealarm and alarm signal thresholds, alarm and fault signal delays.</p> <p>Advanced management with adaptive detection logic, day/night mode, determined by formulas, which dynamically relate the operating statuses of the system devices.</p> <p>Fully automatic alignment managed remotely, by the control panel menu, without acting on the control and reflection units. RSC® management: programming, remote management and control. Loop connection. Dual short-circuit isolator.</p> <p>Power supply: 24V DC detection unit from external source, Lithium battery telemetry device power supply.</p> <p>Protection rating IP3x. Operating temperature -10°C...+55°C. PC-ABS casing. White colour. Dimensions (L x W x D): detection unit 198 x 262 x 98mm, reflection unit 124 x 284 x 55. Approved EN 54-12:2015 - EN 54-17:2005. Certification: 1293-CPR-0816.</p>
	Item no. TF9TFMIID120

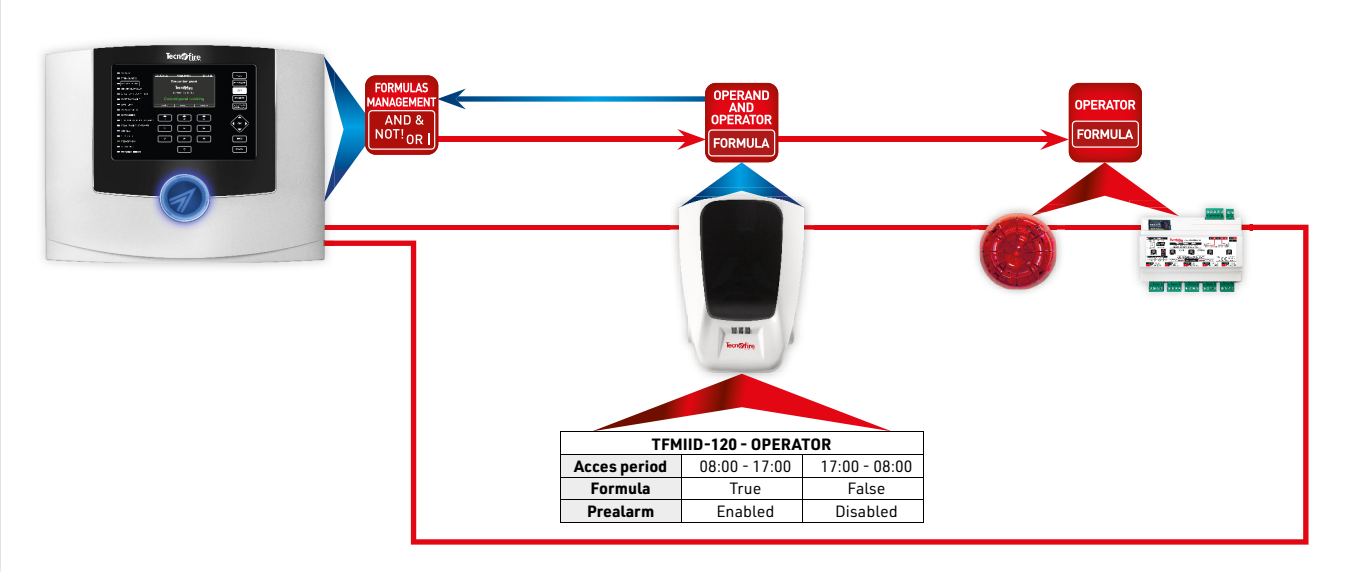
Detector TFMIID-120 - Application scheme




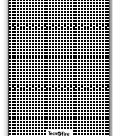


MAIN PROGRAMMING AND CONTROL PARAMETERS	
Prealarm threshold	Prealarm threshold programming: 8 levels
Alarm threshold	Alarm threshold programming: 8 levels
Alarm delay	Programming the minimum persistence time to validate alarm status: 4 levels
Fault delay	Programming the minimum persistence time to validate the fault status: 4 levels
Maintenance	Enables or disables maintenance request signaling
Wireless control	Enables or disables reporting of reflection and alignment unit faults
Criterion	It associates an operating criterion subject to verification of the associated formula
Formula	Associate a Formula. The truthfulness of the formula triggers the execution of the formula criterion

Formula applied to TFMIID-120 detector


The TFMIID-120 detector can be used in formulas as an operand and/or operator, in the example the detector is the operator of the formula and the time range and the operand. The control panel checks the formula and, depending on the result, applies the associated criteria, enables or disables the Prealarm signaling.



TFMIID - Accessories

	TFMIID120-LRK Range extender kit consisting of an additional reflection panel. The kit allows you to extend the optical range of the TFMIID-120 barrier from 50 to 120m. Item no. TF9TFMIID120LRK		TFMIID-TEST Graduated filter for the blackout test of the TFMIID-120 linear optical detector. Item no. TF9TFMIIDTEST
	TFRIP-R Optical repeater, red LED. 360° visibility. Surface mounting. ABS casing. IP22. White colour. Dimensions (L x H x D) 78 x 45 x 25mm. Item no. TF3TFRIPR		TFRIP-SMART Smart optical repeater, red LED. 360° visibility. Formula-managed signaling. 3 wire connection to detector. ABS casing. IP22. Colour white. Dimensions (W x H x D) 78 x 45 x 25mm. Item no. TF3TFRIPSMART




Conventional linear optical detectors



TFBD-5000 50	EN 54-12	REFLECTION TX RX	LASER POINTER	SELF- ALIGNING	RANGE 8 ÷ 100m
	<p>Linear optical smoke detection system with infrared. Reflection detection technology. The system consists of the controller unit to which the transceiver head is connected and the reflection panel. The controller can manage an optional second transceiver head. Functional programming and independent alarm and fault outputs for each transceiver head. Remotely installable controller. Optical range 5...50m, extendable to 100m with optional extension kit TFBD-5000 LRK. Programmable sensitivity. Automatic servo-assisted laser aiming system, capable of self-adjusting the alignment. Automatic compensation for misalignments due to structural bending of the support surfaces. Dynamic compensation of sensitivity deterioration due to dust deposits. Excellent tolerance to vibration disturbances. High false alarm immunity. 24V DC supply voltage. Protection rating IP54. Operating temperature -10°C...+55°C. Approved EN 54-12. Certification: 0832-CPR-F0390.</p>				
Item no. TF9TFBD500050					



TFBDT-5000 50	EXTRA HEAD	RANGE 8 ÷ 100m
	<p>Additional Transceiver Head for TFBD-5000 50 Controller. The multi head configuration doubles the monitored area. One reflection panel supplied. Optical range 5...50m, extendable to 100m with optional extension kit TFBD-5000 LRK.</p>	
Item no. TF9TFBDT500050		

TFBD-FR1	EN 54-12	REFLECTION TX RX	LASER POINTER	SELF- ALIGNING	RANGE 8 ÷ 120m
	<p>Linear optical smoke detection system with infrared. Reflection detection technology. The system consists of the transceiver unit and a reflection panel. Optical range 8...50m, extendable to 120m with optional extension kit TFBD-5000 LRK. Programmable sensitivity level. Signaling interface: LED monitor for operating status and alignment; 2 signal relay outputs, Alarm and Fault. Servo-assisted laser alignment system, for automatic alignment correction. Dynamic compensation of sensitivity deterioration due to dust deposits. Excellent tolerance to vibration disturbances. High false alarm immunity. Power supply voltage 14...36V DC. Consumption 5mA. Protection rating IP55. Operating temperature -20°C...+55°C. Polycarbonate casing UL94 V0. Dimensions (L x H x D) 130 x 181 x 134mm. Approved EN 54-12. Certification: 0832-CPR-F2237.</p>				
Item no. TF9TFBDFR1					

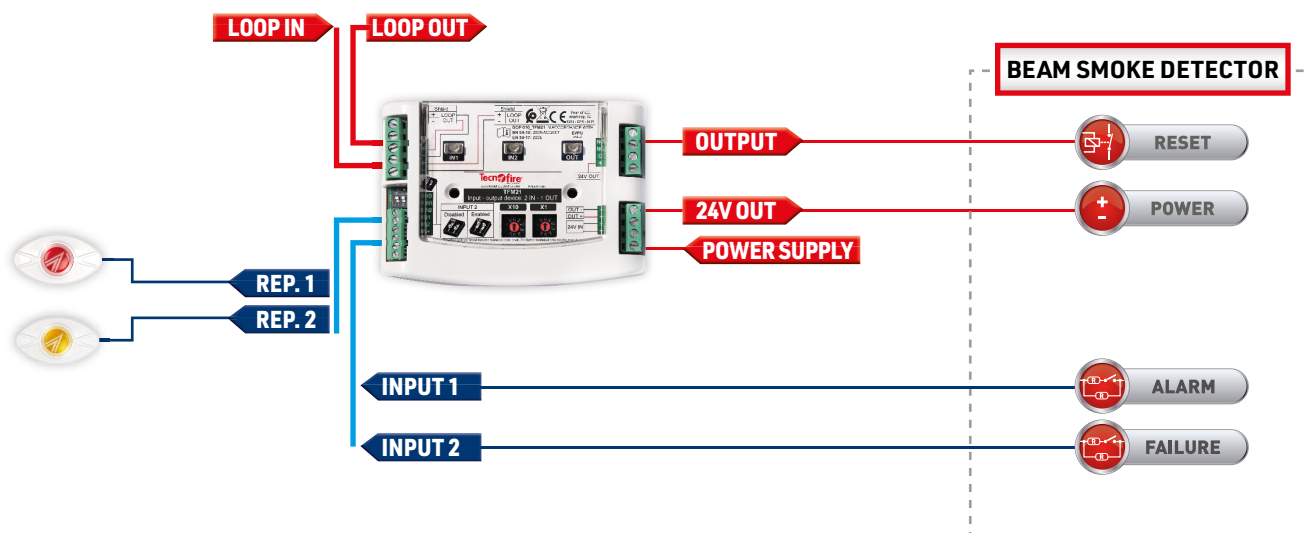
CONVENTIONAL

TFBD-EX	EN 54-12	ATEX CATEGORY II 2 G D	ATEX ZONE 1 2 21 22	END- TO- END TX—RX	LASER POINTER 	RANGE 5 ÷ 100m	 CAST ALUMINUM BOX
	<p>Linear optical smoke detection system with point-to-point (TX-RX) infrared. ATEX certified. The System consists of the controller management unit and a pair of TX and RX devices. The controller can handle a second pair of optional TX and RX devices. Remotely installable controller, electrical connection between controller and TX and RX devices with 2 conductors. Functional programming and independent alarm and fault outputs for each pair. Adjustable range from 5 to 100m. Programmable sensitivity level. Integrated alignment laser. Dynamic compensation of sensitivity deterioration due to dust deposits. High false alarm immunity. Excellent tolerance to disturbance events generated by vibrations and structural bending. Optional alignment tool and adjustable mounting bracket. Power supply voltage 12...36V DC. Maximum consumption 22mA. Controller protection rating IP54, TX and RX units IP66. Operating temperature -10°C...+55°C. Approved EN 54-12 and ATEX. ATEX II 2GD certified. Ex op is IIC T6 Gb. Ex tb IIIC T85°C Db. Certification: 0786-CPD-21162.</p>						
Item no. TF9TFBDEX							

TFBD-3000 120	EN 54-12	END- TO- END TX—RX	LASER POINTER 	RANGE 5 ÷ 120m
	<p>Linear optical smoke detection system with infrared. Point-to-point detection technology. The System consists of the controller management unit and a pair of TX and RX devices. The controller can handle a second pair of optional TX and RX devices. Remotely installable controller, electrical connection between controller and TX and RX devices with 2 conductors. Functional programming and independent alarm and fault outputs for each pair. Adjustable range from 5 to 120m. Programmable sensitivity level. Integrated alignment laser. Dynamic compensation of sensitivity deterioration due to dust deposits. High false alarm immunity. Excellent tolerance to disturbance events generated by vibrations and structural bending. Power supply voltage 12...36V DC. Maximum consumption 22mA. Protection rating IP54. Operating temperature -10°C...+55°C. Approved EN 54-12. Certification: 0786-CPD-21162.</p>			
Item no. TF9TFBD3000120				

TFBDT-3000 120		RANGE 5 ÷ 120m
	<p>Additional pair of transceivers for TFBD-3000-120 Controller. The multi-pair configuration doubles the useful detection area.</p>	
Item no. TF9TFBDT3000120		

Module TFM21 - Application scheme



CONVENTIONAL LINEAR OPTICAL DETECTORS - Accessories

	TFBD-5000 LRK Range extender kit consisting of three additional reflection panels. For TFBD-5000 50 detector from 50 to 100m. For TFBD-FR1 detector from 50 to 120m. Item no. TF9TFBD5000LRK		TFBD-OF Graduated filter for the blackout test of linear optical detectors series: TFBD-5000, TFBD-3000, TFBD-FR1. Item no. TF9TFBD0F
	TFBD-5000 PCD Protection grille for TFBD-5000 series linear optical detector. Protects the device from accidental collisions and vandalism. Item no. TF9TFBD5000PCD		TFBD-UB Universal adjustable mounting bracket for TFBD-SPP, TFBD-FPP prism mounting bases and TFBD-5000 series linear detector head. Item no. TF9TFBDUB
	TFBD-FR1 PCD Protection grille for TFBD-FR1 series linear optical detector. Protects the device from accidental collisions and vandalism. Item no. TF9TFBDFR1PCD		TFBD-SPP Mounting base for a reflective panel. The base must be mounted on the TFBD-UB accessory adjustable bracket. Item no. TF9TFBDSPP
	TFBD-3000 FMP Wall mount of the linear optical detector TFBD-3000 series. Item no. TF9TFBD3000FMP		TFBD-FPP Mounting base for four reflective panels. TFBD-5000 LRK kit. The base must be mounted on the TFBD-UB accessory adjustable bracket. Item no. TF9TFBDFPP
	TFBD-5000 AB Adjustable wall mounting bracket for linear optical detector TFBD-5000, TFBD-FR1, TFBD-3000 120 series. Item no. TF9TFBD5000AB		TFBD-PMP Fixed mounting base for reflective prism. For short or long range reflective configurations. Item no. TF9TFBDPMP

CONVENTIONAL

Aspirating smoke detector systems

Air sampling systems with modular structure, able to meet the functional needs required in each application. Aspirating smoke detector systems can be equipped with 1 or 2 independent detection modules, available with 3 sensitivity levels. The modules available allow the construction of mono or bi-channel aspirating infrastructures, in the detection classes: A, B, C (EN 54-20).

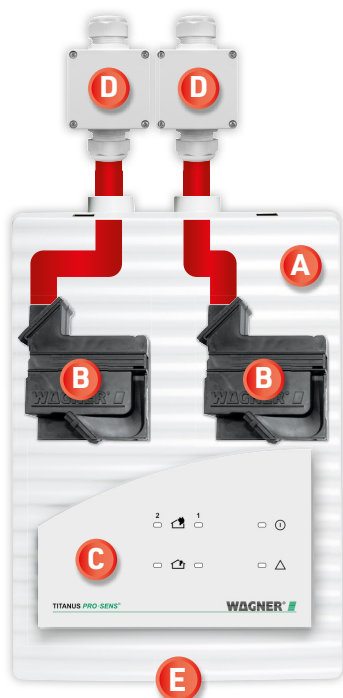
DETECTION CLASSES	
CLASS A	Class A High sensitivity detection, capable of detecting the presence of aerosols dispersed in the air in low concentration, (40 times more sensitive than an optical point smoke detector). Comparison: high detection capacity, not comparable with a standard type point optical detector.
CLASS B	Class B Increased sensitivity detection, capable of detecting the presence of smoke particles dispersed in air at low concentration, (13 times more sensitive than an optical point smoke detector). Comparison: medium-high detection capacity, higher than a standard type point smoke optical detector.
CLASS C	Class C Normal sensitivity detection, capable of detecting the presence of smoke particles dispersed in the air in medium concentration, (the same sensitivity as an optical point smoke detector). Comparison: normal detection capacity comparable with a standard type point optical detector.

Design support

Tecnofire's technical office offers a service to custom size its aspirating smoke detector systems. The length and aspects of the aspirating smoke detector system is calculated by specific flow simulation software. These systems have been tested and chosen to ensure the highest degree of compatibility and functional integration with devices produced by Tecnofire.

