



General catalog

Edition 1 - 2026



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.



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**.

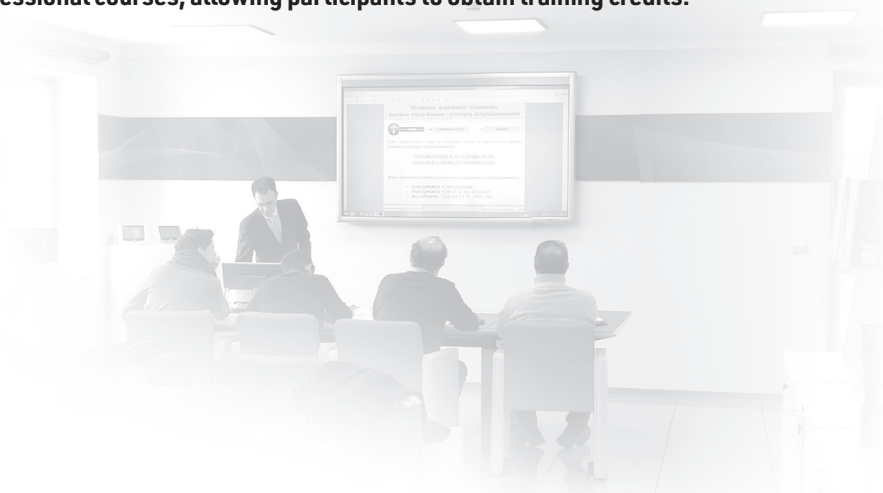
TTA

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, managed by the Tecnoalarm Server, make the networking of Tecnofire systems simple and secure.

The **TFCLOUD** telecommunications interface connects Tecnofire Automatic Fire Detection Systems to the **Tecnocloud** management services.

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.



TECNOCLOUD

The Tecnocloud services via the Tecnofire PWA application, coordinate and plan all command, control and management activities of Tecnofire systems, executed by installers and maintenance technicians.

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.

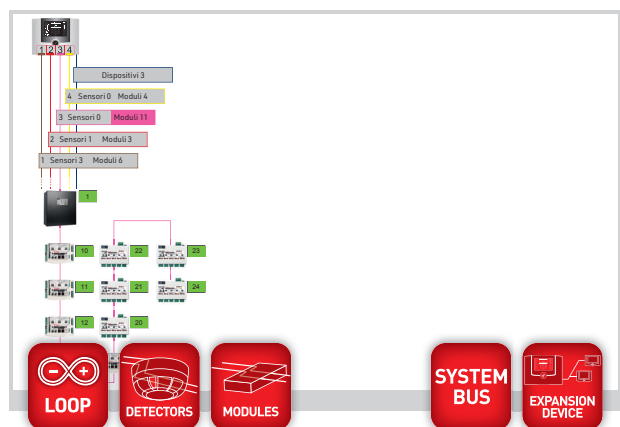


System configuration

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.

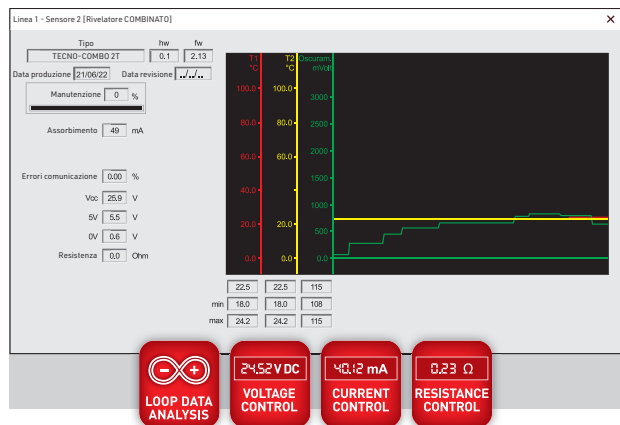
At the control panel, another label indicates the number of programmed expansion devices, connected to the system serial bus.

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 398
5	11/06/22 11:06:54	Aggiornamento Orologio Centrale 1 [Centrale sede Tecnofire] [Centrale Ripetitore] da Centrale master
6	11/06/22 11:06:50	Aggiornamento Orologio Centrale 1 [Centrale sede Tecnofire] [Centrale Ripetitore] da Centrale master
7	11/06/22 11:06:45	Eseguì comunicazione Primo numero Centrale 1 [Centrale sede Tecnofire] Comunicatore A Non assegnato: manca numero
8	11/06/22 11:06:45	Eseguì comunicazione Primo numero Centrale 1 [Centrale sede Tecnofire] Comunicatore A PROG NET - No risposta
9	11/06/22 11:06:17	Eseguì comunicazione Secondo numero Centrale 1 [Centrale sede Tecnofire] Comunicatore A Non assegnato: manca numero
10	11/06/22 11:06:17	Eseguì comunicazione Secondo numero Centrale 1 [Centrale sede Tecnofire] Comunicatore A PROG NET - No risposta
11	11/06/22 11:06:08	Eseguì comunicazione Secondo numero Centrale 1 [Centrale sede Tecnofire] Combinatore 3 Comunicatore B -
12	11/06/22 11:06:08	Eseguì comunicazione Primo numero Centrale 1 [Centrale sede Tecnofire] Combinatore 3 Comunicatore B Risposta confermata
13	11/06/22 11:05:49	Eseguì comunicazione Secondo numero Centrale 1 [Centrale sede Tecnofire] Combinatore A Non assegnato: manca numero
14	11/06/22 11:05:49	Eseguì comunicazione Primo numero Centrale 1 [Centrale sede Tecnofire] Comunicatore A PROG NET - No risposta
15	11/06/22 11:05:35	Auto-ripristino Dispositivo Centrale 1 [Centrale sede Tecnofire] Comunicatore 3 colloquio assente
16	11/06/22 11:05:21	Eseguì comunicazione Secondo numero Centrale 1 [Centrale sede Tecnofire] Comunicatore A Non assegnato: manca numero
17	11/06/22 11:05:21	Eseguì comunicazione Primo numero Centrale 1 [Centrale sede Tecnofire] Comunicatore A PROG NET - No risposta
18	11/06/22 11:04:53	Eseguì comunicazione Secondo numero Centrale 1 [Centrale sede Tecnofire] Comunicatore A Non assegnato: manca numero
19	11/06/22 11:04:53	Eseguì comunicazione Primo numero Centrale 1 [Centrale sede Tecnofire] Comunicatore A PROG NET - No risposta
20	11/06/22 11:04:40	Tastazione 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\Tst\Log0023.txt, File: Arc\Tst\Log0023.pdf, Salva su file PDF, Uscita

Icons: 8192 EVENT BUFFER CAPACITY, INQUIRE, ALARM GRAPH, SAVE, PRINT

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	0						
- 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 - output	0.3	4.1	09/12/20	...	TECNO - output	2-Rivelatore DT TICO
* Modulo 1	TECNO - alimentazione	0.10	0.1			Alimentazione 24V TIPS-S	1-MODULO Alimentatore
* Modulo 2	TECNO - input	1.3	0.1			MODULO S IN	1-MODULO S INGRESS
* Modulo 3	TECNO - input	1.3	0.1			MODULO S IN	1-MODULO S INGRESS
* Modulo 4	TECNO - input	1.3	0.1			MODULO S IN	1-MODULO S INGRESS
* Modulo 5	TECNO - input	1.3	0.1			MODULO S IN	1-MODULO S INGRESS
* 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: Report, Start, Stop, Off Line Report, File: Arc\Tst\H0023.txt, File: Arc\Tst\H0023.pdf, Salva su file.txt, Salva su file PDF, Apri file.txt, Abbandona, OK

Icons: CHECK, MODULE 78, REL. X.X.XX, HARDWARE PROGRAMMING, DEVICE ADDRESS, REL. X.X.XX, HARDWARE RELEASE, SOFTWARE RELEASE, SAVE, PRINT

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...	Acc.	mA	45.0	45.0	
		Vcc	V	24.0	24.0	
		Vs	V	0.5	0.5	
		Id	V	0.4	0.4	
		Resistenza	Ohm	0.0	0.0	
		Error	%	0.000	0.000	
		Corrente	mA	0.0	0.0	
Linea 2 Modulo 1	TECNO - alimen...	Acc.	mA	0.0	0.0	
		Vcc	V	24.0	24.0	
		Vs	V	0.5	0.5	
		Id	V	0.4	0.4	
		Resistenza	Ohm	0.0	0.0	
		Error	%	0.000	0.000	
		Vcc	V	24.000	24.000	
		Vs	V	0.500	0.500	
		Id	V	0.400	0.400	
		Resistenza	Ohm	0.000	0.000	
		Error	%	0.000	0.000	
Linea 2 Modulo 2	TECNO - output	Acc.	mA	0.0	0.0	
		Vcc	V	24.0	24.0	
		Vs	V	0.4	0.4	
		Id	V	0.4	0.4	
		Resistenza	Ohm	0.0	0.0	
		Error	%	0.000	0.000	

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

Icons: CHECK, DEVICE STATUS, COMPARE DATA, SAVE, PRINT

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	
Centrale 1	
Linee	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: File: Arc\Tst\PRG5.PPR_01.pdf, Screenshot, Salva su file PDF, OK

Icons: SAVE, PRINT

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.



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+ A1:2002 + A2:2006.

Certificate 0051-CPR-0444.

System compatibility EN 54-13:2020.

MODELS								
Name	Item no.							
TFA1-298	TF1TFA1298-UK							



TFA1-298



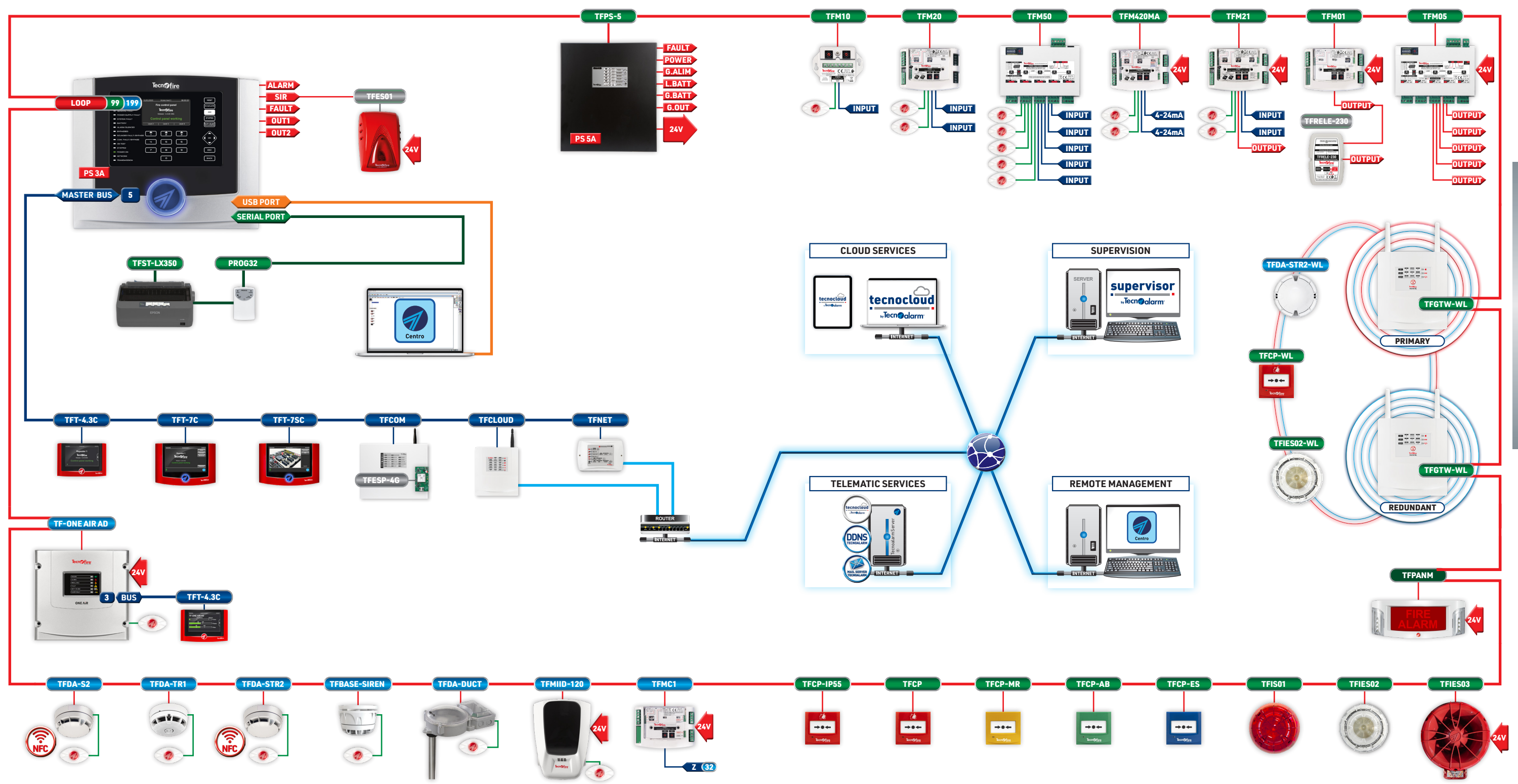
Basic equipment				
Manageable devices				
Automated managements				

System configuration

Technologies	
Advanced Management Services	
Services	

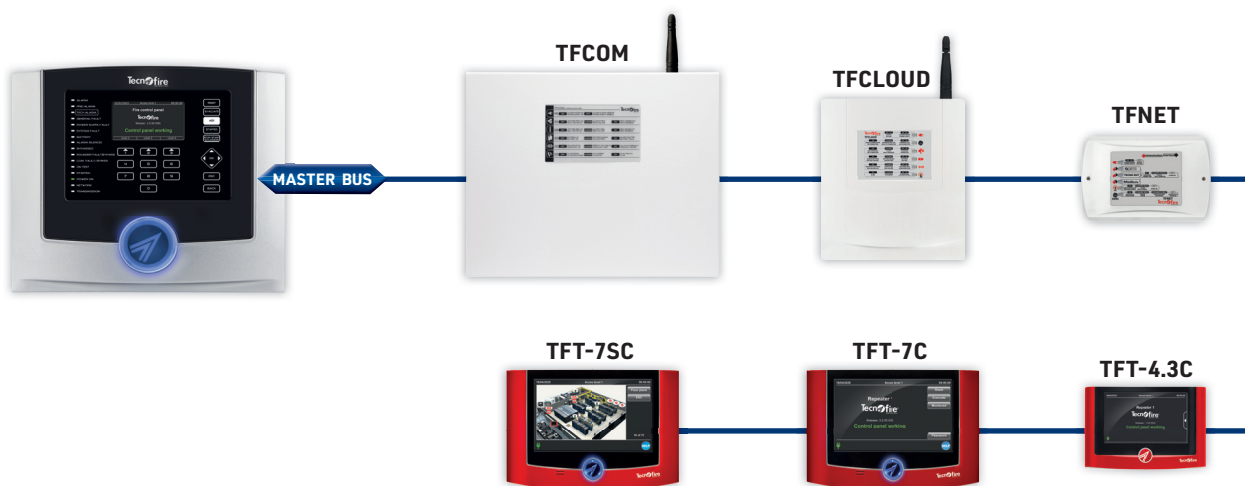


EN 54-13:2020
Compatibility
and connectivity
of system
components



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	
	TFCLLOUD	Communication Interface - IP and LTE communication vectors	



TELECOMMUNICATIONS SERVICES AND FUNCTIONS

Devices	Vectors										
		DDNS	PWA Tecnofire	Notifications	Vocal	Digital protocols	Remote management	Supervisor	Tecno out	Modbus	CMS
TFCOM*	PSTN	-	-	-	✓	-	-	-	-	-	-
TFESP-4G*	GSM-LTE	-	-	SMS	VoLTE	✓	✓	-	-	-	✓
TFNET*	IP	✓	-	E-Mail	-	✓	✓	✓	✓	✓	✓
TFCLLOUD*	IP / LTE	-	✓	-	-	-	-	-	-	-	-

* 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 relay output Max 1A @ 30V DC	Siren
	Open collector outputs Max 150mA @ 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
	Cyclic communication test	Programmable
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 TFCLOUD
	Serial printer	TFST-LX350
	Role in a network of control panels	Central not network usable

Electrical specifications	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
	Max. 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	Capacity	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	Aluminium - Steel
	Dimensions (L x H x D)	361 x 301 x 107mm
Conformity	Weight	2.7kg
	Fire detection control panel	EN 54-2: 1997 + A1:2006
	Power supply	EN 54-4:1997 + A1:2002 + A2:2006
	System compatibility	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+ A1:2002 + A2:2006.
Certificate 0051-CPR-0389.
System compatibility EN 54-13:2020.

MODELS									
Name	Item no.								
TFA2-596	TF1TFA2596-UK								

TFA2-596



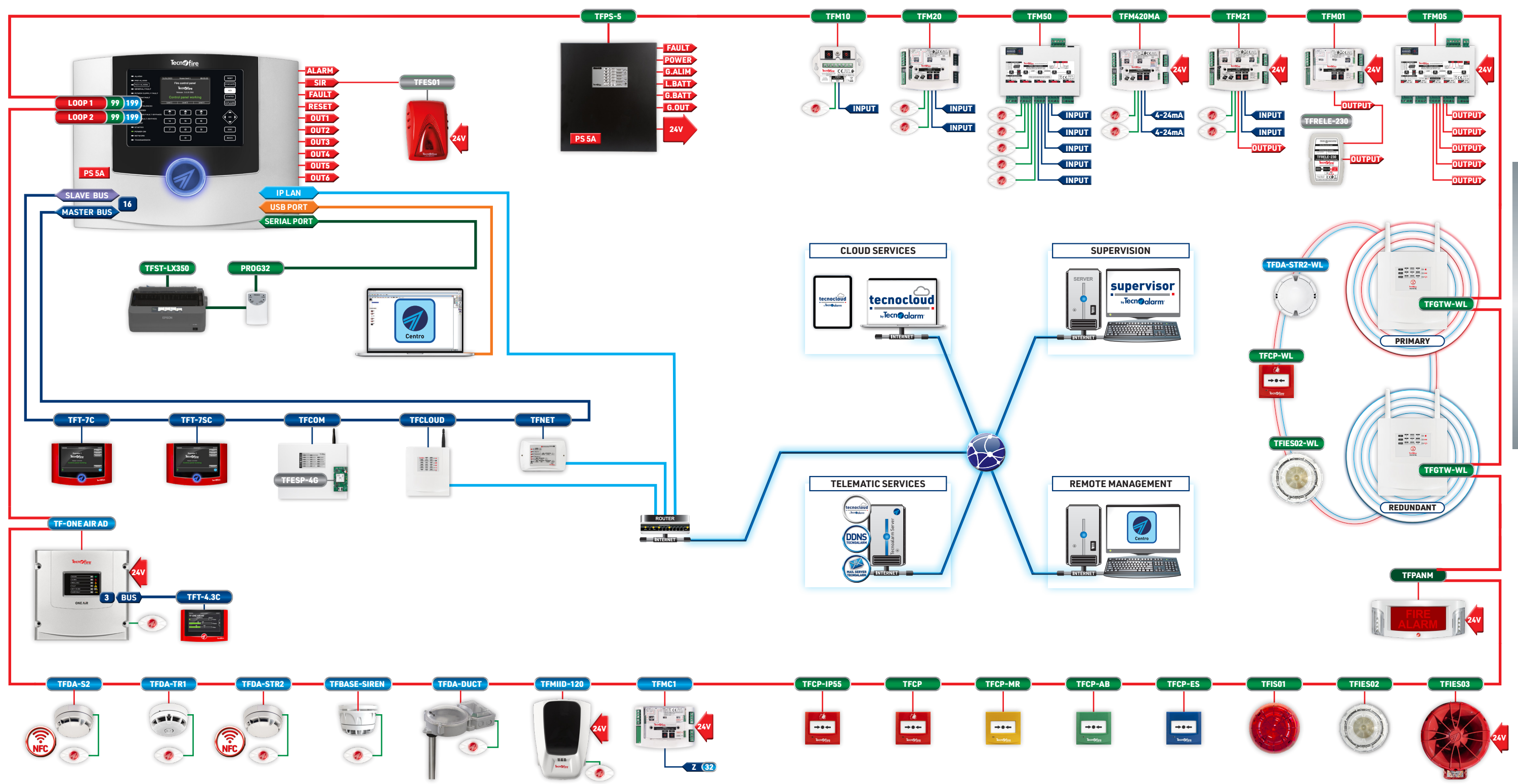
Basic equipment	2 LOOPS	8 RADIO SLOT	300 ZONES	100 VIRTUAL ZONES
Manageable devices	16 EXPANSION DEVICES	396 DETECTORS	198 MODULES	PRINTER
Automated managements	200 FORMULAS AND NOT OR	100 ALARM PLANS	32 ACCESS PERIODS	4 CALENDAR YEARS

System configuration

Technologies	
Advanced Management Services	
Services	

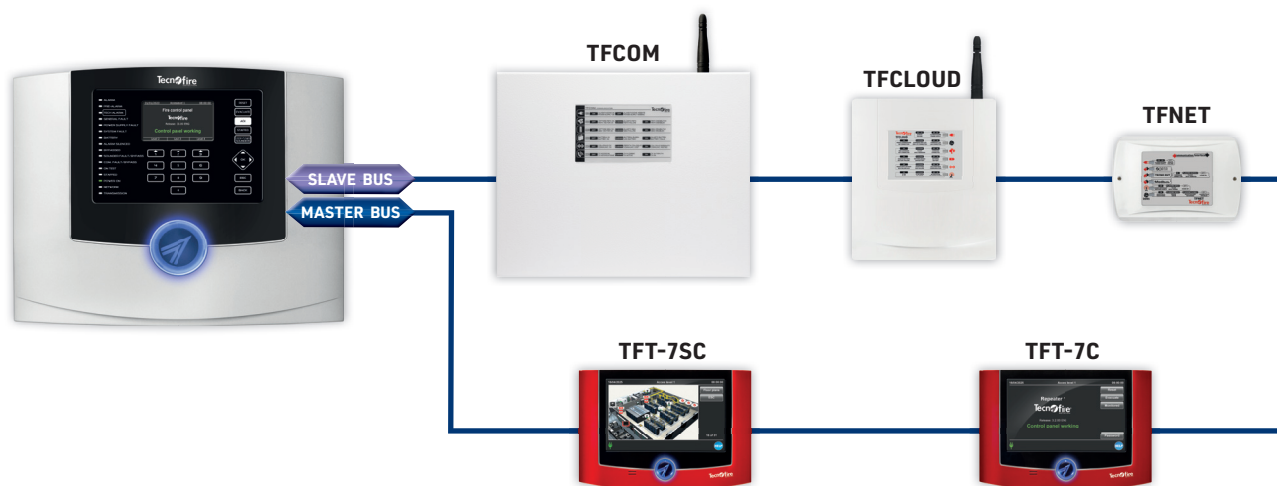


EN 54-13:2020
Compatibility
and connectivity
of system
components



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	
	TFCLOUD	Communication Interface - IP and LTE communication vectors	



TELECOMMUNICATIONS SERVICES AND FUNCTIONS

Devices	Vectors										
		DDNS	PWA Tecnofire	Notifications	Vocal	Digital protocols	Remote management	Supervisor	Tecno out	Modbus	CMS
Integrated	IP	-	-	-	-	✓	✓	-	-	-	✓
TFCOM*	PSTN	-	-	-	✓	-	-	-	-	-	-
TFESP-4G*	GSM-LTE	-	-	SMS	VoLTE	✓	✓	-	-	-	✓
TFNET*	IP	✓	-	E-Mail	-	✓	✓	✓	✓	✓	✓
TFCLOUD*	IP / LTE	-	✓	-	-	-	-	-	-	-	-

* 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 relay output Max 1A @ 30V DC	Siren
	Relay outputs Max 1A @ 30V DC	3 programmable
	Open collector outputs Max 150mA @ 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	Telecommunication vector	IP
	TCP/IP Server channels	Local Server Remote Server Tecnoserver Call back
	TCP/IP Client channels	8 + 1
	IP addresses	8 + 8 (24 characters)
	Report codes	15 categories
	Call event queue	64 events
	Communication protocols	5
	Encryption	AES 128 bit
	Passphrase authentication	32 characters

System expandability	Expansion devices	Max. 16
	Management devices	TFT-7C TFT-7SC
	Telecommunication devices	TFCOM TFNET TFCLOUD
	Serial printer	TFST-LX350
	Role in a network of control panels	Master or Slave
Electrical specifications	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
	Max. 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	Capacity	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	Aluminium - Steel
	Dimensions (L x H x D)	441 x 347 x 149mm
	Weight	6.2kg
Conformity	Fire detection control panel	EN 54-2: 1997 + A1:2006
	Power supply	EN 54-4:1997 + A1:2002 + A2:2006
	System compatibility	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+ A1:2002 + A2:2006.
Certification 0051-CPR-0388.
System compatibility EN 54-13:2020.

MODELS									
Name	Item no.								
TFA4-1192	TF1TFA41192-UK								

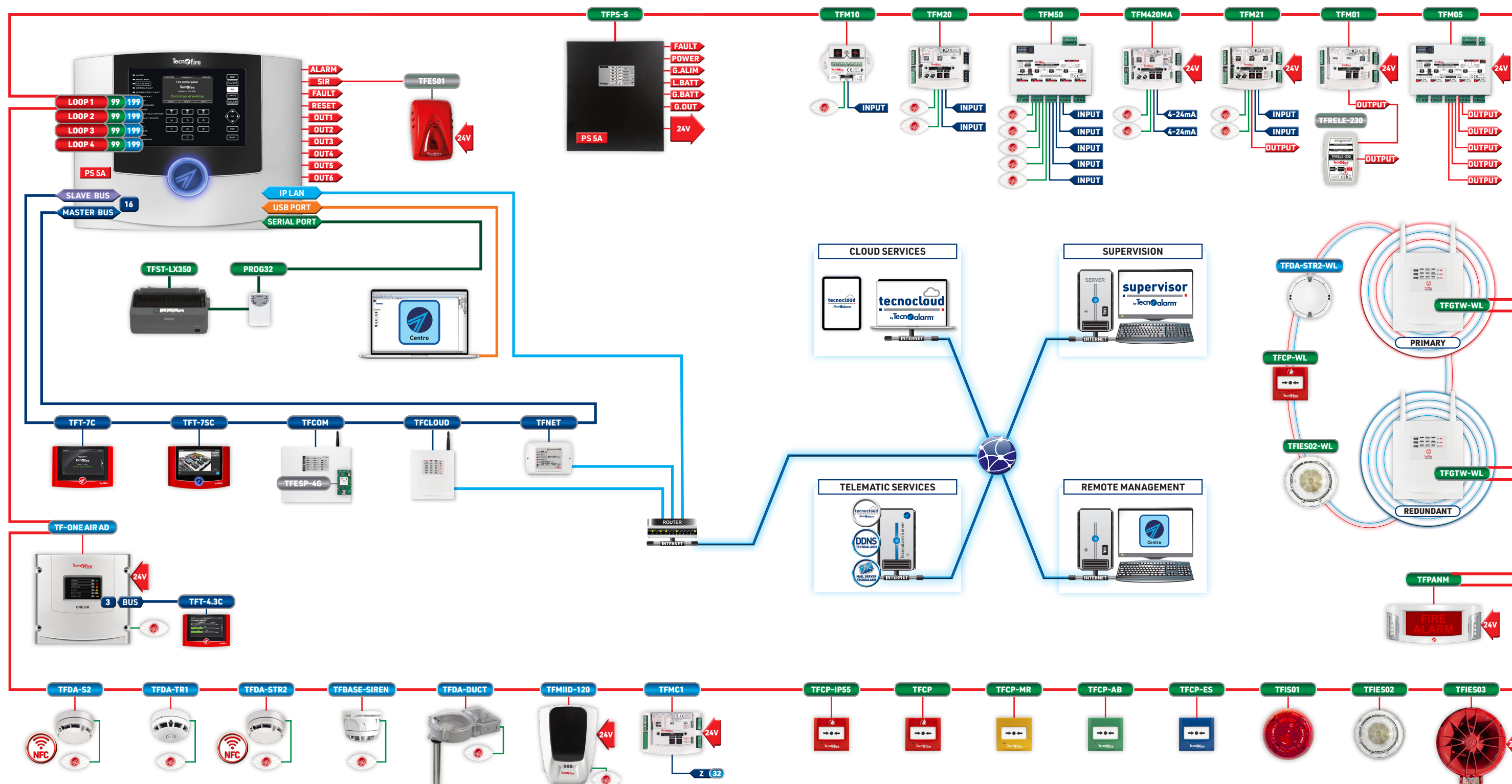
TFA4-1192



Basic equipment	4 LOOPS	16 RADIO SLOT	300 ZONES	100 VIRTUAL ZONES
Manageable devices	16 EXPANSION DEVICES	796 DETECTORS	396 MODULES	PRINTER
Automated managements	400 FORMULAS AND NOT OR	200 ALARM PLANS	32 ACCESS PERIODS	4 CALENDAR YEARS

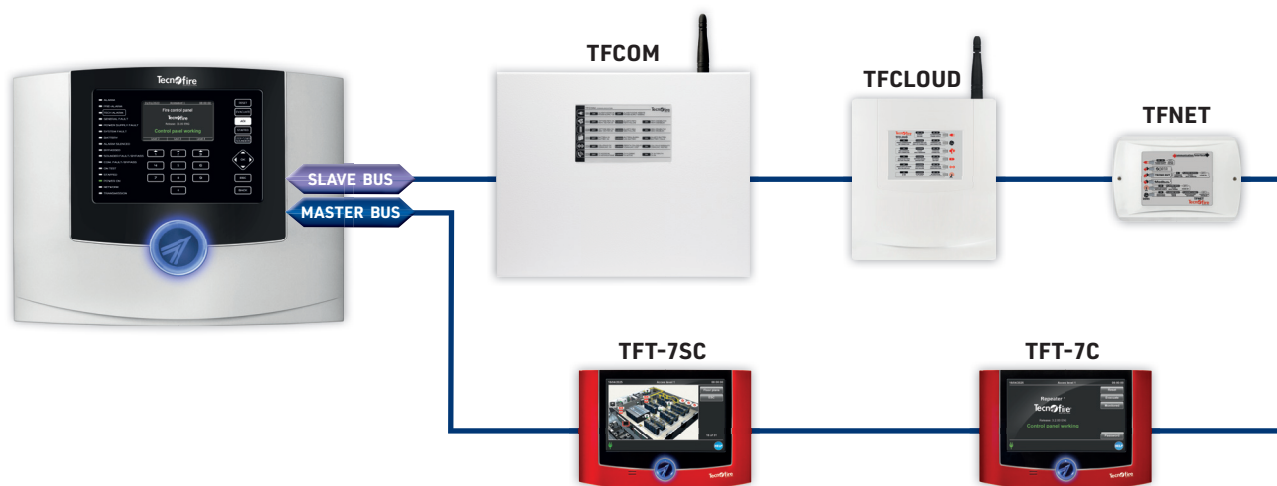
System configuration

Technologies	
Advanced Management Services	
Services	



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	
	TFCLLOUD	Communication Interface - IP and LTE communication vectors	



TELECOMMUNICATIONS SERVICES AND FUNCTIONS

Devices	Vectors										
		DDNS	PWA Tecnofire	Notifications	Vocal	Digital protocols	Remote management	Supervisor	Tecno out	Modbus	CMS
Integrated	IP	-	-	-	-	✓	✓	-	-	-	✓
TFCOM*	PSTN	-	-	-	✓	-	-	-	-	-	-
TFESP-4G*	GSM-LTE	-	-	SMS	VoLTE	✓	✓	-	-	-	✓
TFNET*	IP	✓	-	E-Mail	-	✓	✓	✓	✓	✓	✓
TFCLLOUD*	IP / LTE	-	✓	-	-	-	-	-	-	-	-

* 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 relay output Max 1A @ 30V DC	Siren
	Relay outputs Max 1A @ 30V DC	3 programmable
	Open collector outputs Max 150mA @ 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	FIRE-SPEED
	Master and Slave Bus	FIRE-BUS
Equipment	Management interface	USB port
TLC features	Telecommunication vector	IP
	TCP/IP Server channels	Local Server Remote Server Tecnoserver Call back
	TCP/IP Client channels	8 + 1
	IP addresses	8 + 8 (24 characters)
	Report codes	15 categories
	Call event queue	64 events
	Communication protocols	5
	Encryption	AES 128 bit
	Passphrase authentication	32 characters
System expandability	Expansion devices	Max. 16
	Management devices	TFT-7C TFT-7SC
	Telecommunication devices	TFCOM TFNET TFCLOUD
	Serial printer	TFST-LX350
	Role in a network of control panels	Master or Slave
Electrical specifications	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
	Max. 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	Capacity	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	Aluminium - Steel
	Dimensions (L x H x D)	441 x 347 x 149mm
	Weight	6.2kg
Conformity	Fire detection control panel	EN 54-2: 1997 + A1:2006
	Power supply	EN 54-4:1997 + A1:2002 + A2:2006
	System compatibility	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



TSA1

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 Extinguish 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+ A1:2002 + A2:2006 - EN 12094-1: 2003.

Certification 0051-CPR-2816.

System compatibility EN 54-13:2020.

MODELS			RSC	EN 54-2 54-4	EN 12094-1	1 LOOP	EDU EXTINGUISHING DEVICE UNIT	3 CONVENTIONAL ZONES Z1 Z2 Z3 32 32 32	COLOR DISPLAY 4.3"	24V 2.7A 2.7A POWER SUPPLY	STEEL ABS BOX
Name	Item no.	Colour									
TSA1	TF1TSA1-UK	White									
	TF1TSA1Y-UK	Yellow									
	TF1TSA1R-UK	Red									
	TF1TSA1G-UK	Grey									

TSA1

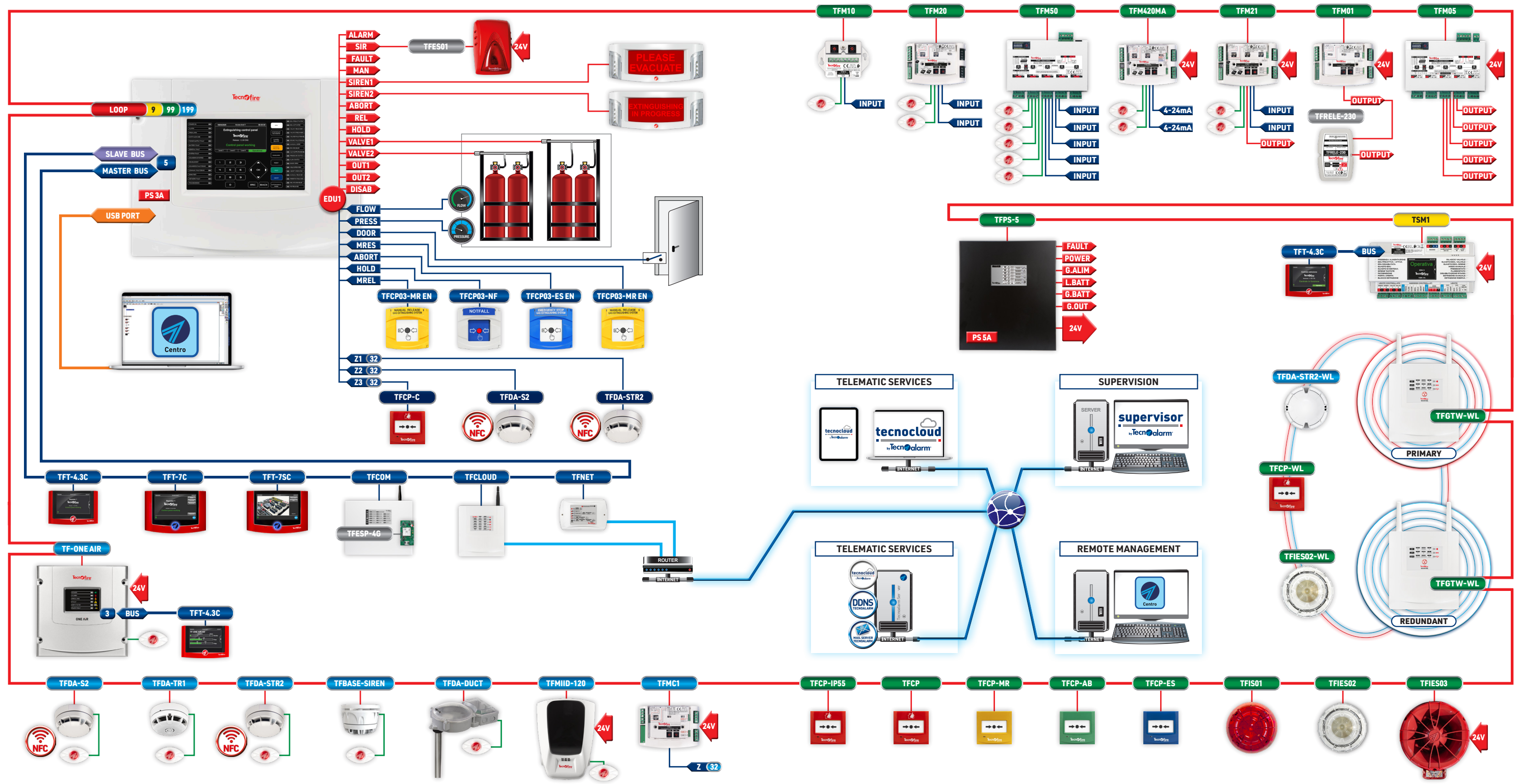


Basic equipment	1 LOOP	4 RADIO SLOT	EDU EXTINGUISHING DEVICE UNIT	3 CONVENTIONAL ZONES	150 VIRTUAL ZONES	100 VIRTUAL ZONES
Manageable devices	5 EXPANSION DEVICES	199 DETECTORS	99 MODULES	9 EDU		
Automated managements	100 FORMULAS AND NOT OR	50 ALARM PLANS	8 ACCESS PERIODS	CALENDAR YEARS		

System configuration

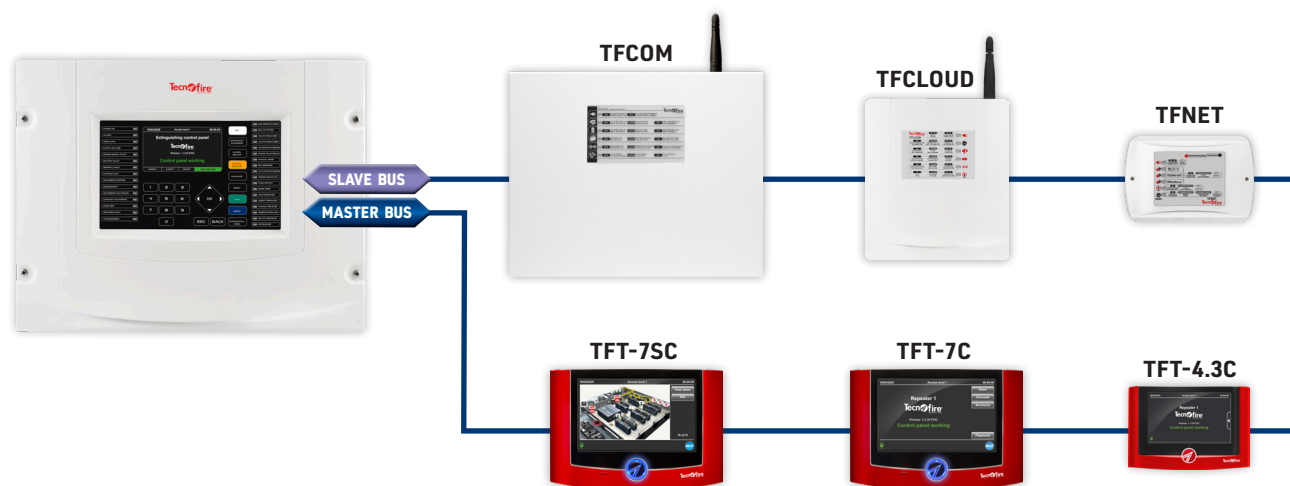
EN 54-13:2020
Compatibility
and connectivity
of system
components

Technologies	
Advanced Management Services	
Services	



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	
	TFCLLOUD	Communication Interface - IP and LTE communication vectors	



TELECOMMUNICATIONS SERVICES AND FUNCTIONS

Devices	Vectors										
		DDNS	PWA Tecnofire	Notifications	Vocal	Digital protocols	Remote management	Supervisor	Tecno out	Modbus	CMS
TFCOM*	PSTN	-	-	-	✓	-	-	-	-	-	-
TFESP-4G*	GSM-LTE	-	-	SMS	VoLTE	✓	✓	-	-	-	✓
TFNET*	IP	✓	-	E-Mail	-	✓	✓	✓	✓	✓	✓
TFCLLOUD*	IP / LTE	-	✓	-	-	-	-	-	-	-	-

* 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	Master Bus Slave Bus
	Display	Color TFT 4.3" 480 x 272 pixel
	Event buffer capacity	8.192
Detection section	Addressable detectors	199
	Addressable modules	99
	Addressable EDU modules	9
	Detection zones	150
	Virtual detection zones	100
	Default Zone	1
	Specialised relay outputs Max 1A @ 30V DC	Alarm Fault
	Monitored relay output Max 1A @ 30V 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 Reserve activation
	Monitored relay output 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

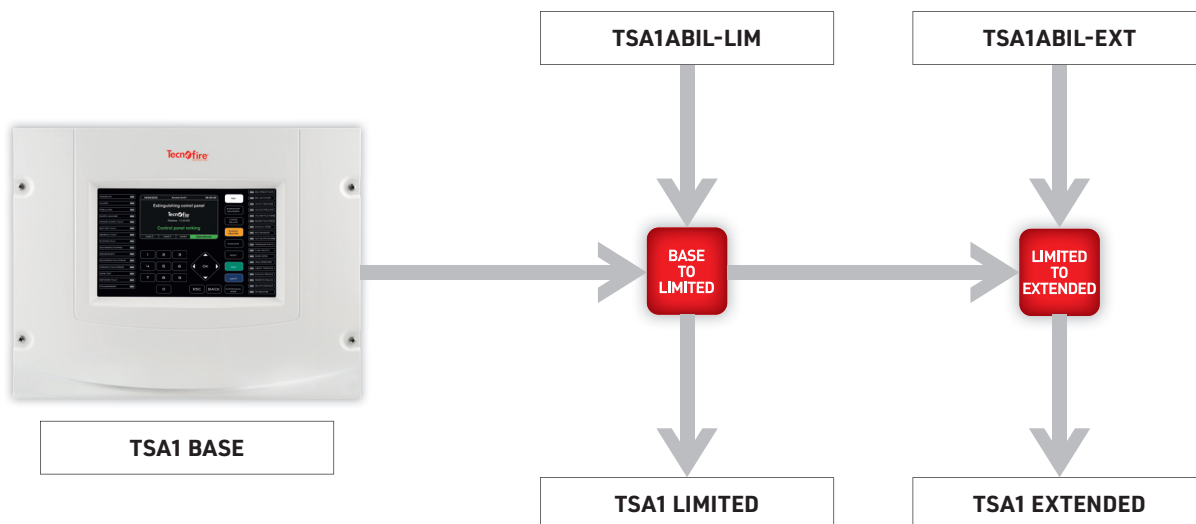
Communication protocols	Detection loop	FIRE-SPEED
	Master and Slave Bus	FIRE-BUS
Equipment	Management interface	USB port
System expandability	Expansion devices	Max. 5
	Management devices	TFT-4.3C TFT-7C TFT-7SC
	Telecommunication devices	TFCOM TFNET TFCLOUD
	Role in a network of control panels	Slave
Electrical specifications	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
	Max. 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	Capacity	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	Fire detection and extinguishing control panel	EN 54-2:1997 + A1:2006 EN 12094-1:2003
	Power supply	EN 54-4:1997 + A1:2002 + A2:2006
	System compatibility	EN 54-13:2020
	Certification number	0051-CPR-2816
	Year of CE marking	22
	Number of declaration of performance	044_TSA1
	Notified body	IMQ

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

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	

Software plug-ins



TSA1 - Accessories

	TS-ST RACK		TF460 NS
	Pair of adapter brackets for mounting the TSA1 control panel in a 19" rack cabinet.		Magnetic contact with free change-over output. IP65 grade. Aluminium housing. Dimensions (L x H x D) 80 x 18 x 19mm. Packaging 2pcs.
	Item no. TF1TSSTRACK		Item no. TF12TF460NS

Addressable fire detection and extinguishing module for TSA1 control panel



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.

System compatibility EN 54-13:2020.

MODELS									
Name	Item no.								
TSM1	TF4TSM1-UK								

TSM1	
Expansion devices	3
Conventional zones	3
Detectors / call points	32 (x zone)
Monitored inputs	7
Monitored outputs	4
Specialised outputs	5
Programmable outputs	2

Multi-channel extinguishing system

Detection and extinction modules EDU (Extinction Device Unit)

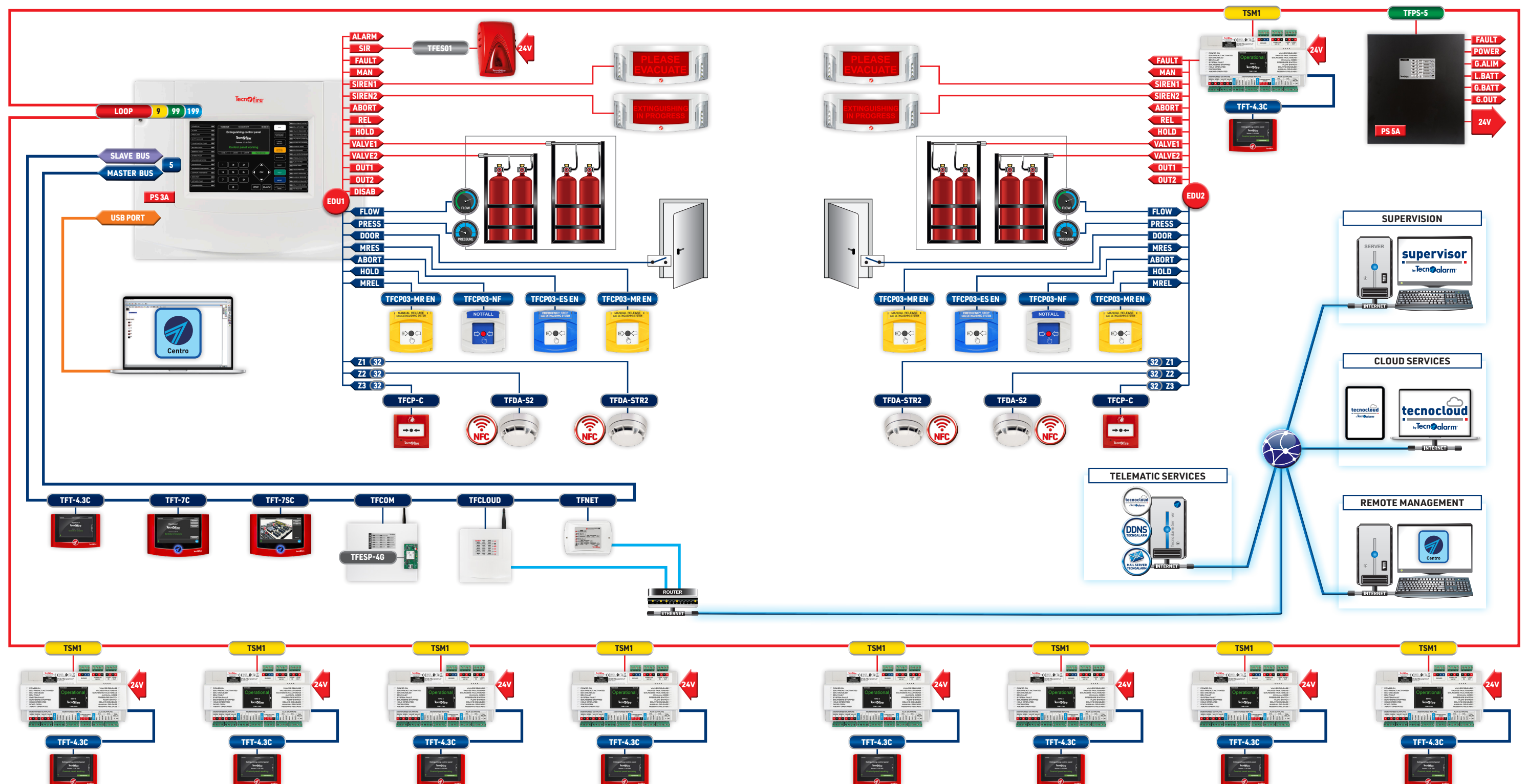
The TSA1 unit is available in three configurations: Base, Limited, Extended.
All the configurations include an EDU module.

Limited and Extended set-ups can handle additional TSM1 EDU modules, connected on the detection loop.

The Limited set-up manages the integrated unit plus 5 TSM1 modules.

The Extended set-up manages the integrated unit plus 9 TSM1 modules.

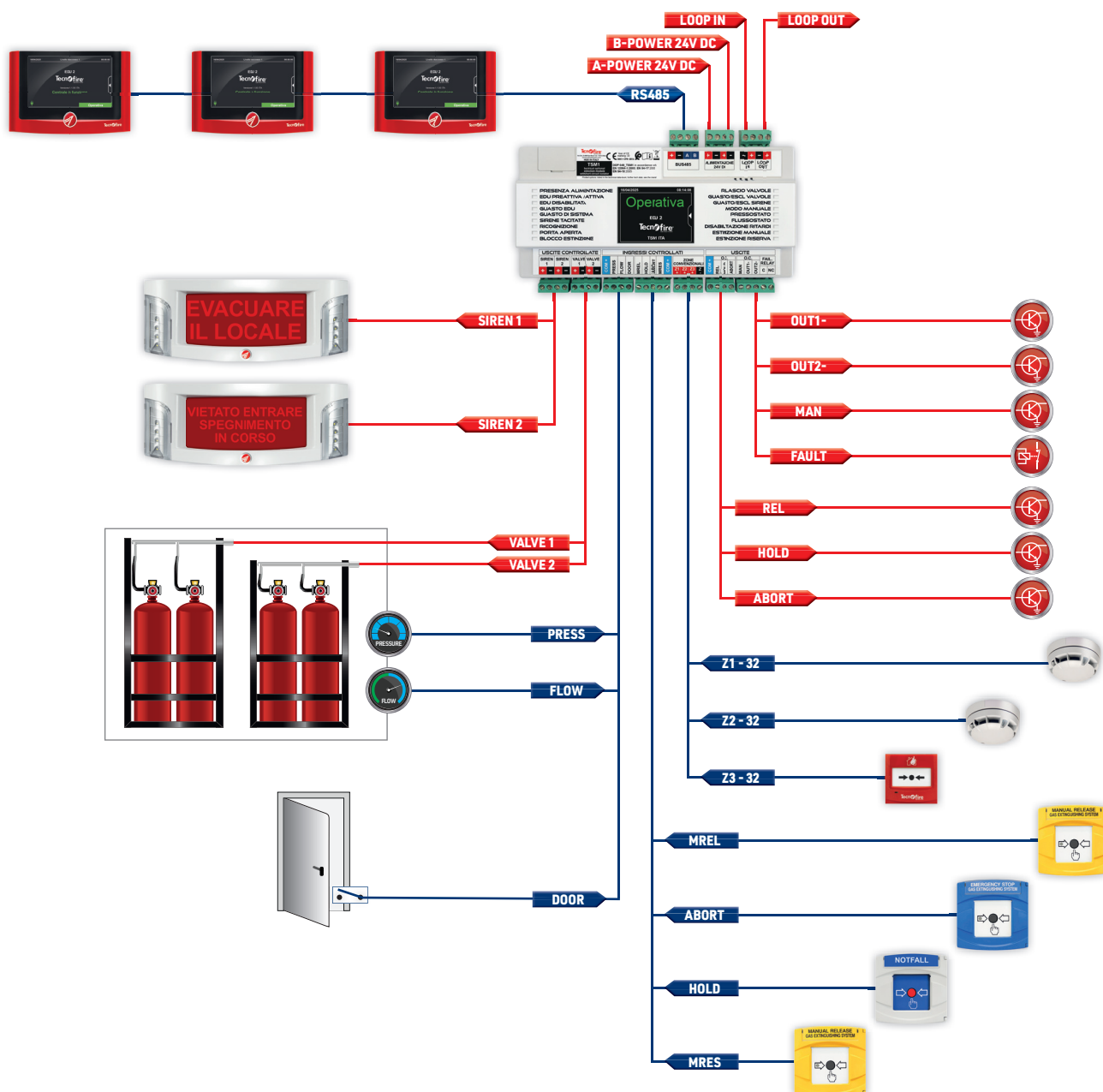
Each EDU module is equipped with 3 conventional detection zones, the conventional zones can be replaced with any detection zone of the system composed of detectors and/or addressable modules.



EXPANSION DEVICES

MANAGEMENT DEVICES	TFT-4.3C	Repeater panel - EDU command management	Max. 3 devices
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Addressable control panels - TSA1



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 relay output Max 750mA @ 24V DC	Evacuation siren Extinction siren Valve 1 Valve 2
	Specialised relay outputs Max 1A @ 30V DC	Fault
	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

Expansion devices	TFT-4.3C repeater panel	Max. 3
	TFT-4.3C consumption	50mA @ 24V DC
	Repeater panel function	Module management
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
	Dimensions (L x H x D)	189 x 117 x 61mm
	DIN rail mounting	10.5 modules
	Weight	0.5kg
Conformity	Addressable detection and extinction module	EN 54-18:2005/ AC:2007 EN 54-17:2005 EN 12094-1:2003
	System compatibility	EN 54-13:2020
	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).

Network configuration

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.

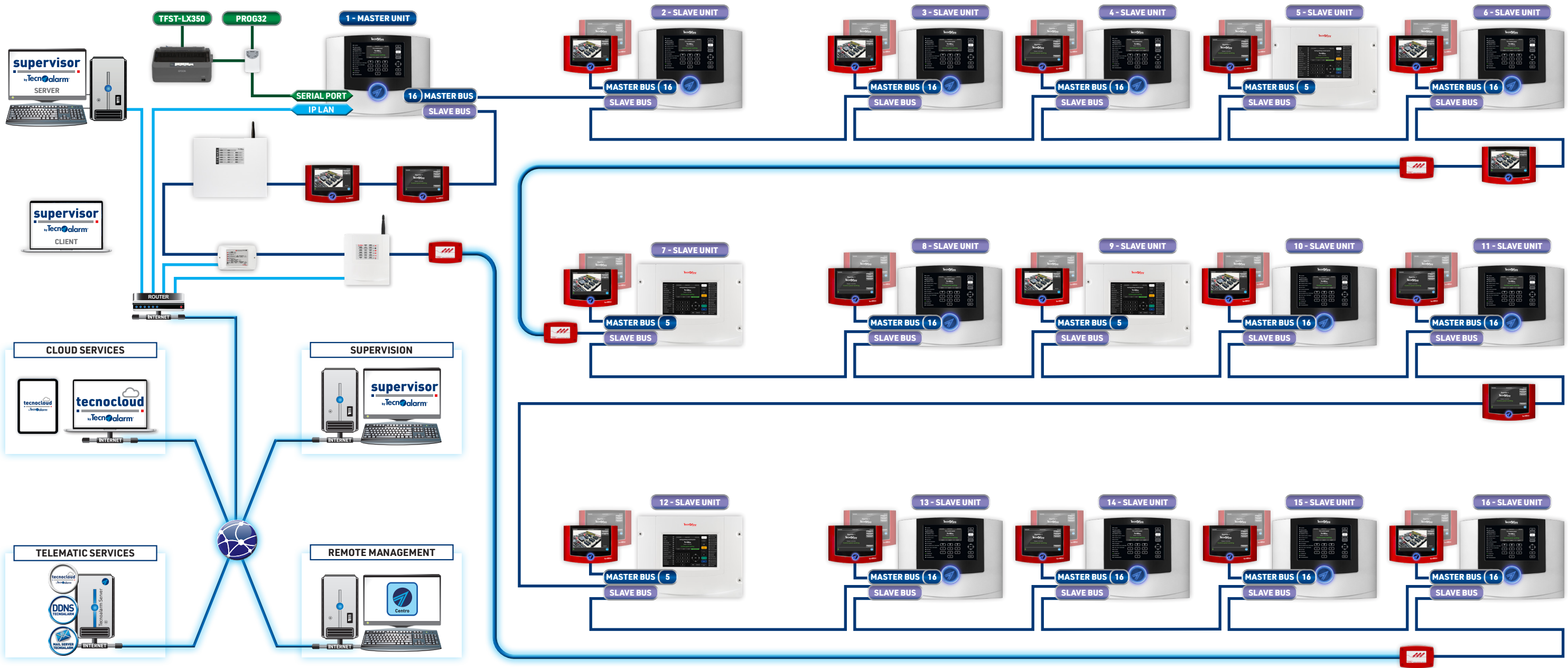
The Master control panel has complete control of the Slave control panels, all the information and reports generated by the Slave control panels are conveyed to the Master control panel.

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.

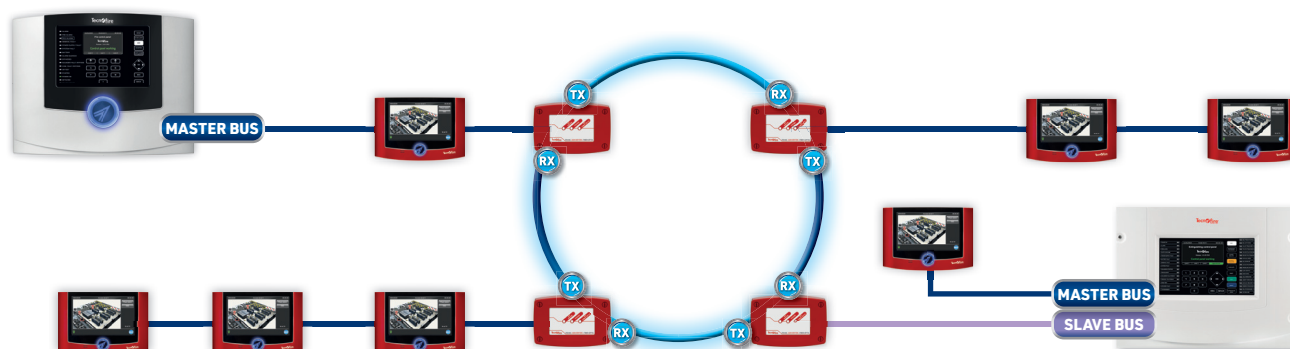
Standard restriction: EN 54-2 chapter 13.6 provides that, in the event of a fault, no more than 512 fire detection points and/or manual signaling points and their mandatory functions are affected. Consequently, to maintain compliance with EN 54-2, it is not possible to mount more than 512 detection devices 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).



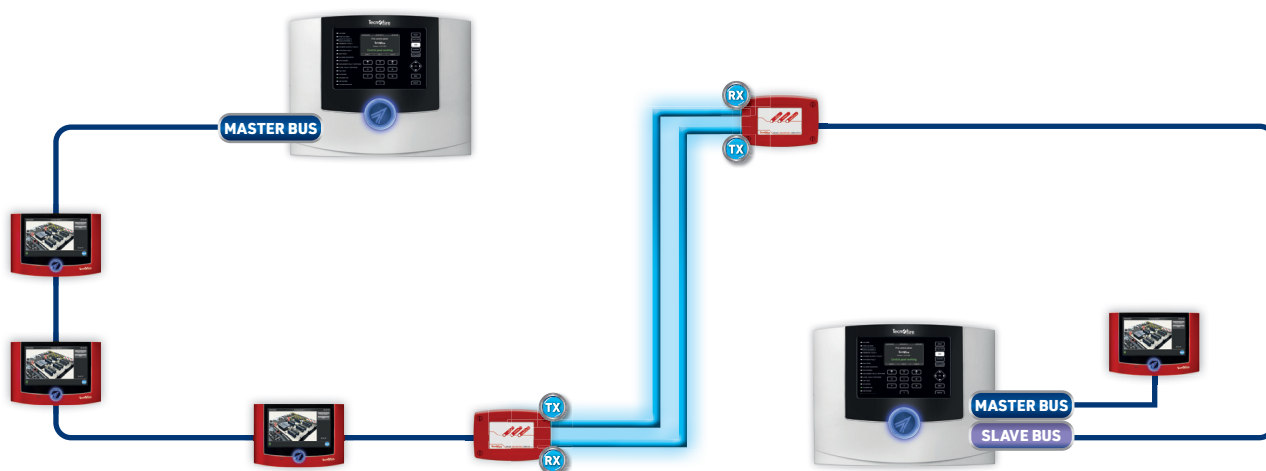
System accessories

TFSFC01		RS485- FIBER OPTIC CONVERTER	POINT TO POINT ←2KM→	RING 4KM	ABS BOX
	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. 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. ABS casing. Dimensions (L x H x D) 140 x 92 x 38mm. Red colour.				
	Item no. TF1TFSFC01				

Ring topology



Point-to-point topology

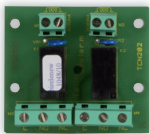


TFSFC01 - Technical and functional specifications

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
Conformity	System compatibility	EN 54-13:2020

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	    
	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. The panel automatically recognises the device to which it is connected and consequently adapts its functions to the particular operating context. The panel connected to the bus of the TSA1 and TFA1-298 control panels acts as control panel repeater. The panel connected to the bus of the TSM1 extinguishing module and the TF ONEAIR detector, acts as a management panel, taking complete control of the device functions. 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. 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. Surface or flush box 503 mounting. Refined ultra-thin design. Red cover. Certification integrated in TSA1 series control panels and TSM1 extinguishing module.
	Item no. TF2TFT43C

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	Memory	Flash 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	System compatibility	EN 54-13:2020
	Repeater panel approved for use with TFA1-298 and TSA1 control panels, TSM1 extinguishing module and the TF - ONE AIR detector.	

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

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	Graphical interface	Customisable
	Memory	Flash 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	System compatibility	EN 54-13:2020
	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.	
	Item no. TF2TFABILTFTS	

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

TFT-7SC	       
	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. Supported System Commands: Silencing and Control panel Restoring, Silencing and Siren Restoring, Evacuation, Monitored Mode, Exclusion and Inclusion of devices. Graphics maps can be displayed in manual or automatic mode. Up to 32 graphic icons can be placed on each map. Each icon can be associated with a system device or a navigation button. In the event of an alarm, the system automatically displays the map that identifies the location of the device being signalled. 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. 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. The signals can be chosen from: fire prealarm, fire alarm, technical prealarm, technical alarm, fault, test area, test points, display extinguishing events. 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. Surface or flush mounting. Refined ultra-thin design. Red cover. Certification integrated in TFA series control panels (0051 CPR 0388 – 0389).
	Item no. TF2TFT7SC

TFT-7SC - Technical and functional specifications

General information	Synoptic repeater panel	TFT-7SC
	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
	Graphical interface	Customisable
	Manageable maps	32
	Icons for map	32
Repeater configuration	Event reporting filter	Programmable
	Repetitions that can be associated	Control panel Zone Area Points
Equipment	Memory	Flash 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
Physical specifications	Maximum consumption	240mA @ 24V DC
	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	System compatibility	EN 54-13:2020
	Repeater panel approved for use with control panels: TFA1-298, TFA2-596, TFA4-1192 and TSA1	

TFT-7C - Accessories

	TFBASE-TFT7TC 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. Item no. TF2TFBASETFT7TC
	TFBOX-TFT7C 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. TF2TFBOXTFT7C

Telecommunication devices

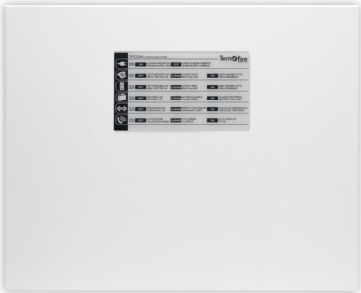
TFCOM - Telephone communicator

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									
	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.								
	Item no. TF2TFCOM								
TFESP-4G									
	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.								
	Item no. TF2TFESP4G								

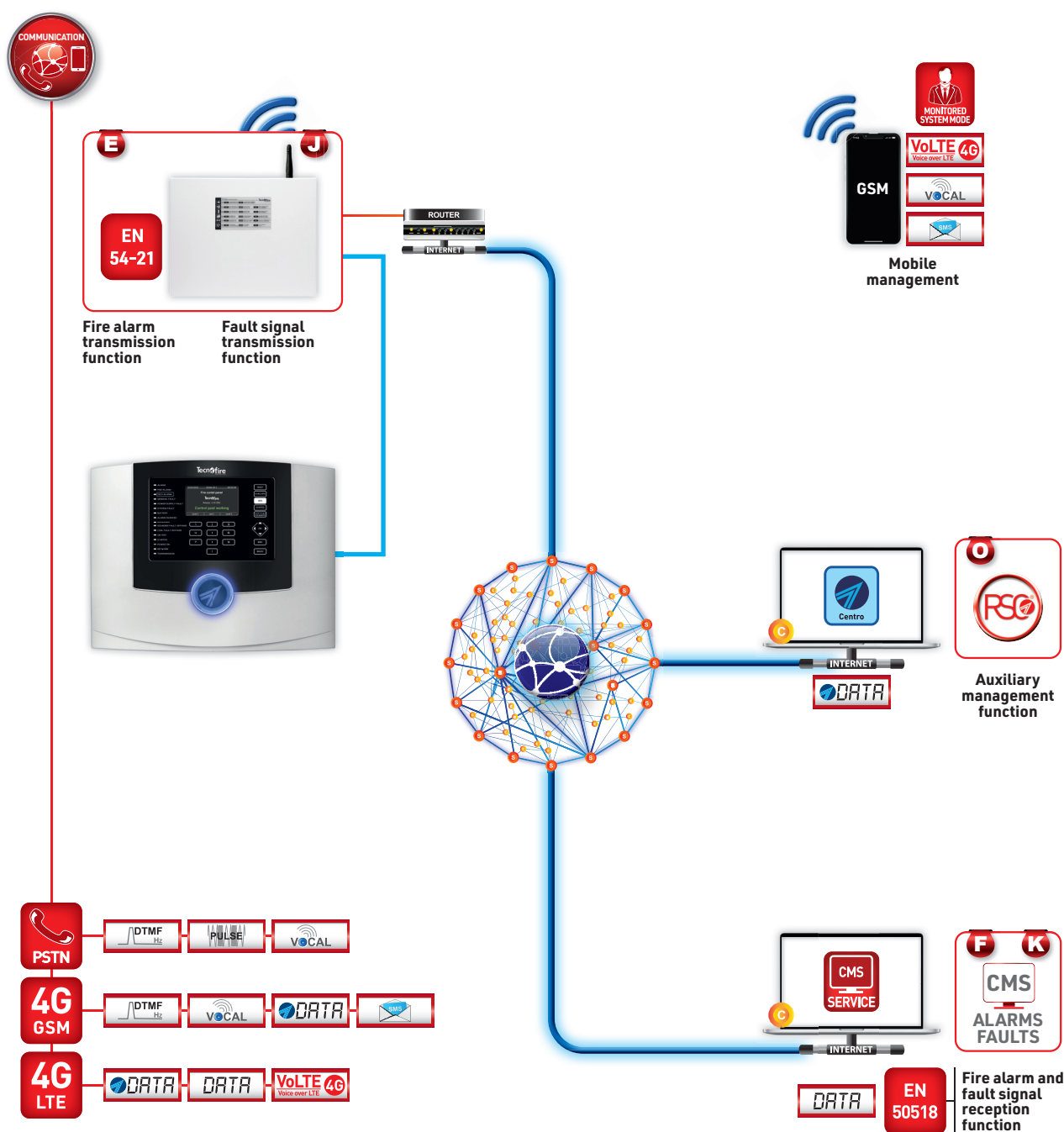
TFCOM COMPATIBILITY	TFA1-298	TFA2-596	TFA4-1192	TSA1
	✓	✓	✓	✓

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	8s
	Transmission time max. value M3	9s
GSM-LTE vector	Optional 4G vector	TFESP-4G
	Transmission time max. value D4	5s
	Transmission time max. value M3	5s
Equipment	Voice synthesis	Vocabulary customisable
	Memory	Flash 1Gbit
	Management interface	USB port
Outputs	Specialised relay output Max 750mA @ 30V DC	Fault
Battery	Capacity	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
	System compatibility	EN 54-13:2020
	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	

TFCOM - Accessories

	TFPROL-ANTENNA		TFPROL-ANTEN12
	Extension cable for antenna. Length: 4m. For connecting the antenna to the TFESP-4G telephone module.		Extension cable for antenna. Length: 12m. For connecting the antenna to the TFESP-4G telephone module.
	Item no. TF2TFPROLANTENN		Item no. TF2TFPROLANT12



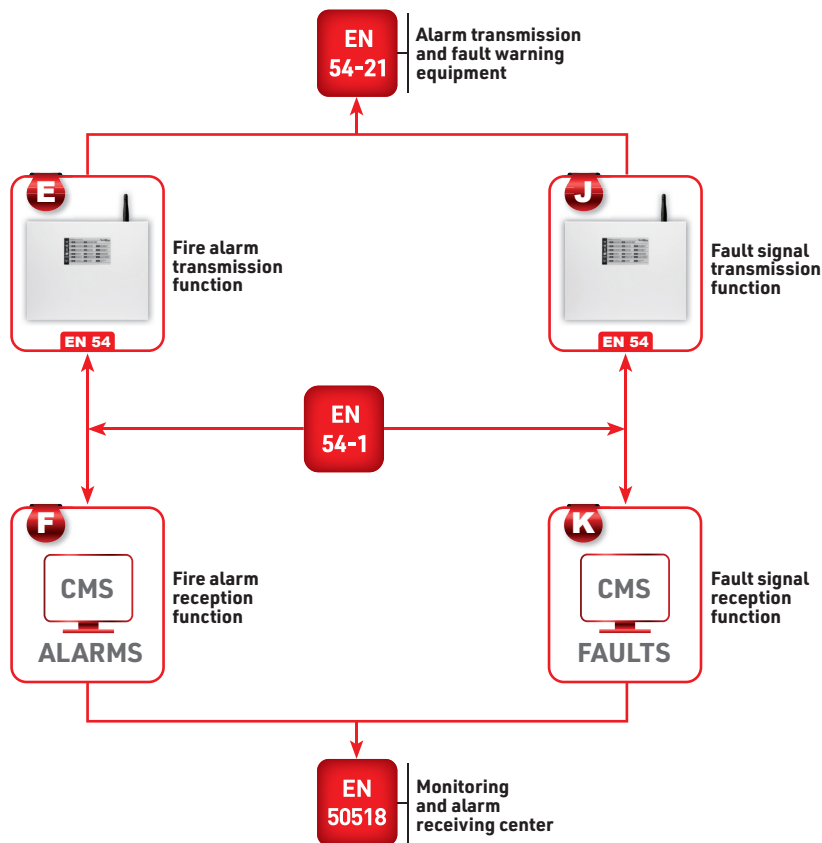
TELECOMMUNICATIONS SERVICES AND FUNCTIONS

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



TFCLOUD - Telecommunication interface

The TFCLOUD telecommunication interface connects Tecnofire Automatic Fire Detection Systems to services residing on Tecnofire Cloud servers.