Composition of modular aspirating system

The modular configuration of aspirating systems lets you optimise the technical features according to the installation itself. Aspirating units with standard or extended temperature range are available for monitoring low temperature environments. Aspirating units can be equipped with 1 or 2 independent detection modules, the modules are available with 3 different sensitivity



A - ASPIRATING CONTROL UNIT			
MODEL	RELAY OUTPUTS	CHANNELS	TEMPERATURE
TF-TF1	Alarm - Fault	2 x 160m	-30°C...+60°C
TF-TP1A	Alarm - Fault	2 x 300m	-20°C...+60°C
TF-TP1FA	Alarm - Fault	2 x 300m	-40°C...+60°C
TF-TP4	Prealarm - Alarm - Fault	2 x 300m	-20°C...+60°C
TF-TP4FA	Prealarm - Alarm - Fault	2 x 300m	-40°C...+60°C




B - DETECTION MODULES	
Modules with three different sensitivity levels are available for each model	Normal sensitivity
	Increased sensitivity
	High sensitivity







C - FRONT SYNOPTIC CASE LABEL
Choice according to suction unit model











D - FILTER BOX	
TF-LADA	Filter for particles $\geq 15\mu\text{m}$
TF-LFADK	Filter for particles $\geq 30\mu\text{m}$












E - KIT UPGRADE IP52
Available for each model sampling unit

Aspirating smoke detectors

<p>TF-TF1</p>		<p>EN 54-20</p>	<p>AIR SAMPLING</p>	<p>IR DETECTION</p>	<p>MODULAR SYSTEM</p>	<p>PIPE LENGTH 160m 2x 160m</p>	<p>2 SIGNALING OUTPUTS</p>	<p>ABS BOX</p>
	<p>Aspirating air sampling unit, with modular structure, designed to accommodate 1 or 2 detection modules. Coverage an area with 1 or 2 independent aspirating channels. Aspirating network: ABS pipe Ø25mm, maximum length 160m per channel. Sensitivity class: A, B, C. Programmable aspiration speed. Each channel is equipped with a signaling interface consisting of 3 LED and 2 relay outputs: Alarm and Fault. The configuration of the aspirating unit is completed with the front synoptic label. 24V DC supply voltage. Maximum consumption: 1 detection module 210mA, 2 detection modules 240mA. Protection rating IP2x (IP52 with optional kit). Operating temperature -30°C...+60°C. ABS casing. Dimensions (L x H x D) 200 x 292 x 113mm. Approved EN 54-20. Certification: VdS G 216069.</p> <p>Item no. TF10TTF1</p>							
	<p>TF-DMTF50L</p>	<p>Module with normal sensitivity. Programmable obs/m detection threshold: 0.5% - 0.1%. Class/holes: A/3, B/7, C/15. Class/coverage: A /450m², B/1050m², C/1600m². Operating temperature -30°C...+60°C.</p> <p>Item no. TF10TFDMTF50L</p>						
	<p>TF-DMTF10L</p>	<p>Module with increased sensitivity. Programmable obs/m detection threshold: 0.10%, 0.20%, 0.40%, 0.80%. Class/holes: A/8, B/12, C/20. Class/coverage: A-B /1200m², C /1600m². Operating temperature -30°C...+60°C.</p> <p>Item no. TF10TFDMTF10L</p>						
	<p>TF-DMTF01L</p>	<p>Module with high sensitivity. Programmable obs/m detection threshold: 0.015%, 0.30%, 0.60%, 1.20%. Class/holes: A/8, B/12, C/20. Class/coverage: A-B-C/1600m². Operating temperature -30°C...+60°C.</p> <p>Item no. TF10TFDMTF01L</p>						
	<p>TF-FWTF2</p>	<p>Front casing label, TF-TF1 aspirating air sampling unit.</p> <p>Item no. TF10TFFWTF2</p>						





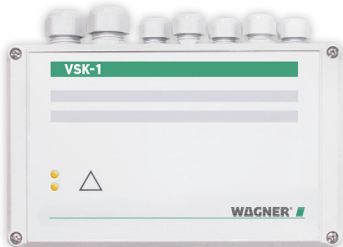

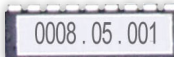
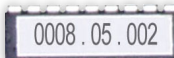
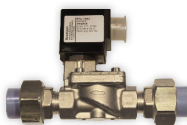


<div>CONVENTIONAL</div>										
<div>TF-TP1A</div>		<div>EN 54-20</div>	<div>AIR SAMPLING</div>	<div>IR DETECTION</div>	<div>MODULAR SYSTEM</div>	<div>PIPE LENGTH 2x 300m 300m</div>	<div>2 SIGNALING OUTPUTS</div>	<div>ABS BOX</div>	<div>Aspirating air sampling unit, with modular structure, designed to accommodate 1 or 2 detection modules. Coverage 1 zone with 1 or 2 independent aspirating channels. Aspirating network: ABS pipe Ø25mm, maximum length 300m per channel. Sensitivity class: A, B, C. Programmable aspiration speed. Each channel is equipped with a signaling interface consisting of 3 LED and 2 relay outputs: Alarm and Fault. The configuration of the aspirating unit is completed with the front synoptic label. 24V DC supply voltage. Maximum consumption: 1 detection module 220mA, 2 detection modules 250mA. Protection rating IP2x (IP52 with optional kit). Operating temperature -20°C...+60°C. ABS casing. Dimensions (L x H x D) 200 x 292 x 113mm. Approved EN 54-20. Certification: VdS G 202064.</div>	
		<div>Item no. TF10TFTP1A</div>								
	<div>TF-DMTP50L</div>	<div>Module with normal sensitivity. Programmable obs/m detection threshold: 0.5% - 0.1%. Class/holes: A/4, B/12, C/32. Class/coverage: A-B-C/1600m². Operating temperature -20°C...+60°C.</div>								
		<div>Item no. TF10TFDMTP50L</div>								
	<div>TF-DMTP10L</div>	<div>Module with increased sensitivity. Programmable obs/m detection threshold: 0.10%, 0.20%, 0.40%, 0.80%. Class/holes: A/9, B-C/32. Class/coverage: A-B-C/1600m². Operating temperature -20°C...+60°C.</div>								
		<div>Item no. TF10TFDMTP10L</div>								
	<div>TF-DMTP01L</div>	<div>Module with high sensitivity. Programmable obs/m detection threshold: 0.015%, 0.30%, 0.60%, 1.20%. Class/holes: A-B-C/32. Class/coverage: A-B-C/1600m². Operating temperature -20°C...+60°C.</div>								
		<div>Item no. TF10TFDMTP01L</div>								
	<div>TF-FWTP2</div>	<div>Front casing label, TF-TP1A aspirating air sampling unit.</div>								
		<div>Item no. TF10TFFWTF2</div>								
<div>TF-TP1FA</div>		<div>EN 54-20</div>	<div>AIR SAMPLING</div>	<div>IR DETECTION</div>	<div>MODULAR SYSTEM</div>	<div>PIPE LENGTH 2x 300m 300m</div>	<div>2 SIGNALING OUTPUTS</div>	<div>FROST PROOF</div>	<div>ABS BOX</div>	<div>Air sampling unit with the same technical features as the TF-TP1A model. Scope of use, for areas subject to extreme freezing temperatures, such as cold rooms. Operating temperature -40°C...+60°C. Approved EN 54-20. Certification: VDS G 202064.</div>
		<div>Item no. TF10TFTP1FA</div>								
	<div>TF-DMTP50LF</div>	<div>Module with normal sensitivity. Programmable obs/m detection threshold: 0.5% - 0.1%. Class/holes: A/4, B/12, C/32. Class/coverage: A-B-C/1600m². Operating temperature -40°C...+60°C.</div>								
		<div>Item no. TF10TFDMTP50LF</div>								
	<div>TF-DMTP10LF</div>	<div>Module with increased sensitivity. Programmable obs/m detection threshold: 0.10%, 0.20%, 0.40%, 0.80%. Class/holes: A/9, B-C/32. Class/coverage: A-B-C/1600m². Operating temperature -40°C...+60°C.</div>								
		<div>Item no. TF10TFDMTP10LF</div>								
	<div>TF-DMTP01LF</div>	<div>Module with high sensitivity. Programmable obs/m detection threshold: 0.015%, 0.30%, 0.60%, 1.20%. Class/holes: A-B-C/32. Class/coverage: A-B-C/1600m². Operating temperature -40°C...+60°C.</div>								
		<div>Item no. TF10TFDMTP01LF</div>								
	<div>TF-FWTP2</div>	<div>Front casing label, TP1FA aspirating air sampling unit.</div>								
		<div>Item no. TF10TFFWTP2</div>								

TF-TP4								
	<p>Aspirating air sampling unit, with modular structure, designed to accommodate 1 or 2 detection modules. Coverage 1 zone with 1 or 2 independent aspirating channels. Aspirating network: ABS pipe Ø25mm, maximum length 300m per channel. Sensitivity class: A, B, C. Programmable aspiration speed. Each channel is equipped with a signaling interface consisting of 4 LED and 3 relay outputs: Prealarm, Alarm and Fault. The configuration of the aspirating unit is completed with the front synoptic label. 24V DC supply voltage. Maximum consumption: 1 detection module 220mA, 2 detection modules 250mA. Protection rating IP2x (IP52 with optional kit). Operating temperature -20°C...+60°C. ABS casing. Dimensions (L x H x D) 200 x 292 x 113mm. Approved EN 54-20. Certification: VdS G 202064.</p> <p>Item no. TF10TFTP4</p>							
	TF-DMTT50L	<p>Module with normal sensitivity. Programmable obs/m detection threshold: 0.5% - 0.1%. Class/holes: A/4, B/12, C/32. Class/coverage: A-B-C/1600m². Operating temperature -20°C...+60°C.</p> <p>Item no. TF10TFDMTT50L</p>						
	TF-DMTT10L	<p>Module with increased sensitivity. Programmable obs/m detection threshold: 0.10%, 0.20%, 0.40%, 0.80%. Class/holes: A/9, B-C/32. Class/coverage: A-B-C/1600m². Operating temperature -20°C...+60°C.</p> <p>Item no. TF10TFDMTT10L</p>						
	TF-DMTT01L	<p>Module with high sensitivity. Programmable obs/m detection threshold: 0.015%, 0.30%, 0.60%, 1.20%. Class/holes: A-B-C/32. Class/coverage: A-B-C/1600m². Operating temperature -20°C...+60°C.</p> <p>Item no. TF10TFDMTT01L</p>						
	TF-FWTP5	<p>Front casing label, TF-TP4 aspirating air sampling unit.</p> <p>Item no. TF10TFFWTP5</p>						

TF-TP4FA									
	<p>Air sampling unit with the same technical features as the TF-TP4 model. Scope of use, for areas subject to extreme freezing temperatures, such as cold rooms. Operating temperature -40°C...+60°C. Approved EN 54-20. Certification: VdS G 202064.</p> <p>Item no. TF10TFTP4FA</p>								
	TF-DMTT50LF	<p>Module with normal sensitivity. Programmable obs/m detection threshold: 0.5% - 0.1%. Class/holes: A/4, B/12, C/32. Class/coverage: A-B-C/1600m². Operating temperature -40°C...+60°C.</p> <p>Item no. TF10TFDMTT50LF</p>							
	TF-DMTT10LF	<p>Module with increased sensitivity. Programmable obs/m detection threshold: 0.10%, 0.20%, 0.40%, 0.80%. Class/holes: A/9, B-C/32. Class/coverage: A-B-C/1600m². Operating temperature -40°C...+60°C.</p> <p>Item no. TF10TFDMTT10LF</p>							
	TF-DMTT01LF	<p>Module with high sensitivity. Programmable obs/m detection threshold: 0.015%, 0.30%, 0.60%, 1.20%. Class/holes: A-B-C/32. Class/coverage: A-B-C/1600m². Operating temperature -40°C...+60°C.</p> <p>Item no. TF10TFDMTT01LF</p>							
	TF-FWTP5	<p>Front casing label, TF-TP4FA aspirating air sampling unit.</p> <p>Item no. TF10TFFWTP5</p>							

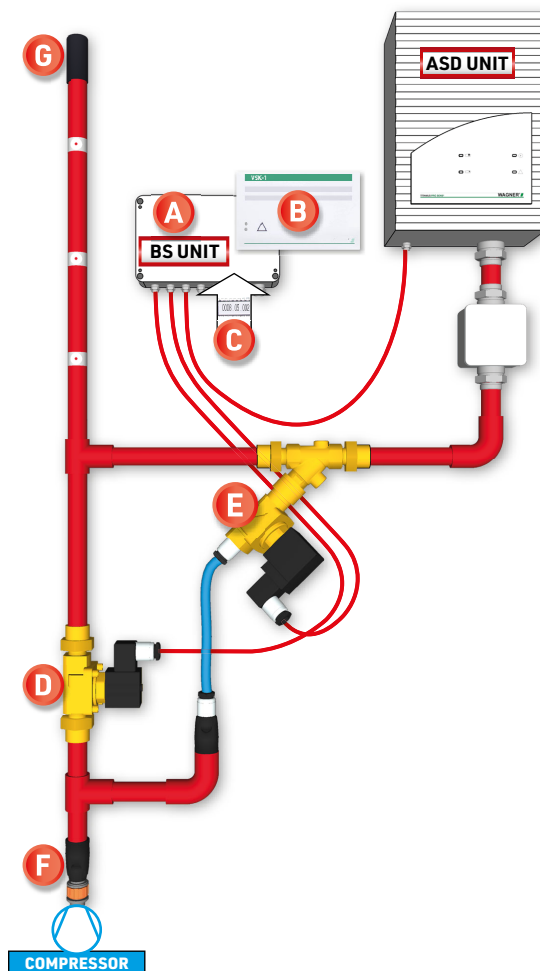
CONVENTIONAL

Automatic maintenance system

NEW	TFVSK1B				
		<p>Automatic maintenance system with compressed air, for ASD aspirating pipes that operate in environments subject to low temperatures or in particularly dusty environments. The TFVSK1B control panel manages the operation of the blowing and shut-off valves, for the management of one or two independent aspirating pipes. Maintenance cycle activated by external control and/or programmed every 24 hours with simultaneous operation of the two pneumatic maintenance channels. The compressed air used must be clean, dry and free of oil. 24V DC supply voltage. Consumption at rest 20mA. Consumption during the maintenance cycle 100mA for each pneumatic maintenance channel. The set-up of the control panel must be completed with a TFMC-VC-x-x microprocessor, chosen according to the operating context and with the TFFW-VC label to be applied on the casing. The set-up of the pneumatic channel consists of: a TFSSK-MF quick release fitting, a TFAVK shut-off valve and a TFDVK blowing valve, the valves must be chosen according to the context of use. The pneumatic equipment must be doubled if the system manages the maintenance of two aspirating pipes. Operating temperature -40...+ 60°C. Polycarbonate casing. Dimensions (L x H x D) 200 x 140 x 80mm.</p>			
		Item no. TF10TFVSK1B			
	TFFW-VC	Front label for control panel TFVSK1B			
		Item no. TF10TFFWVC			
	TFMC-VC-R-2	Microprocessor for TFVSK1B Controller. It manages the maintenance process for pipes that operate in particularly dusty environments. 240sec maintenance cycle run time, blow/pause ratio: 1 blow of 10sec + pause 30sec.			
		Item no. TF10TFMCVCR2			
	TFMC-VC-F-4	Microprocessor for TFVSK1B Controller. It manages the maintenance process for pipes, which operate in environments subject to low temperatures. Execution of the maintenance cycle in 240sec, blow/pause ratio: 3 blows of 5sec + 5sec pause.			
		Item no. TF10TFMCVCF4			
	TFDVK13	Blowing valve for the release of compressed air. 24V DC supply voltage. Operating temperature -10...+60°C. Operating pressure 0.3...20 bar. Brass body and pressure control cylinder.			
		Item no. TF10TFDVK13			
	TFDVK13-F	Blowing valve with the same characteristics as model TFDVK13 with operating temperature -40...+60°C.			
		Item no. TF10TFDVK13F			
	TFAVK-PV	Shut-off valve, separates the piping, during the maintenance process. 24V DC supply voltage. Operating temperature -10...+60°C. Operating pressure max.16 bar. Control pressure 4...10 bar. Brass body and pressure control cylinder.			
		Item no. TF10TFAVKPV			
	TFAVK-PV-F	Shut-off valve with the same characteristics as the TFAVK-PV model with operating temperature -40 ...+60°C.			
		Item no. TF10TFAVKPVF			
	TFSSK-MF	Quick-release fitting for interconnecting the compressed air pipes and the ASD aspirating channel. Adapter diameter 25mm. Operating temperature -20...+100°C. Body in ABS.			
		Item no. TF10TFSSKMF			
	TF-RSV-R25	Closing cap with pressure relief valve. Material: PVC. Connection for 25mm pipe.			
		Item no. TF10TFRSVR25			

Automatic maintenance system

The set-up of the maintenance system must be carried out according to the installation context, for particularly dusty environments or for environments subject to low temperatures. The system can handle one or two pneumatic maintenance channels. To manage two maintenance channels it is necessary to double the coefficient of use of the valves and the fitting. The compressed air introduced into the pneumatic maintenance channel must be clean, dry and free of oil.



SET-UP FOR ENVIRONMENTS SUBJECT TO LOW TEMPERATURES

DEVICE	FUNCTION
A TFVSK1B	Control panel (BS unit)
B TFFW-VC	Front label
C TFMC-VC-F-4	Microprocessor
D TFDVK13-F	Blowing valve
E TFAVK-PV-F	Shut-off valve
F TFSSK-MF	Quick-release fitting
G TF-RSV-R25	Closing cap with pressure relief valve

Notes - Set-up for a pneumatic maintenance channel. 240sec cycle run time:
3 blows of 5sec + 5sec pause.
Operating temperature -40°C...+60°C.

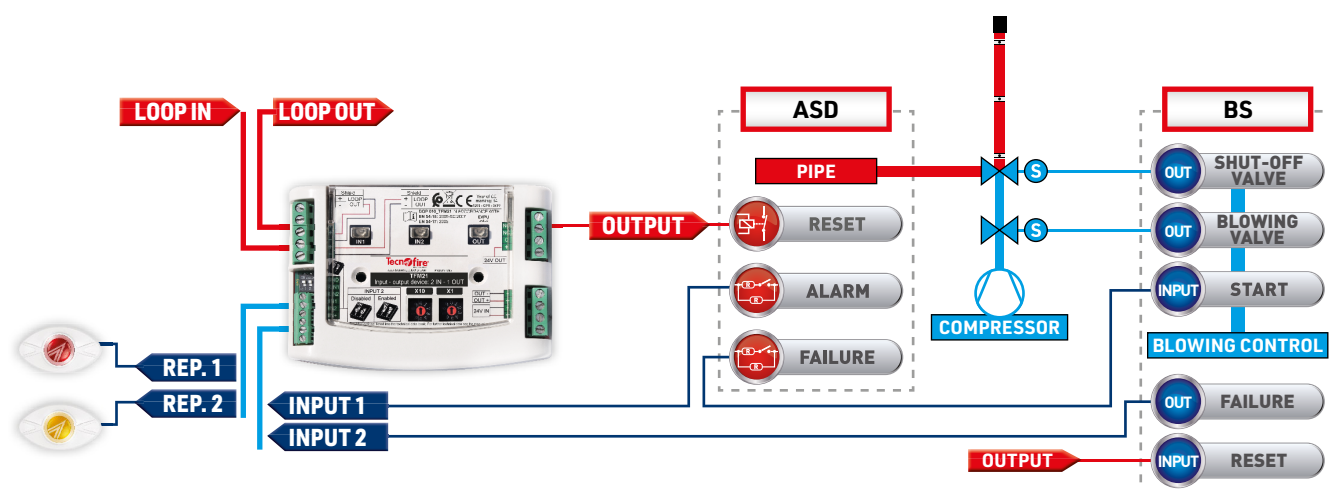
SET-UP FOR PARTICULARLY DUSTY ENVIRONMENTS

DEVICE	FUNCTION
A TFVSK1B	Control panel (BS unit)
B TFFW-VC	Front label
C TFMC-VC-R-2	Microprocessor
D TFDVK13	Blowing valve
E TFAVK-PV	Shut-off valve
F TFSSK-MF	Quick-release fitting
G TF-RSV-R25	Closing cap with pressure relief valve

Notes - Set-up for a pneumatic maintenance channel. 240sec cycle run time:
1 blow of 10sec + pause 30sec.
Operating temperature -10...+60°C.