The device, equipped with IP and LTE telecommunication vectors, coordinates, via the Tecnofire PWA app, the command, control and management activities from remote locations (personal computers, tablets and smartphones) of installers, maintenance engineers and end users.

The synergy of the TFCLOUD module, the Tecnofire PWA app and the Tecnocloud services, forms an integrated management system that offers the best solutions for Tecnofire systems.

NEW	TFCLOUD								
		Telecommunications interface reserved for carrying out all control, monitoring and maintenance management activities, of Tecnofire automatic fire detection systems. All activities performed by the TFCLOUD interface are managed with the Tecnofire Progressive Web App. The device integrates IP and 4G LTE telecommunications vectors. The two vectors can operate alternatively or in backup mode. Cloud-Fire proprietary TCP/IP communication protocol. Security: encrypted communications, TLS supported encryption. Jamming protection. Self-diagnosis functions of: functional status of communication vectors, power supply, battery and serial dialogue of the module with the managed system. Front panel with 6 signalling LED providing a synoptic overview of device operating status. Specialised fault signalling output. RSC® management of the device: programming, remote management and control of all operating parameters. Self-powered device equipped with backup batteries. RS485 bus connection. Protection rating IP3x. ABS casing. White colour. Dimensions (L x H x D) 182 x 207 x 52.5mm. Antenna height 80mm. Standard reference EN 54-1.							
		Item no. TF2TFCLOUD							

TECNOFIRE PWA

The Tecnofire Progressive Web App allows remote access to Tecnofire Detection Systems with any device that has a web browser. The Tecnofire PWA is compatible with all Tecnofire systems equipped with the TFCLOUD telecommunications interface.

The new cloud services available with the "Tecnofire" app simplify and speed up the management of the systems.

Access to the app and its functions is regulated by the account administrator, who is responsible for assigning or revoking roles and permissions for the operators in his company.

The administrator can assign tasks to operators directly from the App. The prior definition of roles and usage configurations for the services offered by the Tecnofire platform creates different usage profiles for the various professionals who work on the systems.

Installers and maintenance personnel can access the functions of the App according to their specific needs and skills.

Even end users who have been delegated the operational management of the System will appreciate the simplicity and speed of interaction with the System's operating functions. Maintenance personnel can make use of the 'Maintenance Plan' function developed in compliance with the regulations, which is dedicated to the automatic calculation of the schedule that regulates activities and interventions during the execution of scheduLED periodic tests.

A function that simplifies and drastically reduces the time dedicated to planning and organising maintenance operations.

ScheduLED test sessions are carried out with the assistance of the execution indications provided by the App, which at the end collects all the information and automatically draws up the relative report.

The availability of refined proprietary diagnostic tools based on RSC® technology offers installers and maintenance personnel the possibility of accessing and monitoring the operating parameters of each individual device that makes up the installation without the need to travel to the site where the System is installed.

During the session, operators can consult and verify in real time the operating events of the System, broken down by category.

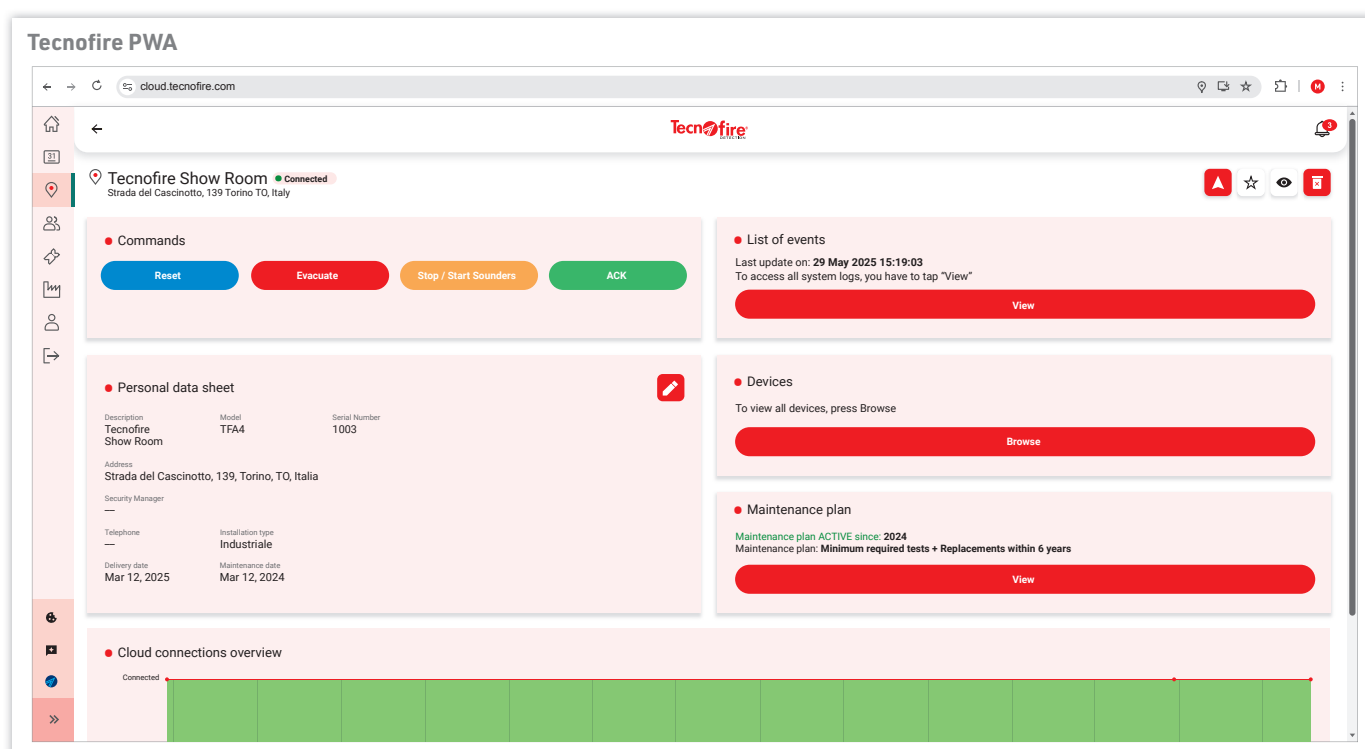
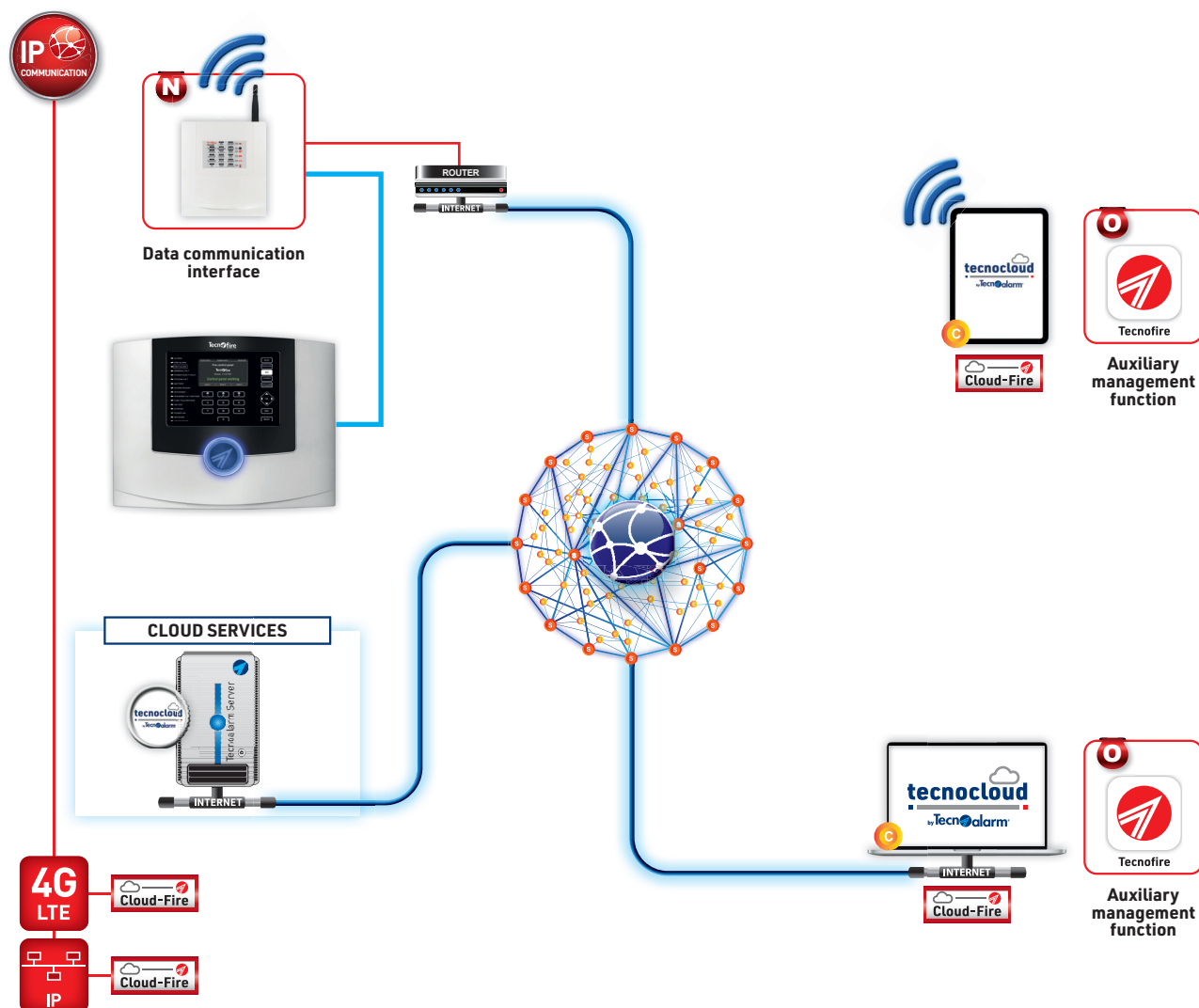
TFCLOUD COMPATIBILITY	TFA1-298	TFA2-596	TFA4-1192	TSA1
	✓	✓	✓	✓

TFCLOUD - Technical and functional specifications

General information	Communication interface for system control and management activities	TFCLOUD
	Communication protocols	FIRE-BUS
	Addressing	Dip-switch
	Connection	Bus RS485
TLC features	Telecommunication vectors	IP and LTE
	Vector usage options	IP only LTE only IP + LTE backup
	Communication protocol	CLOUD-FIRE
	Encryption	TLS
IP vector	Interfaccia ethernet	RJ45
	IP address configuration	Manual Automatic DHCP
LTE vector	Telephone module	4G - LTE
	SIM Card (data traffic)	Micro SIM
	Anti-jamming function	Programmable
System Control and Management	Transmitted events	All operating events of the controlLED system
	Event visualisation	From PWA with dynamic update flow
	Command interface	Reset Evacuate ACK Stop/start sounders
	System device management	Bus Navigation Loop Navigation Zone Navigation Identification LED Management Exclusion Inclusion Activation Deactivation RSC® diagnosis
	Test session	Wizard
	Maintenance plan management	Programmable
	Automatic document production	Maintenance report Test session report
	Geolocation of the site	Google Map
	Monitoring Cloud Connection	Managed by Tecnocloud
	Disconnection notification	email sent by Tecnocloud
App di gestione	PWA (Progressive Web App)	PWA Tecnofire
Connectivity	Telematic services	Tecnocloud DDNS Tecnoalarm SNTP
Outputs	Specialised relay output Max 750mA @ 30V DC	Fault
Battery	Rechargeable AA stylus	3 x 1.2V-2600mAh
	Release voltage	For Vbat <3.2V
	Current for battery charger	Limited to 160mA
	Battery autonomy	30 minutes
	Recharge time	Recharge time 100% in 8 hours
Automatic functions	System Clock Synchronisation	Programmable
	Auxiliary power supply monitor	Programmable
	Module power supply	Fault signal for voltage <15V DC
Electrical specifications	Power supply	From serial Bus
	Auxiliary power supply	From additional power supply
	Nominal voltage	24V DC
	Operating voltage	20V...27.6V DC
	IP vector consumption	Max. 140mA @ 24V DC
	LTE vector consumption	Max. 150mA @ 24V DC
	IP + LTE vector consumption	Max. 190mA @ 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	ABS
	Dimensions (L x H x D)	182 x 207 x 52,5mm
	Antenna height	80mm
	Weight	900g
Conformity	System compatibility	EN 54-13:2020
	Reference standard	EN 54-1

TFCLOUD - Accessories

	TFPROLANTENNA
	Extension cable for antenna. Length: 4m. For connecting the antenna to telephone module.
	Item no. TF2TFPROLANTENN
	TFPROLANTENNA 12MT
	Extension cable for antenna. Length: 12m. For connecting the antenna to telephone module.
	Item no. TF2TFPROLANT12

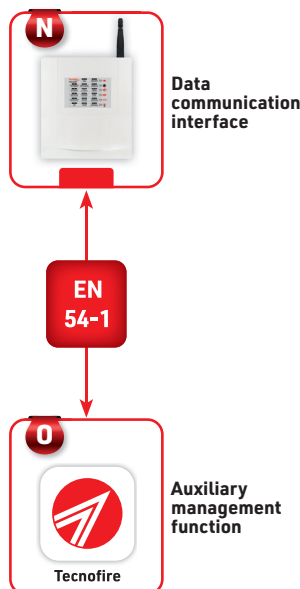


STANDARDS

**EN
54-1**

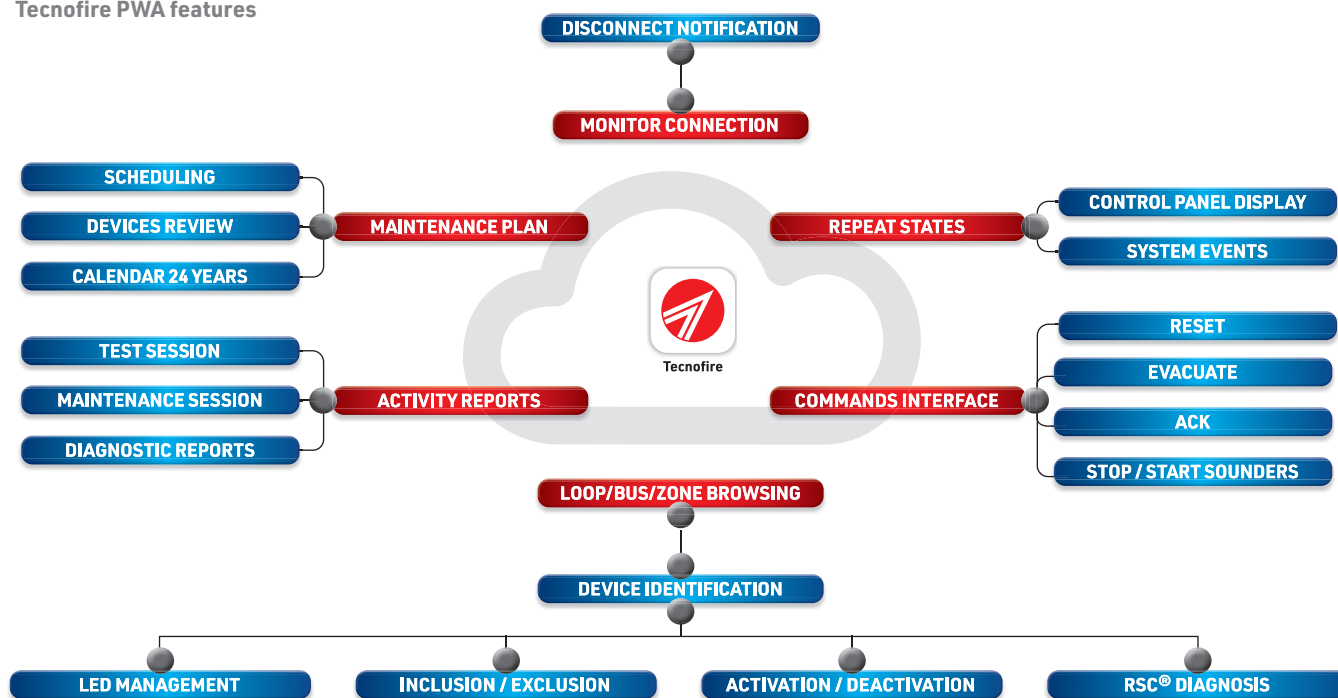
The EN 54-1 standard defines the "N" function as "Auxiliary input or output function", citing as an example the product that performs the "Data communication interface" function. Currently, for this type of product, the EN 54-1 standard does not indicate a reference construction specification.

EN 54-1 - Figure 1 functions: N-O



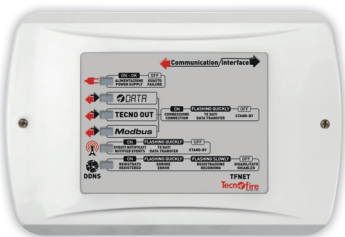
QR code to access PWA Tecnofire.
<https://cloud.tecnofiredetection.com/app>

Tecnofire PWA features



TFNET - Telecommunication interface

The TFNET telecommunication interface integrates a 10/100 Mbit Ethernet IP node that can be connected to a LAN/ WAN. 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.

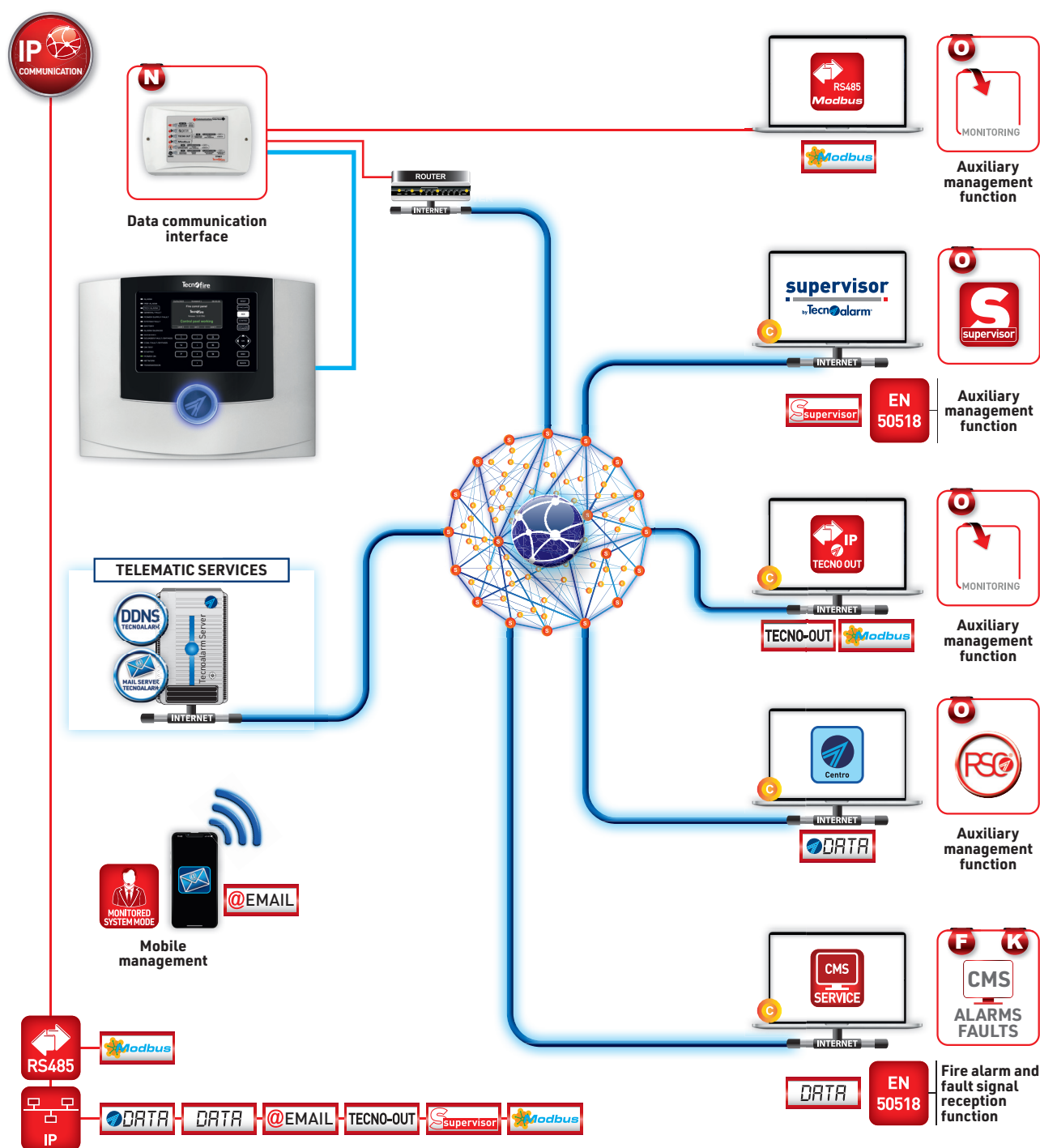
TFNET	       
	IP vector telecommunication device. 8 communicators/channels dedicated to event telematic activities and 6 TCP/IP telecommunication channels dedicated to remote control and management activities. Integrated option for the Tecnoalarm Supervisor remote management environment. Event notification: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

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

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 Tecnoserver Tecnoalarm Service Tecnoalarm Tecno out Modbus
Advanced management	Integrated enabling	Supervisor
	Optionals software plug-in	Tecno out ModBus FAT FBF4000
Telematic services	Managed Services	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
	LAN address	Programmable
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 specificatons	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
	System compatibility	EN 54-13:2020
Conformity	Reference standard	EN 54-1

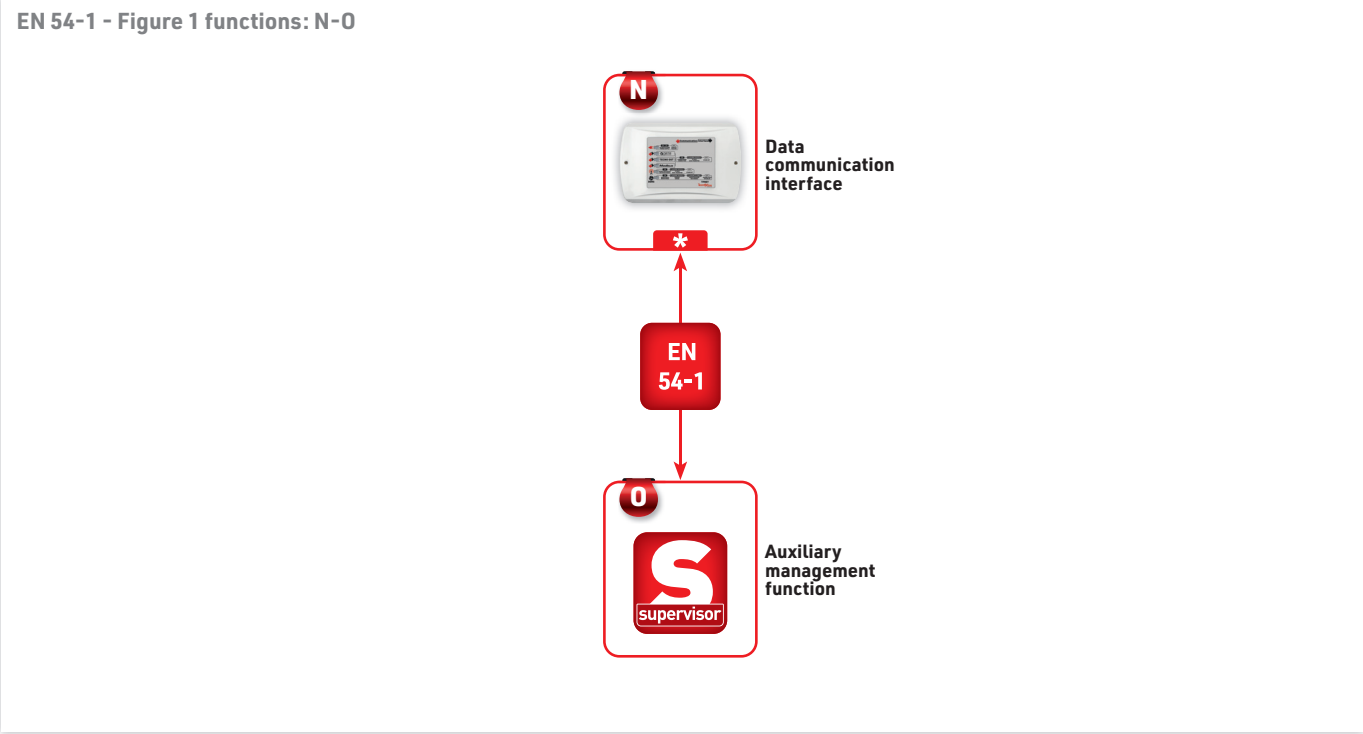
TFNET COMPATIBILITY	TFA1-298	TFA2-596	TFA4-1192	TSA1
	✓	✓	✓	✓



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

ADDRESSABLE



Detectors

The Tecnofire addressable detector range consists of point smoke and heat detectors, linear optical smoke detectors and aspirating smoke detectors. Some detectors can handle Prealarm and Alarm signalling independently.

All Tecnofire detectors can be configured to activate external accessories according to certain logic conditions.

The activation conditions can be set using the formulas managed by the control panel.

The formulas that manage the TFMID-120 and TF-ONE AIR AD detectors can be associated with a time range, which automates their operating mode, for example you can manage one mode for the day time range and a different mode for the night time range.

DETECTORS	TFDA-STR2 Combined	TFDA-S2 Optical	TFDA-TR1 Rate-of-rise	TFMID-120 Linear optical	TF-ONE AIR AD Aspirating smoke
Sensitivity levels	Normal Low High	Normal Low High	-	Prealarm threshold Alarm Threshold	Prealarm threshold Alarm Threshold
Detection class	-	-	-	-	A - B - C
Thermal class	A1-58°	-	A1-58° A2-68° / B-78°	-	-
Suffix	R	-	R o S	-	-
Prealarm management	Si	-	-	Si	Si
Accessories managed with the formula	TFBASE-SIREN TFRIP-SMART	TFBASE-SIREN TFRIP-SMART	TFBASE-SIREN TFRIP-SMART	TFRIP-SMART	TFRIP-SMART
Functions managed by the formula	-	-	-	Double the thresholds or Disable the Prealarm	Switching off engines or Disable the Prealarm
Formula criteria	1	1	1	3	3
Configurable detector	Addressable or Conventional	Addressable or Conventional	-	-	-

Optical smoke detectors

	TFDA-S2	      	Configurable optical smoke detector, can be used with analogue addressed or conventional control panels. Optical smoke detection technology Tyndall effect. The detector integrates an NFC transceiver with which, by means of a smartphone and Tecnofire ID App, it is possible to configure the device and view: identification data, the alarm counter, the graph of the last alarm detected and the data required to manage the detector review service. Maximum analysis precision of smoke captured. Control and dynamic compensation of optical chamber sensitivity, automatic management of maintenance threshold. Programmable functions: 3 sensitivity levels, formula association and management criteria for TFBASE-SIREN or TFRIP-SMART. Detector functional states can be used as operands in conditioning formulas controlled by the control panel. RSC® management: programming, remote management and control. Double line isolator. Universal base mounting TFBASE01. Protection rating IP22. ABS casing. Available colours white or black. Dimensions with mounting base (D x H) 100 x 52mm. EN 54-7:2018 - EN 54-17:2005. Certification: 0051-CPR-3134.

Item no. TF3TFDAS2 (white)

Item no. TF3TFDAS2BK (black)

ADDRESSABLE

Rate-of-rise detector

TFDA-TR1						
	Addressable detector, thermal or rate-of-rise detection technology. Maximum precision in determining the ambient temperature. Programmable functions: thermal Category: A1-58° / A2-68° / B-78°, rate-of-rise suffix: R or S, formula and management criteria association for TFBASE-SIREN or TFRIP-SMART. 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					
Item no. TF3TFDATR1						

Combined optical smoke and heat detector

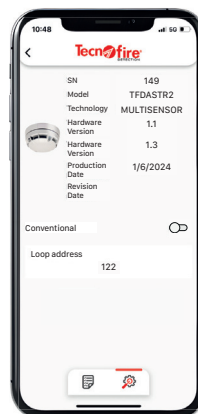
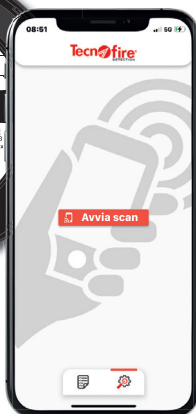
NEW	TFDA-STR2									
		Configurable combined detector, can be used with analogue addressed or conventional control panels. The detector consists of two separate and independent detection sections, an optical smoke detector and a Category A1-58°, Suffix R thermal detector. The detector integrates an NFC transceiver with which, by means of a smartphone and the Tecnofire ID App, it is possible to configure the device and view: identification data, the alarm counter, the graph of the last alarm detected (optical detector only) and the data required to manage the detector review service. Maximum precision in temperature detection and analysis of smoke captured by the optical chamber. Control and dynamic compensation of optical chamber sensitivity, automatic maintenance threshold management. Programmable functions: 3 sensitivity levels, excludable prealarm signalling, excludable optical detection section, formula association and management criterion for TFBASE-SIREN or TFRIP-SMART. The functional states of the detector can be used as operands in the formulas managed by the control panel. RSC® management: programming, remote management and control. Double line isolator. Universal base mounting TFBASE01. Protection rating IP22. ABS casing. Available colours white or black. Dimensions with mounting base (D x H) 100 x 52mm. EN 54-7:2018 - EN 54-5:2017 + A1:2018 - EN 54. Certification: 0051-CPR-3133								
		Item no. TF3TFDASTR2 (white)								
		Item no. TF3TFDASTR2BK (black)								

NFC Detectors - Programming



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Download on the
App Store



ADDRESSABLE

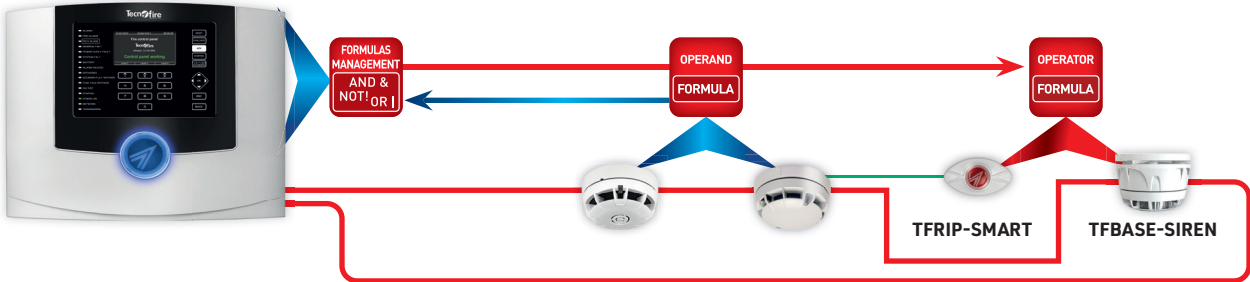
Mounting bases

NEW	TFBASE-SIREN					
	 Detector mounting base with integrated acoustic signalling device. The base can be used to host Tecnofire addressable detectors. Base and detector share the same programming menu, but have no operational interdependence. The activation of the acoustic signal is subject to the result of the management formula associated with the detector. The silencing of the acoustic signal depends on the operating criterion used. Programmable functions: 8 sound modes, volume adjustment 2 levels, 3 operating criteria. RSC® management: programming, remote management and control. Protection rating IP22. Polycarbonate V0 casing. White colour. Dimensions (D x H) 108 x 52mm. Approved EN 54-3:2001 + A1:2002 + A2:2006. Certification: 1293-CPR-0906. Item no. TF6TFBASESIREN					
	TFBASE01					
	 Mounting base for detectors and sirens TFIS01, TFIS02. ABS material. Available colours white or black. Dimensions (D x H) 100 x 19mm. Item no. TF6TFBASE01N (white) Item no. TF6TFBASE01BKN (black)					

Fire detection and alarm devices

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.



Analysis chamber for ducts

TFDA-DUCT



Analysis chamber for ventilation and air conditioning ducts. Venturi tube operating principle, sampling mode, single tube with double duct for air intake and discharge.
The analysis chamber is equipped with TFBASE01 connection base, for TFDA-S2 optical smoke detector.
Protection rating IP54. ABS casing. Grey colour. Dimensions (L x H x D) 165 x 279 x 83mm.
The device must be equipped with: TFDA-S2 detector and sampling tube of appropriate length.
Approved EN 54-27.

Item no. TF3TFDADUCT

EN
54-27

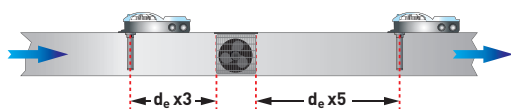
ANALYSIS
CHAMBER
FOR DUCT



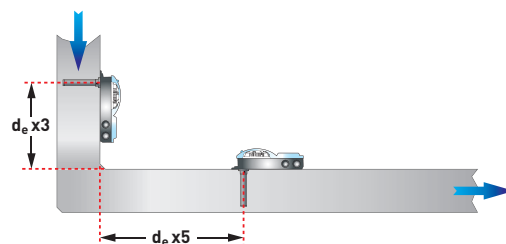
TFDA-DUCT - Application drawings

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, $d_h = 2\sqrt{L \times H / \pi}$.

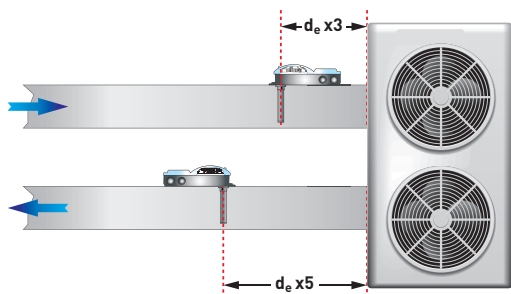
In the proximity of a fan



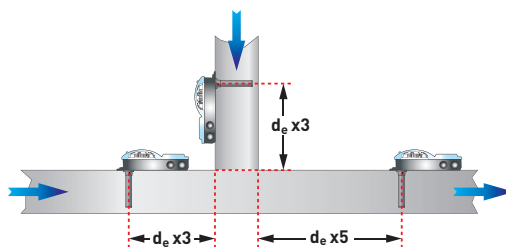
In the proximity of a curve



In the proximity of an air handling unit



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


ADDRESSED DETECTORS - Accessories

	TFBOX-SB Junction box for mounting base TFBASE01. Circular shape with 2 flat walls, pre-marked plugs for mounting 2 PG9 pipe sockets. Profile with condensation protection. Protection rating IP44. ABS casing. White colour. Dimensions (D x H) 121 x 36mm.		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. TF5TFBOXSB		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.		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. TF3TFRIPR		Item no. TF3TFRIPSMART
	TFRIP-R INC Optical repeater, red LED. 360° visibility. Flush mounting. Protection rating IP67.		TFDA-REMOVAL Tool for removing Tecnofire detectors. Articulated head to facilitate the removal and fitting of the detector. Standard telescopic pole coupling.
	Item no. TF3TFRIPRINC		Item no. TF3TFDAREMOVAL
	TFTUBO-DUCT 60 TFDA-DUCT accessory. Sampling tube with dual duct for air intake and discharge, length 60cm.		TFTUBO-DUCT 150 TFDA-DUCT accessory. Sampling tube with dual duct for air intake and discharge, length 150cm.
	Item no. TF3TFTUBODUCT60		Item no. TF3TFTUBODUCT15
			TFCOVER-DUCT TFDA-DUCT accessory. 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

Linear optical detector

Optical linear smoke detectors are mainly used in environments with large volume characteristics, such as industrial halls and warehouses. The TFMiID-120 addressable optical linear detector is equipped with an automatic servo-assisted OAS (Optical Alignment System), which is managed directly by 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.

TFMiID-120



EN
54-12
54-17



RANGE
8 ÷ 120m

OPERAND
AND
OPERATOR
FORMULA

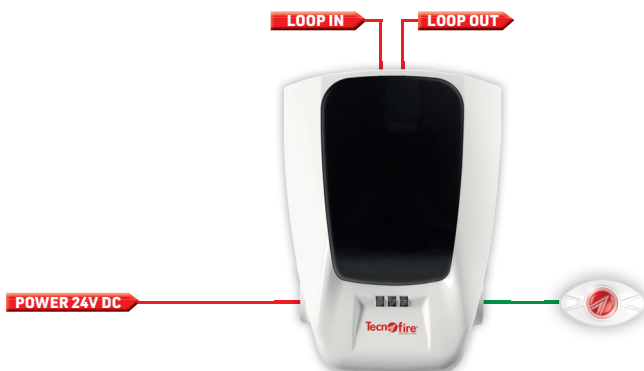
PC
ABS
BOX



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.
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.
Advanced management with adaptive detection logic, day/night mode, determined by formulas, which dynamically relate the operating statuses of the system devices.
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.
Power supply: 24V DC detection unit from external source, Lithium battery telemetry device power supply.
Protection rating IP3x. Operating temperature -10°C...+55°C. PC-ABS casing. White colour.
Dimensions (L x H 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.

Item no. TF9TFMiID120

TFMiID-120 detector - Application diagram



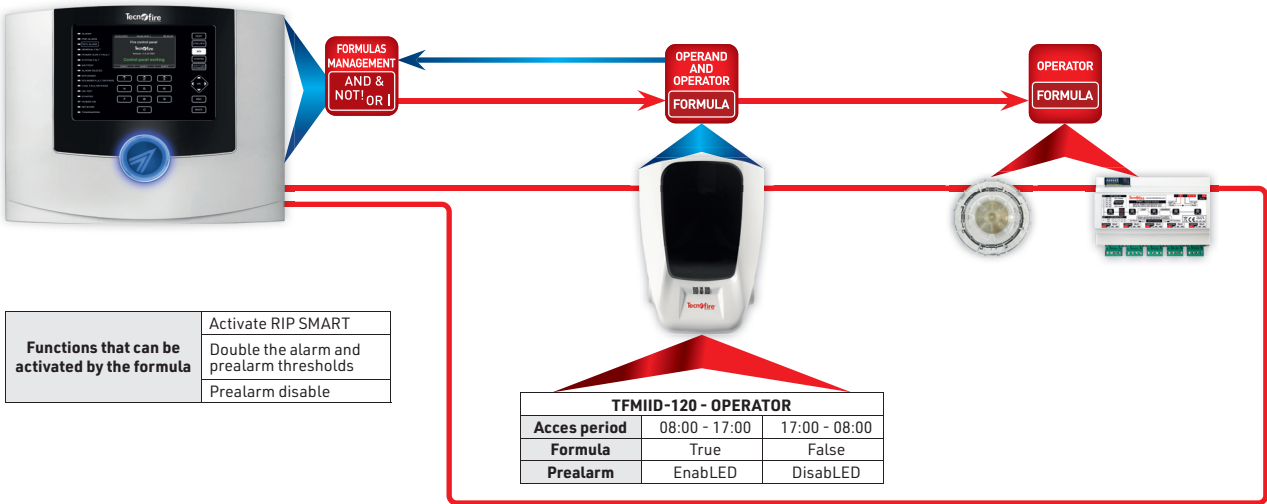
MiID
MOTORIZED INTELLIGENT
INFRARED DETECTOR



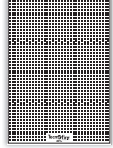
ADDRESSABLE

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 access period is the operand. The control panel checks the formula and, based on the result, applies the associated function, example activates or deactivates 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
			TFCavo-USB MiID Cavo 10 per effettuare l'aggiornamento FW del rivelatore ottico lineare TFMiID120. Il cavo collega il rivelatore al TFPROG USB. Item no. TF1TFCavoPRGUSB

Aspirating smoke detectors with laser technology

Aspirating smoke detectors equipped with a detection chamber with Laser technology have high sensitivity and precision, capable of detecting even microscopic particles early and revealing the onset of a fire at an early stage before smoke is visible.

DETECTION CLASSES	
CLASS A	Class A High sensitivity systems, used for environments or applications where forced ventilation systems are present for cooling equipment or processes, for tall buildings or where the earliest possible intervention threshold is required for the protection of objects such as: data centres, clean rooms, machinery, electrical panels, etc.
CLASS B	Class B Medium sensitivity systems, used for environments or applications where earlier detection is required than with point optical detectors (typically chosen for performance reasons, for example in high-rise warehouses). For the protection of objects such as: data centres, clean rooms, machinery, electrical panels, etc.
CLASS C	Class C Normal sensitivity systems, equivalent to point smoke detectors. Each sampling hole has the same sensitivity as a point optical smoke detector.

ASPIRATING SMOKE DETECTOR TF-ONE AIR AD		
TF-ONE AIR AD05 Normal sensitivity 0,5%...1% obs/m	TF-ONE AIR AD01 Medium sensitivity 0,1%...1% obs/m	TF-ONE AIR AD005 High sensitivity 0,005%...1% obs/m

NEW	TF-ONE AIR AD05	        
		Addressable aspirating smoke detector. Laser detection optics, Part-Flow sampling technique. Programmable sensitivity from 0.5%...1% obs/m. Class C (normal sensitivity). Coverage of an area up to 1600m². Aspirating network with Ø25mm ABS piping with maximum length of 400m. Air temperature -20°C...+60°C. Aspirating network designed using TecnoASD software. Depending on the application, the software sizes and verifies the flow data of the network, defines the detector programming and draws up the project compliance declaration. The detector is equipped with automatic fault controls for: power supply, air flow and internal filter contamination. Serial bus for connecting optional TFT-4.3C repeater panels, which can be used to monitor detector operation. Programmable functions: Prealarm and Alarm signalling thresholds, alarm signalling delay and motor speed. Signalling interface consisting of 6 LEDs. Advanced management with adaptive detection logic, day/night mode, determined by formulas that dynamically relate the functional states of the system devices. RSC® management: programming, remote management and control. Loop connection. Double line isolator. Power supply from external 24V DC source. IP3x protection rating. Operating temperature -5°C...+55°C. ABS enclosure. Metallic grey colour. Dimensions (L x H x D) 260 x 252 x 110mm. EN 54-20:2006 - EN 54-17:2005. Approval certificate: 1415-CPR-128-(C-3/2024).
		Item no. TF26TFONEAIRAD

NEW	TF-ONE AIR AD01	Detector with the same technical characteristics as the TF-ONE AIR AD05 model. With programmable detection sensitivity from 0.1% to 1% obs/m. Class B (medium sensitivity). EN 54-20:2006 - EN 54-17:2005. Approval certificate: 1415-CPR-128-(C-3/2024).	
		Item no. TF26TFONEAIRADA	

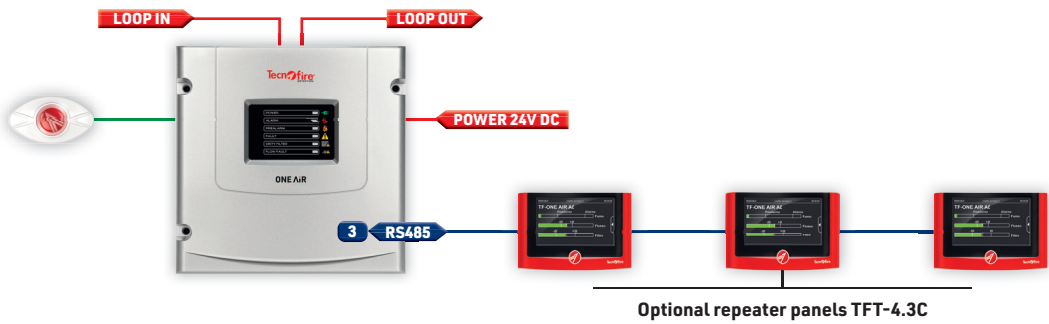
NEW	TF-ONE AIR AD0005	Detector with the same technical characteristics as the TF-ONE AIR AD05 model. With programmable detection sensitivity from 0.005% to 1% obs/m. Class A (high sensitivity). EN 54-20:2006 - EN 54-17:2005. Approval certificate: 1415-CPR-128-(C-3/2024).	
		Item no. TF26TFONEAIRADH	

MANAGEMENT DEVICES	TFT-4.3C	Repeater panel - Detector monitor	Max. 3 devices
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ADDRESSABLE

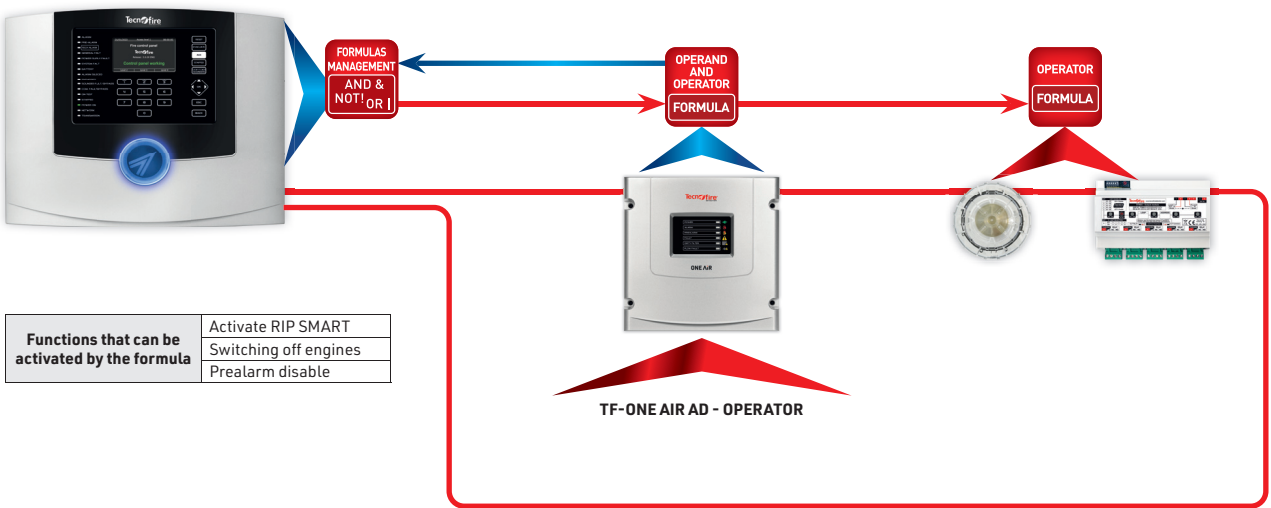
TF-ONE AIR AD detector - Application diagram

ONE AIR
ASPIRATING SMOKE DETECTOR



Formula applied to TF-ONE AIR AD

The TF-ONE AIR AD 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 access period is the operand. The control panel checks the formula and, based on the result, applies the associated function, example activates or deactivates the Prealarm signaling.



Scan the QR code to view the TF-ONE AIR detector video

TF-ONE AIR AD - Accessories

	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
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Manual alarm call points

Tecnofire manual call points: Ensured quality and reliability in every context. Available in the four colours required by various application contexts. Tecnofire conventional manual call points are distinguished by their robustness and weather resistance. IP55 certification guarantees flawless operation even in adverse environmental conditions. The range of available accessories completes the offer, providing the best solution for any installation requirement.

Manual alarm call points IP44

TFCP		RSC	EN 54-11 54-17	TYPE A	FIRE ALARM	1 LOGICAL UNIT	OPERAND FORMULA	IP44	PC BOX
		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. 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 41mm. With the tube box the dimension D becomes 76mm. Approved EN 54-11:2001+A1:2005 - EN 54-17:2005. Certification 1293-CPR-0662.							
		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					

Manual alarm call points IP55

TFCP-IP55		RSC	EN 54-11 54-17	TYPE A	FIRE ALARM	1 LOGICAL UNIT	OPERAND FORMULA	IP55	PC BOX
		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. Installation mode: with piping in visible execution with tube box. Supplied accessories: tube box, opening key and reset button. Outdoor use. Protection rating IP55. Polycarbonate casing V0. Red colour. Dimensions with tube box (L x H x D) 93 x 88 x 76mm. Approved EN 54-11:2001+A1:2005 - EN 54-17:2005. Certification 1293-CPR-0807.							
		TFCP-IP55		Item no. TF5TFCPIP55 (red)					
		TFCP-IP55 MR		Item no. TF5TFCPMRIP55 (yellow) - product not complying with EN 54					
		TFCP-IP55 ES		Item no. TF5TFCPESIP55 (blue) - product not complying with EN 54					
		TFCP-IP55 AB		Item no. TF5TFCPABIP55 (green) - product not complying with EN 54					

ADDRESSABLE

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-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 153mm. Item no. TF5TFCPPX

Input and output modules

The Tecnofire range of addressed modules consists of input modules, output modules and input/output modules. The modules can consist of one or more logic units. Input logic units can be used as operands, output logic units can be used as operators in algebraic formulas, which are verified by the control panel. The TFM10 and TFM420MA modules can independently manage Prealarm and Alarm signalling.

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

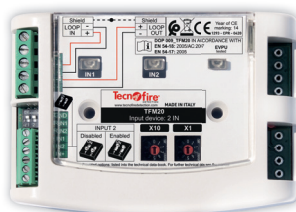
TFM10



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.

Item no. TF4TFM10

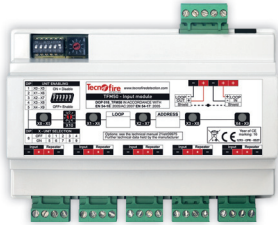
TFM20



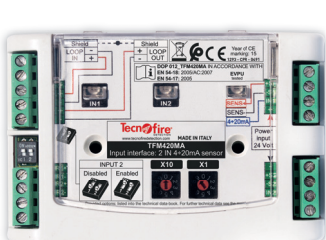
Addressable module equipped with 2 inputs, individually identified by the system. Inputs connection in Alarm or Fault mode. Programmable operating criteria. 2 outputs for repeaters. 2 input status indicator LED. Module operating statuses can be used as operands in formulas. RSC® management: programming, 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.

Item no. TF4TFM20



TFM50-HP	      
	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. Item no. TF4TFM50HP
TFM50-LP	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. Item no. TF4TFM50LP

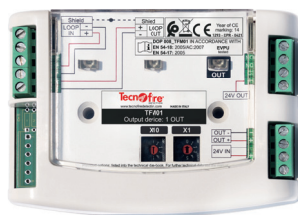
TFMC1	     
	Addressable module equipped with 1 input for conventional detectors. Opto-isolated power supply. Programmable functions: Prealarm signaling. 1 input status indicator LED. Module operating statuses can be used as operands in formulas. RSC® management: programming, remote management and control. 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. Item no. TF4TFMC1

TFM420MA	     
	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. Item no. TF4TFM420MA

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
Delay and activation time	Programmable	Programmable
Formula association	Yes	Yes

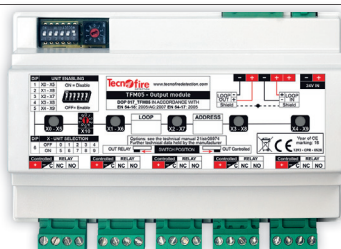
TFM01



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

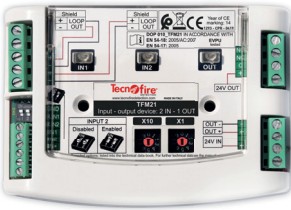
Addressable module with the same electrical functional characteristics of the TFM05 -HP model, but with installation in reduced height casing. Dimensions (L x H x D) 144 x 92 x 38.5mm.

Item no. TF4TFM05LP

ADDRESSABLE

Input/output module

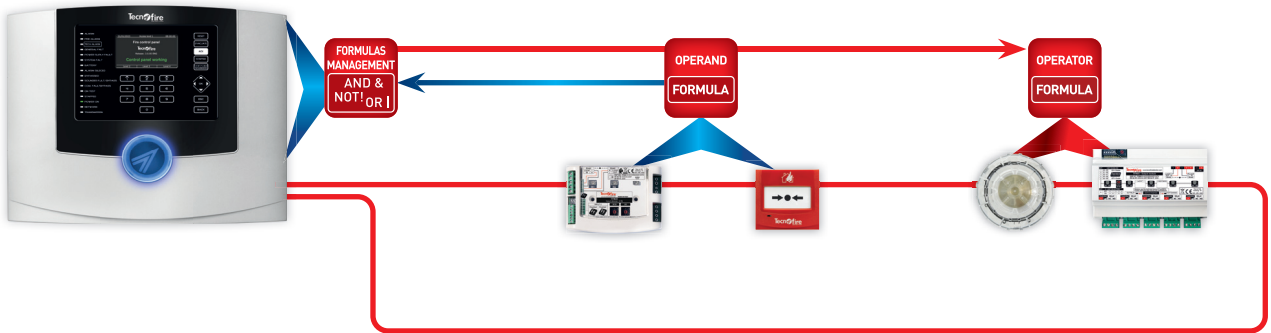
INPUT/OUTPUT MODULE		TFM21	
Composition		2 inputs 1 output	
Addresses used		3 addresses	
Input type	Alarm Fault	Output type	Contact ControlLED line
Operating criteria	8	Operating criteria	6
Evacuation alarm	Programmable	Delay and activation time	Programmables
		Formula association	Yes

TFM21 	     					
	Addressable module equipped with 2 inputs and 1 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. Item no. TF4TFM21					

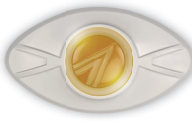
Fire detection and alarm devices

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

Power supply unit

TFPS-5		EN 54-4 54-17	EN 12101-10	27.6V 5A	3 OUTPUTS 1.1A	1 LOGICAL UNIT	
	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. The unit is equipped with 3 independent outputs for the power supply of utilities. Each output delivers a maximum current of 1.1A. Automatic testing and battery release functions for deep discharge. Front control panel with 6 operating status LED. Fault signal output: free changeover relay. 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. Approved EN 54-4:1997 + A1:2002 + A2:2006 - EN 54-17:2005. EN 12101-10 Certification: 0051-CPR-0432. Item no. TF5TFPS5						

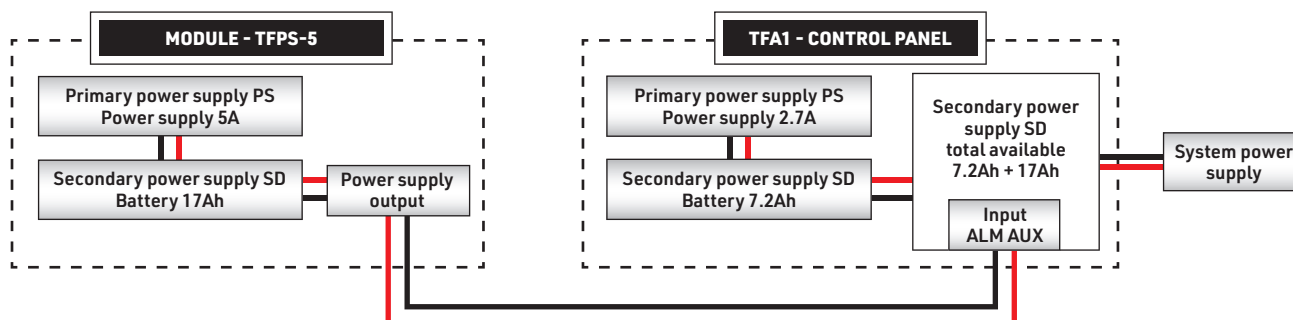
SYSTEM AUTONOMY

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.

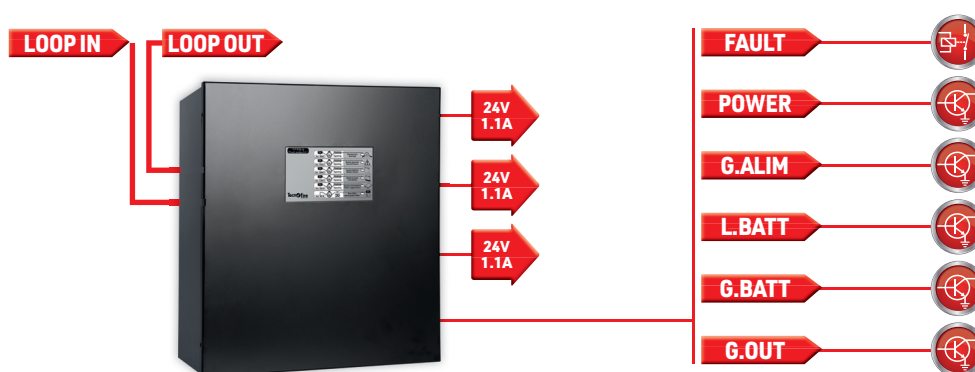
The operating autonomy of the system is guaranteed by the secondary power supply, consisting of the backup batteries.

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



Alarm devices

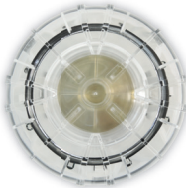
Optical-acoustic alarm devices

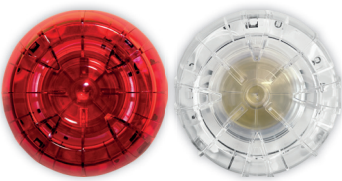
The range of addressed optical-acoustic alarm devices consists of indoor and outdoor devices that are highly versatile. All devices are capable of handling two independent signalling modes: Prealarm and Alarm. VAD devices are equipped with optical signalling synchronisation functions.

OPTICAL-ACOUSTIC ALARM DEVICES	TFIES03 VAD - Type B	TFIES02 VAD - Type B	TFIS01 VID - Type A	TFPANM VAD - Type A
Maximum sound pressure	118dB(A) @ 1m High power	101dB(A) @ 1m	102dB(A) @ 1m	99dB(A) @ 1m
Optical coverage	0-5.5-3.2-7.7 Volume 135m ³	0-4.6-2 Volume 9.2m ³	-	W-4.6-7.7 Volume 272m ³
Logical units managed	2	2	2	2
Addresses used	1 or 2 addresses	1 or 2 addresses	1 or 2 addresses	1 or 2 addresses
Sound modes	64	64	64	8
Operating criteria	6	6	6	6
Optical signaling	Excludible	Excludible	Excludible	Excludible
Synchronised optical signalling	Yes	Yes	-	Yes
Acoustic signaling	Excludible	Excludible	-	Excludible
End of alarm tone	Excludible	Excludible	-	-
Backlighting	-	-	-	Programmable
Delay and activation time	Programmables	Programmables	Programmables	Programmables
Formula association	Yes	Yes	Yes	Yes
Protection rating	IP54 For outdoors	IP33C For outdoors	IP22 For indoors	IP21C For indoors

NEW	HIGH-POWER	TFIES03										
			Addressable high power optical-acoustic alarm device, for VAD fire alarm signal, category 0 (Open class). Optical coverage 0-5.5-3.2-7.7, volume 135m³. Sound pressure max. 118dB(A) @ 1m. Type B for outdoor use. Dual address for operation duplication. Programmable functions: 6 operating criteria, 64 sound modes, volume adjustment 2 levels, end-of-alarm tone, 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. External power supply 24V DC. Protection rating IP54. Operating temperature -25°C...+70°C. PC-ABS casing. White optical diffuser colour. Dimensions (L x H x D) 204 x 240 x 118,5mm. Approved EN 54-3:2001 + A1:2002 + A2:2006 - EN 54-23:2010 - EN 54-17:2005. Certification: 0051-CPR-3572.									
		Item no. TF5TFIES03										

ADDRESSABLE

TFIES02		EN 54-3 54-23 54-17	VAD VISUAL ALARM DEVICE	CATEGORY 0 4.6-2	9.2m³ COVERAGE VOLUME	SOUND LEVEL 101dB(A) @1m	2 LOGICAL UNITS	OPERATOR FORMULA	PC ABS BOX
 Addressable optical-acoustic alarm device, for VAD fire alarm signal, category 0 (Open class). Optical coverage 0-4.6-2, volume 9.2m³. 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, end-of-alarm tone, 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.									
Item no. TF5TFIES02									

TFIS01		EN 54-3 54-17	VID VISUAL INDICATION DEVICE	SOUND LEVEL 102dB(A) @1m	2 LOGICAL UNITS	OPERATOR FORMULA	PC ABS BOX
 Addressable optical-acoustic warning device, for VID fire alarm signal. 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.							
Item no. TF5TFIS01 (Optical diffuser red)							
Item no. TF5TFIS01W (Optical diffuser white)							


OPTICAL-ACOUSTIC ALARM DEVICES - Accessories

	TFBASE01 Mounting base for sirens TFIS01 and TFIES02. ABS material. White colour. Dimensions (D x H) 100 x 19mm. Item no. TF6TFBASE01N
	TFIS01-PLEXI Plexiglass signage, with mounting location for TFIS01 and TFIES02 sirens. With the words "FIRE ALARM". Dimensions (L x H) 360 x 121mm. Item no. TF5TFIS01PX-UK
	TFBOX-SBWP 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. Plug for plexiglass signage. Protection rating of TFBOX-SBWP IP65. ABS casing. Colour white. Dimensions (D x H) 121 x 40mm. Item no. TF5TFBOXSBWP
	TFIS01-PLEXI EL Product with English text not available. Not available

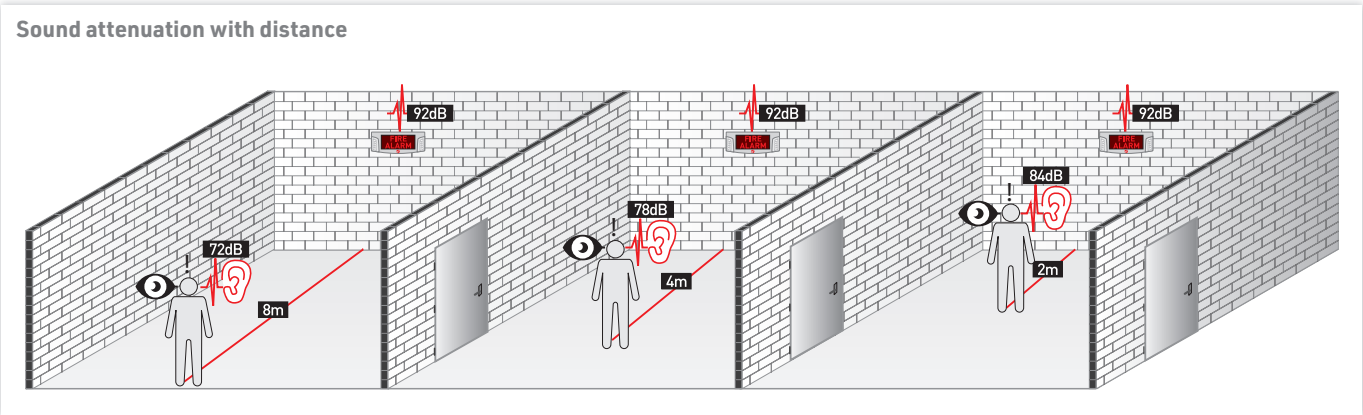
Optical-acoustic panels

The range of addressed optical-acoustic panels consists of VAD devices with different types of signalling.

	        
	Optical-acoustic fire alarm panel, VAD category W. Optical coverage W-4.6-7.7, volume 272m³. Sound pressure 99dB(A) @ 1m. Type A for indoors. 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 H 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. Item no. TF5TFPANMAI-UK
	TFPANM-AC Panel with the words "ALARM IN PROGRESS". Technical characteristics equal to the TFPANM-AI model. Item no. TF5TFPANMAC-UK
	TFPANM-EL Panel with the words "PLEASE EVACUATE". Technical characteristics equal to the TFPANM-AI model. Item no. TF5TFPANMEL-UK
	TFPANM-VE Panel with the words "DO NOT ENTER EXTINGUISHING IN PROGRESS". Technical characteristics equal to the TFPANM-AI. Item no. TF5TFPANMVE-UK
	TFPANM-AG Panel with the words "GAS ALARM". Technical characteristics equal to the TFPANM-AI model. Item no. TF5TFPANMAG-UK

OPTICAL-ACOUSTIC PANELS - Accessories

	TFBOX-P Mounting base for TFAPANM panel. Fittings for 20mm tubes. Wall or box 503 mounting. ABS material. White colour. Dimensions (L x H x D) 373 x 150 x 63mm.
	Item no. TF5TFBOXP



VAD category W wall mounted The first digit indicates the maximum installation height $X=4m$, the second digit indicates the width and length of the cover cube $Y=9m$.	VAD category C ceiling mounted The first digit indicates the maximum installation height $X=3m$, the second digit indicates the diameter of the cover cylinder $Y=7.5m$.
VAD category O wall mounted 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 ($Z1+Z2$).	VAD Category O ceiling mounted 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 ($Z1+Z2$).

N.B. The digits indicated on the labels: Z1, Z2, Y1, Y2, may be different, to indicate asymmetrical optical coverage.



FIREWAVE

EN 54-25



Wireless fire detection system FIREWAVE



FIREWAVE is a high-sensitivity wireless system with dual frequency band (433 MHz and 868 MHz) and multiple channels. FSK digital modulation. WL FIRE SPEED bidirectional radio communication protocol.

The FIREWAVE system is based on a distributed, redundant and synchronised network architecture.

The combination of these three key factors guarantees: wide radio coverage, reliable communication, ensured by the dynamic redundancy of the two gateway modules, and precise operation, marked by the synchronisation of the communication protocol.

The FIREWAVE system consists of two gateway modules and various detection and signalling devices that complete the radio network.

The gateways, connected to a Tecnofire system detection loop and associated with a radio slot, work in synergy with the control panel to manage the communication and monitoring of the devices that make up the radio slot.

Each radio slot can manage up to 32 detection and signalling devices.

Each loop in the system can manage four radio slots.

The protocol synchronisation manages and coordinates the pause and transmission times of the radio slots belonging to the various loops of the control unit, minimising the possibility of interference.

Programmable functions: radio slot number, primary and redundant gateway role, transmission power.

Monitored functions: redundant radio transmission and reception, scanning and control of the devices that make up the radio slot, gateway power supply and charge level of the batteries that power the detection and signalling devices.

In the event of a fault or anomaly in one of the gateways, the system dynamically reassigns the gateway management role.