CONVENTIONAL









Module TFM21 - Application scheme









ASPIRATING SMOKE DETECTOR - Accessories

Accessories for aspirating systems, with good resistance to shocks and chemical agents.

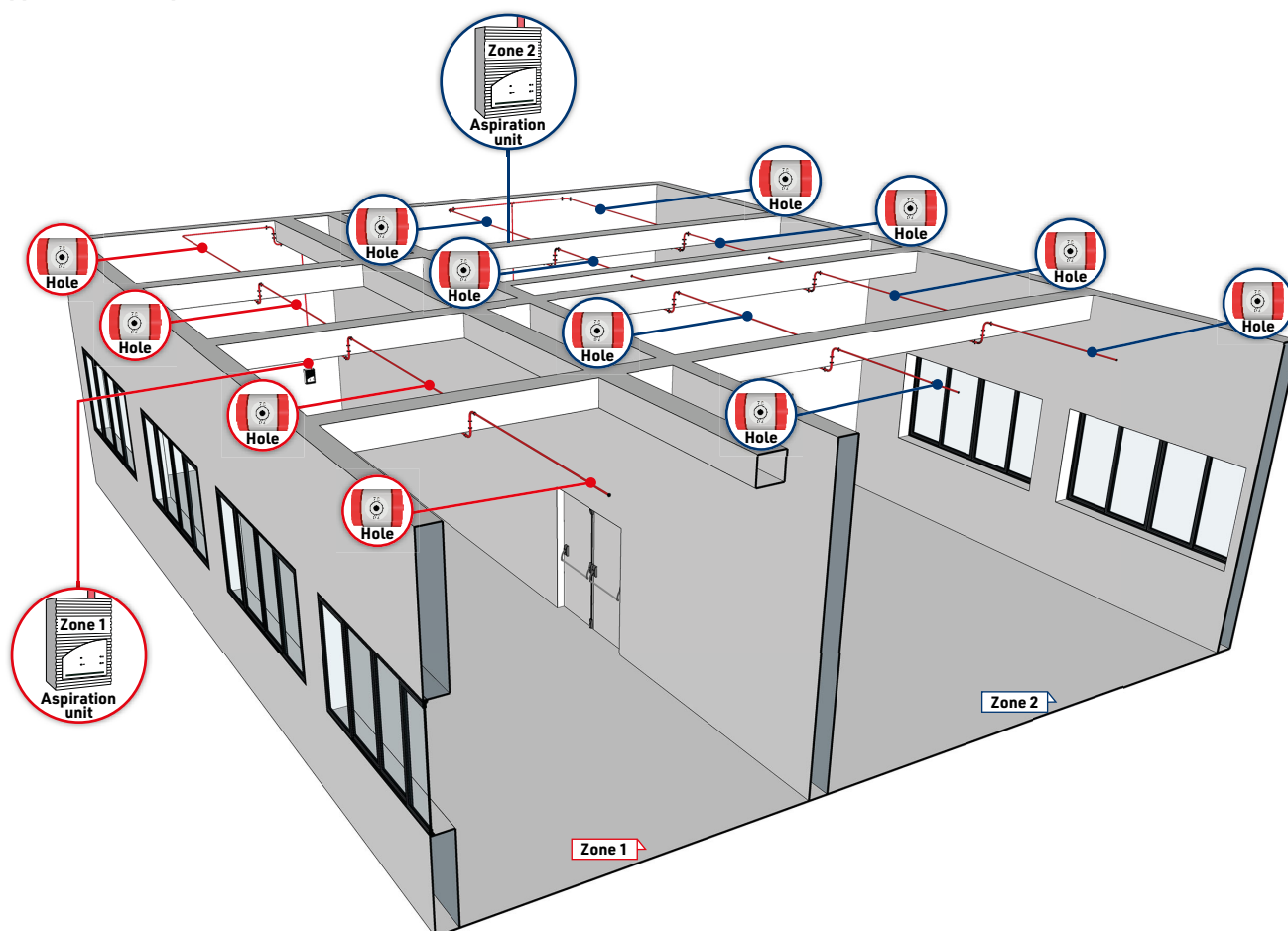
Operating temperature -40°C...+70°C. Products manufactured within a strict quality control system EN ISO 9001. Products comply with BS 5391 part1, EN 1452 part 3. Tested by LPCB according to EN 54-20 Clause 5.7, EN 61386-1 class 1131.

	TF-LFADA Air filter box for capturing solid particles >15µm. ABS casing. IP65. Operating temperature -30°C...+60°C. Dimensions (L x H x D) 193 x 130 x 95mm. Item no. TF10TFLFADA		TF-LFADK Air filter box for capturing solid particles >30µm. ABS casing. IP65. Operating temperature -30°C...+60°C. Dimensions (L x H x D) 80 x 85 x 82mm. Item no. TF10TFLFADK
	TF-KTHS2 Kit for upgrading the degree of protection from IP2x to IP52, for air sampling units: TF-TF1, TF-TP1A, TF-TP1FA, TF-TP4, TF-TP4FA. Item no. TF10TFKTHS2		TF-LFADE Replacement filter for TF-LFADA filter box. For capturing solid particles ≥15µm. Item no. TF10TFLFADE
	TF-LFADEK Replacement filter for TF-LFADK filter box. For capturing solid particles ≥30µm. Item no. TF10TFLFADEK		TFTB-25 ABS pipe length 3m, diameter 25mm, thickness 1.9mm, PN16 red. Item no. TF13TFTB25
	TFMN-25 Sleeve for ABS pipe, diameter 25mm, PN16 red. Pack: 10 pieces. Item no. TF13TFMN25		TFCR-25 90 90° bend for ABS pipe, diameter 25mm, PN16 red colour. Pack: 10 pieces. Item no. TF13TFCR2590

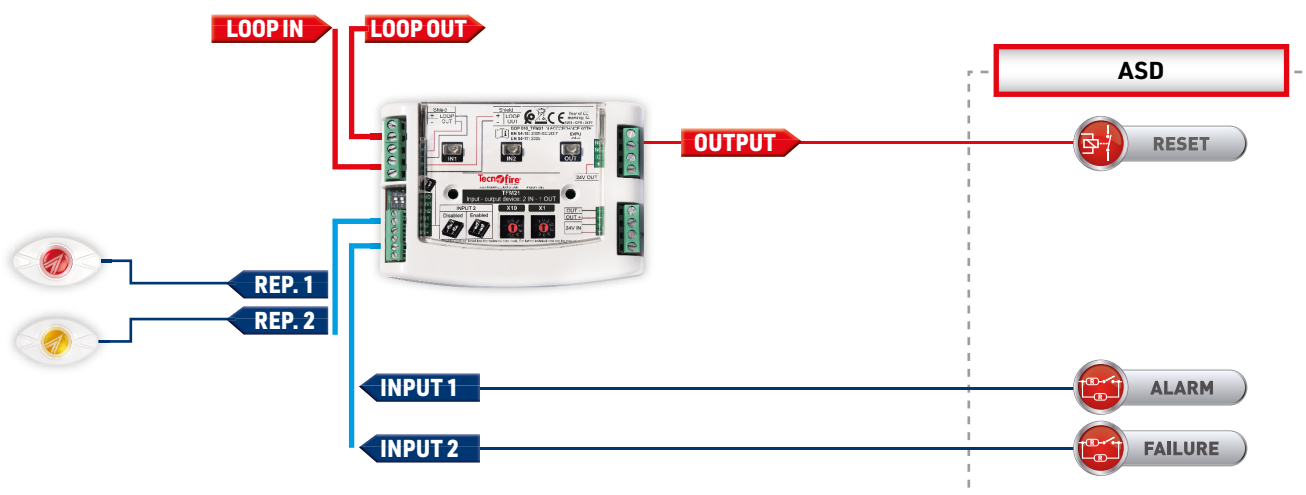
	TFCR-25 45 45° bend in ABS, outer diameter 25mm, thickness 1.9mm, PN16 red. Pack: 10 pieces. Item no. TF13TFCR2545		TFTEE-25 Bypass "T" in ABS, diameter 25mm, thickness 1.9mm, PN16 red. Pack: 10 pieces. Item no. TF13TFTEE25
	TFTP-25 Pipe cap in ABS, diameter 25mm, PN16 red. Pack: 10 pieces. Item no. TF13TFTP25		TFST-25 Support bracket for ABS pipe, diameter 25mm, PN16 red. Pack: 20 pieces. Item no. TF13TFST25
	TFDTC-25 Bypass "T" for 25mm pipe with flexible capillary, diameter 10mm length 2m, white plate, hole 2mm. Item no. TF13TFDTC25		TFTB-10 Flexible Rilsan tube, outer diameter 10mm, red colour. Coil 100m. Item no. TF13TFTB10
	TFTB-25F30 Flexible tube, length 30cm. For ABS tube, diameter 25mm. Item no. TF13TFTB25F30		TFTB-25FLX10 Flexible PVC pipe external diameter 25mm. Pipe joint with TFMN25 pipe sleeve. Coil 10m. Item no. TF13TFTB25FLX10
	TFTEST-25 Opening cap to carry out the aspirating line test. ABS red colour, outer diameter 25mm, PN16. Pack: 10 pieces. Item no. TF13TFTEST25		TFTB-VAC25 Two-way valve to drain the condensation collected from the pipes installed in cold rooms. 25mm pipe fittings. Item no. TF13TFVAC25
	TF-3KHPVC Three-way valve for 25mm pipes. Item no. TF10TF3KHPVC		TFTB-LABEL Adhesive labels to indicate the position of the hole in the aspiration network. Roll: 200 pieces. Item no. TF13TFTBLABEL
	TFCLA Glue for assembly of PVC and ABS piping. 250ml can. Item no. TF13TFCLA		

	TF-AFBR		Adhesive strip to highlight the position of the sampling holes of the aspiration network. Pack: 10 pieces.
			Item no. TF10TFAFBR
	TF-AFXX		Adhesive label with calibrated diameter hole, for marking and identifying the sampling holes of the aspiration network. Available in various diameters. Packs of 10.
 <p>TF-AFBR</p> <p>TF-AFXX</p>	TF-AF20	Calibrated hole label. Diameter 2.0mm	TF10TFAF20
	TF-AF25	Calibrated hole label. Diameter 2.5mm	TF10TFAF25
	TF-AF30	Calibrated hole label. Diameter 3.0mm	TF10TFAF30
	TF-AF32	Calibrated hole label. Diameter 3.2mm	TF10TFAF32
	TF-AF34	Calibrated hole label. Diameter 3.4mm	TF10TFAF34
	TF-AF36	Calibrated hole label. Diameter 3.6mm	TF10TFAF36
	TF-AF38	Calibrated hole label. Diameter 3.8mm	TF10TFAF38
	TF-AF40	Calibrated hole label. Diameter 4.0mm	TF10TFAF40
	TF-AF42	Calibrated hole label. Diameter 4.2mm	TF10TFAF42
	TF-AF44	Calibrated hole label. Diameter 4.4mm	TF10TFAF44
	TF-AF46	Calibrated hole label. Diameter 4.6mm	TF10TFAF46
	TF-AF50	Calibrated hole label. Diameter 5.0mm	TF10TFAF50
	TF-AF52	Calibrated hole label. Diameter 5.2mm	TF10TFAF52
	TF-AF56	Calibrated hole label. Diameter 5.6mm	TF10TFAF56
	TF-AF60	Calibrated hole label. Diameter 6.0mm	TF10TFAF60
	TF-AF68	Calibrated hole label. Diameter 6.8mm	TF10TFAF68
	TF-AF70	Calibrated hole label. Diameter 7.0mm	TF10TFAF70
	TF-AKC		Clip for the application of air flow reducers on the sampling holes of the aspiration network in areas subject to extreme freezing temperatures. Pack: 10 pieces.
			Item no. TF10TFAKC
	TF-AKXX		Air flow reducer with calibrated diameter hole, for sampling holes of the aspiration network in areas subject to extreme freezing temperatures. Available in various diameters. Packs of 10.
 <p>TF-AKC</p> <p>TF-AKXX</p>	TF-AK20	Calibrated reducer. Diameter 2.0mm	TF10TFAK20
	TF-AK25	Calibrated reducer. Diameter 2.5mm	TF10TFAK25
	TF-AK30	Calibrated reducer. Diameter 3.0mm	TF10TFAK30
	TF-AK32	Calibrated reducer. Diameter 3.2mm	TF10TFAK32
	TF-AK34	Calibrated reducer. Diameter 3.4mm	TF10TFAK34
	TF-AK36	Calibrated reducer. Diameter 3.6mm	TF10TFAK36
	TF-AK38	Calibrated reducer. Diameter 3.8mm	TF10TFAK38
	TF-AK40	Calibrated reducer. Diameter 4.0mm	TF10TFAK40
	TF-AK42	Calibrated reducer. Diameter 4.2mm	TF10TFAK42
	TF-AK44	Calibrated reducer. Diameter 4.4mm	TF10TFAK44
	TF-AK46	Calibrated reducer. Diameter 4.6mm	TF10TFAK46
	TF-AK50	Calibrated reducer. Diameter 5.0mm	TF10TFAK50
	TF-AK52	Calibrated reducer. Diameter 5.2mm	TF10TFAK52
	TF-AK56	Calibrated reducer. Diameter 5.6mm	TF10TFAK56
	TF-AK60	Calibrated reducer. Diameter 6.0mm	TF10TFAK60
	TF-AK68	Calibrated reducer. Diameter 6.8mm	TF10TFAK68
	TF-AK70	Calibrated reducer. Diameter 7.0mm	TF10TFAK70

Application example




Module TFM21 - Application scheme



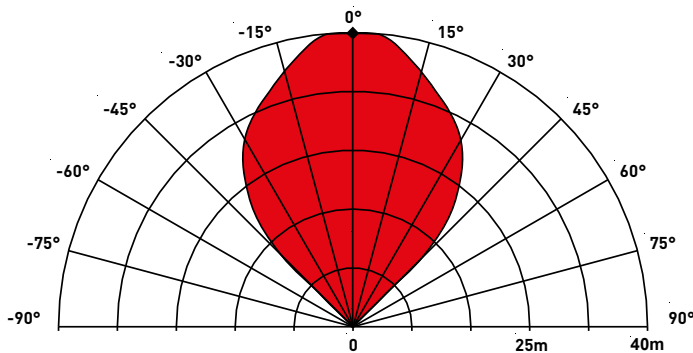
CONVENTIONAL

Optical flame detectors

Optical flame detectors with multipoint infrared detection technology or dual technology: infrared and ultraviolet. They can also be used indoors or outdoors in environments with a high risk of explosion.

TFDF-EX IR2		EN 54-10 CLASS 1 SIL2 ATEX CATEGORY II 2 G D ATEX ZONE 1 2 21 22 2 x IR DETECTION CAST ALUMINUM BOX
IR2 flame detector (dual infrared). Operating range 0.75...2.7µm. Outputs: 4/20mA proportional output, alarm relay and fault relay. High immunity to light interference. High fume, vapour and dust tolerance. Programmable response time and sensitivity. Self test function. Fault signal output: free changeover relay. Power supply 14V...30V DC. Max. consumption 28mA. Operating temperature -10°C...+55°C. Protection rating IP66. Die-cast aluminum casing. Red colour. Dimensions (L x H x D) 146 x 150 x 137mm. Approved: SIL2, ATEX and EN 54-10 Class 1. Certification: 0832-CPR-F0577.		
Item no. TF14TFDFIR2EX		
TFDF-EX IR3		CLASS 1 3 x IR DETECTION
IR3 flame detector (triple infrared). Operating band 0.75...2.7µm. Other technical features like those of the TFDF-EX IR2 model. Approved: SIL2, ATEX and EN 54-10 Class 1. Certification 0832-CPR-F0578.		
Item no. TF14TFDFIR3EX		
TFDF-EX UVIR2		CLASS 1 2 x IR 1 x UV DETECTION
Multi-technology UV + IR2 flame detector (ultraviolet + dual IR). Operating ranges: UV 185...260nm, IR 1...2.7µm. Other technical features like those of the TFDF-EX IR2 model. Approved: SIL2, ATEX and EN 54-10 Class 1. Certification 0832-CPR-F0579.		
Item no. TF14TFDFUVIR2EX		

Field of view




TFDF-EX UVIR2 - DETECTION FEATURES

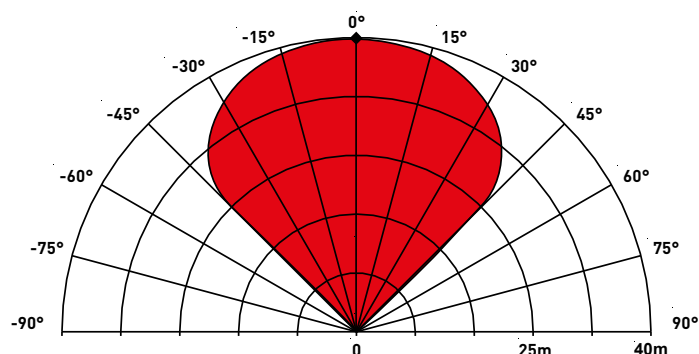
FLAME COLOUR	FLAME SIZE	FLAME DISTANCE	AVERAGE RESPONSE TIME
Yellow	0.3 x 0.3m	25m	12 sec.
White	0.5 x 0.5m	25m	25sec.
Non visible	0.1 x 0.5m	12m	8 sec.

TFDF-EX - Accessories

	TFDF-SSAM 2-axis swivel mounting bracket for TFDF series flame detectors. Item no. TF14TFDFSSAM		TFDF-WSSS Protective cover for TFDF-EX series flame detectors. Item no. TF14TFDFWSSS
			TFDF-FT Test unit for UV/IR2/IR3 flame detectors. Item no. TF14TFDFFT

TFDF IR2		EN 54-10	CLASS 1	SIL2	2 x IR DETECTION	CAST ALUMINUM BOX
	<p>IR2 flame detector (dual infrared). Operating range 0.75...2.7µm. Outputs: 4/20mA proportional output, alarm relay and fault relay. High immunity to light interference. High fume, vapour and dust tolerance. Programmable response time and sensitivity. Self test function. Fault signal output: free changeover relay. Power supply 14V...30V DC. Max. consumption 28mA. Operating temperature -10°C...+55°C. Protection rating IP65. Die-cast aluminum casing. Cyan colour. Dimensions (L x H x D) 108 x 142 x 82mm. Approved: SIL2 and EN 54-10 Class 1. Certification: 0832-CPR-F0582.</p>					
	Item no. TF14TFDFIR2					
TFDF IR3	<p>IR3 flame detector (triple infrared). Operating range 0.75...2.7µm. Other technical features like those of the TFDF IR2 model. Approved: SIL2 and EN 54-10 Class 1. Certification 0832-CPR-F0583.</p>				CLASS 1	3 x IR DETECTION
	Item no. TF14TFDFIR3					
TFDF UVIR2	<p>Multi-technology UV + IR2 flame detector (ultraviolet + IR). Operating ranges: UV 185...260nm, IR 1...2.7µm. Other technical features like those of the TFDF IR2 model. Approved: SIL2 and EN 54-10 Class 1. Certification 0832-CPR-F0584.</p>				CLASS 1	2 x IR 1 x UV DETECTION
	Item no. TF14TFDFUVIR2					

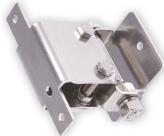
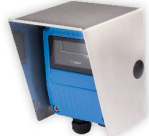

Field of view





TFDF UVIR2 - DETECTION FEATURES

FLAME COLOUR	FLAME SIZE	FLAME DISTANCE	AVERAGE RESPONSE TIME
Yellow	0.3 x 0.3m	25m	4 sec.
White	0.5 x 0.5m	25m	6 sec.
Non visible	0.1 x 0.5m	12m	8 sec.

TFDF - Accessories

	<p>TFDF-SSAM</p> <p>2-axis swivel mounting bracket for TFDF series flame detectors.</p> <p>Item no. TF14TFDFSSAM</p>		<p>TFDF-SSWS</p> <p>Protective cover for TFDF series flame detectors.</p> <p>Item no. TF14TFDFSSWS</p>
			<p>TFDF-FT</p> <p>Test unit for UV/IR2/IR3 flame detectors.</p> <p>Item no. TF14TFDFFT</p>

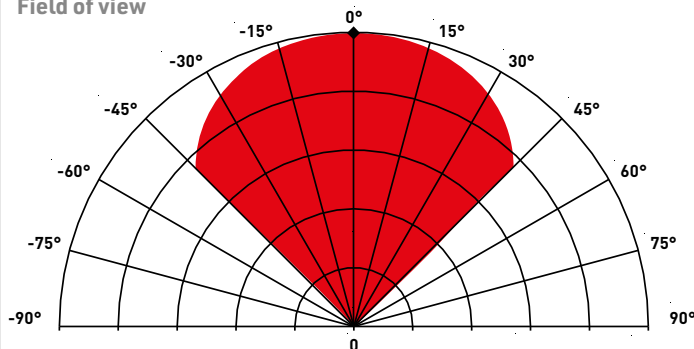
CONVENTIONAL

TFDF-OGUV		<div>EN 54-10</div> <div>CLASS 2</div> <div>ATEX CATEGORY Ex II 3 G D</div> <div>ATEX ZONE 2 22</div> <div>1 x UV DETECTION</div> <div> GRP BOX</div>
<p>Flame detector with ultraviolet-sensitive sensor. 90° field of view. Outputs: 4/20mA proportional output, alarm relay and fault relay. High immunity to light interference. High fume, vapour and dust tolerance. Self test function. Fault signal output: free changeover relay. Power supply 10V...28V DC. Max. consumption 25 mA. Operating temperature -40°C...+70°C. Protection rating IP65. Casing in GRP composite material. Red colour. Dimensions (L x H x D) 80 x 125 x 57mm. Approved: ATEX and EN 54-10 Class 2. Certification: 0960-CPR-SKG-13.00220</p>		
Item no. TF14TFDFIR2EX		

TFDF-OGUVIR	<p>Multi-technology UV + IR flame detector (ultraviolet + infrared). 90° field of view. Operating ranges: UV 185...260nm, IR 2.7µm. Other technical features like those of the TFDF OGUV model. Approved: ATEX and EN 54-10 Class 2. 0960-CPR-SKG-11-407</p>	<div>CLASS 2</div> <div>1 x IR 1 x UV DETECTION</div>
Item no. TF14TFDFIR3EX		

TFDF-OGIR3	<p>Flame detector with infrared sensitive sensor (triple IR). 90° field of view. IR operating range 2.7...50µm. Other technical features like those of the TFDF OGUV model. Approved: ATEX and EN 54-10 Class 1. 0960-CPR-SKG-15.00633</p>	<div>CLASS 1</div> <div>3 x IR DETECTION</div>
Item no. TF14TFDFUVR2EX		

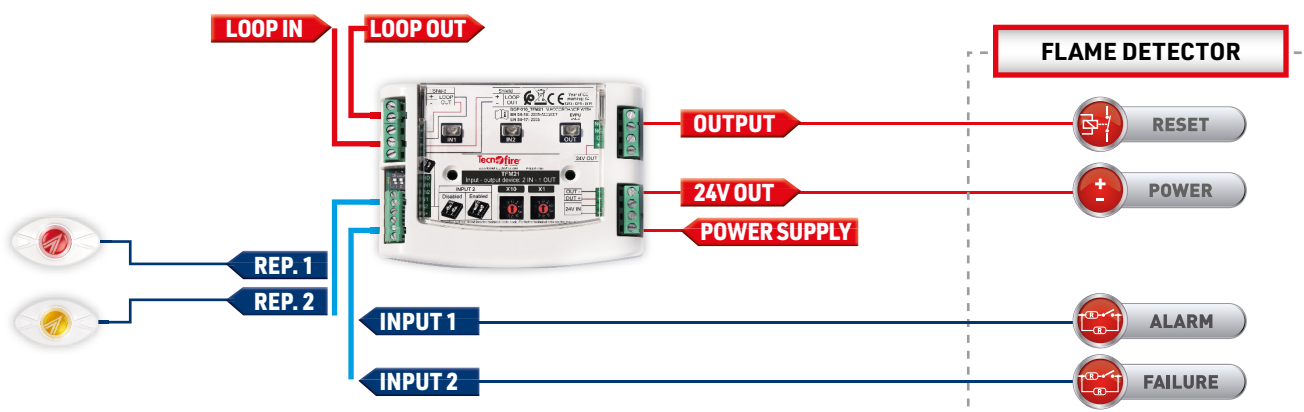
Field of view





TFDF-OGUV - DETECTION FEATURES

COMBUSTIBLE	FLAME SIZE	FLAME DISTANCE	AVERAGE RESPONSE TIME
Heptane	0.3 x 0.3m	23m	<10 sec.
Alcohol	0.5 x 0.5m	18.3m	<10 sec.

Module TFM21 - Application scheme





TFDF-OG - Accessories

	TFOG-SSAM Adjustable mounting bracket on two axes, for TFOG series flame detectors. Indoor and outdoor use. Item no. TF14TFOGSSAM		TFDF-OGFTEX EX test device for flame sensors OG series. Item no. TF14TFDFOGFTEX
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Electronic heat detectors

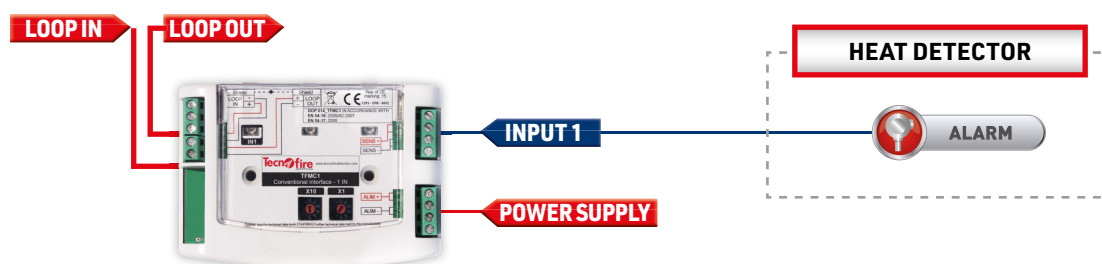
Heat detection in static or rate-of-rise mode. Thermal class, rate-of-rise suffix and functional attributes can be factory set according to requirements.

TFDC-TR4		EN 54-5		HEAT	RATE-OF-RISE	OUTDOORS -20°+110°	CAST ALUMINUM BOX	
	<p>Electronic point heat detector. High detection reliability, ideal for use in hazardous industrial areas and hazardous atmospheres. Completely immune to electromagnetic disturbances, unaffected by dust, moisture and exhaust gas. Equipped with a short-circuit insulator. Self-diagnosis function. Programmable thermal class and rate-of-rise suffix: Class A1, A2, B, C or D. Suffix R or S. Operational features configurable on request: reset mode and LED signaling mode. Power supply voltage 10V...30V. Consumption: at rest 30µA, in alarm ~20mA. Protection rating IP65. Die-cast aluminum casing. Operating temperature -20°C...+110°C. Dimensions (L x H x D) 203 x 95 x 60mm. Approved EN 54-5:2000 + A1:2002. Certification: 0068-CPR-009.</p>							
	Item no. TF12TFDCTR4							
TFDC-TR5		EN 54-5	ATEX CATEGORY Ex II 2 G	ATEX ZONE 1 2	HEAT	RATE-OF-RISE	OUTDOORS -20°+110°	CAST ALUMINUM BOX
	<p>ATEX approved electronic point heat detector. Same features as the TFDC-TR4 model. The detector can be used in areas at risk of explosion. Power supply voltage 10V...30V DC. Consumption: at rest 30µA, in alarm ~20mA. Protection rating IP65. Die-cast aluminum casing. Casing connection 1 way 1/2" NPT. Operating temperature -20°C...+110°C. Dimensions (L x H x D) 160 x 85 x 75mm. Approved ATEX II 2G Ex d IIC T6. EN 54-5:2000 + A1:2002 + ATEX. Certification: 0068-CPR-009.</p>							
	Item no. TF12TFDCTR5							

DETECTOR CONFIGURATION

CLASS		SUFFIX		ALARM RESET		SIGNALING LED	
A1	Static 54°C...65°C	R	Static + rate-of-rise	M	Manual	Mode 1	OFF = stand-by
A2	Static 54°C...70°C	S	Static	A	Automatic		ON = alarm
B	Static 69°C...85°C					Mode 2	FLASH = stand-by
C	Static 84°C...100°C						ON = alarm
D	Static 99°C...115°C						OFF = fault
Other temperatures on request are not EN 54 certified							

Module TFMC1 - Application scheme






















CONVENTIONAL

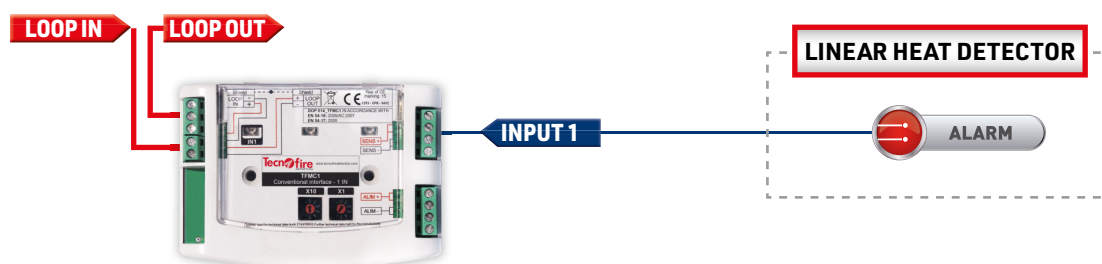
Linear heat detectors

Linear heat detectors, thermosensitive cables of a non-resettable type, consisting of a cable composed of 2 twisted conductors, insulated with a thermosensitive polymer sheath, calibrated to melt at the alarm temperature.

The melting of the sheath causes the short circuit of the conductors and the consequent maximum temperature alarm signal.

TFCTS-68EN		     
Non-resettable thermo-sensitive cable. Maximum temperature alarm signal at 68°C ±3°C. Maximum operating temperature 40°C. Resistance 300Ω/km. Maximum operating voltage 100V DC. Twisted cable. Red outer thermoplastic sheath. Outer diameter 4.2mm. Weight 24kg/km. Pack: 100m coil. EN 54-28 compliant product. Cable compliant with European CPR regulation EU 305/11.		
TFCTS-88EN		
Non-resettable thermo-sensitive cable with the same technical characteristics as the TFCTS-68 model, but with maximum temperature alarm signal at 88°C ±3°C and white external thermoplastic sheath.		
TFCTS-105EN		
Non-resettable thermo-sensitive cable with the same technical characteristics as the TFCTS-68 model, but with maximum temperature alarm signal at 105°C ±3°C, black thermoplastic sheath.		
TFCTS-138EN		
Non-resettable thermo-sensitive cable with the same technical characteristics as the TFCTS-68 model, but with maximum temperature alarm signal at 138°C ±3°C and blue thermoplastic sheath.		
TFCTS-68 ULFM		   
Non-resettable thermo-sensitive cable. Maximum temperature alarm signal at 68°C ±3°C. Operating temperature -40°C...+46°C. Maximum operating voltage 100V DC. Outer sheath with red vinyl-based coating. Outer diameter 4mm. Weight 25kg/km. Pack: 100m coil. Approved UL/FM.		
TFCTS-105 ULFM		 
Non-resettable thermo-sensitive cable, with the same technical characteristics as the TFCTS-68 ULFM model but with maximum temperature alarm signal at 105°C ±3°C and operating temperature -40°C...+79°C.		

Module TFMC1 - Application scheme






GAS detection


CONVENTIONAL


Gas detectors with electrochemical cell detection technology or catalytic detector.

The detector must be chosen according to the category of gas: toxic, flammable or refrigerant and the specific type of gas to be detected.

Toxic gas detectors

TFDG-EXD			EN 61000	SIL1	ATEX CATEGORY Ex II 2 G	ATEX ZONE 1 2	TOXIC GAS	ELECTRO-CHEMICAL CELL DETECTOR	CAST ALUMINUM BOX
			<p>Detector with electrochemical cell. Operating pressure 80KPa...110KPa, maximum air speed <6m/s. Zero tracker and self-diagnosis. Plug-in calibration tool. 4-20mA proportional signal output. Optional 3 relay board that can be housed in the casing. 12V...24V DC supply voltage. Maximum consumption 70mA @ 12V. Operating temperature -20°C...+50°C. Protection rating IP65. Die-cast aluminum casing. Dimensions (L x H x D) 130 x 155 x 90mm. Approved EMC EN 50270:2011, EN 61000. Certification: ATEX Exd II2G, SIL1.</p>						
NAME	GAS	ITEM NO.							
TFDG-EXD AMCT	Toxic Ammonia	TF10TFDGAMCTEXD							
TFDG-EXD IDS	Hydrogen Sulfide	TF10TFDGDISEXD							
TFDG-EXD MDA	Nitric Oxide	TF10TFDGMDAEXD							
NAME	GAS	ITEM NO.							
TFDG-EXD COE	Carbon Monoxide	TF10TFDGC0EE XD							
TFDG-EXD OXG	Oxygen	TF10TFDG0XGEXD							

TFDG-EXN			EN 61000	SIL1	ATEX CATEGORY II 3 G	ATEX ZONE 2	TOXIC GAS	ELECTRO-CHEMICAL CELL DETECTOR	CAST ALUMINUM BOX
			Detector with electrochemical cell. Operating pressure 80KPa...110KPa, maximum air speed <6m/s. Zero tracker and self-diagnosis. Plug-in calibration tool. 4-20mA proportional signal output. Optional 3 relay board that can be housed in the casing. 12V...24V DC supply voltage. Maximum consumption 70mA @ 12V. Operating temperature -20°C...+50°C. Protection rating IP55. Die-cast aluminum casing. Dimensions (L x H x D) 106 x 170 x 65mm. Approved EMC EN 50270:2011, EN 61000. Certification: ATEX Exn II3G e SIL1.						
NAME	GAS	ITEM NO.							
TFDG-EXN CO2	Carbon dioxide	TF10TFDGC02EXN	TFDG-EXN ETL Ethylene TF10TFDGETLEXN						
TFDG-EXN ADS	Sulphur dioxide	TF10TFDGADSEXN	TFDG-EXN IDS Hydrogen Sulfide TF10TFDGDISEXN						
TFDG-EXN AMCT	Toxic Ammonia	TF10TFDGAMCTEXN	TFDG-EXN COE Carbon Monoxide TF10TFDGCOEEXN						

TFDG-PK			<div>EN 61000</div>		<div>TOXIC GAS</div>		<div>ELECTRO-CHEMICAL CELL DETECTOR</div>		<div>CAST ALUMINUM BOX</div>		
<div></div>			<div>Detector with electrochemical cell ideal for use in car parks. Zero tracker and self-diagnosis. Plug-in calibration tool. 4-20mA proportional signal output. Optional 3 relay board that can be housed in the casing. Power supply 12V...24V DC. Maximum consumption 40mA @ 12V. Operating temperature -10°C...+60°C. Protection rating IP55. Die-cast aluminum casing. Dimensions (L x H x D) 100 x 180 x 65mm. Approved EMC EN 50270:2011, EN 61000.</div>								
NAME		GAS		ITEM NO.		NAME		GAS		ITEM NO.	
TFDG-PK BDA		Nitrogen Dioxide		TF10TFDGBDAPK		TFDG-PK COE		Carbon Monoxide		TF10TFDGC0EPK	
TFDG-PK CO2		Carbon Dioxide		TF10TFDGC02PK							

Flammable gas detectors

TFDG-EXD



Catalytic detector. Operating pressure 80KPa...110KPa, maximum air speed <6m/s. Zero tracker and self-diagnosis. Plug-in calibration tool. 4-20mA proportional signal output. Optional 3 relay board that can be housed in the casing. 12V...24V DC supply voltage. Maximum consumption 130mA @ 12V. Operating temperature -20°C...+50°C. Protection rating IP65. Die-cast aluminum casing. Dimensions (L x H x D) 130 x 155 x 90mm. Approved EMC EN 50270:2011, EN 61000. Certification: ATEX Exd II2 G e SIL1.