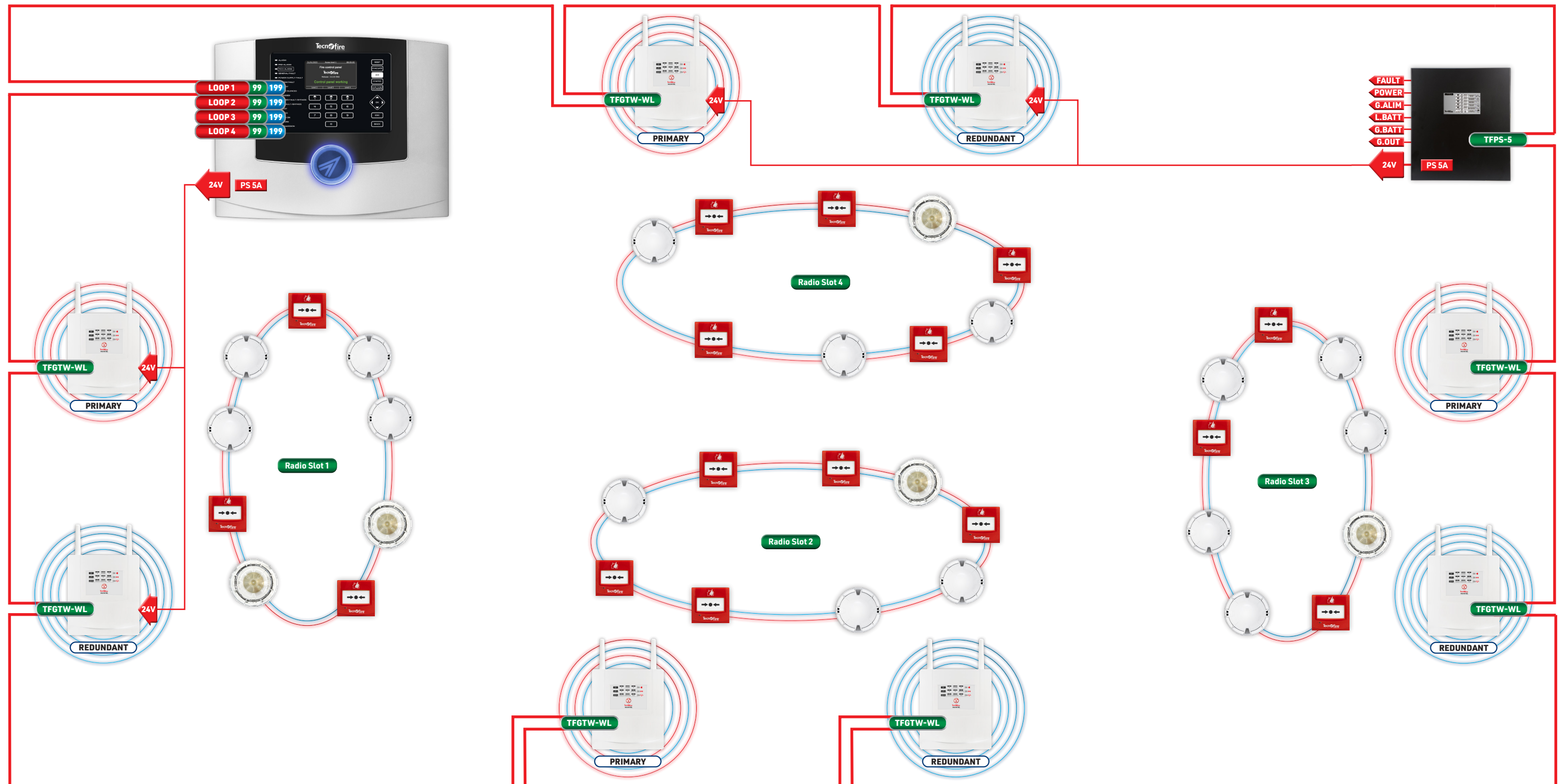
FIREWAVE system devices can be managed by any Tecnofire system, whether old or new generation.

FIREWAVE SYSTEM				EN 54-25	 433MHz 868MHz 2-WAY	AES 128 BIT	2 GATEWAY	 32 WIRELESS DEVICES
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	DOUBLE GATEWAY	SINGLE GATEWAY
Gateway for slots	2 Primary and Redundant	1 Primary
Radio slots for Loop	4	4
Devices for Radio Slots	Max. 32 heterogeneous	Max. 32 homogeneous
Total radio devices managed	128 per Loop	128 per Loop
Multi-zone management	Yes	No
Slots powered by the loop	Max. 2	Max. 2

System Configuration

The detection loops of Tecnofire systems can manage four radio slots. The radio slot can be configured with one or two gateway modules. The gateways can be powered by the detection loop or by an external power supply. We recommend powering no more than two radio slots from the loop. If possible, we recommend always using an external power supply and only resorting to loop power when it is not possible to lay a dedicated power line. In any case, it is always necessary to evaluate the total consumption of all devices connected to the detection loop. In the example shown, the four radio slots managed by the detection loop are configured in dual gateway mode, slot 1 is powered by the control panel, slots 2 and 3 are powered by the loop, and slot 4 is powered by a power supply unit.



SYSTEM DEVICES

GATEWAY	TFGTW-WL	Gateway Module - Wireless Slot Manager	1 or 2
DETECTION AND SIGNALLING DEVICES	TFDA-STR2-WL	Combined optical smoke and heat detector	Max. 32 devices
	TFCP-WL	Manual alarm call point module	
	TFIES02-WL	Optical-acoustic alarm module	

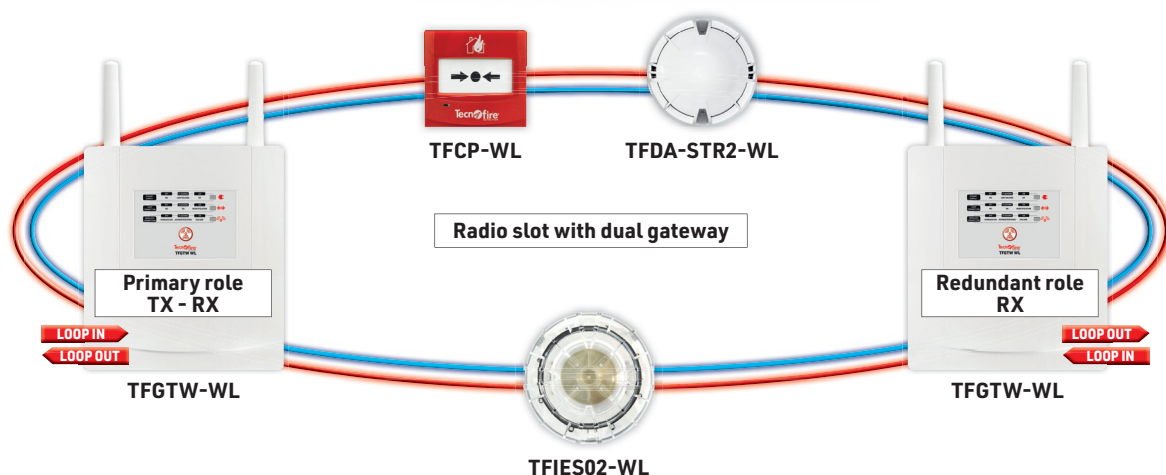
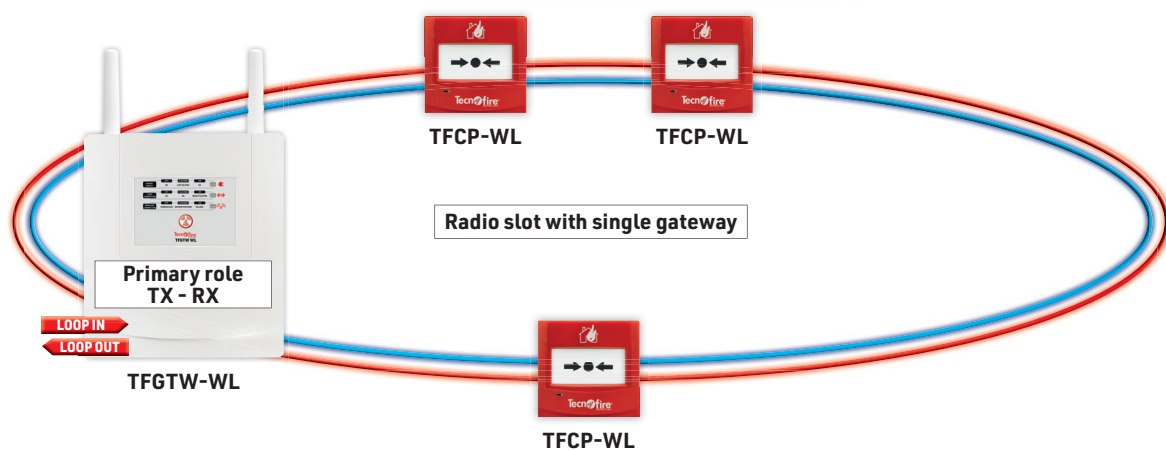
RADIO SLOT CONFIGURATION

The radio slot can be configured with one or two gateways. The EN 54-25 standard defines the installation rules for the two possible configurations.

Radio slot configured with one gateway: in this configuration, the gateway assumes the role of primary and independently manages communication with the radio devices that make up the slot. In this case, the radio slot can only manage one detection zone consisting of homogeneous devices, for example, only push-button modules or only detectors.

Radio slot configured with two gateways: in this configuration, the first gateway assumes the role of Primary and the second gateway that of Redundant. The Primary gateway manages communication with the radio devices that make up the slot, while the Redundant gateway monitors all slot communications.

If the system detects communication anomalies, the roles of the two gateways are dynamically reversed.



FIREWAVE SYSTEM - Technical and functional specifications

General information	Wireless system	FIREWAVE
	Compatibility	Tecnofire systems
System devices	Gateway module	TFGTW-WL
	Combined optical smoke and heat detector	TFDA-STR2-WL
	Manual alarm call point module	TFCP-WL
	Optical-acoustic alarm module	TFIES02-WL
Single Gateway configuration	Management role	Primary gateway
	Gateway function	Transceiver
	Managed wireless devices	Max. 32
	Managed zones	1
	Zone composition	A single type of device
Dual Gateway configuration	Management roles	Primary gateway Redundant gateway
	Primary gateway function	Transceiver
	Redundant gateway function	Receiver
	Gateway management role reassignment	Dynamic
	Managed wireless devices	Max. 32
	Managed zones	Multiple
	Zone composition	Mixed devices
Device identification	Gateway modules	Loop address and radio slot ID
	Detectors and modules	Virtual address and unique WID code
Checks	Function monitor	Redundancy Device check Radio TX-RX check
System self-protection	Monitor	Supervision Radio jamming
Radio frequency characteristics	Two-way communication protocol	WL FIRE-SPEED
	Transceiver	UHF
	Modulation	FSK
	Frequency bands	433MHz 868MHz
	Programmable transmission power	4 levels per frequency band
	Communication channels	2 channels per frequency band
	Channel tuning	Automatic
Physical specifications	Environmental class	3K5 EN 60721-3-3:1995
Conformity	Standard	EN 54-25:2008/ AC2012
	System compatibility	EN 54-13:2020

WIRELESS FIREWAVE SOLUTIONS

The FIREWAVE wireless system is the ideal solution for fire detection in historic buildings subject to architectural restrictions or in contexts where the installation of a cabling infrastructure is complex or costly.

The FIREWAVE wireless solution is fully compatible with all Tecnofire systems and can be used to extend the protection of a wired system without the need to modify the existing cabling infrastructure.

The simplicity and flexibility of installation make the wireless solution the obvious choice in all cases where the required protection system is temporary or subject to structural changes in the short term, such as in buildings under construction or exhibition areas.

FIREWAVE SYSTEM COMPATIBILITY	TFA1-298	TFA2-596	TFA4-1192	TSA1
	1 Loop - 4 radio slots	2 Loop - 8 radio slots	4 Loop - 16 radio slots	1 Loop - radio slots

Gateway Module

TFGTW-WL



Addressable wireless gateway module. High sensitivity UHF transceiver, dual frequency band 433MHz and 868MHz multi-channel. Digital modulation.
WL FIRE SPEED two-way radio communication protocol. Indoor installation.
Max. 32 wireless devices managed. Programmable functions: transmission power, wireless device network management role: Primary or Redundant Gateway.
Control functions: radio reception, redundancy control, device presence control, management role reassignment, power supply monitor.
RSC® management: programming, remote management and control.
Self-protection: supervision, opening, removal, radio jamming.
Signalling interface consisting of 3 LED. IP3x protection rating. Loop connection.
Double line isolator. Power supply from loop or external 24V DC source. ABS casing.
Colour: white. Dimensions (L x H x D): 182 x 207 x 52.5 mm.
EN 54-17:2005 - EN 54-25:2008/AC2012.
Approval procedure in progress.

Cod. TF23TFGTWWL

TFGTW-WL - Technical and functional specifications

General information	Gateway Module	TFGTW-WL
	Connection	Detection loop
	Managed wireless devices	Max. 32
Programmable functions	Polling signaling LED	Excludable
	Polling frequency	Programmable
	Management role	Primary or Redundant
	Radio slot	Numerical identification
	Programmable transmission power	4 levels per frequency band
Loop interface	Addressing	2 rotary switch
	Communication protocol	FIRE-SPEED
	Loop isolator	Double insulator
Radio frequency characteristics	Two-way communication protocol	WL FIRE-SPEED
	Transceiver	UHF
	Modulation	FSK
	Frequency bands	433MHz 868MHz
	Communication channels	2 channels per frequency band
Checks	Channel tuning	Automatic
	Function monitor	Redundancy Power supply Device check Radio TX-RX check
Equipment	Management interface	Mini USB port

Self-protection	Anti-opening/removal	Micro switch
	Monitor	Supervision Radio jamming
Electrical specifications	Power supply	From Loop or external
	Nominal voltage	24V DC
	Operating voltage	18V...30V DC
	Maximum consumption	30mA @ 24V DC
	Average consumption	25mA @ 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 (EN 60529)
	Casing	ABS
	Dimensions (L x H x D)	182 x 207 x 52,5mm
	Antenna height	82mm
Conformity	Weight	250g
	Standard	EN 54-25:2008/ AC2012 EN 54-17:2005
	System compatibility	EN 54-13:2020
Approval procedure in progress		

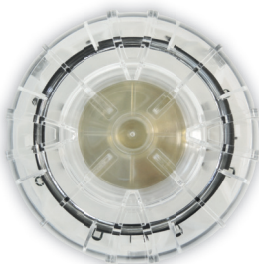
Wireless combined optical smoke and heat detector

TFDA-STR2-WL		RSC	EN 54-5 54-7 54-25	433MHz 868MHz 2-WAY	COMBO 2T	SMOKE	RATE-OF- RISE	OPERAND AND OPERATOR FORMULA	ABS BOX
	Combined wireless addressable detector, consisting of two separate and independent detection sections: optical smoke detector and thermo-velocimetric detector. Category A1-58°, Suffix R. High sensitivity UHF transceiver, dual frequency band 433MHz and 868MHz multi-channel. Digital modulation. WL FIRE SPEED two-way radio communication protocol. Maximum precision in temperature detection and analysis of smoke captured by the optical chamber. Dynamic control and compensation of optical chamber sensitivity, automatic maintenance threshold management. Programmable functions: transmission power, 3 sensitivity levels, excludable prealarm signal, excludable optical and thermovelocimetric detection sections. The functional states of the detector can be used as operands in the conditioning formulas controlled by the control panel. RSC® management: programming, remote management and control. Self-protection: opening, removal, survival. Supplied accessories: mounting base and lithium power supply battery. IP22 protection rating. ABS casing. Colour: white. Dimensions (D x H) 100 x 52 mm. EN 54-7:2018 - EN 54-5:2017 + A1:2018 - EN 54-25:2008/AC2012. Approval procedure in progress.								
	Cod. TF23TFDASTR2WL								

Wireless manual alarm call point module

TFCP-WL		RSC	EN 54-11 54-25	433MHz 868MHz 2-WAY	TYPE A	FIRE ALARM	OPERAND FORMULA	IP44	PC BOX
	Addressable wireless resettable manual alarm call point for fire alarm signalling. Manual activation, Type A (direct). High sensitivity UHF transceiver, dual frequency band 433MHz and 868MHz multi-channel. Digital modulation. WL FIRE SPEED two-way radio communication protocol. Programmable functions: transmission power, operating criteria, evacuation signalling. The functional states of the module can be used as operands in formulas. RSC® management: programming, remote management and control. Self-protection: opening, removal, survival. Installation mode on surface or on 502 flush-mounted box. Accessories supplied: lithium power battery, opening key and reset button. Indoor use. IP44 protection rating. V0 polycarbonate casing. Colour: red. Dimensions (L x H x D): 93 x 88 x 49 mm. EN 54-11:2001+A1:2005 - EN 54-25:2008/AC2012. Approval procedure in progress.								
	Cod. TF23TFCPWL								

Wireless optical-acoustic alarm module

TFIES02-WL		RSC	EN 54-3 54-23 54-25	433MHz 868MHz 2-WAY	VAD VISUAL ALARM DEVICE	CATEGORY 0 4.6-2	9.2m³ COVERAGE VOLUME	SOUND LEVEL 101dB(A) @1m	OPERATOR FORMULA	PC ABS BOX
	Wireless addressable optical-acoustic alarm device for VAD fire alarms, category 0 (Open class). Optical coverage 0-x-x, volume x.xm³. Acoustic pressure 101dB(A) @ 1m. Type B for outdoor use. High sensitivity UHF transceiver, dual frequency band 433MHz and 868MHz multi-channel. Digital modulation. WL FIRE SPEED two-way radio communication protocol. Programmable functions: transmission power, 6 operating criteria, 64 sound modes, 2-level volume adjustment, delay and activation time, flashing light and/or acoustic signal can be disabled. Synchronised optical signalling for devices belonging to the same radio slot. Signalling activation subject to formula. RSC® management: programming, remote management and control. Self-protection: opening, removal, survival. Accessories supplied: mounting base and lithium power batteries. IP33C protection rating. Operating temperature -25°C...+70°C. PC-ABS casing. Colour: white. Dimensions (D x H) 120 x 65mm. EN 54-3:2001 + A1:2002 + A2:2006 - EN 54-23:2010 - EN 54-25:2008/AC2012. Approval procedure in progress.									
	Cod. TF23TFIES02WL									



Fire detection and alarm devices conventional

CONVENTIONAL

Aspirating smoke detection systems

Aspirated smoke detection systems are a state-of-the-art solution for fire protection, their sensitivity guarantees early detection even in complex or particularly critical environments with difficult access.

Aspirated systems can operate in environments with extreme temperatures, high humidity, and the presence of particulates. Highly sensitive laser detection technology guarantees the detection of imperceptible smoke particles generated in the early phase of a fire.

The available systems allow the realisation of aspiration infrastructures, which comply with Detection Classes A, B and C as defined by EN 54-20. Aspirated smoke detection systems represent an investment in safety and peace of mind, guaranteeing effective fire protection even in the most particular and complex environments.

SYSTEM	TF-ONE AIR CV	TF-TF1	TF-TP1A	TF-TP1FA	TF-TP4	TF-TP4FA
Detection technology	Laser	Infrared	Infrared	Infrared	Infrared	Infrared
Sensitivity Detection class	Depends on the model used	Depends on the module used	Depends on the module used	Depends on the module used	Depends on the module used	Depends on the module used
Coverage	1 zone Max. 1600m ²	1 zone Max. 1600m ²	1 zone Max. 1600m ²	1 zone Max. 1600m ²	1 zone Max. 1600m ²	1 zone Max. 1600m ²
Aspirating channels	1	1 x module Max. 2	1 x module Max. 2	1 x module Max. 2	1 x module Max. 2	1 x module Max. 2
Channel length	Max. 1 x 400m	Max. 2 x 160m	Max. 2 x 300m	Max. 2 x 300m	Max. 2 x 300m	Max. 2 x 300m
Programming	Repeater panel Web-App	Dip-switch	Dip-switch	Dip-switch	Dip-switch	Dip-switch
Telecommunication vector	Integrated Wi-Fi module	-	Optional Lan Card	Optional Lan Card	Optional Lan Card	Optional Lan Card
Relay outputs	Prealarm Alarm Fault	Alarm Fault	Alarm Fault	Alarm Fault	Prealarm Alarm Fault	Prealarm Alarm Fault
Air temperature	-20°C...+60°C Standard	-30°C...+60°C Extended range	-20°C...+60°C Standard	-40°C...+60°C Deep freeze	-20°C...+60°C Standard	-40°C...+60°C Deep freeze
Air filter	Integrated and external	External	External	External	External	External
Operating monitor	Front panel Repeater panel Web-App	Front panel	Front panel	Front panel	Front panel	Front panel
Monitored functions	Power supply Air filter Air flow	Power supply Air flow	Power supply Air flow	Power supply Air flow	Power supply Air flow	Power supply Air flow

DETECTION CLASSES

CLASS A	Class A High sensitivity systems, used for environments or applications where forced ventilation systems are present for cooling equipment or processes, for tall buildings or where the earliest possible intervention threshold is required for the protection of objects such as: data centres, clean rooms, machinery, electrical panels, etc.
CLASS B	Class B Medium sensitivity systems, used for environments or applications where earlier detection is required than with point optical detectors (typically chosen for performance reasons, for example in high-rise warehouses). For the protection of objects such as: data centres, clean rooms, machinery, electrical panels, etc.
CLASS C	Class C Normal sensitivity systems, equivalent to point smoke detectors. Each sampling hole has the same sensitivity as a point optical smoke 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.

Aspirating smoke detectors with laser technology

Aspirating smoke detectors equipped with a detection chamber with Laser technology have high sensitivity and precision, capable of detecting even microscopic particles early and revealing the onset of a fire at an early stage before smoke is visible.

ASPIRATING SMOKE DETECTOR TF-ONE AIR CV		
TF-ONE AIR CV05 Normal sensitivity 0,5%...1% obs/m	TF-ONE AIR CV01 Medium sensitivity 0,1%...1% obs/m	TF-ONE AIR CV005 High sensitivity 0,005%...1% obs/m

NEW	TF-ONE AIR CV05	EN 54-20	WI-FI	PART-FLOW AIR SAMPLING	LASER DETECTION	NORMAL SENSITIVITY 0.5% obs/m	COVERAGE 1 ZONE 1600m ²	AIR TEMPERATURE -20°C...+60°C	ABS BOX
		Conventional aspirating smoke detector. Laser detection optics, Part-Flow sampling technique. Programmable sensitivity from 0.5%...1% obs/m. Class C (normal sensitivity). Coverage of an area up to 1600m². Aspirating network with Ø25mm ABS piping with a maximum length of 400m. Air temperature -20°C...+60°C. Design of the aspirating network using the TecnoASD software supplied. Depending on the application, the software sizes and verifies the flow data of the network, defines the detector programming and draws up the project compliance declaration. The detector is equipped with automatic fault controls for: power supply, air flow and internal filter contamination. Serial bus for connecting optional TFT-4.3C repeater panels, which can be used to program and constantly monitor the detector's operation. Wi-Fi module and web page for monitoring and programming the detector. The connection between the detector and a PC or smartphone in Access Point mode allows the detector to be monitored and programmed. The LAN or WAN network connection only allows the detector to be monitored. Programmable functions: Prealarm and Alarm signalling thresholds, alarm signalling delay and motor speed. Signalling interface consisting of 6 LEDs and 3 relay outputs: Prealarm, Alarm and Fault. 24V DC power supply. IP3x protection rating. Operating temperature -5°C...+55°C. ABS enclosure. Colour: grey. Dimensions (L x H x D) 260 x 252 x 110 mm. EN 54-20:2006. Approval certificate: 1415-CPR-128-(C-3/2024). Item no. TF26TFONEAIRCV							

NEW	TF-ONE AIR CV01	Detector with the same technical characteristics as the TF-ONE AIR CV05 model. With programmable detection sensitivity from 0.1% to 1% obs/m. Class B (medium sensitivity). EN 54-20:2006. Approval certificate: 1415-CPR-128-(C-3/2024). Item no. TF26TFONEAIRCV							MEDIUM SENSITIVITY 0.1% obs/m

NEW	TF-ONE AIR CV005	Detector with the same technical characteristics as the TF-ONE AIR CV05 model. With programmable detection sensitivity from 0.005% to 1% obs/m. Class A (high sensitivity). EN 54-20:2006. Approval certificate: 1415-CPR-128-(C-3/2024). Item no. TF26TFONEAIRCVH							HIGH SENSITIVITY 0.005% obs/m

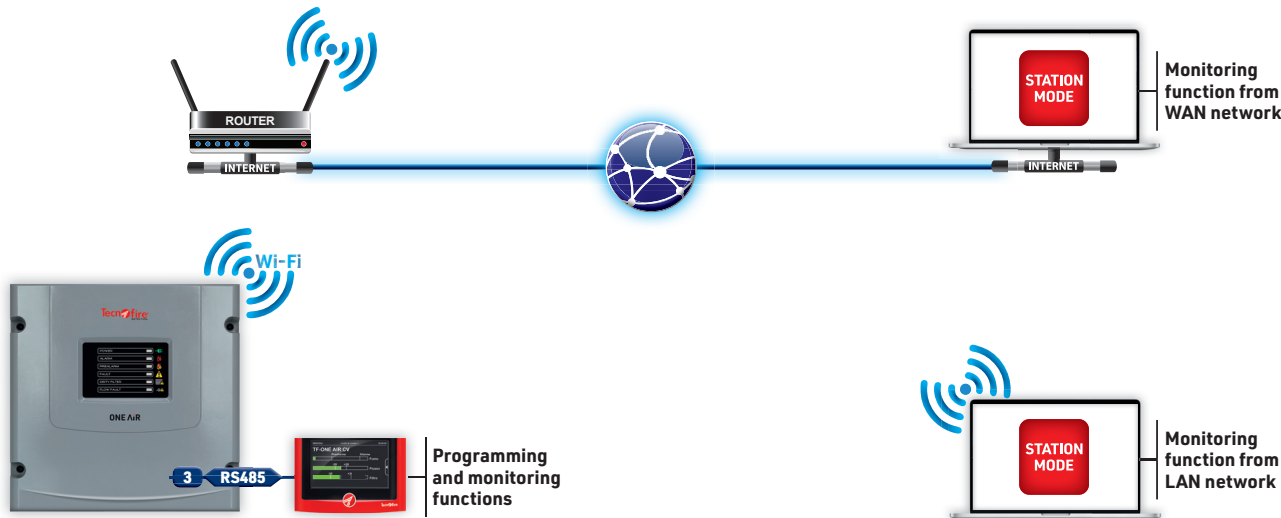


Scan the QR code to view the TF-ONE AIR detector video

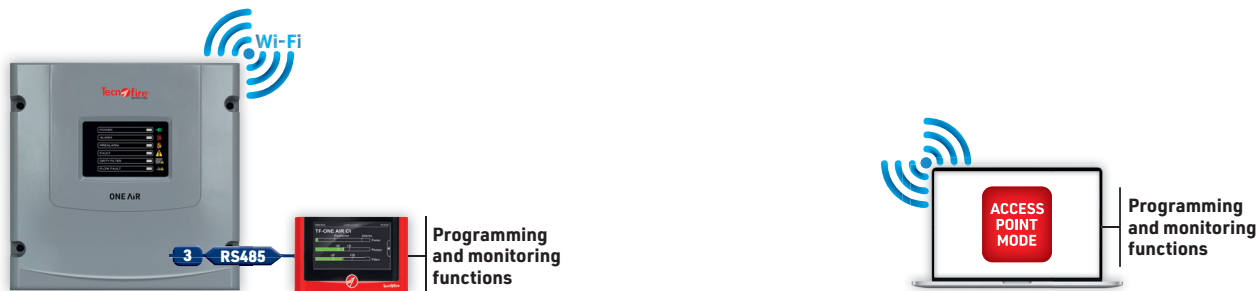
MANAGEMENT DEVICES	TFT-4.3C	Repeater panel - Detector programming and monitor	Max. 3 devices
	WI-FI	Direct connection Access point mode - Detector programming and monitor LAN/WAN connection in Station mode - Detector monitor	-
SOFTWARE	TecnoASD	Software for calculating and dimensioning the aspirating network	-

CONVENTIONAL

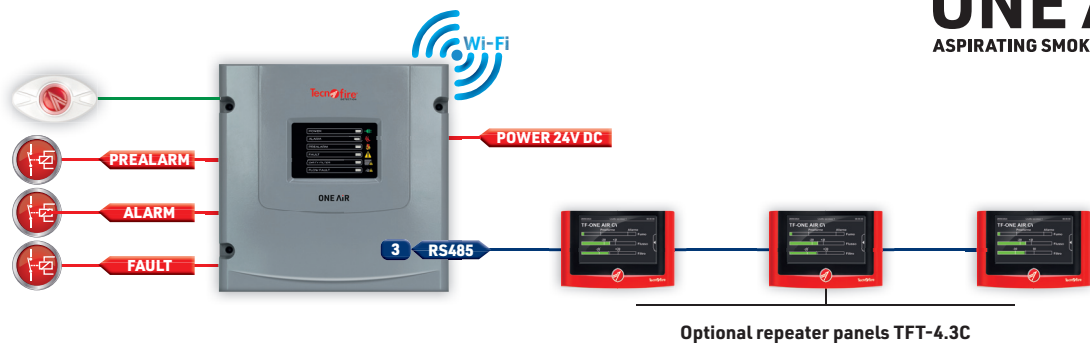
Station mode - The detector and the management device are connected via a LAN or WAN



Access Point mode - The management device is connected to the Wi-Fi network generated by the detector



TF-ONE AIR CV detector - Application diagram

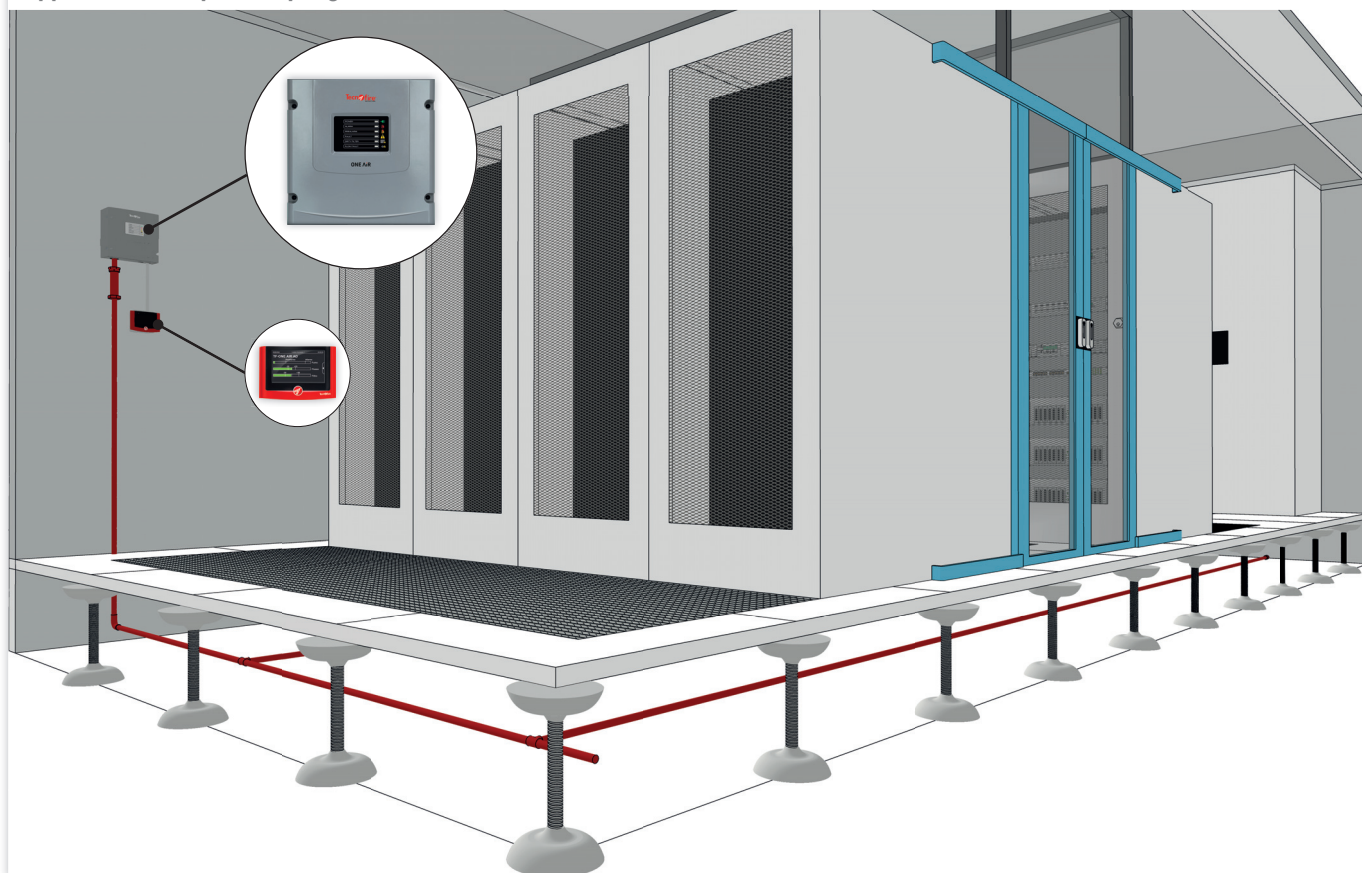


ONE AiR
ASPIRATING SMOKE DETECTOR

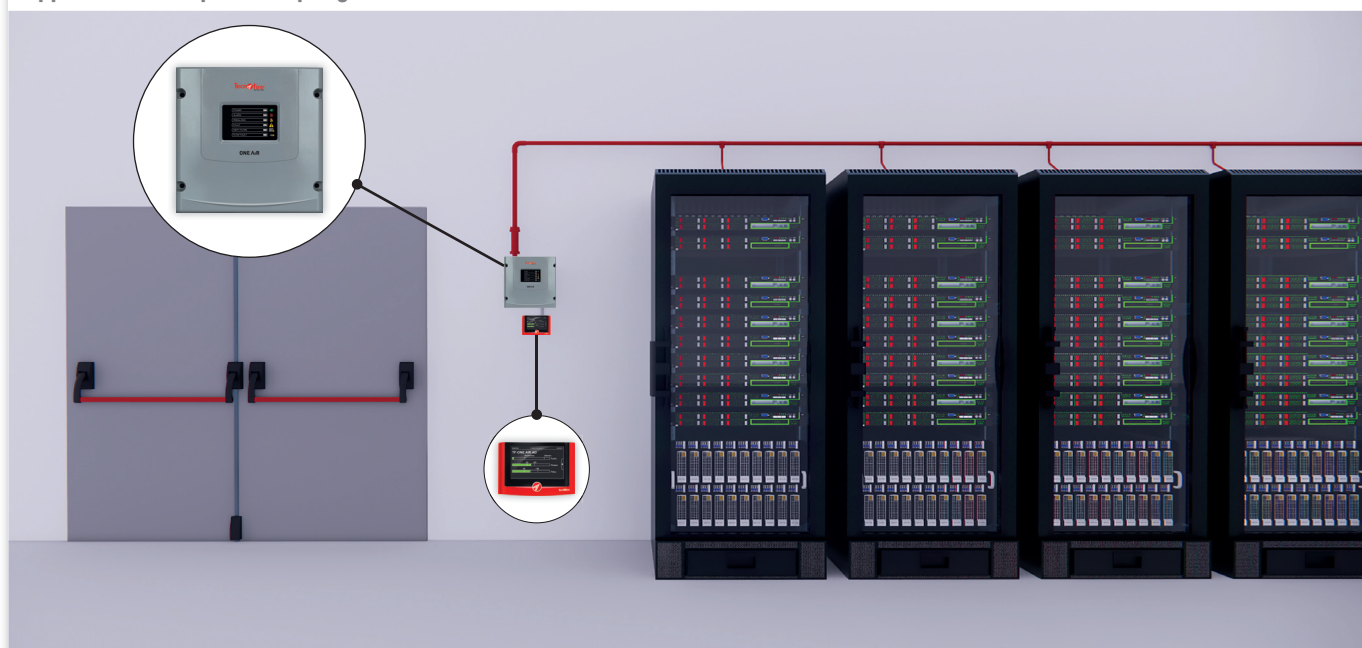
TF-ONE AIR CV - Accessories

	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

Application example: sampling inside a raised floor used as an air chamber



Application example - Sampling inside electrical cabinets



CONVENTIONAL

Aspirating smoke detectors with infrared technology

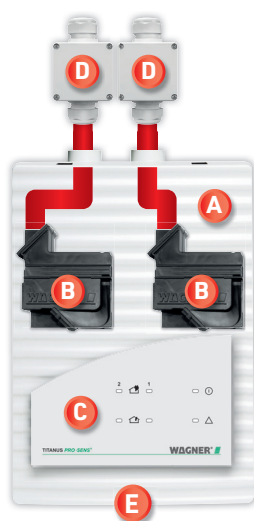
Aspirating smoke detectors equipped with an infrared detection chamber have good sensitivity and accuracy, capable of detecting small concentrations of smoke particles and revealing the onset of a fire at an early stage.