EN
61000

SIL1

ATEX
CATEGORY
II 2 G

ATEX
ZONE
1 2

FLAMMABLE
GAS

CATALYTIC
DETECTOR

CAST
ALUMINUM
BOX

NAME	GAS	ITEM NO.	NAME	GAS	ITEM NO.
TFDG-EXD ADB	Butyl Acetate	TF10TFDGADBEXD	TFDG-EXD ETE	Diethyl Ether	TF10TFDGETEEXD
TFDG-EXD ADE	Ethyl Acetate	TF10TFDGADEEXD	TFDG-EXD ETL	Ethylene	TF10TFDGETLEEXD
TFDG-EXD ADV	Vinyl Acetate	TF10TFDGADVEXD	TFDG-EXD GPL	LPG	TF10TFDGGPLEX
TFDG-EXD ACL	Acetylene	TF10TFDGACLEX	TFDG-EXD IDR	Hydrogen	TF10TFDGDIREX
TFDG-EXD ACT	Acetone	TF10TFDGACTEXD	TFDG-EXD IBT	Iso Butane	TF10TFDGBITEX
TFDG-EXD ACA	Acetic Acid	TF10TFDGACAEXD	TFDG-EXD IPT	Iso Pentane	TF10TFDGIPTEX
TFDG-EXD ALB	Butyl Alcohol	TF10TFDGalBEXD	TFDG-EXD JP8	JP8	TF10TFDGJP8EXD
TFDG-EXD AET	Ethyl Alcohol	TF10TFDGAETEXD	TFDG-EXD MET	Methane	TF10TFDGMETEX
TFDG-EXD AIB	Iso Butyl Alcohol	TF10TFDGAIBEXD	TFDG-EXD MKT	Methyl Ethyl Ketone	TF10TFDGMKTEX
TFDG-EXD AIP	Iso Propyl Alcohol	TF10TFDGAIPEXD	TFDG-EXD NON	Nonane	TF10TFDGNONEX
TFDG-EXD AMT	Methyl Alcohol	TF10TFDGMAMTEX	TFDG-EXD ODE	Ethylene Oxide	TF10TFDGODEEX
TFDG-EXD APR	Propyl Alcohol	TF10TFDGAPREX	TFDG-EXD PTN	Pentane	TF10TFDGPNTNEX
TFDG-EXD AMC	Ammonia	TF10TFDGAMCEX	TFDG-EXD PRP	Propane	TF10TFDGP RP EX
TFDG-EXD BNZ	Benzene	TF10TFDGBNZEEX	TFDG-EXD PRL	Propylene	TF10TFDGPRL EX
TFDG-EXD BTN	Butane	TF10TFDGBTNEX	TFDG-EXD STN	Styrene	TF10TFDGSTNEX
TFDG-EXD CES	Cyclohexane	TF10TFDGCSEEX	TFDG-EXD TOL	Toluene	TF10TFDGTOL EX
TFDG-EXD CPT	Cyclopentane	TF10TFDGCPTEX	TFDG-EXD TMB	Tri Methylbenzene	TF10TFDGTMBEX
TFDG-EXD EPT	Heptane	TF10TFDGEPTEX	TFDG-EXD VDB	Patrol Vapors	TF10TFDGVDBEX
TFDG-EXD ESN	Hexane	TF10TFDGESNEX	TFDG-EXD XLN	Xylene	TF10TFDGYLNEEX
TFDG-EXD ETN	Ethane	TF10TFDGETNEX			

TFDG-EXN



Catalytic detector. Operating pressure 80KPa...110KPa, maximum air speed <6m/s. Zero tracker and self-diagnosis. Plug-in calibration tool. 4-20mA proportional signal output. Optional 3 relay board that can be housed in the casing. 12V...24V DC supply voltage. Maximum consumption 130mA @ 12V. Operating temperature -20°C...+50°C. Protection rating IP55. Die-cast aluminum casing. Dimensions (L x H x D) 106 x 170 x 65mm. Approved EMC EN 50270:2011, EN 61000. Certification: ATEX Exn II3 G e SIL1.

EN
61000

SIL1

ATEX
CATEGORY
II 3 G

ATEX
ZONE
2






FLAMMABLE
GAS

CATALYTIC
DETECTOR

CAST
ALUMINUM
BOX









NAME	GAS	ITEM NO.	NAME	GAS	ITEM NO.
TFDG-EXN BTN	Butane	TF10TFDGBTNEXN	TFDG-EXN OXG	Oxygen	TF10TFDGOXGEXN
TFDG-EXN GPL	LPG	TF10TFDGGPLEXN	TFDG-EXN PRP	Propane	TF10TFDGP RP EXN
TFDG-EXN MET	Methane	TF10TFDGMETEXN	TFDG-EXN VDB	Patrol Vapors	TF10TFDGVDBEXN

CONVENTIONAL

TFDG-PK	   
	<p>Flammable gas detectors Ideal for applications in car parks and secure areas. Catalytic detector. Zero tracker and self-diagnosis. Plug-in calibration tool. 4-20mA proportional signal output. Optional 3 relay board that can be housed in the casing. Power supply 12V...24V DC. Maximum consumption 40mA @ 12V. Operating temperature -10°C...+60°C. Protection rating IP55. Die-cast aluminum casing. Dimensions (L x H x D) 100 x 180 x 65mm. Approved EMC EN 50270:2011, EN 61000. Sensor: CEI 216-S/2.</p>

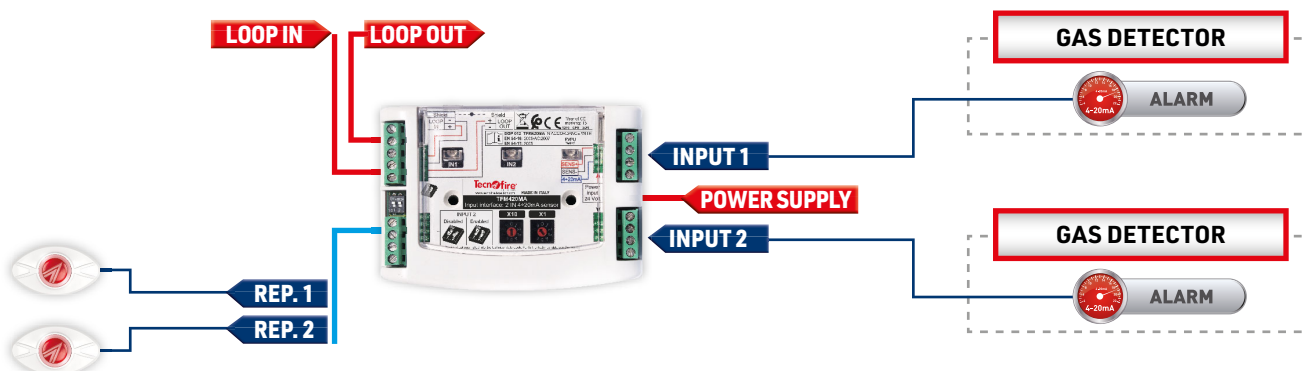
NAME	GAS	ITEM NO.	NAME	GAS	ITEM NO.
TFDG-PK GPL	LPG	TF10TFDGGPLPK	TFDG-PK VDB	Patrol Vapors	TF10TFDGVDBPK
TFDG-PK MET	Methane	TF10TFDGMETPK			

Refrigerant gas detectors

TFDG-EXD	      
	<p>Infrared detector 0/2000 ppm. Operating pressure 80-110 KPa, maximum air speed <6m/s. Zero tracker and self-diagnosis. Plug-in calibration tool. 4-20mA proportional signal output. Optional 3 relay board that can be housed in the casing. 12V...24V DC supply voltage. Maximum consumption 70mA @ 12V. Operating temperature -20°C...+50°C. Protection rating IP65. Die-cast aluminum casing. Dimensions (L x H x D) 106 x 170 x 65mm. Approved EMC EN 50270:2011, EN 61000. Certification: ATEX Exd II2G e SIL 1.</p>

NAME	GAS	ITEM NO.	NAME	GAS	ITEM NO.
TFDG-EXD R32	R32	TF10TFDGR32EXD	TFDG-EXD R407A	R407A	TF10TFDGR407EXD
TFDG-EXD R125	R125	TF10TFDGR125EXD	TFDG-EXD R507	R507	TF10TFDGR507EXD
TFDG-EXD R134A	R134A	TF10TFDGR134EXD	TFDG-EXD R1234YF	R1234YF	TF10TFDGR123EXD
TFDG-EXD R404A	R404A	TF10TFDGR404EXD	TFDG-EXD SF6	SF6	TF10TFDGSF6EXD

Module TFM420MA - Application scheme








Accessories

Batteries - Cables - Electromagnetic door holders
Flood detectors

Batteries

Ensuring the continuous operation of fire detection systems is indispensable. In the event of an interruption of the primary power supply, the system must guarantee the operating autonomy prescribed by the standards. The batteries selected by Tecnofire ensure the required efficiency and reliability.





YUASA

	TFBY-12 2
	YUASA 12V/2.3Ah rechargeable lead-acid battery Dimensions (L x H x D) 178 x 64 x 34mm. Item no. TF17TFBY1221
	TFBY-12 7
	YUASA 12V/7Ah rechargeable lead-acid battery Dimensions (L x H x D) 151 x 97.5 x 65mm. Item no. TF17TFBY127
	TFBY-12 12
	YUASA 12V/12Ah rechargeable lead-acid battery Dimensions (L x H x D) 151 x 97.5 x 98mm. Item no. TF17TFBY1212
	TFBY-12 17
	YUASA 12V/17Ah rechargeable lead-acid battery Dimensions (L x H x D) 181 x 167 x 76mm. Item no. TF17TFBY1217

FIAMM

	TFBF-12 2
	FIAMM 12V/2Ah rechargeable lead-acid battery Dimensions (L x H x D) 178 x 67 x 34.5mm. Item no. TF17TFBF122
	TFBF-12 7
	FIAMM 12V/7.2Ah rechargeable lead-acid battery Dimensions (L x H x D) 151 x 99 x 65mm. Item no. TF17TFBF1272
	TFBF-12 12
	FIAMM 12V/12Ah rechargeable lead-acid battery Dimensions (L x H x D) 151 x 99 x 98mm. Item no. TF17TFBF1212
	TFBF-12 18
	FIAMM 12V/18Ah rechargeable lead-acid battery Dimensions (L x H x D) 181 x 165.5 x 76mm. Item no. TF17TFBF1218

EXTRACELL

	TFBE-12 2
	Extracell 12V/2Ah rechargeable lead-acid battery Dimensions (L x H x D) 178 x 67 x 34.5mm. Item no. TF17TFBE122
	TFBE-12 7
	Extracell 12V/7.2Ah rechargeable lead-acid battery Dimensions (L x H x D) 151 x 99 x 65mm. Item no. TF17TFBE127
	TFBE-12 12
	Extracell 12V/12Ah rechargeable lead-acid battery Dimensions (L x H x D) 151 x 99 x 98mm. Item no. TF17TFBE1212
	TFBE-12 20
	Extracell 12V/20Ah rechargeable lead-acid battery Dimensions (L x H x D) 181 x 165.5 x 76mm. Item no. TF17TFBE1220

Cables

Cables for low smoke and zero halogen fire detection systems (LSZH).

Required for the creation of fire detection systems in buildings with a high presence of people.

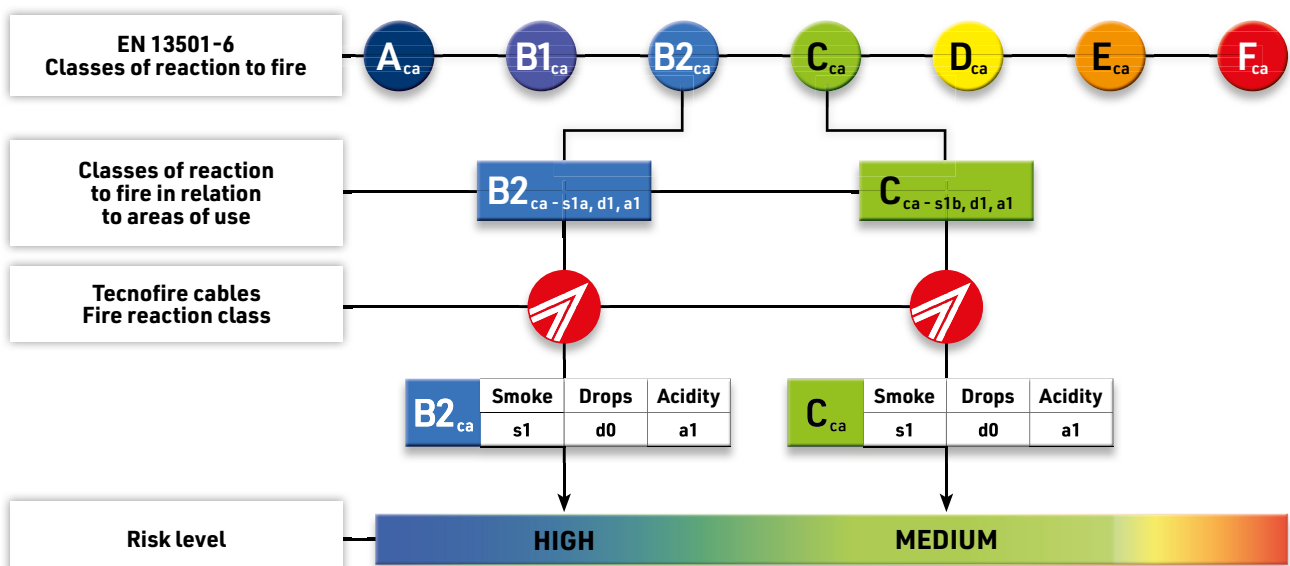
Suitable for fixed automatic fire detection and fire alarm systems.

Suitable for various types of installation: in a single recessed or visible duct, in a cable duct or raceway (even without separators).

EN 50575	EN 50200	FIRE RESISTANCE TESTS	ENEL 36762	EXTERNAL SHEATH INSULATION
		EN 50575:2014+A1:2016 - EN 50200		UNEL 36762
EN 60332-1 60332-2		FLAME RETARDANCY TESTS	EN 60332-3 60332-25	FIRE RETARDANCY TESTS
		EN 60332-1-2		EN 60332 3-25

EUROCLASS RISK LEVEL - AREAS OF USE	RISK LEVEL	REACTION TO FIRE CLASS
Air stations, railway stations, maritime stations, underground/metro stations in whole or in part underground. Road tunnels longer than 500m and railway tunnels longer than 1000 m.	HIGH	B2_{ca} - s1a, d1, a1 (*)
Health facilities that provide hospital and/or residential services on a continuous and/or daytime basis, nursing homes for the elderly with more than 25 beds; health facilities that provide specialist assistance on an outpatient basis, including rehabilitation, instrumental and laboratory diagnostics. Entertainment and entertainment venues in general, sports facilities and centres, gyms, both public and private. Hotels, guesthouses, motels, hotel villages, tourist-hotel residences, tourist villages, holiday accommodation, youth hostels, mountain huts, bed & breakfasts, dormitories, holiday homes, with over 25 beds; tourist accommodation facilities in the open air (campsites, holiday villages, etc.) with accommodation capacity of more than 400 people. Schools of every order, grade and type, colleges, academies with over 100 people present; nurseries with over 30 people present. Premises used for exhibition and/or wholesale or retail sale, fairs and exhibition districts. Companies and offices with over 300 people present; libraries and archives, museums, galleries and exhibitions. Buildings intended for civil use, with a fire fighting height of more than 24m.	MEDIUM	C_{ca} - s1b, d1, a1 (*)
(*) The additional requirements sX, dX, aX indicated represent the minimum level required. Regulatory reference CEI UNEL 35016 (08-2016).		
Caution: all the places and activities indicated in this table represent, by way of non-exhaustive example, the areas of use designated, for each of the 4 fire reaction to fire classes, defined by the European CPR regulation applied to electric cables.		

Classification criteria according to the European CPR regulation



Tecnofire cables



Cables with flexible conductors in red copper. Red sheath in thermoplastic materia with flame retardant compound, low smoke zero halogen LSZH.

Operating temperature -40°C...+75°C.

Maximum operating temperature -40°C...+90°C,

XLPE insulation (Mineral cross-linked polyethylene).

Operating voltage 100/100V. 2000V test voltage.

LOOP CABLE	CPR CLASS C _{ca}	EN 50575	EN 50200 PH120	EN 60332	CEI 20-105	LSZH CABLES	INSULATION C-4 400V	TWISTED CABLE	SHIELDED CABLE
Marking: RAMCRORAMFIRECRO-F3 Fire Comet CEI 20-105 FG2900HM16 - 2 x X.X mmq - EN 50200 PH120 - EN 60332-1-2 IEC 60332-3-25 - CEI UNEL 36762 C-4 (U ₀ =400V) - LSZH RoHS CE - EN 50575:2014+A1:2016 - CPR Cca s1a, d0, a1 - BATCH + MM/YY.									

NAME	COMPOSITION	SPOOL	RESISTIVITY Ohm/km @ T20°C	DIAMETER	BEND RADIUS	WEIGHT kg/km	ITEM NO.
TFCF-2X1S CPR2	2x1	200m	Max 20.3	6.6mm	52.8mm	63	TF18CF2X1SCPR2
TFCF-2X15S CPR2	2x1,5	200m	Max 13.8	7.6mm	60.8mm	82	TF18CF2X15SCPR2
TFCF-2X25S CPR2	2x2.5	200m	Max 8.3	9.2mm	73.6mm	122	TF18CF2X25SCPR2
TFCF-2X1S CPR5	2x1	500m	Max 20.3	6.6mm	52.8mm	63	TF18CF2X1SCPR5
TFCF-2X15S CPR5	2x1.5	500m	Max 13.8	7.6mm	60.8mm	82	TF18CF2X15SCPR5
TFCF-2X25S CPR5	2x2.5	500m	Max 8.3	9.2mm	73.6mm	122	TF18CF2X25SCPR5

Cable also available with classe of reaction to fire B2_{ca}

POWER SUPPLY CABLE 24V	CPR CLASS C _{ca}	EN 50575	EN 50200 PH120	EN 60332	CEI 20-105	LSZH CABLES	INSULATION C-4 400V	TWISTED CABLE
Marking: RAMCRORAMFIRECRO-F3 Fire Comet CEI 20-105 FG2900HM16 - 2 x X.X mmq - EN 50200 PH120 - EN 60332-1-2 IEC 60332-3-25 - CEI UNEL 36762 C-4 (U ₀ =400V) - LSZH RoHS CE - EN 50575:2014+A1:2016 - CPR Cca s1a, d0, a1 - BATCH + MM/YY.								

NAME	COMPOSITION	SPOOL	RESISTIVITY Ohm/km @ T20°C	DIAMETER	BEND RADIUS	WEIGHT kg/km	ITEM NO.
TFCF-2X15 CPR2	2x1.5	200m	Max 13.8	7.5mm	60mm	99	TF18CF2X15CPR2
TFCF-2X15 CPR5	2x1.5	500m	Max 13.8	7.5mm	60mm	99	TF18CF2X15CPR5

Cable also available with classe of reaction to fire B2_{ca}







SERIAL BUS CABLE	CPR CLASS C _{ca}	EN 50575	EN 50200 PH120	EN 60332	LSZH CABLES	INSULATION C-4 400V	TWISTED CABLE	SHIELDED CABLE
Marking: Tecnofire Bus RS485 - 2 x 1,5 + (2 x 1)H - EN 50200 PH120 - CEI EN 60332-1-2 - CEI EN 60332-3-25 CEI UNEL 36762 C-4 (U ₀ = 400V) - LSZH RoHS CE - EN 50575:2014+A1:2016 CPR Class Cca s1, d0, a1 - BATCH + MM/YY.								

NAME	COMPOSITION	SPOOL	RESISTIVITY Ohm/km @ T20°C	DIAMETER	BEND RADIUS	WEIGHT kg/km	ITEM NO.
TFCF-BUS485 CPR	2x1.5 + 2x1	100m	Max 13.6 (2x1,5) Max 19.9 (2x1)	11.9mm	59.5mm	295	TF18TFCFBUS485C



Cable also available with classe of reaction to fire B2_{ca}






Electromagnetic door holders

Safety electromagnetic door holders, with a holding force of 300Kg and integrated status sensor and electromagnetic holders for automatic holding and release of fire doors and emergency exits, of conventional or heat-sensitive type with a holding force from 50kg to 100kg.




TFELT-300	 <p>Electromagnetic holder for emergency, push-bar and entry doors in general. Exposed mounting on door frame. Holding force 300Kg. The electromagnetic holder is equipped with a status sensor. The open/closed status is monitored locally by a LED and a free changeover relay output. Closing delay timer. 12-24V DC supply voltage. Maximum consumption 290mA at 24V DC. Anodised aluminum casing. Dimensions (L x H x D) 250 x 48 x 24mm.</p> <p>Item no. TF8TFEL300T</p>	    
TFEL-300	<p>Safety electromagnetic door holder, with the same technical characteristics as the TFELT-300 model, but without closing delay timer.</p> <p>Item no. TF8TFEL300</p>	

TFELT-300 - TFEL-300 - Accessories


 <p>TFELS-300</p> <p>"L" bracket in anodised aluminum for fixing TFEL-300 and TFELT-300 series electromagnetic holders.</p> <p>Item no. TF8TFEELS300</p>	 <p>TFELSC-300</p> <p>Anodised aluminum bracket for fixing the TFELS-300 counter plate to be used when a through hole cannot be made.</p> <p>Item no. TF8TFELSC300</p>
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TFEMFS-50	 <p>Fire Sensitive electromagnetic fire door holder. Wall and/or floor mounting. Spring-loaded extractor for fast and reliable door release. Self-release heat sensor calibrated at 70°. Holding force 50Kg. Adjustable traction force from 4 to 12Kg. 24V DC supply voltage. Maximum consumption 60mA. Satin-finish stainless steel casing. Dimensions (D x H) 90 x 40mm. Approved EN 1155. Certification 0407-CPD-095.</p> <p>Item no. TF8TFEMFS50</p>	     
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TFEMFS-50 - Accessories


 <p>TFEMFS-CS4</p> <p>Articulated and counter-plate with damper length 4cm.</p> <p>Item no. TF8TFEMFSCS4</p>	 <p>TFEMFS-CS8</p> <p>Articulated counter-plate with damper length 8cm.</p> <p>Item no. TF8TFEMFSCS8</p>
 <p>TFEMFS-STM</p> <p>Modular telescopic support for fixing electromagnet to wall or floor, made of satin-finished stainless steel.</p> <p>Item no. TF8TFEMFSSTM</p>	 <p>TFEMFS-EM</p> <p>Multiple spacer element for telescopic holder.</p> <p>Item no. TF8TFEMFSEM</p>

CONVENTIONAL

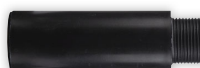
TFEL-50		EN 1155	HOLDING FORCE 50kg	WALL OR FLOOR MOUNT	ABS BOX
	Electromagnetic holder for fire doors equipped with release button, counter-plate with damper. Wall or floor mounting via optional bracket. Holding force 50Kg. 24V DC supply voltage. Maximum consumption 60mA. ABS casing. White colour. Dimensions (L x H x D) 72 x 105 x 40mm. Approved EN 1155. Certification: 0407-CPR-055.				
	Item no. TF8TFEL50				
TFEL-100					HOLDING FORCE 100kg
	Electromagnetic fire door holder, with the same technical characteristics as the TFEL-50 model, but with a holding force of 100kg, maximum consumption of 100mA. Black colour. Dimensions (L x H x D) 72 x 105 x 52mm. Approved EN 1155. Certification: 0407-CPR-055.				
	Item no. TF8TFEL100				

TFEL-50 - TFEL-100 - Accessories

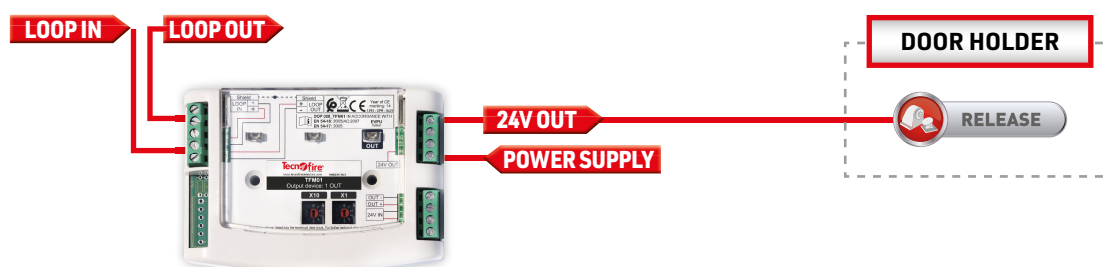
	TFEL-STP Painted steel bracket for fixing the TFEL series electromagnetic holders to the floor. Dimensions (L x H x D) 72 x 135 x 48mm.
	Item no. TF8TFSTP

TFELS-50 150		EN 1155	HOLDING FORCE 50kg	WALL OR FLOOR MOUNT	ABS BOX
	Electromagnetic fire door holder. Equipped with release button, counter-plate with damper. Wall or floor mounting. Holding force 50Kg. 24V DC supply voltage. Maximum consumption 60mA. ABS casing. Wall fixing dimensions (L x H) 105 x 105mm. Extension tube with adjustable length max 150mm. Approved EN 1155. Certification: 0407-CPR-055.				
	Item no. TF8TFELS50150				
TFELS-100 150					HOLDING FORCE 100kg
	Electromagnetic fire door holder, with the same technical characteristics as the TFEL-50 150 model, but with a holding force of 100kg, maximum consumption of 100mA. Approved EN 1155. Certification: 0407-CPR-055.				
	Item no. TF8TFELS100150				

TFELS-50 150 - TFELS-100 150 - Accessories


	TFELTP-200 Modular extension tube, for TFELS series magnet. Length: 100mm. The tube can be cut to obtain intermediate sizes.
	Item no. TF8TFELTP200

Module TFM01 - Application scheme



Flood detectors

Point type flood detectors for indoor and outdoor IP68 or linear type for easy application, particularly suitable for monitoring hollow raised floors and technical compartments.

TFRPL-118	<div><div>INDOORS OUTDOORS 0° +60°</div><div>IP68</div><div>ABS BOX</div></div>
	<p>Point type flood detector. It detects the presence of water and liquid mixtures with a wide spectrum. Particularly suitable for monitoring flooding situations in pits and cavities.</p> <p>Operating status signaling LED. Free changeover relay output, contacts 1A 30V DC.</p> <p>Power supply 10V...30V DC. Consumption 30mA. Operating temperature -0°C...+60°C.</p> <p>Protection rating IP68. 1 metre long pre-wired cable.</p> <p>ABS casing. Dimensions (L x H x D) 73 x 92 x 36mm.</p>
Item no. TF12TFRPL118	

Module TFM20 - Application scheme





Merchandising

Demo-cases - Display equipment Apparel

The company's communication strategy aims at enhancing the brand Tecnofire and strengthening the goals achieved so far. Tecnofire promotes and communicates effectively to the market the excellence of their products, with harmonized procedures, capable of valuing and transmitting cognitively the brand identity, with product demonstration tools, display equipment, coordinated clothing and accessories, which can promote and encourage the sales activities.

Demo-cases



TF-VALIGIA A1

Item no. TF19TFVALDEMOA1



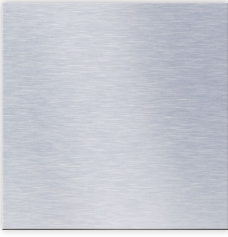


The demo-case trolley Tecnofire includes a complete and operational system composed of the following products:

ITEM	DESCRIPTION	ITEM NO.
TFA1-298	Addressable control panel 1 Loop	TF1TFA1298-IT
TFT-7SC	Synoptic repeater panel	TF2TFT7SC
TFNET	Communication interface	TF2TFNET
TFDA-S1	Optical smoke detector	TF3TFDAS1N
TFDA-TR1	Rate-of-rise detector	TF3TFDATR1
TFDA-STR1	Combined optical smoke and heat detector	TF3TFDASTR1N
TFM05-LP	Output module	TF4TFM05LP
TFM21	Input/output module	TF4TFM21
TFCP	Manual alarm call points	TF5TFCP
TFIS01	Optical-acoustic warning device	TF5TFIS01
TFRIP-R	Optical repeater	TF3TFRIPR

The demonstration case makes it possible to present and demonstrate the functions of Tecnofire systems to customers in a practical and fast way. The demonstration of real system operation qualifies the product and guides the customer's choices.

For further information, please refer to the Sales Department.

Display equipment

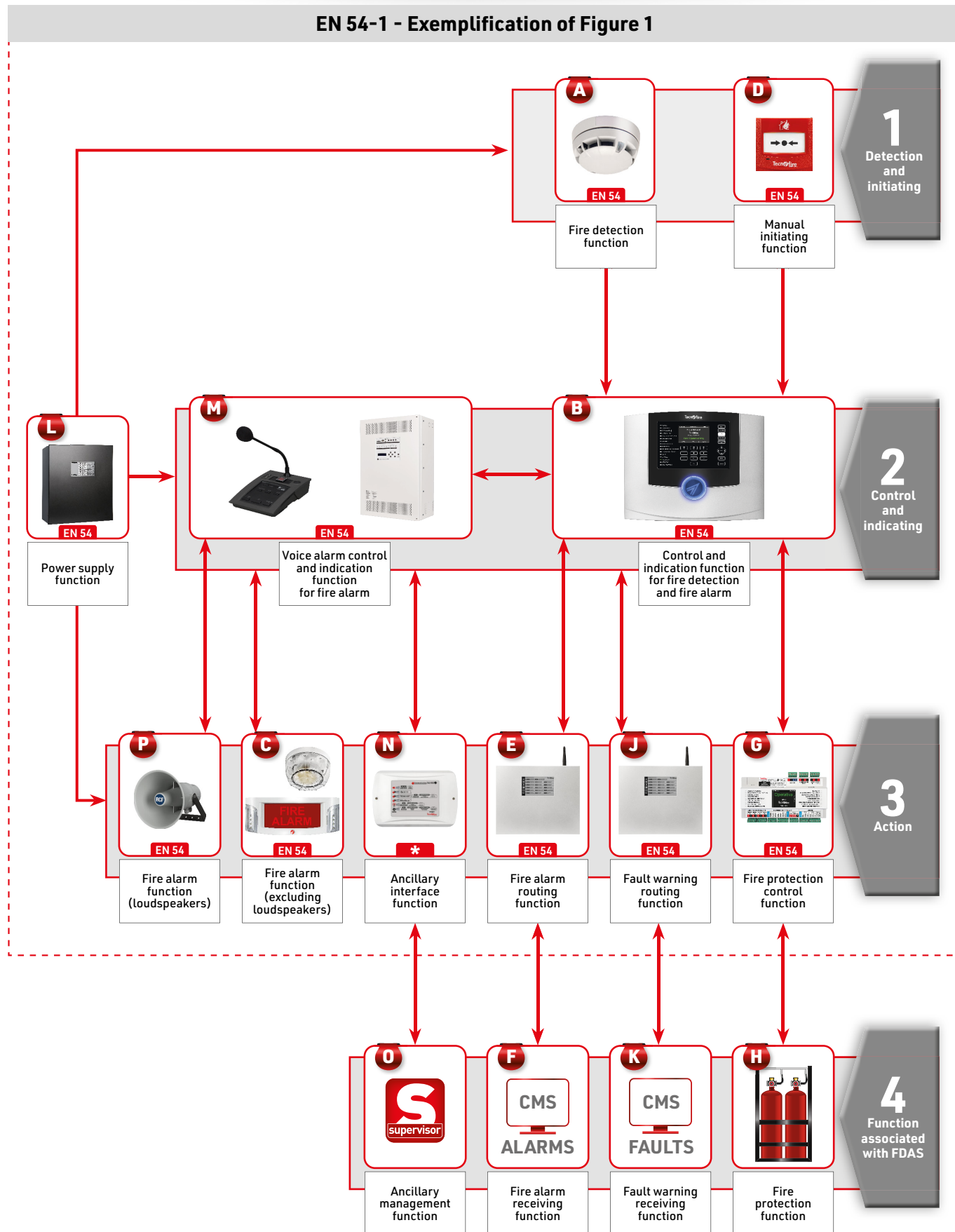
	TF-ESPOSITORE01 Counter display. Black Plexiglas. Wall mounting or on sideboard. Dimensions (L x H x D) 1000 x 1060 x 150mm. Item no. TF19TFESPOSIT01		TF-BASEESPOS Sideboard with 2 shelves for advertising brochures. Suitable for placing counter display. Transparent Plexiglas. Dimensions (L x H x D) 1000 x 840 x 300mm Item no. TF19TFBASEESPOS
	TF-PANNELLO01 Exhibition panel for equipment. Material aluminum with brushed finish. Dimensions (L x H) 1000 x 1000mm. Item no. TF19TFPANNEL01		TF-PANNELLOA1 Screen-printed exhibition panel in brushed-finish aluminum. The panel comes with the following products (not assembled): TFA1-298, TFPANM-AI, TFNET, TFT-7SC, TFDA-S1, TFDA-STR1, TFRIP-R, TFIS01, TFCEP01, TFM21. Dimensions (L x H) 1000 x 1000mm. Item no. TF19TFPANNESPA1
			TF-ROLLUP Roll up banner for retail outlets and show rooms. Dimensions (L x H) 800 x 2000mm Item no. TF19TFROLLUP