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
	Medium 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	

	TF-TF1	      
	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 $\varnothing 25\text{mm}$, 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 module 210mA, 2 modules 240mA. Protection rating IP2x (IP52 with optional kit). Dimensions (L x H x D) 200 x 292 x 113mm. Approved EN 54-20. Certification: VdS G 216069. Item no. TF10TFTF1	

	TF-DMTF50L		TF-DMTF10L
	Module with normal sensitivity. Programmable threshold obs/m: 0.5%, 0.1%. Class/holes: A/3, B/7, C/15. Coverage: A /450m², B/1050m², C/1600m². Item no. TF10TFDMTF50L		Module with medium sensitivity. Programmable threshold obs/m: 0.1%, 0.2%, 0.4%, 0.8%. Class/holes: A/8, B/12, C/20. Coverage: A-B /1200m², C /1600m². Item no. TF10TFDMTF10L
	TF-DMTF01L		TF-FWTF2
	Module with high sensitivity. Programmable threshold obs/m: 0.015%, 0.3%, 0.6%, 1.2%. Class/holes: A/8, B/12, C/20. Coverage: A-B-C/1600m². Item no. TF10TFDMTF01L		Front casing label, TF-TF1 aspirating air sampling unit. Item no. TF10TFFWTF2

TF-TP1A



EN
54-20



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 module 220mA, 2 modules 250mA. Protection rating IP2x (IP52 with optional kit). Dimensions (L x H x D) 200 x 292 x 113mm. Approved EN 54-20. Certification: VdS G 202064.

Item no. TF10TFTP1A



TF-DMTP50L

Module with normal sensitivity. Programmable threshold obs/m: 0.5%, 0.1%. Class/holes: A/4, B/12, C/32. Coverage: A-B-C/1600m².

Item no. TF10TFDMTP50L



TF-DMTP10L

Module with medium sensitivity. Programmable threshold obs/m: 0.1%, 0.2%, 0.4%, 0.8%. Class/holes: A/9, B-C/32. Coverage: A-B-C/1600m².

Item no. TF10TFDMTP10L



TF-DMTP01L

Module with high sensitivity. Programmable threshold obs/m: 0.015%, 0.3%, 0.6%, 1.2%. Class/holes: A-B-C/32. Coverage: A-B-C/1600m².

Item no. TF10TFDMTP01L



TF-FWTP2

Front casing label, TF-TP1A aspirating air sampling unit.

Item no. TF10FFWTF2

TF-TP1FA



EN
54-20



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.

Item no. TF10TFTP1FA



TF-DMTP50LF

Module with normal sensitivity. Programmable threshold obs/m: 0.5%, 0.1%. Class/holes: A/4, B/12, C/32. Coverage: A-B-C/1600m².

Item no. TF10TFDMTP50LF



TF-DMTP10LF

Module with medium sensitivity. Programmable threshold obs/m: 0.1%, 0.2%, 0.4%, 0.8%. Class/holes: A/9, B-C/32. Coverage: A-B-C/1600m².

Item no. TF10TFDMTP10LF



TF-DMTP01LF

Module with high sensitivity. Programmable threshold obs/m: 0.015%, 0.3%, 0.6%, 1.2%. Class/holes: A-B-C/32. Coverage: A-B-C/1600m².

Item no. TF10TFDMTP01LF



TF-FWTP2

Front casing label, TP1FA aspirating air sampling unit.

Item no. TF10FFWTF2

CONVENTIONAL

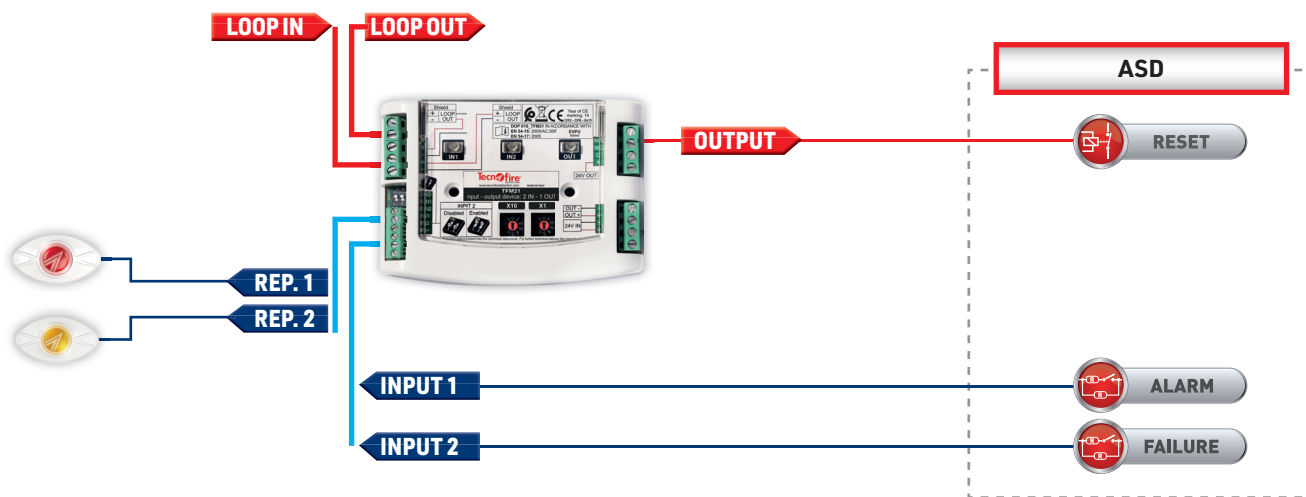
TF-TP4	      
	Aspirating air sampling unit, with modular structure, designed to accommodate 1 or 2 detection modules. Coverage 1 zone with 1 or 2 independent aspirating channels. Aspirating network: ABS pipe Ø25mm, maximum length 300m per channel. Sensitivity class: A, B, C. Programmable aspiration 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 module 220mA, 2 modules 250mA. Protection rating IP2x (IP52 with optional kit). Dimensions (L x H x D) 200 x 292 x 113mm. Approved EN 54-20. Certification: VdS G 202064.
	Item no. TF10TFTP4

	TF-DMTT50L Module with normal sensitivity. Programmable threshold obs/m: 0.5%, 0.1%. Class/holes: A/4, B/12, C/32. Coverage: A-B-C/1600m ² . Item no. TF10TFDMTT50L		TF-DMTT10L Module with medium sensitivity. Programmable threshold obs/m: 0.1%, 0.2%, 0.4%, 0.8%. Class/holes: A/9, B-C/32. Coverage: A-B-C/1600m ² . Item no. TF10TFDMTT10L
	TF-DMTT01L Module with high sensitivity. Programmable threshold obs/m: 0.015%, 0.3%, 0.6%, 1.2%. Class/holes: A-B-C/32. Coverage: A-B-C/1600m ² . Item no. TF10TFDMTT01L		TF-FWTP5 Front casing label, TF-TP4 aspirating air sampling unit. Item no. TF10TFFWTP5

TF-TP4FA	       
	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.
	Item no. TF10TFTP4FA

	TF-DMTT50LF Module with normal sensitivity. Programmable threshold obs/m: 0.5%, 0.1%. Class/holes: A/4, B/12, C/32. Coverage: A-B-C/1600m ² . Item no. TF10TFDMTT50LF		TF-DMTT10LF Module with medium sensitivity. Programmable threshold obs/m: 0.1%, 0.2%, 0.4%, 0.8%. Class/holes: A/9, B-C/32. Coverage: A-B-C/1600m ² . Item no. TF10TFDMTT10LF
	TF-DMTT01LF Module with high sensitivity. Programmable threshold obs/m: 0.015%, 0.3%, 0.6%, 1.2%. Class/holes: A-B-C/32. Coverage: A-B-C/1600m ² . Item no. TF10TFDMTT01LF		TF-FWTP5 Front casing label, TF-TP4FA aspirating air sampling unit. Item no. TF10TFFWTP5

Module TFM21 - Application scheme



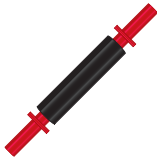
ASPIRATING SMOKE DETECTOR - Accessories

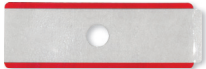
Accessories for aspirating systems, with good resistance to shocks and chemical agents.

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

CONVENTIONAL

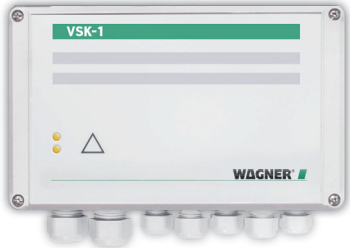
	TFCR-25 45 45° bend in ABS, outer diameter 25mm, thickness 1.9mm, PN16 red. Pack: 10 pieces. Item no. TF13TFCR2545		TFMN-25SU Openable sleeve for ABS pipe, diameter 25mm, PN16 red. Pack: 10 pieces. Item no. TF13TFMN25SU
	TFTEE-25 Bypass "T" in ABS, diameter 25mm, thickness 1.9mm, PN16 red. Pack: 10 pieces. Item no. TF13TFTEE25		TFST-25 Support bracket for ABS pipe, diameter 25mm, PN16 red. Pack: 20 pieces. Item no. TF13TFST25
	TFTP-25 Pipe cap in ABS, diameter 25mm, PN16 red. Pack: 10 pieces. Item no. TF13TFTP25		TFTEST-25 Opening cap to carry out the aspirating line test. ABS red colour, outer diameter 25mm, PN16. Pack: 10 pieces. Item no. TF13TFTEST25
	TFCLA Glue for assembly of PVC and ABS piping. 250ml can. Item no. TF13TFCLA		TFDTC-25 Bypass "T" for 25mm pipe with flexible capillary, diameter 10mm length 2m, white plate, hole 2mm. Item no. TF13TFDTC25
	TFTB-1025 Flexible Rilsan tube, outer diameter 10mm, red colour. Coil 25m. Item no. TF13TFTB1025		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-25F100 Flexible tube, length 100cm. For ABS tube, diameter 25mm. Item no. TF13TFTB25F100
	TFTB-25FLX10 Flexible PVC pipe external diameter 25mm. Pipe joint with TFMN25 pipe sleeve. Coil 10m. Item no. TF13TFTB25FLX10		TFTB-LABEL Adhesive labels to indicate the position of the hole in the aspiration network. Roll: 200 pieces. Item no. TF13TFTBLABEL
	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
			TFTBGTS24 PVC telescopic joint for ASD system piping. The joint compensates for possible expansions of the aspirating network. Maximum compensation 200mm. Item no. TF13TFTBGTS25

	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.
 TF-AFBR TF-AFXX	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.
 TF-AKC TF-AKXX	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

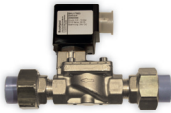
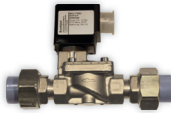
CONVENTIONAL

Automatic maintenance system

Automatic maintenance system with compressed air, for ASD aspirating pipes that operate in environments subject to low temperatures or in particularly dusty environments.

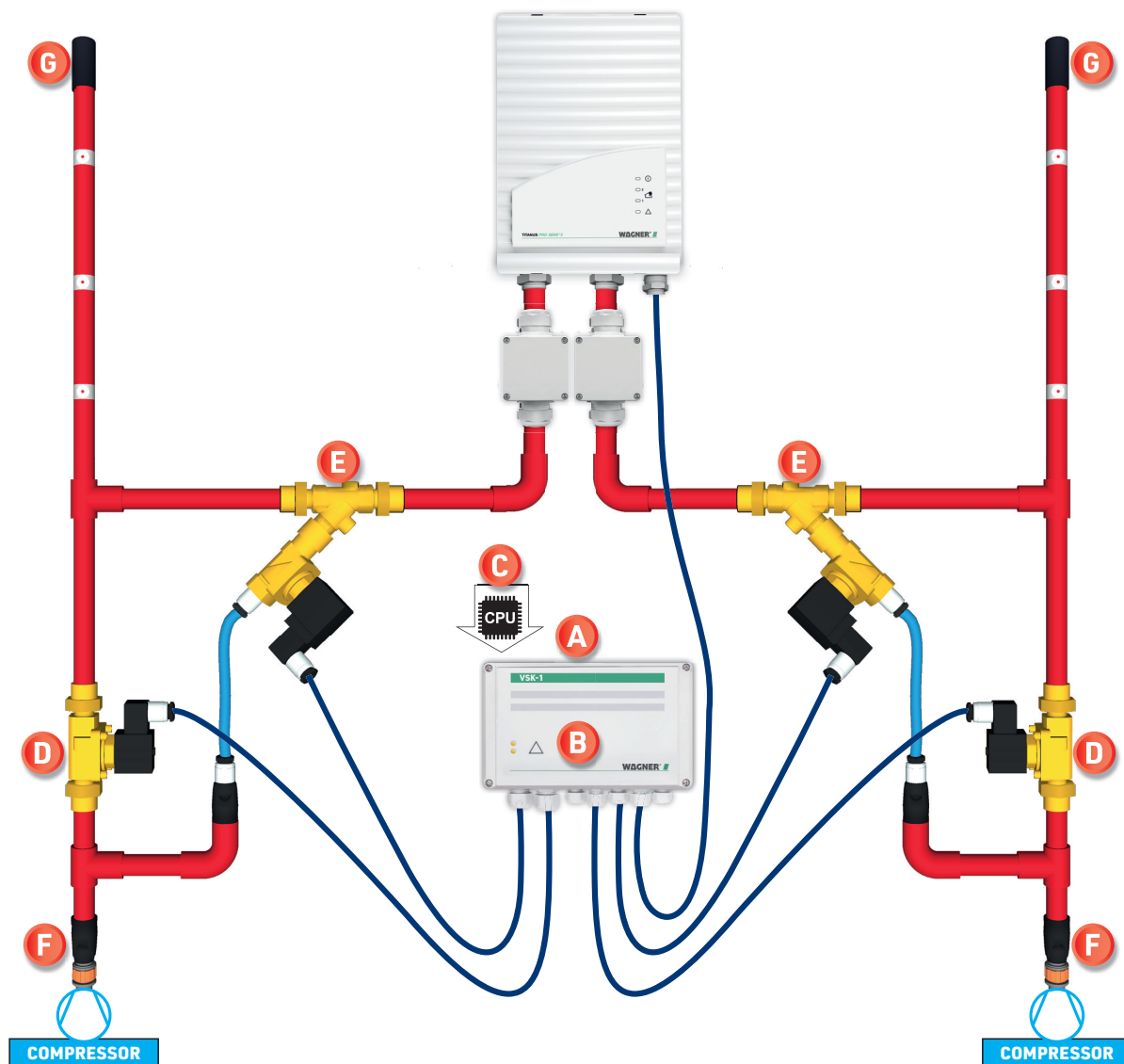
TFVSK1B		BLOWING CONTROL SYSTEM	2 CONTROL PIPES	AUTOMATIC START	PC BOX
	The TFVSK1B control panel manages the operation of the blowing and shut-off valves, for the management of one or two independent aspirating pipes. Maintenance cycle activated by external control and/or programmed every 24 hours with 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.				
	Item no. TF10TFVSK1B				

AUTOMATIC MAINTENANCE SYSTEM - Accessories

	TFMC-VC-R-8 CPU for TFVSK1B Controller. It manages the maintenance cycle for pipes that operate in particularly dusty environments. 55sec maintenance cycle run time, blow/pause ratio: 10sec / 20sec. Item no. TF10TFMCVCR8		TFMC-VC-F-4 CPU for TFVSK1B Controller. It manages the maintenance process for pipes, which operate in environments subject to low temperatures. Execution of the maintenance cycle in 55sec, blow/pause ratio: 3 x 5sec / 10sec. 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. 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. 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		TFRSV-R25 Closing cap with pressure relief valve. Material: PVC. Connection for 25mm pipe. Item no. TF10TFRSVR25
			TFFW-VC Front label for control panel TFVSK1B Item no. TF10TFFWVC

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 PARTICULARLY DUSTY ENVIRONMENTS

DEVICE	FUNCTION
A	TFVSK1B Control panel (BS unit)
B	TFFW-VC Front label
C	TFMC-VC-R-8 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. 55sec cycle run time: 1 blow of 10sec + pause 30sec.
Operating temperature -10...+60°C.

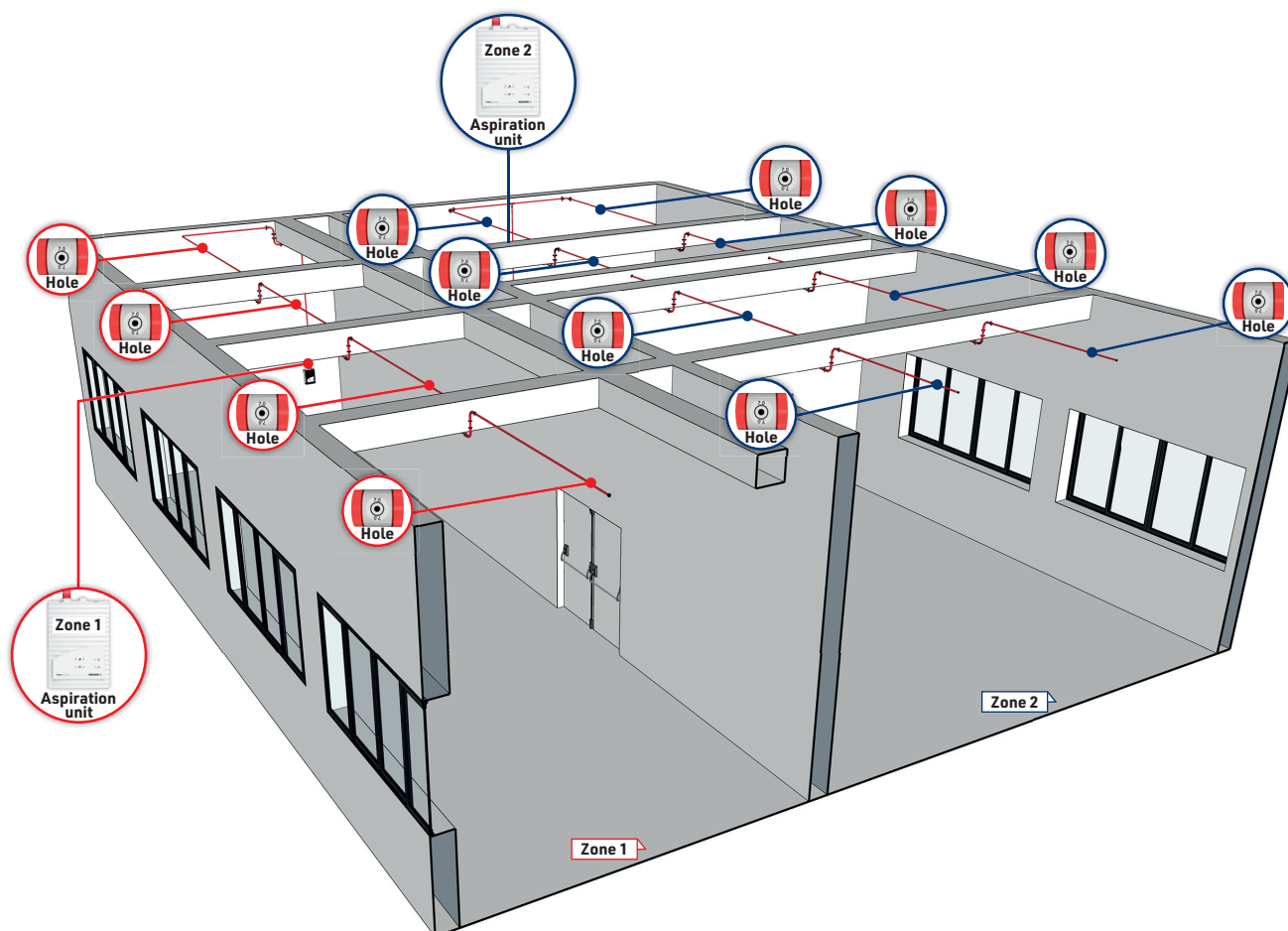
SET-UP FOR ENVIRONMENTS SUBJECT TO LOW TEMPERATURES

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

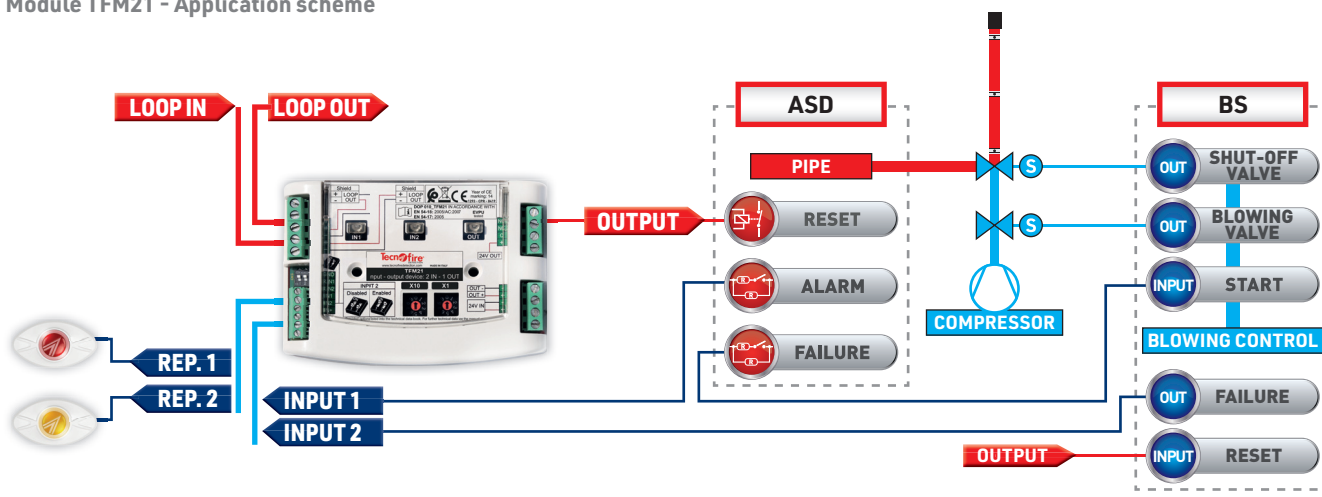
Notes - Set-up for a pneumatic maintenance channel. 55sec cycle run time: 3 blows of 5sec + 5sec pause.
Operating temperature -40°C...+60°C.

CONVENTIONAL

Application example



Module TFM21 - Application scheme



Linear optical detectors

The range of conventional optical linear detectors consists of devices using reflection or point-to-point detection techniques. The control and management units for point-to-point detectors can manage one or two pairs of transceivers. The modular TFBD-FRR 50 system can manage up to three independent detection units.

DETECTION AND ALIGNMENT TECHNIQUE	
	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.

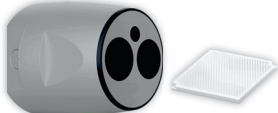
SYSTEM	TFBD-3000 120	TFBD-FR1	TFBD-FRR50	TFBD-EX
Detection technique	Point-to-point	Reflection	Reflection	Point-to-point
Optical range	5...120m	8...50m Extendable to 120m	8...50m Extendable to 120m	5...100m
Separate control unit	Yes	No	Yes	Yes
Additional detection unit	No	No	+ 2 (handles up to 3 units)	No
Management of another TX-RX pair	Yes	No	No	Yes
Relay outputs	Alarm Fault	Alarm Fault	Alarm and Fault Independent for each unit	Alarm Fault
ATEX certified	No	No	No	Yes
Protection rating	IP54	IP55	IP55	IP66

TFBD-3000 120		EN 54-12	END-TO-END TX—RX	LASER POINTER	RANGE 5÷120m	IP54
	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.					
	Item no. TF9TFBD3000120					
TFBDT-3000 120					IP54	RANGE 5÷120m
	Additional pair of transceivers for TFBD-3000-120 Controller. The multi-pair configuration doubles the useful detection area.					
	Item no. TF9TFBDT3000120					

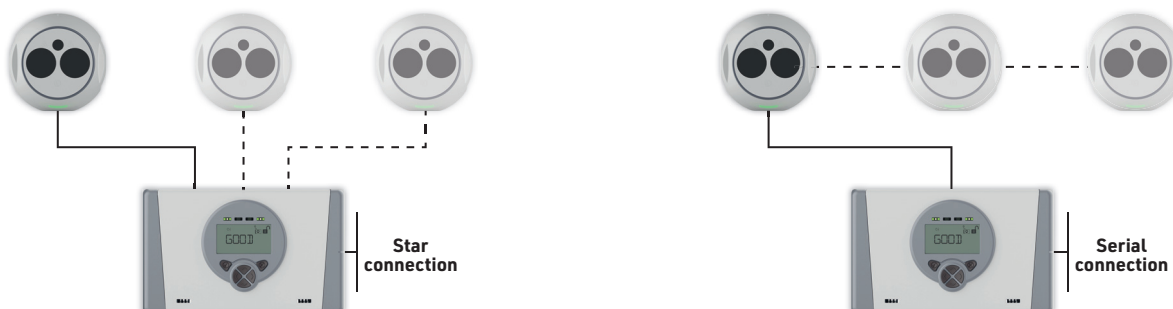
CONVENTIONAL

TFBD-FR1	EN 54-12	REFLECTION TX RX	LASER POINTER	SELF- ALIGNING	IP55	RANGE 8 ÷ 120m
	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.					
Item no. TF9TFBDFR1						

NEW	TFBD-FRR 50	EN 54-12	REFLECTION TX RX	LASER POINTER	SELF- ALIGNING	MULTI HEAD	RANGE 8 ÷ 120m	IP55
		Modular infrared linear optical smoke detection system. Reflection detection technology. The system consists of a management and control unit, a detection unit and a reflective panel. Optical range 8...50m, extendable to 120m with optional extension kit TFBD-5000 LRK. The controller can manage three additional TFBDT-FRR 50 detection units. The control and signalling interface has an LCD display, six management buttons, three LEDs for monitoring operating states, two relay outputs: Alarm and Fault. Independent LEDs and signalling relays for each detection unit. Programmable sensitivity level. Recording of system operating events. Servo-controlled laser alignment system with automatic alignment correction. Dynamic compensation for sensitivity loss due to dust settling. Excellent tolerance to vibration. Supply voltage 14...36V DC. Power consumption 12.5...17.5mA. Protection rating: controller IP65, detection unit IP55. Operating temperature -10°C...+55°C. Polycarbonate housing UL94 V0. Controller dimensions (L x H x D) 274 x 170 x 73mm. Detection unit dimensions (L x H x D) 134 x 131 x 131 mm. Approved EN 54-12. Certification: 2831-CPR-F4372.						
Item no. TF9TFBDFRR50								

NEW TFBDT-FRR 50	
	Additional detection unit and reflective panel for controller TFBD-FRR 50, optical range 8...50m, extendable to 120m with optional extension kit TFBD-5000 LRK. The controller manages the status and alarm signals of each detector independently. Item no. TF9TFBDTFRR50

TFBD-FRR 50



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

IP66

CAST
ALUMINUM
BOX



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.

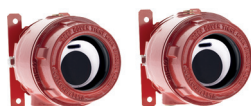
Item no. TF9TFBDEX

TFBDT-EX

TX RX
EXTRA
PAIR

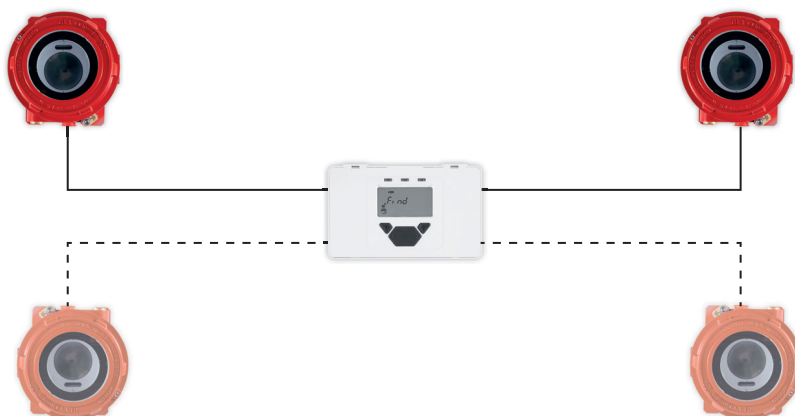
RANGE
5 ÷ 100m

IP66



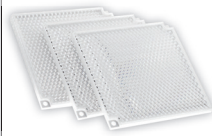
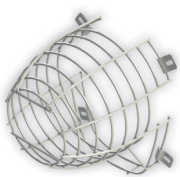
Additional pair of transceivers for TFBD-3000-120 Controller. The multi-pair configuration doubles the useful detection area.

Item no. TF9TFBDTEX

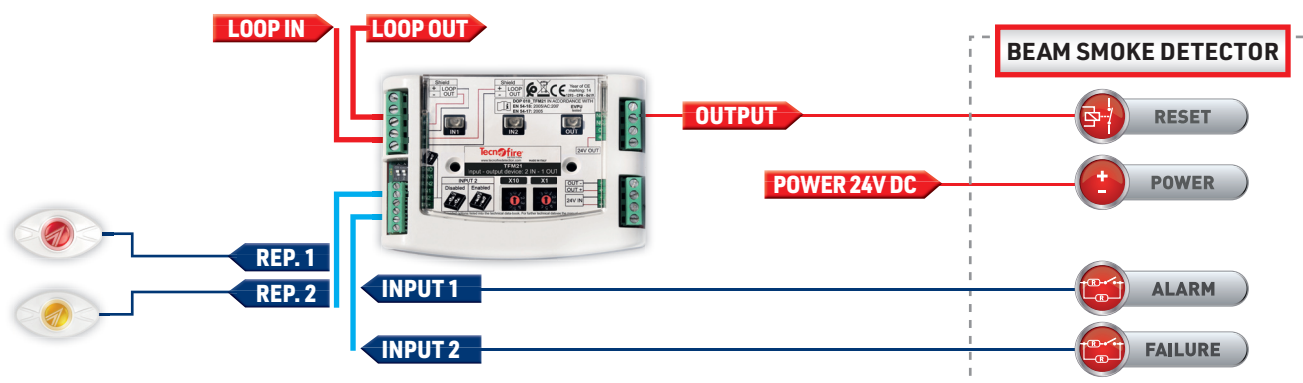


CONVENTIONAL

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. TF9TFBDOF
	TFBD-FR1 PCD Protection grille for TFBD-FR1 series linear optical detector. Protects the device from accidental collisions and vandalism. Item no. TF9TFBDFR1PCD		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-3000 FMP Wall mount of the linear optical detector TFBD-3000 series. Item no. TF9TFBD3000FMP		TFBD-SPP Mounting base for a reflective panel. The base must be mounted on the TFBD-UB accessory adjustable bracket. Item no. TF9TFBDSPP
	TFBD-5000 AB Adjustable wall mounting bracket for linear optical detector TFBD-5000, TFBD-FR1, TFBD-3000 120 series. Item no. TF9TFBD5000AB		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-PMP Fixed mounting base for reflective prism. For short or long range reflective configurations. Item no. TF9TFBDPMP

Module TFM21 - Application scheme



Manual alarm call points

Tecnofire manual call points: Ensured quality and reliability in every context. Available in the four colours required by various application contexts. Tecnofire conventional manual call points are distinguished by their robustness and weather resistance. IP55 certification guarantees flawless operation even in adverse environmental conditions. The range of available accessories completes the offer, providing the best solution for any installation requirement.

Manual alarm call points IP44

TFCP-C		EN 54-11	TYPE A	FIRE ALARM	IP44	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 41mm. With the tube box the dimension D becomes 76mm. 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				

Manual alarm call points IP55

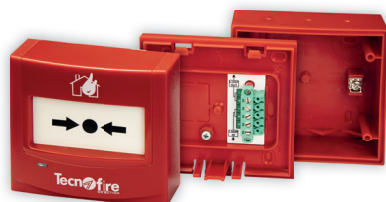
TFCP-IP55 C	EN 54-11 TYPE A IP55 PC BOX
	Resettable conventional call point, for manual fire alarm signaling. Manual operation, Type A (direct). Installation mode: with piping in visible execution with tube box. Supplied accessories: tube box, opening key and reset button. Outdoor use. Protection rating IP55. Polycarbonate casing V0. Dimensions with tube box (L x W x D) 93 x 88 x 76mm. Approved EN 54-11:2001+A1:2005.
	TFCP-IP55 CMR Item no. TF5TFCPCMRIP55 (yellow) - product not complying with EN 54
	TFCP-IP55 CES Item no. TF5TFCPCESIP55 (blue) - product not complying with EN 54
	TFCP-IP55 CAB Item no. TF5TFCPCABIP55 (green) - product not complying with EN 54

CONVENTIONAL

Manual alarm call points IP66

TFCP01-IP66		EN 54-11	TYPE A	FIRE ALARM	IP66	ABS BOX
	Conventional resettable call point, for manual fire alarm signaling. Manual operation, Type A (direct). Mounting in glass breaker or restorable version. Supplied with glass protected by safety film and key for resetting the push-button. Suitable for outdoor use. Protection rating P66. ABS V0 casing. Red colour. Dimensions (L x H x D) 86 x 86 x 53mm. Approved EN 54-11:2001+A1:2005. Certification 0832-CPD-0904.					
Item no. TF5TFCP01IP66						

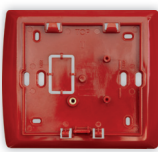
Mounting mode

Exposed with
or without tube boxWith TFCP-FRAME
adapter on 502 / 503 box

With TFCP-PLEXI sign



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

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

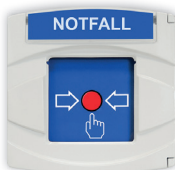
Call points for fire extinguishing systems

Call points compliant with EN 12094-3 for fire detection and extinguishing systems.
Excellent robustness guaranteed by die-cast aluminium enclosures.

Manual command call points IP43

TFCP03-MR EN		EN 12094-3	TYPE B	 MANUAL RELEASE	 IP43	 CAST ALUMINIUM BOX
	Conventional glass-breaking call point, for the command of extinguishing. Type B manual operation (double action). LED indicating operating status. Accessories supplied: glass protected by safety film and call point reset key. Surface mounting. For indoor use. IP43 protection rating. Yellow die-cast aluminium housing, 180° opening angle. Dimensions (L x H x D) 126 x 126 x 35 mm. Approved EN 12094-3. Certification VdS G218046 0786-CPR-21595.					
Item no. TF5TFCP03MREN						

TFCP03-ES EN		EN 12094-3	TYPE B	 MANUAL ABORT	 IP43	 CAST ALUMINIUM BOX
	Conventional break-glass call point, for the command of extinguishing stop. Type B manual operation (double action). LED indicator for operating status. Accessories included: glass protected by safety film and button reset key. Surface mounting. For indoor use. IP43 protection rating. Blue die-cast aluminium housing, 180° opening angle. Dimensions (L x H x D) 126 x 126 x 35 mm. Approved EN 12094-3. Certification VdS G218047 0786-CPR-21596.					
Item no. TF5TFCP03ESEN						

TFCP03-NF		TYPE B	 HOLD COMMAND	 IP43	 CAST ALUMINIUM BOX
	Conventional break-glass call point, for manual emergency "man-present" control to temporarily stop extinguishing. Type B manual operation (double action). Supplied accessories: glass protected by safety film and button reset key. Surface mounting. For indoor use. IP43 protection rating. White die-cast aluminium housing, 180° opening angle. Dimensions (L x H x D) 126 x 126 x 35 mm.				
Item no. TF5TFCP03NF					

Key selector

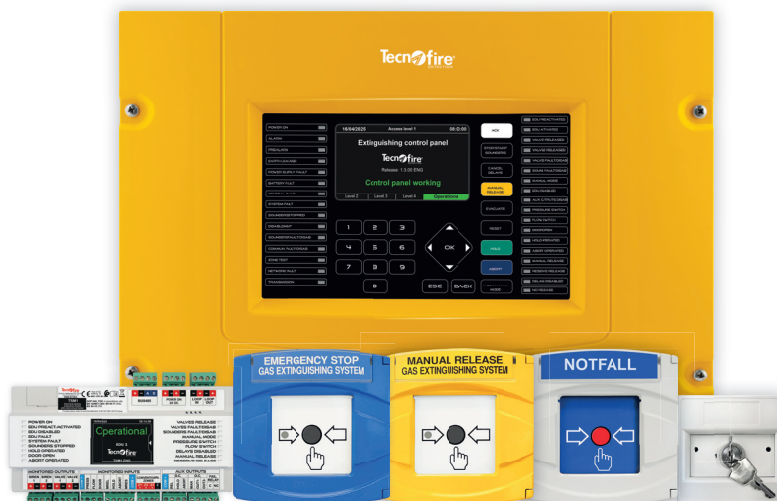
TFCP03-KS		MANUAL OR AUTOMATIC SWITCH	IP24	PC BOX
	ON/OFF key selector. The selector allows you to set the automatic/manual operating mode of extinguishing systems that require key control. Accessories supplied: 2 keys. Surface mounting. For indoor use. IP24 protection rating. V0 polycarbonate enclosure. Colour: white. Dimensions (L x H x D): 87 x 87 x 52 mm.			
Item no. TF5TFCP03KS				

CONVENTIONAL

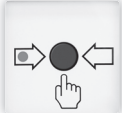
Manual command call points IP65

TFCP03-MRWP EN		EN 12094-3	TYPE B	MANUAL RELEASE	IP65	CAST ALUMINIUM BOX
	Conventional glass-breaking call point, for the command of extinguishing. Type B manual operation (double action). LED indicating operating status. Accessories supplied: glass protected by safety film and call point reset key. Surface mounting. For indoor use. IP65 protection rating. Yellow die-cast aluminium housing, 180° opening angle. Dimensions (L x H x D) 126 x 126 x 35 mm. Approved EN 12094-3. Certification VdS G218046 0786-CPR-21595.					
	Item no. TF5TFCP03MREN					
TFCP03-ESWP EN		EN 12094-3	TYPE B	MANUAL ABORT	IP65	CAST ALUMINIUM BOX
	Conventional break-glass call point, for the command of extinguishing stop. Type B manual operation (double action). LED indicator for operating status. Accessories included: glass protected by safety film and button reset key. Surface mounting. For indoor use. IP65 protection rating. Blue die-cast aluminium housing, 180° opening angle. Dimensions (L x H x D) 126 x 126 x 35 mm. Approved EN 12094-3. Certification VdS G218047 0786-CPR-21596.					
	Item no. TF5TFCP03ESWPEN					

TSA1 fire detection and extinguishing system



MANUAL COMMAND BUTTONS TFCP03 - Accessories

	TFKEY-CP03 Opening and reset key for TFCP03 series call points. Pack of 10 pieces. Item no. TF3TFRIPR		TFCP03-GLASS Replacement glass for TFCP03 series call points. Pack of 10 pieces. Item no. TF5TFCP03GLASS
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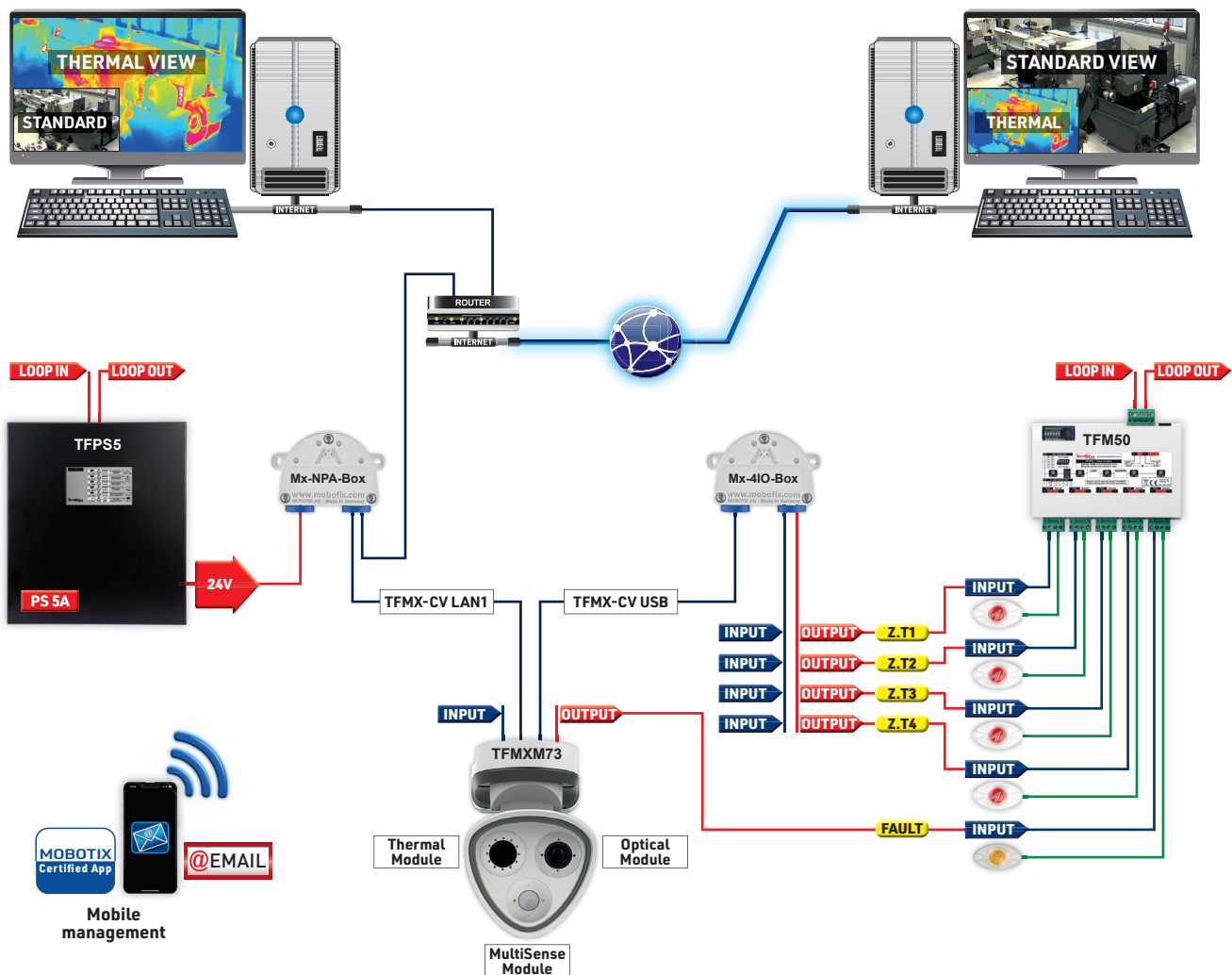
Radiometric thermal cameras

Radiometric thermal cameras offer high precision and multi-point detection capability. A single thermal camera can monitor up to 20 sensitive areas in its field of view, with independent temperature detection thresholds. Reduction of false alarms. Notification of events and possibility of rapid intervention in the presence of critical temperature values.

NEW	TFMX-M73TA 90	EN 54-10	THERMAL FIELD OF VIEW H90° - V69°	THERMAL SENSITIVITY 50 mK	IR RANGE 7.5...13.5µm	IP CAM	EMAIL	OUTDOOR -40°...+65°C	IP66	CAST ALUMINIUM BOX
		IP camera with VGA 640 x 480 Pixel @ 9fps thermal module. Thermal sensitivity 50mK, IR range 7.5 to 13.5µm. Field of view: horizontal 90°, vertical 69°. Absolute precision thermal radiometry, allows mapping and monitoring of up to 20 independent sensitive areas. Temperature measurement range -40°...550°C. Local event recording on 8GB internal memory expandable with microSD. Onvif-S/T compatibility. Video compression formats: H.264-H.265, MxPEG+ and M-JPEG. Thermal camera equipped with an interface board with one input and one output and the MultiSense service module that integrates a microphone and sensors: PIR motion, temperature and brightness. The camera body can accommodate a TFMX-OM7S optical module. Power supplied from an EN 54:4 certified external source, via TFMX-FNPAA PoE interface module. Maximum power consumption 1A @ 24V. Lan 100/1000 Mbps interface, RJ45 connector. Programming via Web-App. Management software included. Event notification via Email. USB-C service interface. Optional sound module with microphone and loudspeaker. Optional TFMX-F4IOA interface module for external device management with 4 inputs and 4 outputs. Operating temperature -40°C...+65°C. Protection rating IP66 / IK07. Die-cast aluminium enclosure complete with bracket for wall mounting. White colour. Dimensions (L x H x D) 153 x 228 x 232mm. Approved EN54-10. Certification: 1415-CPR-109-(C-2/2022). Cod. TF25TFMXM73TA90								
NEW	TFMX-M73TA 45	IP camera with VGA 640 x 480 Pixel thermal module. Same features as TFMX-M73TA 90, but with field of view: horizontal 45°, vertical 37°. Approved EN54-10. Certification: 1415-CPR-109-(C-2/2022).								THERMAL FIELD OF VIEW H45° - V37°
Cod. TF25TFMXM73TA45										
NEW	TFMX-OM7SA							OPTICAL FIELD OF VIEW H95° - V50°	IP66	ABS BOX
		Optical module for TFMX-M73TA thermal cameras. Lens with wide-angle lens and day/night IR filter. Focal length 5mm, aperture f/1.8. Field of view: horizontal 95°, vertical 50°. Image resolution 4K UHD 3840 x 2160 (8MP). WDR 120 dB. Status LED monitor. Protection rating IP66. ABS housing. Cod. TF25TFMXOM7SA								
NEW	TFMX-F4IOA	EN 54-18	GALVANIC ISOLATION	INPUTS OUTPUTS INTERFACE	OUTDOOR -30°...+60°C	IP66	ABS BOX			
		Interface module for connecting external devices. Equipped with 4 N.C. inputs, 4 relay outputs and 2 status indication LEDs. Operating temperature -30°C...+60°C. ABS enclosure. White colour. Protection rating IP66 / IK08. Encumbrance (L x H x D) 88 x 60 x 30mm. The TFMX-CV USB cable must be used for the camera interface connection. EN54-18:2005/AC:2007. Certification: 1415-CPR-126-(C-2/2022). Cod. TF25TFMXF4IOA								
NEW	TFMX-FNPAA	EN 54-18	PoE INJECTOR 24V DC	OUTDOOR -30°...+60°C	IP66	ABS BOX				
		Power supply interface module. Equipped with: 1 input, 1 PoE power output and 1 RJ45 plug for network connection. Operating temperature -30°C...+60°C. ABS housing. Colour: white. Protection rating: IP66 / IK08. Dimensions (L x H x D): 88 x 60 x 30mm. The TFMX-CV LAN1 cable must be used to connect the thermal imaging camera interface. EN54-18:2005/AC:2007. Certification: 1415-CPR-126-(C-2/2022). Cod. TF25TFMXFNPAA								

CONVENTIONAL

NEW	TFMX-APPTVA	The MOBOTIX Thermal Validation app includes the following functions. Management of temperature measurement area thresholds. Detection of vehicles and filtering of relevant notifications. Notification of change events of temperature thresholds, monitored areas. Detection and notification of physical manipulation of the temperature sensor.
		
	Cod. TF25TFMXAPPTVA	



RADIOMETRIC THERMAL CAMERAS - Accessories

	TFMX-CV LAN1		TFMX-CV USB
	Ethernet patch cable for MOBOTIX systems. 2 RJ45 connectors with sealing ring and sealing cap. Length 1m.		Mini USB-C cable for connecting the interface module TFMX-F4IOA. Length 5m.
	Cod. TF25TFMXCVLAN1		Cod. TF25TFMXCVUSB

Optical flame detectors

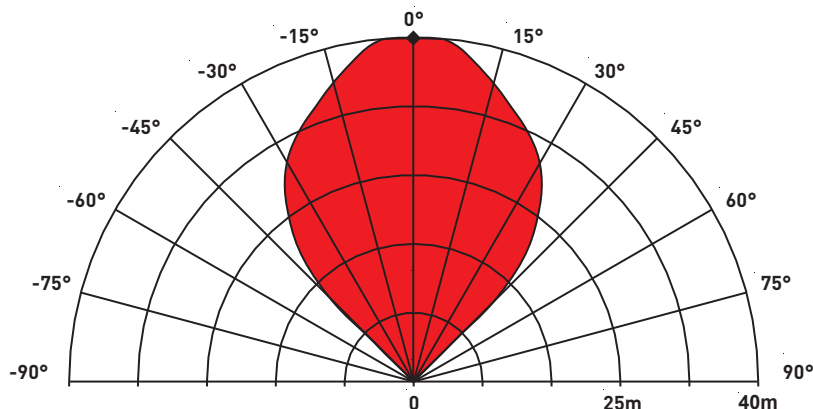
ATEX optical point flame detectors

ATEX point flame detectors are designed to ensure safety in potentially explosive environments, such as chemical, petroleum and flammable material processing industries. ATEX certification ensures that the devices meet the rigorous safety standards necessary to operate in conditions where the risk of explosion is latent.

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: 2831-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: 2831-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: 2831-CPR-F0579. Item no. TF14TFDFUVIR2EX

TFDF-EX UVIR2 - DETECTION FEATURES			
FLAME COLOUR	FLAME SIZE	FLAME DISTANCE	AVERAGE RESPONSE TIME
Yellow	0.3 x 0.3m	25m	12s
White	0.5 x 0.5m	25m	25s
Non visibile	0.1 x 0.5m	12m	8s

Field of view

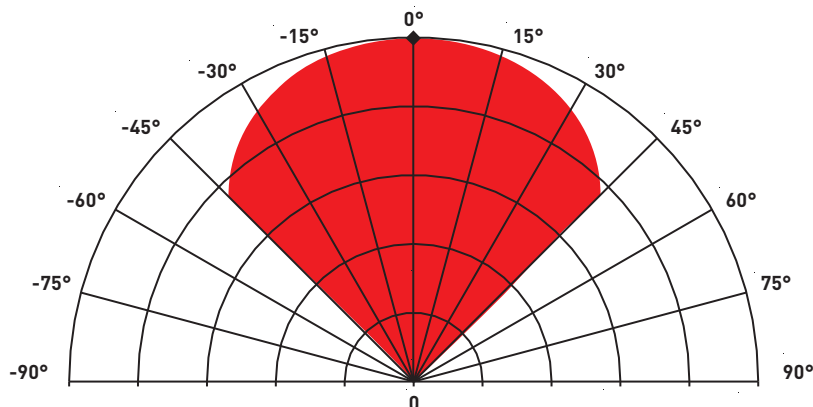


CONVENTIONAL

TFDF-OGUV		EN 54-10	CLASS 2	ATEX CATEGORY II 3 G D	ATEX ZONE 2 22	1 x UV DETECTION	
	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						
	Item no. TF14TFDFOGUV						
TFDF-OGUVIR	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					CLASS 2	1 x IR 1 x UV DETECTION
	Item no. TF14TFDFOGUVIR						
TFDF-OGIR3	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					CLASS 1	3 x IR DETECTION
	Item no. TF14TFDFOGIR3						

TFDF-OGUV - DETECTION FEATURES			
COMBUSTIBLE	FLAME SIZE	FLAME DISTANCE	AVERAGE RESPONSE TIME
Heptane	0.3 x 0.3m	23m	<10s
Alcohol	0.5 x 0.5m	18.3m	<10s

Field of view



Optical point flame detectors

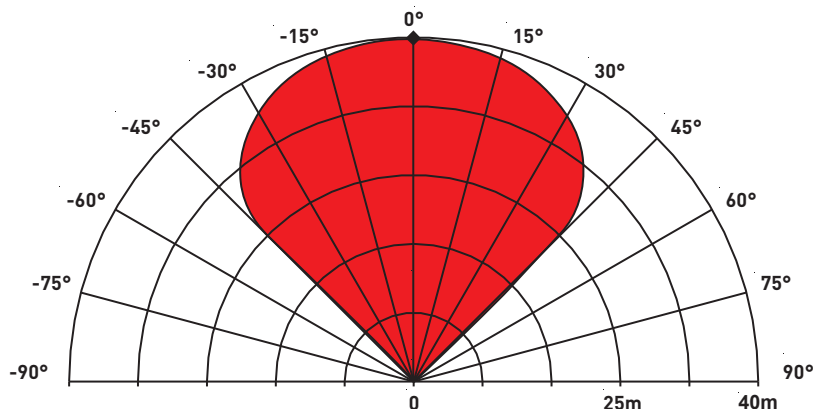
Point flame detectors designed to detect radiation emitted in the infrared (IR) and ultraviolet (UV) band. The range consists of three models with multipoint infrared or combined infrared and ultraviolet detection technology. They are used to monitor environments and installations where there is a high risk of fire.

TFDF IR2		EN 54-10	CLASS 1	SIL2	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 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: 2831-CPR-F0582.					
	Item no. TF14TFDFIR2					
TFDF IR3			CLASS 1		3 x IR DETECTION	
	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: 2831-CPR-F0583.					
	Item no. TF14TFDFIR3					
TFDF UVIR2			CLASS 1		2 x IR 1 x UV DETECTION	
	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: 2831-CPR-F0584.					
	Item no. TF14TFDFUVIR2					

TFDF UVIR2 - DETECTION FEATURES

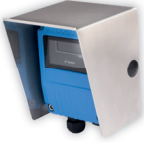
FLAME COLOUR	FLAME SIZE	FLAME DISTANCE	AVERAGE RESPONSE TIME
Yellow	0.3 x 0.3m	25m	4s
White	0.5 x 0.5m	25m	6s
Non visibile	0.1 x 0.5m	12m	8s

Field of view

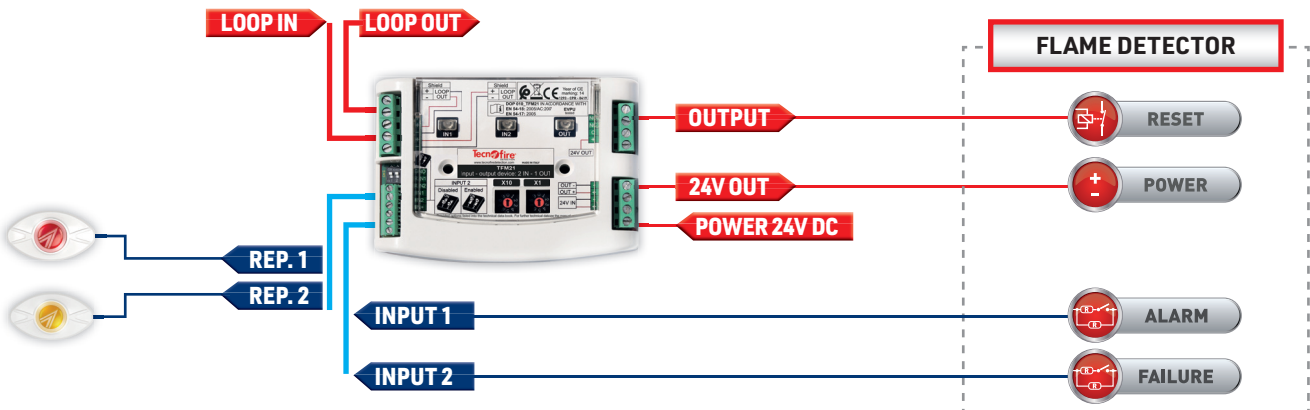


CONVENTIONAL

OPTICAL FLAME DETECTORS - Accessories

	TFDF-SSWS Protective cover for TFDF series flame detectors. Item no. TF14TFDFSSWS		TFDF-WSSS Protective cover for TFDF-EX series flame detectors. Item no. TF14TFDFWSSS
	TFDF-SSAM 2-axis swivel mounting bracket for TFDF series flame detectors. Item no. TF14TFDFSSAM		TFDF-FT Test unit for flame detectors: UVIR2, IR2, IR3, EXUVIR2, EXIR2, EXIR3. Item no. TF14TFDFFT
	TFDF-OGSSAM Adjustable mounting bracket on two axes, for TFOG series flame detectors. Indoor and outdoor use. Item no. TF14TFOGSSAM		TFDF-TEST LMP Test lamp with battery and charger for detectors: TFDF-OGIR3, TFDF-OGUV and TFDF-OGUVIR. Detection range 4m.
			TFDF-OGFTEX EX test lamp with battery and charger for detectors: TFDF-OGIR3, TFDF-OGUV and TFDF-OGUVIR. Detection range 4m. Item no. TF14TFDFOGFTEX

Module TFM21 - Application scheme



Electronic heat detectors

Electronic thermal detectors, detect temperature changes in static and/or rate-of-rise mode.

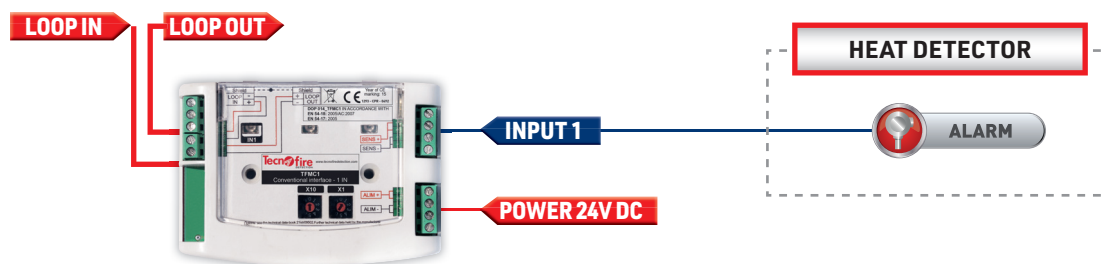
The detector's thermal class and rate-of-rise suffix and other operating attributes are programmed as required at the factory.

TFDC-TR4		EN 54-5		HEAT	RATE-OF-RISE	OUTDOORS -20°+110°	CAST ALUMINUM BOX	
	Electronic point heat detector. High detection reliability, ideal for use in hazardous industrial area 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.							
	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
	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.							
	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

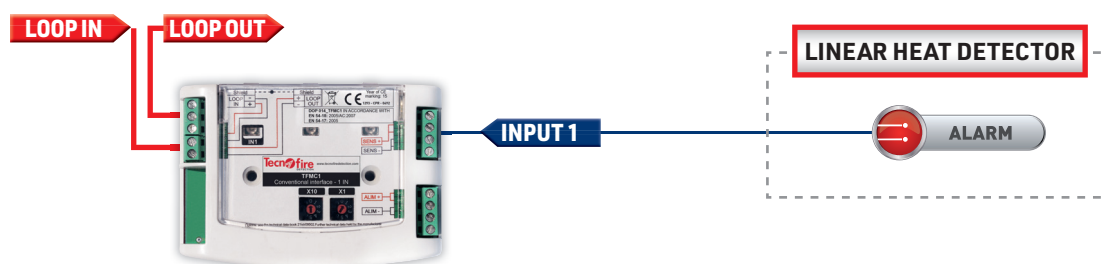
Linear heat detectors

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		EN 54-28	CPR EU 305/11	HEAT-SENSITIVE 68°C	TWISTED CABLE	EN 50575	INDOORS OUTDOORS MAX +40°	
	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. Item no. TF12TFCTS68EN							
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. Item no. TF12TFCTS88EN						HEAT-SENSITIVE 88°C	
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. Item no. TF12TFCTS105EN						HEAT-SENSITIVE 105°C	
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. Item no. TF12TFCTS138EN						HEAT-SENSITIVE 138°C	
TFCTS-68 ULFM		UL FM	HEAT-SENSITIVE 68°C	TWISTED CABLE	INDOORS OUTDOORS -40° +46°			
	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. Item no. TF12TFCTS68ULFM							
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. Item no. TF12TFCTS105ULF						HEAT-SENSITIVE 105°C	INDOORS OUTDOORS -40° +79°

Module TFMC1 - Application scheme



Alarm devices

Optical-acoustic alarm devices

The range of optical-acoustic alarm devices includes VID and VAD optical signalling units for indoor and outdoor use. The VID TFES01 outdoor unit is self-powered, while the VAD units are equipped with the optical signalling synchronisation function.

OPTICAL-ACOUSTIC ALARM DEVICES	TFES01 VID - Type B	TFSL20 VAD - Type A	TFSL20-WP VAD - Type B
Maximum sound pressure	107dB(A) @ 1m	100dB(A) @ 1m	100dB(A) @ 1m
Optical coverage	-	W-4-9 Volume 324m ³	W-4-9. Volume 324m ³
Self-powered	Yes	No	No
Sound modes	15	32	32
Synchronised optical signalling	-	Yes	Yes
Protection rating	IP33C For outdoors	IP21 For indoors	IP65 For outdoors

TFES01		 EN 54-3	 VID VISUAL INDICATION DEVICE	 SOUND LEVEL 107dB(A) @1m	 SELF- POWERED	 SELF TEST	 IP33C	 PC ABS BOX
		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.						
		Item no. TF7TFES01						

TFSL20									
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.									
Item no. TF7TFSL20									

TFSL20-WP		EN 54-3 54-23 VAD VISUAL ALARM DEVICE CATEGORY W 4-9 324m³ COVERAGE VOLUME SOUND LEVEL 100dB(A) @1m 2 ALARM CONTROL INPUTS IP65 PC ABS BOX								
		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 IP65. Outdoor use. Operating temperature -10°C...+55°C. ABS PC casing. Red colour. Dimensions (L x H x D) 121 x 118 x 63mm. Approved EN 54-3 - EN 54-23. Certification: 2852-CPR-0116.								
		Item no. TF7TFSL20WP								

CONVENTIONAL

Optical alarm devices

The range of optical alarm devices includes indoor and outdoor VAD devices that emit an optical signal with white or red light. Almost all devices are equipped with the optical signalling synchronisation function.

OPTICAL ALARM DEVICE	TFL10W VAD - Type A	TFL10R VAD - Type A	TFL20W VAD - Type A
Optical coverage	W-4-9. Volume 324m ³	W-3,5-5,8 Volume 118m ³	C-3-7,5 Volume 132m ³
Optical signaling	White light	Red light	White light
Synchronised optical signalling	Yes	Yes	Yes
Protection rating	IP21 For indoors	IP21 For indoors	IP21 For indoors

TFL10W		EN 54-23	VAD VISUAL ALARM DEVICE	WHITE LED	CATEGORY W 4-9	324m³ COVERAGE VOLUME	IP21	ABS BOX
	Optical fire alarm device VAD category W. Wall mounting. 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) 118 x 106 x 42mm. Approved EN 54-23. Certification: 2852-CPR-0121.							
Item no. TF7TFL10W								

TFL10R		EN 54-23	VAD VISUAL ALARM DEVICE	RED LED	CATEGORY W 3-8.8	232m³ COVERAGE VOLUME	IP21	ABS BOX
	Optical fire alarm device VAD category W. Wall-mounted. Optical W-3-8.8. Volume 232m³. Red flashing light. Programmable optical coverage. Power supply voltage 9...60V DC. Maximum consumption in signaling 11mA. Indoor use. Protection rating IP21. Operating temperature -10°C...+55°C. ABS casing. Red colour. Dimensions (L x H x D) 118 x 106 x 42mm. Approved EN 54-23. Certification: 2852 CPR - 0209.							
Item no. TF7TFL10R								

TFL20W	EN 54-23	VAD VISUAL ALARM DEVICE	WHITE LED	CATEGORY C 3-7.5	132m³ COVERAGE VOLUME	IP21	POLYAMIDE BOX
	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.						
Item no. TFL20W							

OPTICAL ALARM DEVICE	TFL10W-WP VAD - Type B	TFL10R-WP VAD - Type B	TFL30W VAD - Type B	TFL30R VAD - Type B
Optical coverage	W-4-9. Volume 324m ³	W-3,5-5,8 Volume 118m ³	W-4,3-11,5 Volume 568m ³ O-9-5,8 Volume 237m ³	W-2,9-7,9 Volume 180m ³ O-6-4,1 Volume 79m ³
Optical signaling	White light	Red light	White light	Red light
Synchronised optical signalling	Yes	Yes	Yes	Yes
Protection rating	IP65 For outdoors	IP65 For outdoors	IP66 For outdoors	IP66 For outdoors

TFL10W-WP	EN 54-23	VAD VISUAL ALARM DEVICE	WHITE LED	CATEGORY W 4-9	324m³ COVERAGE VOLUME	IP65	ABS BOX
	Optical fire alarm device VAD category W. Wall mounting. 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. Outdoor use. Protection rating IP65. Operating temperature -10°C...+55°C. ABS casing. Red colour. Dimensions (L x H x D) 118 x 106 x 62mm. Approved EN 54-23. Certification: 2852-CPR-0120.						
Item no. TF7TFL10WWP							

TFL10R -WP	EN 54-23	VAD VISUAL ALARM DEVICE	RED LED	CATEGORY W 3-8.8	232m³ COVERAGE VOLUME	IP65	ABS BOX
	Optical fire alarm device VAD category W. Wall mounting. Optical Coverage W-3-8.8. Volume 232m³. Red flashing light. Programmable optical coverage. Power supply voltage 9...60V DC. Maximum consumption in signaling 11mA. Outdoor use. Protection rating IP65. Operating temperature -10°C...+55°C. ABS casing. Red colour. Dimensions (L x H x D) 118 x 106 x 62mm. Approved EN 54-23. Certification: 2852-CPR-0210.						
Item no.TF7TFL10RWP							

NEW	TFL30W								
		EN 54-23	VAD VISUAL ALARM DEVICE	WHITE LED	TYPE W-4.3-11.5	TYPE C-9-5.8	IK08	IP66	PC BOX
	Optical fire alarm device VAD. White flashing light. Categories W and C. Wall mounting optical coverage: W-4.3-11.5. Volume 568m³. Ceiling installation optical coverage: C-9-5.8. Volume 237m³. Integrated NFC module for programming. Power supply voltage 24V DC. Maximum consumption in signalling 800mA. Area of use outdoor. Protection rating IP66-IK08. Operating temperature -30°C...+70°C. PC housing. Colour: red base, white dome. Dimensions (L x H x D) 160 x 98.5 x 114mm. Approved EN 54-23. Certification: 2852 CPR - 0219.								
Item no. TF7TFL30W									

NEW	TFL30R								
		EN 54-23	VAD VISUAL ALARM DEVICE	RED LED	TYPE W-2.9-7.9	TYPE C-6-4.1	IK08	IP66	PC BOX
		Optical fire alarm device VAD. Red flashing light. Categories W and C. Wall mounting optical coverage: W-2.9-7.9. Volume 180m³. Ceiling installation optical coverage: C-6-4.1. Volume 79m³. Integrated NFC module for programming. Power supply voltage 24V DC. Maximum consumption in signalling 800mA. Area of use outdoor. Protection rating IP66-IK08. Operating temperature -30°C...+70°C. PC housing. Colour: red base, white dome. Dimensions (L x H x D) 160 x 98.5 x 114mm. Approved EN 54-23. Certification: 2852 CPR - 0219.							
		Item no. TF7TFL30R							

CONVENTIONAL

Acoustic alarm devices

The range of acoustic alarm devices includes indoor and outdoor devices.