Apparel


	TF-CAPPELLINO Baseball cap with Worldwide from Italy logo. White color. Item no. TF19TFCAPPEL		TF-POLO Maglietta polo. Colore bianca. With Tecnofire Worldwide logo. Item no. TF19TFPOLO
	TF-CAMICIA Shirt with Worldwide from Italy logo. White color. Item no. TF19TFCAMICIA		TF-PANTALONE Long trousers with pockets. Red colour. With Tecnofire Hi-Tech Fire Alarm Systems logo. Item no. TF19TFPANTALONE
	TF-FELPA Sweatshirt with zip fastener and Worldwide from Italy logo. White color Item no. TF19TFFELPA		TF-GIUBBOTTO Winter jacket with removable sleeves. Grey colour. With Tecnofire Worldwide logo. Item no. TF19TFGIUBBOTTO

FOCUS - EN 54-1

EN 54-1 - Exemplification of Figure 1



*Function provided by EN 54-1 but not regularized by any specific standard

EN 54-1 - Functions and reference standards		
A	Heat detectors (point detectors)	EN 54-5
	Smoke detectors (point detectors)	EN 54-7
	Flame detectors (point detectors)	EN 54-10
	Line smoke detectors using optical beam	EN 54-12
	Input/output devices	EN 54-18
	Aspirating smoke detectors	EN 54-20
	Resettable line type heat detectors	EN 54-22
	Carbon monoxide detectors (point detectors)	EN 54-26
	Duct smoke detectors	EN 54-27
	Non-resettable line type heat detectors	EN 54-28
	Point detectors using a combination of smoke and heat sensors	EN 54-29
	Point detectors using a combination of carbon monoxide and heat sensors	EN 54-30
	Point detectors using a combination of smoke, carbon monoxide and optionally heat sensors	EN 54-31
B	Control and indicating equipment (CIE)	EN 54-2
	Compatibility and connectivity of system components	EN 54-13
C	Fire alarm sounders	EN 54-3
	Visual alarm (VAD)	EN 54-23
D	Manual call points	EN 54-11
E	Fire alarm routing equipment (alarm transmission routing equipment)	EN 54-21
F	Fire alarm receiving centre	EN 50518
G	Input/output devices	EN 54-18
H	Electrically controlled hold-open system for fire/smoke doors	EN 14637
	Ventilation for buildings - Fire dampers	EN 15650
	Fixed firefighting systems: gas extinguishing systems	EN 12094
	Smoke and heat control systems	EN 12101
	Firefighting systems: sprinkler or water spray systems	EN 12259
J	Fault warning routing equipment	EN 54-21
K	Fault warning receiving centre	EN 50518
L	Power supply equipment (PSE)	EN 54-4
M	Voice alarm control and indicating equipment (VACIE)	EN 54-16
N	Data communication interface (e.g. network interface, remote services interface)	Currently without specific reference standard
O	Visualization system	Currently without specific reference standard
	Building management system	
P	Voice alarm loudspeakers	EN 54-24
	Short-circuit isolators	EN 54-17
	Components using radio links	EN 54-25
	Alarm transmission systems	EN 50136




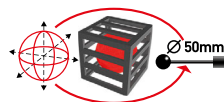







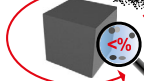
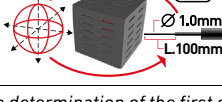
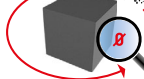
Green colour - Voluntary standards that are not mandatory

Blue colour - Standards they have not yet been published in the Official Gazette of the UE


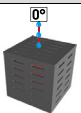
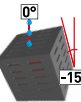
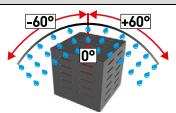
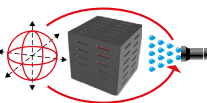
FOCUS - EN 60529

EN 60529 "Degrees of Protection for Enclosures (IP Code)" sets out how to classify the degrees of protection of enclosures for electrical equipment with a rated voltage below 72.5KV. The standard specifies the evaluation criteria and test methods used to designate the IP rating of the device. The purpose of this Focus is to provide the reader with the essential elements for understanding the meaning of the International Protection IP code, illustrating the fundamental concepts, without going into the specifics of the contents covered by EN 60529. In brief, the EN 60529 standard characterises the IP code using 3 tables, the first 2 tables "Protection against access to hazardous parts" and "Protection against solid foreign bodies" allow the first characteristic numeral to be determined. The third table "Protection against water penetration" allows the second characteristic numeral to be determined.



IP CODE STRUCTURE		IP	4	2	CH
Acronym	Identifying acronym made up of the initials of the words 'International Protection'.	←	←	←	←
1st characteristic numeral	Protection of persons against contact with hazardous parts of the device and protection (enclosure) of the device against the ingress of solid bodies. Digit 0 to 6 or letter X.	←	←	←	←
2st characteristic numeral	Protection (enclosure) of the device against harmful ingress of water. Digit 0 to 8 or letter X.	←	←	←	←
Additional letter	Additional letter indicated when, for the determination of the first characteristic numeral, it is found that the protection of the enclosure against access to hazardous parts is superior to the protection of the enclosure against the ingress of solid foreign bodies. Optional indication of letters: A, B, C, D.	←	←	←	←
Supplementary letter	Supplementary letter. Provides additional information: H-High voltage equipment, M-Water ingress test with moving parts in motion, S-Water ingress test with moving parts not in motion, W-Suitable for use in special weather conditions. Several additional letters may be indicated, listed in alphabetical order.	←	←	←	←





















































	PROTECTION AGAINST ACCESS TO HAZARDOUS PARTS	PROTECTION AGAINST SOLID FOREIGN BODY
IP0x	Not protected  <p>The device, represented here by a sphere, has no protection to prevent contact with its dangerous parts.</p>	Not protected  <p>The device, represented here by a sphere, has no protection to prevent contact with its dangerous parts.</p>
IP1x	Protection against access to hazardous parts with the back of the hand  <p>Protected against access with the back of the hand to dangerous parts of the device. Test calibre 50mm in diameter. The calibre must remain at an adequate distance from hazardous parts.</p>	Protection against solid foreign bodies ≥ 50mm in diameter  <p>Protected from penetration by solid objects. Test calibre 50mm diameter sphere. The maximum diameter of the sphere must not penetrate inside the device enclosure.</p>
IP2x	Protection against access to hazardous parts with a finger  <p>Protected against access to hazardous parts of the device with a finger jointed. Test calibre 12mm diameter 80mm long. The calibre must remain at an adequate distance from hazardous parts.</p>	Protection against solid foreign bodies ≥ 12.5mm in diameter  <p>Protected from penetration by solid objects. Test calibre 12.5mm diameter sphere. The maximum diameter of the sphere must not penetrate inside the device enclosure.</p>
IP3x	Protection against access to hazardous parts with a tool  <p>Protected against access to hazardous parts of the device with a tool, e.g. screwdriver. Test calibre with a diameter of 2.5mm. The calibre must not penetrate.</p>	Protection against solid foreign bodies ≥ 2.5mm in diameter  <p>Protected from penetration by solid objects. Test calibre 2.5mm diameter sphere. The maximum diameter of the sphere must not penetrate inside the device enclosure.</p>
IP4x	Protection against access to hazardous parts with a wire  <p>Protected against access to hazardous parts of the device with a wire. Test calibre with a diameter of 1.0mm. The calibre must not penetrate.</p>	Protection against solid foreign bodies ≥ 1mm in diameter  <p>Protected from penetration by solid objects. Test calibre 1mm diameter. The calibre must not penetrate inside the device enclosure.</p>
IP5x	Protection against access to hazardous parts with a wire  <p>Protected against access to hazardous parts of the device with a wire. Test calibre with a diameter of 1.0mm. The calibre must not penetrate.</p>	Protected against dust  <p>Protected from dust penetration. Dust must not penetrate the inside of the device enclosure in such a quantity as to compromise its safety and proper functioning.</p>
IP6x	Protection against access to hazardous parts with a wire  <p>Protected against access to hazardous parts of the device with a wire. Test calibre with a diameter of 1.0mm. The calibre must not penetrate.</p>	Totally protected against dust  <p>Totally protected against dust penetration. Penetration of dust is not permitted inside the device enclosure.</p>


















































Note: The determination of the first characteristic numeral implies that the 2 stipulated test conditions are fulfilled, i.e. 'Protection against access to hazardous parts' and 'Protection against solid foreign bodies'.


















PROTECTION AGAINST WATER PENETRATION			
IPx0	Not protected		Protected against water jets
		The device, represented here by a sphere, has no protection to prevent water from coming into contact with its dangerous parts.	
IPx1	Protected against vertically falling water drops		Protected against powerful water jets
		Drops of water falling vertically on the device must not cause harmful effects.	
IPx2	Protected against vertically falling water drops		Protected against the effects of temporary immersion
		Drops of water falling on the device inclined up to 15° from its vertical position must not cause harmful effects.	
IPx3	Protetto contro la pioggia		Protected against the effects of continuous immersion
		Water rain falling on the device at an angle of +60° and -60°, relative to its vertical position, must not cause harmful effects.	
IPx4	Protected against splashing water		
		Water sprayed on the device from all directions must not cause harmful effects.	
IPx5			
IPx6			
IPx7			
IPx8			
















ICONOGRAPHY








STANDARDS AND APPROVALS				TECHNOLOGIES AND SERVICES	
EN 54-1	EN 54-1 Fire detection and fire alarm systems	EN 1155	EN 1155 Electrically powered hold-open devices for swing doors		RSC® Device featuring Remote Sensitivity Control technology
EN 54-2	EN 54-2 Control and indicating equipment	EN 12094-1	EN 12094-1 Components for gas extinguishing systems		DDNS TECNOALARM Dynamic Domain Name System service by Tecnoalarm
EN 54-3	EN 54-3 Fire alarm devices - Sounders	EN 12101-10	EN 12101-10 Smoke and heat control systems - Power supplies		MAIL SERVER TECNOALARM Mail Server by Tecnoalarm for alarm notifications by e-mail
EN 54-4	EN 54-4 Power supply equipment	EN 50136	EN 50136 Alarm systems - Alarm transmission systems and equipment		SNTP Synchronization of the control panel clock with an NTP server
EN 54-5	EN 54-5 Heat detectors and point detectors	EN 50200	EN 50200 Method of test for resistance to fire of unprotected small cables for use in emergency circuits	TECNOALARM SOFTWARE	
EN 54-7	EN 54-7 Smoke detectors - Point detectors using scattered light, transmitted light or ionization	EN 50518	EN 50518 Monitoring and alarm receiving center		PROGRAMMING Local/remote programming software
EN 54-10	EN 54-10 Flame detectors - Point detectors	EN 50575	EN 50575 Fire resistance tests for electrical cables		TCP/IP System management software
EN 54-11	EN 54-11 Manual call points	EN 60529	EN 60529 Degrees of protection provided by enclosures (IP code)		MONITORING Local/remote monitoring software
EN 54-12	EN 54-12 Smoke detectors - Line detectors using an optical light beam	EN 61000	EN 61000 Electromagnetic compatibility (EMC)	SUPERVISOR SOFTWARE	
EN 54-13	EN 54-13 Compatibility assessment of system components	EN 60332-1 60332-2	EN 60332-1 - 60332-2 Flame-retardancy tests		SUPERVISOR SERVER Server license for the Supervisor supervision software
EN 54-17	EN 54-17 Short-circuit isolators	EN 60332-3 60332-25	EN 60332-3 - 60332-25 Fire-retardancy tests		SUPERVISOR CLIENT Client license for the Supervisor supervision software
EN 54-18	EN 54-18 Input/output devices	CPR EU 305/11	CPR EU 305/2011 Construction Products Regulation		+1 CLIENT Additional client license for the Supervisor supervision software
EN 54-20	EN 54-20 Aspirating smoke detectors		UL/FM Device certified by Underwriters Laboratories/Factory Mutual (USA)		+1 CONTROL PANEL Additional server license implementing 1 fire control panel
EN 54-21	EN 54-21 Alarm transmission and fault warning routing equipment		ATEX CATEGORY Device certified for use in explosive environments (ATmosphères EXplosibles)		
EN 54-23	EN 54-23 Fire alarm devices - Visual alarm devices (VAD)		ATEX ZONE Zone classification according to gas (0, 1, 2) and dust (20, 21, 22) concentration		
EN 54-27	EN 54-27 Duct smoke detectors	SIL1	SIL1 Device with Safety Integrity Level 1 and risk reduction factor from >10 to ≥100		
EN 54-28	EN 54-28 Non-resettable line-type heat detectors	SIL2	SIL2 Device with Safety Integrity Level 2 and risk reduction factor from >100 to ≥1000		

GENERIC FEATURES					
	VOICE SYNTHESIS Device featuring voice synthesis		MASTER BUS Master RS485 bus for connecting expansions and/or control panels to the network		POINT-TO-POINT Point-to-point connection with the indicated maximum track length
	USB PORT Device equipped with USB port		SLAVE BUS Slave RS485 bus for connecting expansions and/or control panels to the network		RING Loop connection with the indicated maximum loop length
	FLASH MEMORY Device equipped with flash memory		16 EXPANSION DEVICE System managing the indicated number of expansions		PRINTER Serial printer
	SELF-POWERED Device equipped with proper power supply		IP Control panel equipped with integrated LAN interface	MANAGEMENT DEVICES	
	ABS BOX Casing primarily made of ABS		EDU EXTINGUISHING DEVICE UNIT Control panel equipped with integrated extinguishing unit		TOUCH SCREEN Device equipped with touch screen of the indicated dimension
	STEEL BOX Casing primarily made of steel		3 CONVENTIONAL ZONES Number of conventional zones managed		32 FLOOR PLANS Number of floor plans managed
	STEEL ALUMINUM BOX Casing made of steel and aluminum		300 ZONES Number of zones managed		32 ICONS Number of icons managed per floor plan
	STEEL ABS BOX Casing made of steel and ABS		100 VIRTUAL ZONES Number of virtual zones managed	TELECOMMUNICATION DEVICES	
	CAST ALUMINUM BOX Casing primarily made of die-cast aluminum		400 FORMULAS Number of Boolean functions managed		PSTN Device supporting PSTN communication format
	PC ABS BOX Casing made of polycarbonate and ABS		200 ALARM PLANS Number of alarm plans managed		4G LTE Device supporting 4G LTE communication format
	INDOORS OUTDOORS Device functioning in indoor or outdoor areas with the indicated operating temperature		CALENDAR YEARS System providing a calendar with the indicated number of years		IP Device supporting IP communication format
	IPXX Ingress protection class of the casing		32 ACCESS PERIODS Number of access periods managed		VoLTE Device supporting voice calls with LTE standard
	DIN RAIL MOUNT Ingress protection class of the casing		8192 EVENT BUFFER CAPACITY Number of events stored in the buffer of the control panel		VOCAL Device supporting voice calls
ADDRESSABLE CONTROL PANELS			24V 5.0A 5A POWER SUPPLY Maximum output current supplied by the power supply		SMS Device supporting SMS notifications
	4 LOOPS System managing the indicated number of loops		PRINTER PORT System equipped with serial printer port		TCP/IP Device supporting TCP/IP protocol
	796 DETECTORS System managing the indicated number of detectors		USB PORT Device equipped with USB port		INTERNAL EXPANSION Expansion mounted inside the control panel casing
	396 MODULES System managing the indicated number of modules		MONITORED SYSTEM MODE Control panel featuring the monitored system mode		CMS SERVICE Device supporting the connection to a Central Monitoring Station
	9 EDU System managing the indicated number of external extinguishing modules	SYSTEM ACCESSORIES			IP DATA TECNOALARM Device supporting IP data protocol by Tecnoalarm
			RS485-FIBER OPTIC CONVERTER RS485-fiber optic converter		IP DATA Device supporting IP data protocols

	IP TECNO OUT Device supporting Tecno Out IP protocol
	IP Modbus Device supporting Modbus IP protocol
	RS485 Modbus Device supporting Modbus serial protocol
ADDRESSABLE DETECTORS	
	SMOKE Smoke detector
	HEAT Detector detecting exceeding of the temperature threshold
	RATE-OF-RISE Rate-of-rise detector detecting the sudden rise in temperature
	COMBO 2T Detector combining 2 technologies
	SOUND LEVEL Device featuring the indicated sound level (dB) at the indicated distance
	OPERAND AND OPERATOR Device suitable for use in functions as operand and operator
	OPERAND Device suitable for use in functions as operand
	OPERATOR Device suitable for use in functions as operator
	ANALYSIS CHAMBER FOR DUCT Device suitable for housing a Tecnofire smoke detector
	AIR SAMPLING Device featuring air sampling function
	VENTURI TUBE Device featuring the Venturi tube principle
ADDRESSABLE MODULES	
	INPUTS Number of available inputs
	OUTPUT Number of available alarm and/or signaling outputs
	INPUT/OUTPUT Number of available inputs and outputs
	INPUT CONVENTIONAL DETECTORS Number of inputs available for connecting conventional detectors
	4-20mA INPUTS Number of available 4-20mA inputs
	LOGICAL UNITS Number of logical units managed
	CONVENTIONAL ZONES Number of conventional zones managed
	OPERAND AND OPERATOR Device suitable for use in functions as operand and operator
	OPERAND Device suitable for use in functions as operand
	OPERATOR Number of power supply outputs managed and available current for loads
	TYPE A Call point with direct actuation (type A)
	FIRE ALARM Call point for fire alarm release
	27.6V 5A Device providing the indicated output voltage/current
	OUTPUTS Number of power supply outputs managed and available current for loads
OPTICAL-ACOUSTIC ALARM DEVICES	
	VID - VISUAL INDICATION DEVICE Visual indication device for supplementary optical signaling (compliant to EN 54-23)
	VAD - VISUAL ALARM DEVICE Visual alarm device for optical alarm signaling (compliant to EN 54-23)
	CATEGORY W Wall mount respecting the indicated height and side length of the coverage cube
	CATEGORY C Ceiling mount respecting the indicated height and diameter of the coverage cylinder
	CATEGORY O Wall or ceiling mount respecting height and diameter of the coverage cylinder
	COVERAGE VOLUME Maximum coverage in square meters (compliant to EN 54-23)
	SOUND LEVEL Device featuring the indicated sound level (dB) at the indicated distance
	FLASH SYNC Device supporting synchronization of flashlight signaling (compliant to EN 54-23)
	ALARM CONTROL INPUTS Number of alarm control inputs managed
	SELF TEST Device featuring self-test function
	XENON FLASH Device equipped with xenon flashlight
LINEAR OPTICAL DETECTORS	
	ADJUSTED REFLECTION Device equipped with motorized IR receiver-transmitter and telemetry reflector (reflective light)
	REFLECTION Device equipped with IR receiver-transmitter and reflector (reflective light)
	END-TO-END Device equipped with IR transmitter and receiver (point-to-point light)
	OPTICAL ALIGNMENT SYSTEM Device equipped with automatic optical alignment system
	IR - RF TELEMETRY UNIT Device equipped with telemetry reflector and IR-RF receiver-transmitter
	LASER POINTER Device equipped with laser pointer
	SELF-ALIGNING Device featuring automatic misalignment compensation
	RANGE Minimum and maximum range in meters
	EXTRA HEAD Additional receiver-transmitter unit
	TX RX EXTRA PAIR Additional pair of receiver and transmitter

ASPIRATING SMOKE DETECTOR SYSTEMS	
	CLASS A Highly sensitive device (class A)
	CLASS B Device of increased sensitivity (class B)
	CLASS C Normally sensitive device (class C)
	AIR SAMPLING Device featuring air sampling function
	INFRARED DETECTION Device equipped with infrared detection chamber
	EXTRACTION UNIT Air intake unit
	MODULAR SYSTEM Modular system composed of 1 or 2 detection chambers
	DETECTOR MODULE Detection chamber for modular air sampling units
	PIPE LENGTH Number and maximum length of the tubes managed
	SIGNALING OUTPUTS Number of available signaling outputs
	FROST PROOF Device featuring an extended temperature range
	BLOWING CONTROL SYSTEM Automatic pipe maintenance system with compressed air
	CONTROL PIPES Number of pipes managed by the automatic maintenance system
	AUTOMATIC START Automatic pipe blowing every 24h and/or controlled by air sampling unit
OPTICAL FLAME DETECTORS	
	2 x IR DETECTION Detector equipped with dual infrared element
	3 x IR DETECTION Detector equipped with triple infrared element
	2 x IR + 1 x UV DETECTION Detector equipped with dual infrared element and one UV element

ELECTRONIC HEAT DETECTORS	
	HEAT Detector detecting exceeding of the temperature threshold
	RATE-OF-RISE Rate-of-rise detector detecting the sudden rise in temperature
LINEAR HEAT DETECTORS	
	HEAT-SENSITIVE Heat detection cable with the indicated alarm threshold
	TWISTED CABLE Twisted-pair cable
ELECTROMAGNETIC DOOR HOLDERS	
	HOLDING FORCE Device featuring the indicated holding force
	WALL OR FLOOR MOUNT Device suitable for wall or floor mounting
	DOOR FRAME MOUNT Device suitable for surface mounting on the door frame
	DELAYED ACTION Delayed door release
	RELEASE SWITCH Detector equipped with heat sensor for automatic release
GAS DETECTORS	
	TOXIC GAS Device detecting toxic gases
	FLAMMABLE GAS Device detecting flammable gases
	REFRIGERANT GAS Device detecting refrigerant gases
	ELECTROCHEMICAL CELL DETECTOR Device equipped with electrochemical cell
	INFRARED DETECTOR Device equipped with infrared element
	CATALYTIC DETECTOR Device equipped with catalytic element

CABLES	
	CPR CLASS B2_{ca} Cable suitable for high-risk installations (RtF class)
	CPR CLASS C_{ca} Cable suitable for medium-risk installations (RtF class)
	EN 50200 - PH120 Cable resisting to fire for 120 minutes (compliant to EN 50200)
	LSZH CABLES Cable equipped with low smoke zero halogen thermoplastic jacket
	INSULATION Cable featuring the indicated insulation voltage
	TWISTED CABLE Twisted-pair cable
	SHIELDED CABLE Shielded cable

GENERAL TERMS OF SALE AND DELIVERY

1. PREMISES

This document contains the general terms of sale and delivery that govern the business relations between Tecnoalarm S.r.l. (Seller) and its customers (Buyers), for any type of product and service. Unless otherwise specified, these terms are applied to all Buyers, in this case professional customers. The terms are an integral part of the "Tecnoalarm General Catalogue", and are considered implicitly known to and accepted by the Buyer when placing the purchase order. The terms, if no other agreement (void if not in written form) exists, are to be considered as binding for the sale of any product of Tecnoalarm. The Seller reserves the right to change them without notice and without prejudice to the validity of previous terms in force at the time of the order. Any different terms and conditions used by the Buyer shall not apply to the relations between the parties if not accepted in writing and, in any case, shall be coordinated with these terms, unless expressly exempted by written act. The acceptance of these terms and the accompanying warranty conditions, as well as all the subsequent relations, agreements, and generally, the behaviors of the parties eventually governed by the same, do not entail the transfer to the Buyer of any exclusive right, nor the establishment of relations of granting, commission and mandate, with or without representation. Equally, they do not give the Buyer the right to market the Tecnoalarm products via e-commerce, or any other form of mail order sales nor to use in any form the mark, the name or other distinctive marks of Tecnoalarm.

2. PURCHASE ORDERS

No purchase order sent by the Buyer shall be binding for the Seller if not expressly accepted in writing. The order accepted by the Seller constitutes a firm and irrevocable proposal of contract. Sending an order and collecting the goods by the Buyer shall entail the contextual and integral recognition, knowledge and acceptance of the terms and the attached warranty conditions. The Seller is not bound, except with the express confirmation or subsequent ratification, by the declarations of its agents, business procurers, distributors and other commercial auxiliaries. The acceptance without expressed reservation by the Buyer of products non-compliant in terms of type or quantity, or sent with conditions other than those contained in the request of the Buyer or the offer of the Seller, implies the acceptance by the Buyer of the supply and the terms applied by the Seller. These reservations, even if made in the form of clarifications or corrections to the terms of delivery, shall not be effective if they will not be formulated by the Buyer in writing, immediately after the receipt of the goods.

3. PLACING OF ORDERS

Except as provided in the previous article, the Seller only accepts orders placed according to the procedure provided for in this article. All orders must be submitted in writing and complete in every part needed for the correct identification of the requested products. The Buyer may request the cancellation or modification of the order only before the execution of the same, through written communication. The Seller has the right to not accept changes or cancellations if the order is already being processed. The changes and the cancellation of the purchase orders, to be effective, must be expressly accepted by the Seller in writing.

4. DELIVERY OF THE PRODUCTS

No purchase order sent by the Buyer will be fulfilled by the Seller if not expressly accepted. Unless otherwise agreed in writing between the parties, the Seller shall deliver the products "ex works" (EXW) Turin, one of his subsidiaries or decentralized warehouses, within the terms of delivery agreed on the acceptance of the order. If required, the Seller will take care of the transport of the products and - in the absence of specific instructions of the Buyer - will choose the carrier that it deems appropriate. Unless otherwise specifically agreed in writing, the transport will take place with the clause "free carrier" (FCA) at the expense and risk of the Buyer. The cost of the transport and packaging, unless otherwise agreed, will be added to the price of the products purchased. The delivery deadline shall be deemed to be respected if the goods are promptly delivered to the carrier. In any case, the Seller shall not be liable for transport delays that cannot be imputed to him. In the case of delayed delivery, the Buyer may cancel the part of the order not delivered only after notifying the Seller, by registered letter with acknowledgement of receipt or with certified e-mail, his intention to do so, and after granting 15 weekdays, from receipt of such communication, within which the Seller can deliver all the products specified in the reminder and not yet delivered. It is excluded any liability of the Seller for damages derived from delayed or total or partial non-delivery of the purchase order. In case the Buyer fails to collect the goods within the agreed time, he will have to refund the Seller the storage costs until delivery or sale of the goods to third parties, which may take place after 30 days from the originally agreed delivery date. Failure or delay of fulfilment of a partial delivery does not implicate the non-fulfilment of the delivery obligation in itself and will have no effect on the other partial deliveries.

5. PRICES AND TERMS OF PAYMENT

The prices specified by the Seller in quotations, order confirmations and invoices are based on the price list expressed in Euro, excluding VAT, in force on the day of the order confirmation. Unless otherwise specified, all prices are net of transportation, and any other tax, fee and locally due rate. The applicable taxes are those in force on the date of billing. Any discount on the prices charged by the Seller shall only be applicable if agreed to in writing and only in case of full compliance with the payment terms fixed. In no case will the discounts offered be extendable to supplies, also of similar goods or identical products, performed prior to or subsequent to the order to which the discounts apply. If the costs of raw materials and/or the workforce used by the Seller should suffer changes such as to modify by more than 10% the original balance, the price will be adjusted in proportion, with the option of the parties to terminate the agreement within 10 days from the notice of the variation in the price. The invoices of the Seller are accepted if they are not challenged in writing by the Buyer within 14 days of their receipt. Unless otherwise specifically agreed in writing, the method and term of payment are those previously agreed with the Seller and stated in the customer file. Any payments made to the agents of the Seller must be previously authorized in writing by the latter. According to this, any payment made to subjects not previously authorized for collection shall not discharge the obligation. Any credit instruments accepted by the Seller is subject to collection. Any delay or irregularity in the payment shall give the Seller the right to suspend deliveries and/or terminate the contracts and/or cancel orders in progress, even if not related to the payments in question, as well as the right to compensation for any damages. From the date of expiry of the payment, the default interests at the legal rate provided for in the Decree 231/2002, amended by the Decree 192/2012, shall be entirely due. In no event the Buyer will be authorized to reduce or offset the price with any credit, however occurring, against the Seller, unless prior written permission of this is granted. For the imputation of payment, reference will be made in any case to the provisions of art. 1193 par. 2 C.C. [Italian Civil Code]. The Buyer is obliged to complete payment, even in the event of a dispute or controversy, according to the condition "solve et repete".

6. RETENTION OF TITLE

In the case where the payment is carried out, in whole or in part, after delivery, the delivered products shall remain the property of the Seller up to the full payment of the agreed price, within the meaning of art. 1523 C.C. [Italian Civil Code]. The Seller shall have the right to repossess any product with retention of title and the Buyer shall bear the costs. The Seller may withhold as penalty any sum received as payment, without prejudice to the right to compensation for the greater damage. If the Buyer relinquishes the products to a third party, the rights of the Seller shall be transferred to the resale price up to the full payment.

7. TECHNICAL DESCRIPTIONS AND SPECIFICATIONS OF THE PRODUCTS

The technical data, dimensions, features, specifications, colors, weights, prices and any other data relating to the products contained in the technical and advertising documentation of the Seller, as well as the characteristics of the samples and models which may be provided to the Buyer, are merely indicative and are not binding, unless they were expressly mentioned in the offer and/or in the written acceptance by the Seller. Any statements or advertising of third parties in no way bind the Seller. Any technical design or document provided to the Buyer that enables to manufacture the products sold, or parts of them, remains the exclusive property of the Seller and shall not be copied, reproduced, transmitted to third parties or however used without the prior written consent. In addition, the Seller remains exclusive holder of all intellectual or industrial property rights relating to the products. The Seller reserves the right, at its sole discretion and without the need for any notice, to make the changes deemed most appropriate that do not adversely affect the functionality, the quality, and the aesthetics of the product itself, with the only obligation to inform the Buyer about the changes.

8. E-COMMERCE

The Seller prohibits the commercialization of its products via e-commerce, whether a single component or the entire system is concerned. The Seller will make use of all the means provided by the law to prevent this from happening and to obtain the sanctions on those who act in violation and/or circumvention of the ban.

9. WARRANTY OF THE SELLER

Unless otherwise agreed in writing between the parties, the Seller ensures that its products (with the exception of those parts which are not directly produced) are free from flaws/defects for a period of two (2) years from the date of delivery of the goods to the Buyer. The warranty does not operate with reference to those products whose defects are due to:

- a. damage in transit
- b. improper use or negligent handling
- c. failure to comply with the Seller's instructions relating to the assembly and/or operation of the products
- d. lack of ordinary maintenance and preservation of the products
- e. normal wear and tear of moving parts
- f. repairs and/or changes made by the Buyer or by third parties without the prior written permission of the Seller.

The Seller will, in its sole discretion, replace or repair the defective or faulty products or parts, provided that the Buyer's claim is covered by the warranty and notified within the deadlines referred to in this article. The Buyer shall notify the Seller, under penalty of loss of the right to appeal, of the presence of patent defects within eight days from delivery of the products, or hidden defects or those not detectable by reasonable inspection within eight days from discovery. After the above deadlines have expired, the products are considered as permanently accepted. Claims must be made in writing and must indicate in detail the alleged defects or nonconformities, as well as the references to the relevant invoice, DDT or order confirmation of the Seller. In addition, upon request of the Seller, adequate photographic documentation must be attached to the claims. Incomplete claims will not be covered by the warranty. The products subject to complaint should be immediately sent to the head office of the Seller, or to any other place that the latter will indicate from case to case, at the costs and expenses of the Buyer, unless otherwise agreed between the parties, in order to allow the Seller to complete the necessary checks. The warranty does not cover any damage or defects of the products resulting from, or directly related to, parts assembled/added by the Buyer. If a claim is totally or partially unfounded, the Buyer shall indemnify the Seller for all the costs incurred for the checks. In every case, the Buyer shall not assert any warranty rights towards the Seller if the products have not been paid according to the terms and conditions agreed. The Seller shall not be responsible for any damage arising and/or connected to defects of the products, except in the case of his proven deliberateness or gross negligence. In any case, the Seller shall not be liable for incidental or consequential damages of any nature, such as losses or lost profits arising from inactivity of the Buyer.

10. LEGAL WARRANTY

The Seller guarantees the quality of the products to its direct customers. This warranty, the duration of which is determined by the law, includes possible initial defects of the products or, in any case, defects existing at the time of delivery. In application of the terms of the warranty, the Seller ensures the repair, revision, update or restoration of the products. The warranty excludes any responsibility by the Seller for direct or indirect damages caused by the non-functioning of the products in consequence of installation and/or programming, as these activities and their consequences are the exclusive responsibility of the installer.

11. RESPONSIBILITY OF THE MANUFACTURER

The products with Tecnoalarm brand are manufactured in accordance with the regulations in force in Italy and in the European Union. The Seller is responsible for damages to persons or property arising from the products sold, only in the event of his proven gross negligence in the manufacture of the products themselves. In no event, it shall be considered liable for incidental or consequential damages, loss of production or lost profits. Except as provided above, the Buyer shall not consider the Seller liable in all the actions of third parties based on liability arising from products sold to them and shall indemnify for the damage caused by the claims in question.

12. MANUALS

The Seller prohibits the publication of the installation and programming manuals of the products on the web, as the content of these manuals is to be considered as strictly confidential, also with the aim to protect the final customers in relation to the requirements for the protection of property and life.

13. FORCE MAJEURE

In all cases of force majeure occurring (including but not limited to: lack of supply of raw materials, significant predictable increases of the prices of the same, fire, flood, disturbances in the transport sector, strikes, lock-outs or other similar events, which prevent or reduce the productive capacity of the Seller or block the transport between the plant of the Seller and the place of destination of the products), the Seller shall be entitled to an extension of up to 90 days, extendible to up to 180 days in the most serious cases, of the deadline for the delivery of the products, provided that it promptly notices in writing the Buyer about the occurrence of force majeure. Should the condition of force majeure subsist on expiry of the above time limits, the Buyer may terminate this agreement by giving written notice to the Seller by means of registered letter with acknowledgement of receipt or certified e-mail.

14. CHANGES AND INTERPRETATION OF THE TERMS

For the interpretation of these terms, only the original Italian text shall be considered legally binding. Unless otherwise specified, every reference to price lists, general terms of sale and delivery or other documents from the Seller or third parties is meant as referring to the above mentioned documents in force at the time of the reference itself. Any modification or integration made by the parties to the agreements to which these terms apply, must be made in writing, otherwise they will be void. The derogation to one or more provisions of these terms should not be interpreted extensively or by analogy and does not imply the desire to waive the terms in their entirety.

15. APPLICABLE LAW

For whatever not expressly provided in these terms, the rules laid down by the Italian law, or, alternatively, the uses and practices, shall apply. Since international sales are not explicitly regulated by these terms, these will be governed by the Vienna Convention on the International Sale of Goods of 1980. For the interpretation of the terms of return and other commercial terms possibly used by the parties, refer to the INCOTERMS of the International Chamber of Commerce in Paris. Any foreign uses and practices are not binding in any way for the Seller.

16. DISPUTES AND COMPETENT COURT

For any disputes regarding or in any way connected to the agreements to which these terms apply, the only competent Court is that of Turin, Italy.

17. CONFIDENTIALITY

Any production technology and/or information of the parties (including expedients, design and information) whether or not patented, shall be treated as essentially confidential and shall not be used or disclosed in the absence of prior written permission.

18. FINAL PROVISIONS

Any communication between the parties shall be sent to the respective addresses resulting from the business correspondence exchanged. If the Seller fails to: a. apply one of the present terms - b. require to the Buyer to perform any provision of these terms, this may not be construed as present or future waiver of that provision, nor in any way affect the right of the Seller to have each of the provisions executed in the future. The express waiver by the Seller of any of the provisions of these terms does not constitute a waiver to their future respect by the Buyer. The agreement may not be transferred in whole or in part without the prior consent of the other party.

The Seller declines any responsibility concerning the technical-commercial activities of design, installation and maintenance of the systems, given that, as the manufacturer, it has the obligation to adapt to the Ministerial Decree no. 37/2008 which provides that the installer, as a legally independent entity, assumes the role of an autonomous and responsible interface towards the final customer.

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