ACOUSTIC ALARM DEVICES	TFS05 Type B	TFS10 Type A	TFS10-WP Type B
Maximum sound pressure	120dB(A) @ 1m	105dB(A) @ 1m	105dB(A) @ 1m
Sound modes	67	15	15
Protection rating	P66/IP69K-IK08 For outdoors	IP21 For indoors	IP65 For outdoors

NEW HIGH-POWER	TFS05	EN 54-3	SOUND LEVEL 120dB(A) @1m	4 ALARM CONTROL INPUTS	IK08	IP66	PC BOX
	 High-power acoustic fire alarm device. Wall mounting. Maximum sound pressure 120dB(A) @ 1m. 4 control inputs for different alarm modes. Integrated NFC module for programming. Programmable functions: 67 sound modes, 8 volume levels. Power supply voltage 24V DC. Maximum consumption in signaling 730mA. Protection rating IP66/IP69K-IK08. Outdoor use. Operating temperature -40°C...+60°C. PC casing. Red colour. Dimensions (L x H x D) 230 x 190 x 190mm. EN 54-3. Certification: 2852 CPR - 0216. Item no. TF7TFS05						

TFS10	EN 54-3	SOUND LEVEL 105dB(A) @1m	2 ALARM CONTROL INPUTS	IP21	ABS BOX
 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. Item no. TF7TFS10					

TFS10-WP	EN 54-3	SOUND LEVEL 105dB(A) @1m	2 ALARM CONTROL INPUTS	IP65	ABS BOX
 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 IP65. Outdoor use. Operating temperature -10°C...+55°C. ABS casing. Red colour. Dimensions (L x H x D) 121 x 118 x 63mm. Approved EN 54-3. Certification: 2852-CPR-0118. Item no. TF7TFS10WP					

Optical-acoustic panels

The range of optical-acoustic panels includes VID and VAD optical signalling devices.

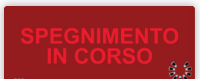
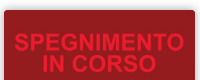
OPTICAL-ACOUSTIC PANELS	TFPAN-04 VAD - Type A	TFPAN-05 VID - Type A	TFPAN-06 VID - Type A
Maximum sound pressure	92dB(A) @ 1m	88dB(A) @ 1m	92dB(A) @ 1m
Optical coverage	W-4,6-9,1 Volume 15m ³	-	-
Protection rating	IP21C For indoors	IP54 For outdoors	IP21C For indoors

TFPAN-04	     
 Optical-acoustic fire alarm panel, VAD category W. Optical coverage W-4.6-9.1. Interchangeable signaling film. Sound pressure 92dB(A) @ 1m. Surface or semi-flush mounting on box type 503. Power supply voltage 24V DC. Maximum consumption in 50mA signal. Protection rating IP21C. Operating temperature -10°C...+55°C. ABS casing. White colour. Semi-flush mounting. Dimensions (L x H x D) 292 x 130 x 14mm. Approved EN 54-3 - EN 54-23. Certification: 1328-CPR-0427.	
Item no. TF7TFPAN04-UK	

TFPAN-05	    
 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. Power supply voltage 24V DC. Maximum consumption in signaling 100mA. Protection rating IP54. Operating temperature -10°C...+50°C. ABS casing. White colour. Semi-flush mounting. Dimensions (L x H x D) 365 x 147 x 50mm. Approved EN 54-3. Certification: 0051-CPD-0256.	
Item no. TF7TFPAN05-UK	

TFPAN-06	   
 Optical-acoustic fire alarm panel, VID. Interchangeable signaling film. Sound pressure 92dB(A) @ 1m. Surface or semi-flush mounting on box type 503. Power supply voltage 24V DC. Maximum consumption in signaling 40mA. Protection rating IP21C. Operating temperature -10°C...+55°C. ABS casing. White colour. Semi-flush mounting. Dimensions (L x H x D) 292 x 130 x 14mm. Approved EN 54-3. Certification: 1328-CPR-0584.	
Item no. TF7TFPAN06-UK	

OPTICAL-ACOUSTIC PANELS - Accessories

	TFPELL5-EL Replacement film not available with English text Not available		TFPELL5-SC Replacement film not available with English text Not available
	TFPELL4-AG Replacement film for TFPAN-04 and TFPAN-6 "GAS ALARM". Item no. TF7TFPELL4AG-UK		TFPELL4-EL Replacement film for TFPAN-04 and TFPAN-6 "PLEASE EVACUATE". Item no. TF7TFPELL4EL-UK
			TFPELL4-SC Replacement film for TFPAN-04 and TFPAN-6 "DO NOT ENTER EXTINGUISHING IN PROGRESS". Item no. TF7TFPELL4SC-UK

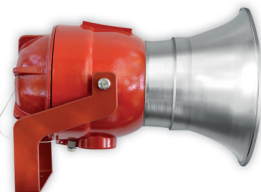
CONVENTIONAL

ATEX technology alarm devices

ATEX technological alarm devices are designed to ensure safety in potentially explosive environments, where the presence of flammable gases, vapours or dusts can cause significant risks.
These devices comply with the ATEX directive, which establishes safety requirements for equipment used in such atmospheres.

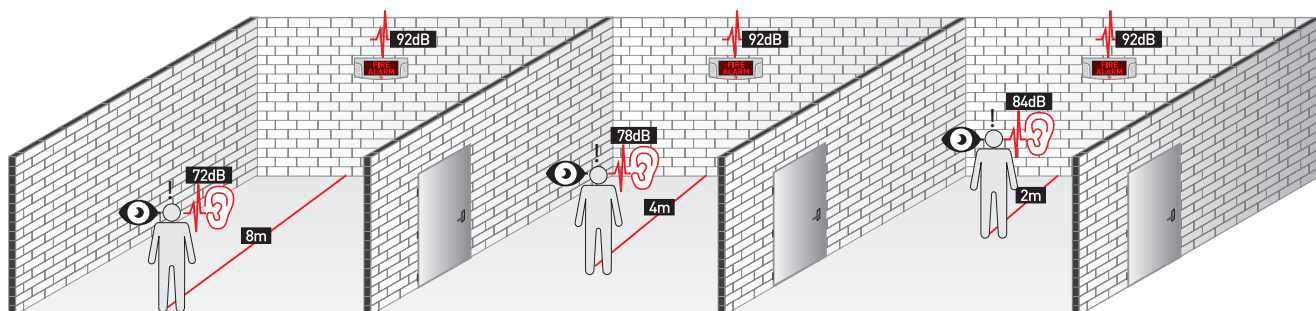
ATEX TECHNOLOGY ALARM DEVICES	TFL06-EX	TFS06-EX	TFS07-EX
ATEX category	ATEX II 2 G D	ATEX II 2 G D	ATEX II 2 G D
Hazardous areas	Zones: 1 - 2 - 21 - 22	Zones: 1 - 2 - 21 - 22	Zones: 1 - 2 - 21 - 22
Optical signaling	Xenon flash Red light	-	-
Maximum sound pressure	-	102dB(A) @ 1m	105dB(A) @ 1m
Operating temperature	-20°C...+60°C	-20°C...+55°C	-50°C...+60°C
Protection rating	IP65	IP65	IP6x

TFL06-EX	ATEX CATEGORY II 2 G D ATEX ZONE 1 2 21 22 XENON FLASH IP65 CAST ALUMINUM BOX
	Optical signaling device for technology alarm. 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. Item no. TF7TFL06EX

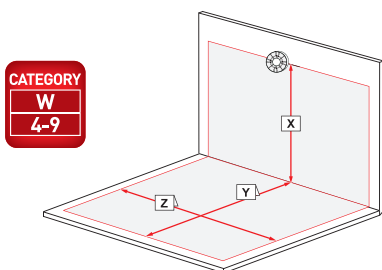
TFS06-EX	ATEX CATEGORY Ex II 2 G D ATEX ZONE 1 2 21 22 SOUND LEVEL 102dB(A) @1m IP65 CAST ALUMINUM BOX
	Acoustic technological alarm device. Hazardous areas - Zones: 1, 2, 21, 22. Sound pressure 102dB(A) @ 1m. Programmable functions, alarm tone, 32 modes. Surface mounting on adjustable mounting bracket. 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.
Item no. TF7TFS06EX	

TFS07-EX		ATEX CATEGORY Ex II 2 G D	ATEX ZONE 1 2 21 22	SOUND LEVEL 105dB(A) @1m	IP6x	CAST ALUMINUM BOX
	Acoustic technological alarm device. 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.					
Item no. TF7TFS07EX						

Sound attenuation with distance

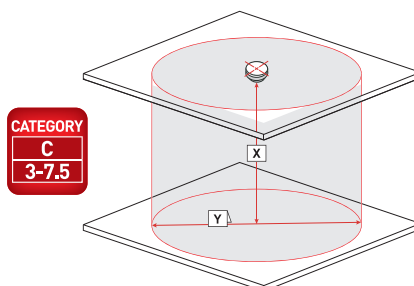


VAD category W wall mounted



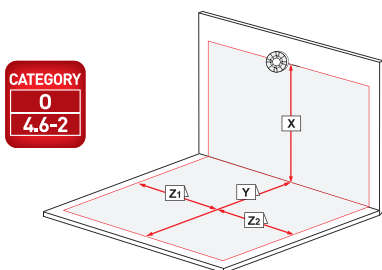
The first digit indicates the maximum installation height $X=4m$, the second digit indicates the width and length of the cover cube $Y=9m$.

VAD category C ceiling mounted



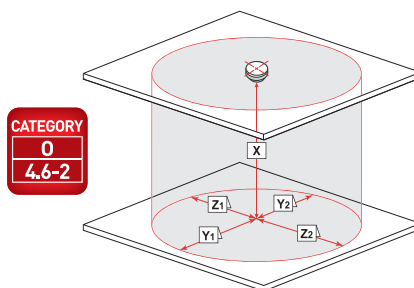
The first digit indicates the maximum installation height $X=3m$, the second digit indicates the diameter of the cover cylinder $Y=7.5m$.

VAD category O wall mounted



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 ($Z1+Z2$).

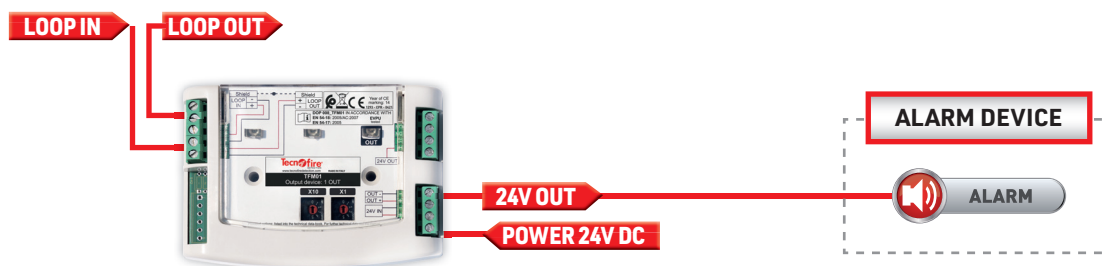
VAD Category O ceiling mounted



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 ($Z1+Z2$).

N.B. The digits indicated on the labels: Z1, Z2, Y1, Y2, may be different, to indicate asymmetrical optical coverage.

Module TFM01 - Application scheme



Test equipment

Test equipment available in three different configurations allows the removal and testing of point detectors: optical smoke, thermal and thermovelocimetric. To test the operation of optical smoke detectors, we use an environmentally friendly liquid based on vegetable glycerine that replaces the usual aerosol cartridges and cans.

To test thermal and thermovelocimetric detectors, we use a jet of hot air.

All equipment includes an extendable modular aluminium rod that allows detectors installed in elevated positions to be easily reached. The articulated removal head fits most detectors.

In summary, our equipment offers efficient and environmentally friendly testing solutions that guarantee economy of operation, speed, efficiency and ease of use.

NEW	TF-FDR1	 
	Universal removal equipment for point detectors. The kit is equipped with a robust and extremely light modular drawn aluminium rod, extendable up to a maximum height of 3.4 m. The end element with the removal head is mounted on the top of the rod. The articulated removal head adapts to the circumference of most detectors, in case of special requirements the supplied adapting accessories can be used. Cod. TF24TFFDR1	
NEW	TF-FDT1	     
	Test equipment for optical smoke and thermal detectors. The TF-FDT1 all-in-one test kit enables the functional testing of optical smoke detectors, thermal, thermovelocimetric and multisensor detectors in accordance with current standards. The kit is equipped with a robust and extremely light modular rod, consisting of a stimulation head with battery module, three drawn aluminium extension modules, an end module with handle and an extendable telescopic module with handle. The modular rod can reach a maximum height of 5.2m. The stimulation head powered by the rechargeable battery module is equipped with a switch with which the test mode for optical detectors or thermal detectors can be selected, a second switch activates the blow function, with which the detection chamber can be emptied of smoke introduced during testing if necessary. Stimulation is automatically activated by the proximity sensor as the head approaches the ceiling. The function selected with the switches is indicated by the red and blue LEDs visible on the stimulation head. Cod. TF24TFFDT1	
NEW	TF-FDTR1	     
	Test and removal equipment for optical smoke and thermal detectors. The TF-FDTR1 all-in-one test kit enables the functional testing of optical smoke, thermal, thermovelocimetric and multisensor detectors in accordance with current standards. The kit is equipped with a robust and extremely light modular drawn aluminium rod, extendable up to a maximum height of 3.6m. The end element with the removal head or the stimulation head can alternatively be mounted on top of the rod. The articulated removal head adapts to the circumference of most detectors, in case of special needs the supplied adapting accessories can be used. The stimulation head is powered by a rechargeable battery and is equipped with a power switch and a selection switch, which enables testing for optical sensors or thermal sensors. Stimulation is automatically activated by the proximity sensor as soon as the head approaches the ceiling. The function selected with the switches is indicated by the red and blue LEDs visible on the stimulation head. Cod. TF24TFFDTR1	



GAS detection

CONVENTIONAL

Gas detectors

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	
			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.													
NAME		GAS		ITEM NO.		NAME		GAS		ITEM NO.						
TFDG-EXD AMCT		Toxic Ammonia		TF10TFDGAMCTEXD		TFDG-EXD COE		Carbon Monoxide		TF10TFDGC0EEEXD						
TFDG-EXD IDS		Hydrogen Sulfide		TF10TFDGDIDSEXD		TFDG-EXD OXG		Oxygen		TF10TFDGOXGEXD						
TFDG-EXD MDA		Nitric Oxide		TF10TFDGMDAEXD												

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 ADS	Sulphur dioxide	TF10TFDGADSEXN							
TFDG-EXN AMCT	Toxic Ammonia	TF10TFDGAMCTEXN							

NAME	GAS	ITEM NO.							
TFDG-EXN ETL	Ethylene	TF10TFDGETLEXN							
TFDG-EXN IDS	Hydrogen Sulfide	TF10TFDGDIDSEXN							
TFDG-EXN COE	Carbon Monoxide	TF10TFDGC0EEEXN							

TFDG-PK			EN 61000	TOXIC GAS	ELECTRO-CHEMICAL CELL DETECTOR	CAST ALUMINUM BOX
			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.			
NAME	GAS	ITEM NO.				
TFDG-PK BDA	Nitrogen Dioxide	TF10TFDGBDAPK				
TFDG-PK CO2	Carbon Dioxide	TF10TFDGC02PK				
NAME	GAS	ITEM NO.				
TFDG-PK COE	Carbon Monoxide	TF10TFDGC0EPPK				

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 II2G e SIL1.		

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	TF10TFDGAEEXD	TFDG-EXD ETL	Ethylene	TF10TFDGETLEEXD
TFDG-EXD ADV	Vinyl Acetate	TF10TFDGADVEXD	TFDG-EXD GPL	LPG	TF10TFDGGPLEEXD
TFDG-EXD ACL	Acetylene	TF10TFDGACLEEXD	TFDG-EXD IDR	Hydrogen	TF10TFDGDIREEXD
TFDG-EXD ACT	Acetone	TF10TFDGACTEXD	TFDG-EXD IBT	Iso Butane	TF10TFDGBITEXD
TFDG-EXD ACA	Acetic Acid	TF10TFDGACAEXD	TFDG-EXD IPT	Iso Pentane	TF10TFDGIPTEXD
TFDG-EXD ALB	Butyl Alcohol	TF10TFDGBALBEXD	TFDG-EXD JP8	JP8	TF10TFDGJP8EXD
TFDG-EXD AET	Ethyl Alcohol	TF10TFDGAETEXD	TFDG-EXD MET	Methane	TF10TFDGMETEXD
TFDG-EXD AIB	Iso Butyl Alcohol	TF10TFDGAIBEXD	TFDG-EXD MKT	Methyl Ethyl Ketone	TF10TFDGMKTEEXD
TFDG-EXD AIP	Iso Propyl Alcohol	TF10TFDGAIPExD	TFDG-EXD NON	Nonane	TF10TFDGNONEXD
TFDG-EXD AMT	Methyl Alcohol	TF10TFDGMAMTEEXD	TFDG-EXD ODE	Ethylene Oxide	TF10TFDGOODEEXD
TFDG-EXD APR	Propyl Alcohol	TF10TFDGPAPREEXD	TFDG-EXD PTN	Pentane	TF10TFDGPPTNEXD
TFDG-EXD AMC	Ammonia	TF10TFDGMAMCEEXD	TFDG-EXD PRP	Propane	TF10TFDGP RPPEEXD
TFDG-EXD BNZ	Benzene	TF10TFDGBBNZEXD	TFDG-EXD PRL	Propylene	TF10TFDGPRLPEEXD
TFDG-EXD BTN	Butane	TF10TFDGBTNEXD	TFDG-EXD STN	Styrene	TF10TFDGSTNEXD
TFDG-EXD CES	Cyclohexane	TF10TFDGCSEEXD	TFDG-EXD TOL	Toluene	TF10TFDGTOLEEXD
TFDG-EXD CPT	Cyclopentane	TF10TFDGCPTEXD	TFDG-EXD TMB	Tri Methylbenzene	TF10TFDGTMBEXD
TFDG-EXD EPT	Heptane	TF10TFDGEPTEXD	TFDG-EXD VDB	Patrol Vapors	TF10TFDGVDBEXD
TFDG-EXD ESN	Hexane	TF10TFDGESNEXD	TFDG-EXD XLN	Xylene	TF10TFDGPLNEXD
TFDG-EXD ETN	Ethane	TF10TFDGETNEXD			

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 II3G e SIL1.		

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 RPPEXN
TFDG-EXN MET	Methane	TF10TFDGMETEXN	TFDG-EXN VDB	Patrol Vapors	TF10TFDGVDBEXN

CONVENTIONAL

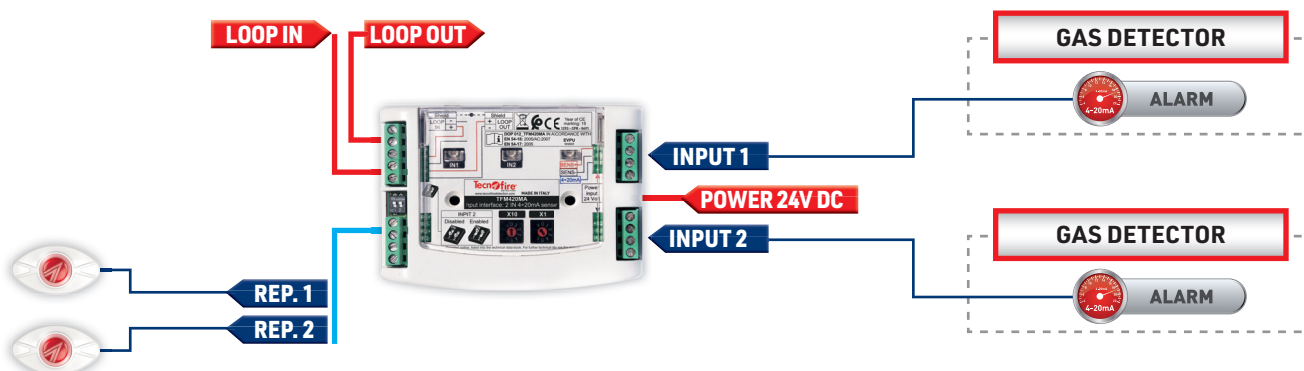
TFDG-PK			   			
			Flammable gas detectors Ideal for applications in car parks and secure areas. Catalytic detector. Zero tracker and self-diagnosis. Plug-in calibration tool. 4-20mA proportional signal output. Optional 3 relay board that can be housed in the casing. Power supply 12V...24V DC. Maximum 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.			
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															
		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.													

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





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	PROGRAMMING
	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. Item no. TF15TFSWPRG Extension of the Tecnoalarm Systems programming licence to Tecnofire Systems. Item no. TF15TFSWTF

Remote management

TFSW-TCP/IP	TCP/IP				
	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. Software available in 2 versions: for 100 or 1000 users. <table border="1" data-bbox="592 1137 1461 1209"> <tr> <td>TFSW-TCP/IP 100</td><td>Item no. TF15TFSWTCPI100</td></tr> <tr> <td>TFSW-TCP/IP 1000</td><td>Item no. TF15TFSWTCPI1000</td></tr> </table>	TFSW-TCP/IP 100	Item no. TF15TFSWTCPI100	TFSW-TCP/IP 1000	Item no. TF15TFSWTCPI1000
TFSW-TCP/IP 100	Item no. TF15TFSWTCPI100				
TFSW-TCP/IP 1000	Item no. TF15TFSWTCPI1000				

Monitoring

TFSW-TECNOMONITOR	MONITORING
	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. Item no. TF15TFSWTECNOM

License options

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
TFTRASF-MON	Software transformation from TFSW-TECNOMONITOR to TWINMONITOR.
	Item no. TF15TFTRASFMON

Services

TFSW-COPIA	Copy of the user license for Tecnofire software.
	Item no. TF15TFSWCOPIA
TF5LICENSES	Package of 5 additional Tecnocloud-compatible licences
	Item no. TF15TF5LICENSES

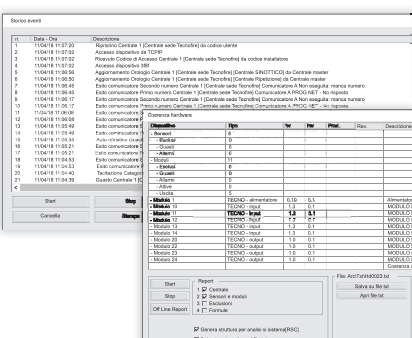
Added value

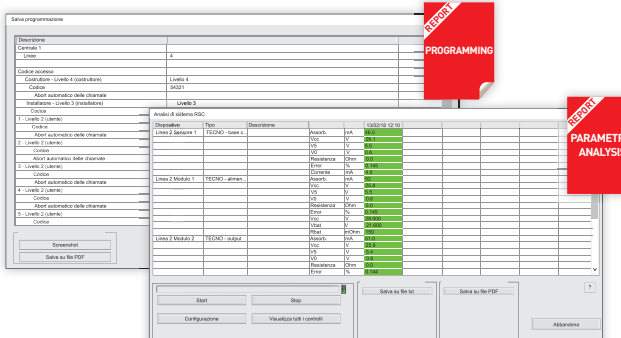
Tecnofire Software is an investment that enhances the professional value of the installation company and reduces its operating costs. Remote management makes it possible to assess and define in advance, remotely, the scale and/or the need for call-outs, routine or extraordinary, thereby minimising travel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

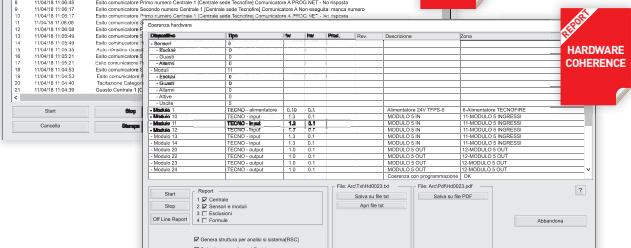


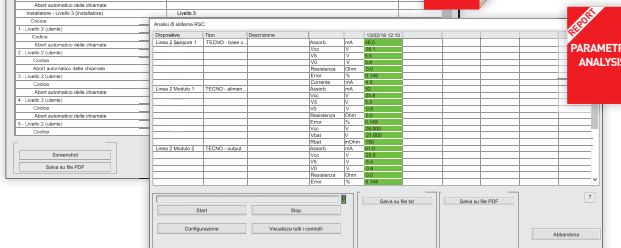
Documentation

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











Supervisor by Tecnoalarm

supervisor

by Tecnoalarm®

The Supervisor by Tecnoalarm software is a versatile supervision platform, with a modular architecture, easily configurable thanks to the wide range of plug-ins and license options.

Supervisor is available in three operating configurations:

Supervisor Monitor, Supervisor and Supervisor plus.

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

The Supervisor platform realises the perfect operational synergy between the Supervisor System and the Tecnoalarm and Tecnofire Security and Automatic Fire Detection Systems, standing as a sure reference for the systems supervision market, in the areas of:

Safety, Security and Smart building.

Server licenses

Four Server Licenses make it possible to manage any supervisory context, from a single control panel to more complex and articulated system realities.

Additional licenses

Additional licenses allow the supervisory software to be extended along with the application context, to provide solutions to new management and configuration needs.

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.

	COMPARISON OF CONFIGURATIONS		
			
CONTROL PANELS MANAGED	1	1 to 20	Not defined
CLIENTS MANAGED	1	1 to 5	1 to 40
RESTRICTION GROUPS	1	Max. 5	Max. 40
MONITORS PER CLIENT	1	1 to 4	
LIVE STREAMS MANAGED	16	Unlimited number	
DATA POINTS MANAGED	Depending on control panel		
GRAPHIC MAPS MANAGED	Unlimited number		
USERS MANAGED	Unlimited number		

Supervisor Monitor

Supervisor Monitor - Server licence

NEW TFSVM-MONITOR 		  
	Server Supervisor Monitor Licence. The licence allows supervision of a control panel. The licence includes a server and a management client that can also be installed on a remote PC connected to the server via a LAN/WAN network. The Supervisor Monitor licence can be converted into a basic Server Licence by purchasing the TFSVM-UPGRADE software upgrade licence. Item no. TF11SVMONITOR	

Supervisor Monitor - Additional licenses

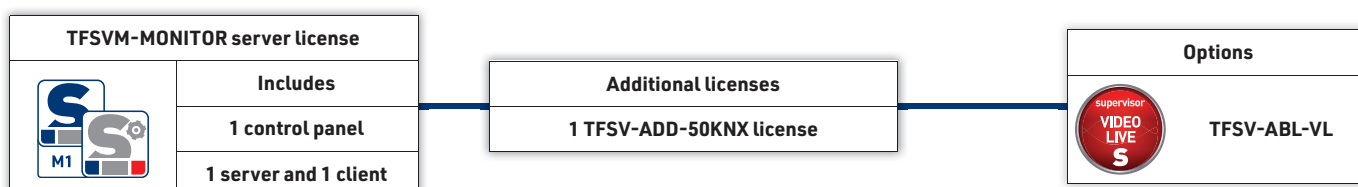
TFSV-ADD-50KNX	The KONNEX licence manages the standard KNX communication protocol. The licence allows the Supervisor Monitor software to manage the control of building automation systems that use KONNEX devices. It manages up to 50 KNX groups.	
	Item no. TF11SVADD50KNX	

Supervisor Monitor - Upgrade licence

TFSVM-UPGRADE	Licence that allows you to convert your Supervisor Monitor licence into a Supervisor Server TFSV-1PF-1CL licence. The Supervisor Server licence allows you to manage multiple control panels, increase the number of clients and access a wider range of options.	
	Item no. TF11SVMONUPGR	

SOFTWARE SUPERVISOR MONITOR SYNOPTIC LICENCES AND AUTHORISATIONS

The configuration of the Supervisor Monitor software requires a Server licence that includes a Client. The available authorisations and licences allow the Supervisor software to be equipped with various features and services.

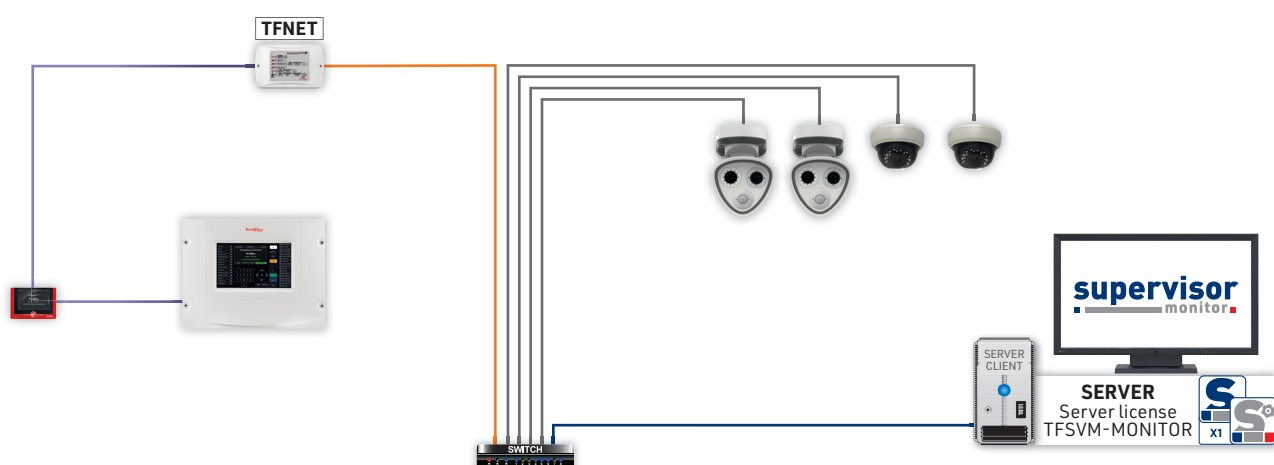


SUPERVISOR MONITOR

The Server Supervisor Monitor licence allows you to manage the supervision of a system connected to the same local area network (LAN), consisting of: a supervision station, a fire detection control panel and IP cameras.

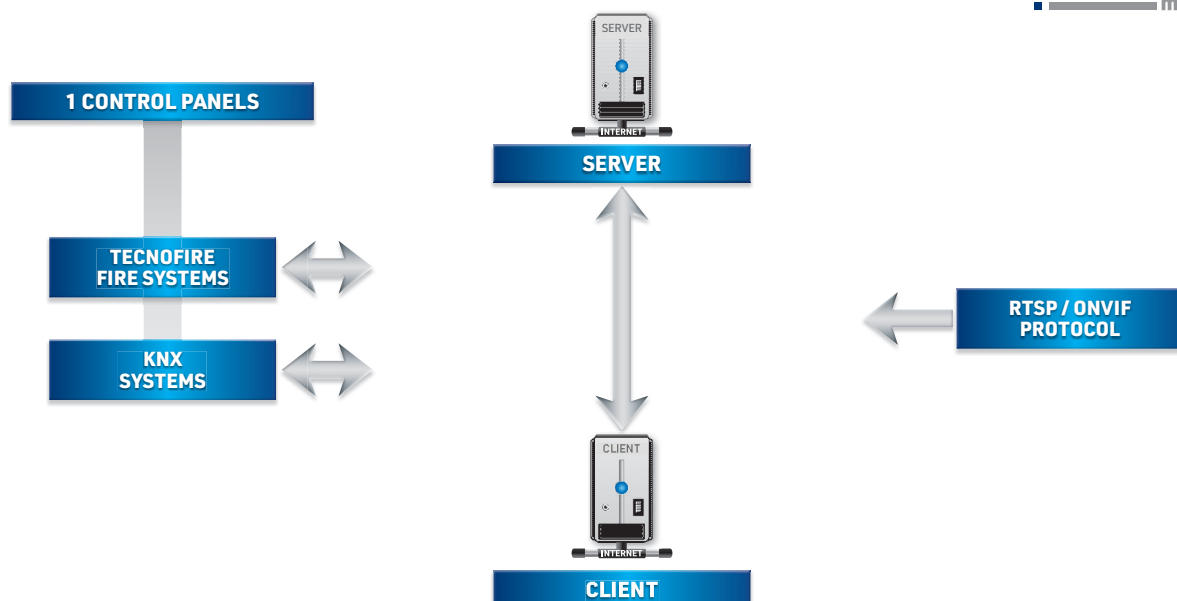
The table shows the licence and the only authorisation managed by the Supervisor Monitor software.

	TFSVM-MONITOR server license managing 1 control panel		TFSV-ABL-VL live video capture option
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SUPERVISOR MONITOR - Architecture

supervisor
monitor



Supervisor

Supervisor - Server licences

TFSV-1PF-1CL						
	Server license for the supervision of 1 control panel. 1 Management Client that can be installed on a remote PC, connected to the Server via LAN/WAN. The number of managed control panels can be extended up to 20 with TFSV-ADD-1PF or TFSV-ADD-1PA licences. The number of Clients can be extended up to 5 with TFSV-ADD-1CL licences. Item no. TF11SV1PF1CL					
TFSV-10PX-1CL						
	Server license for the supervision of 10 Tecnofire or Tecnoalarm control panels. 1 Management Client that can be installed on a remote PC, connected to the Server via LAN/WAN. The number of managed control panels can be extended up to 20 with TFSV-ADD-1PF or TFSV-ADD-1PA licences. The number of Clients can be extended up to 5 with TFSV-ADD-1CL licences. Item no. TF11SV10PX1CL					
TFSV-20PX-1CL						
	Server license for the supervision of 20 Tecnofire or Tecnoalarm control panels. 1 Management Client that can be installed on a remote PC, connected to the Server via LAN/WAN. The number of Clients can be extended up to 5 with TFSV-ADD-1CL licences. Item no. TF11SV20PX1CL					

Supervisor - Additional licenses

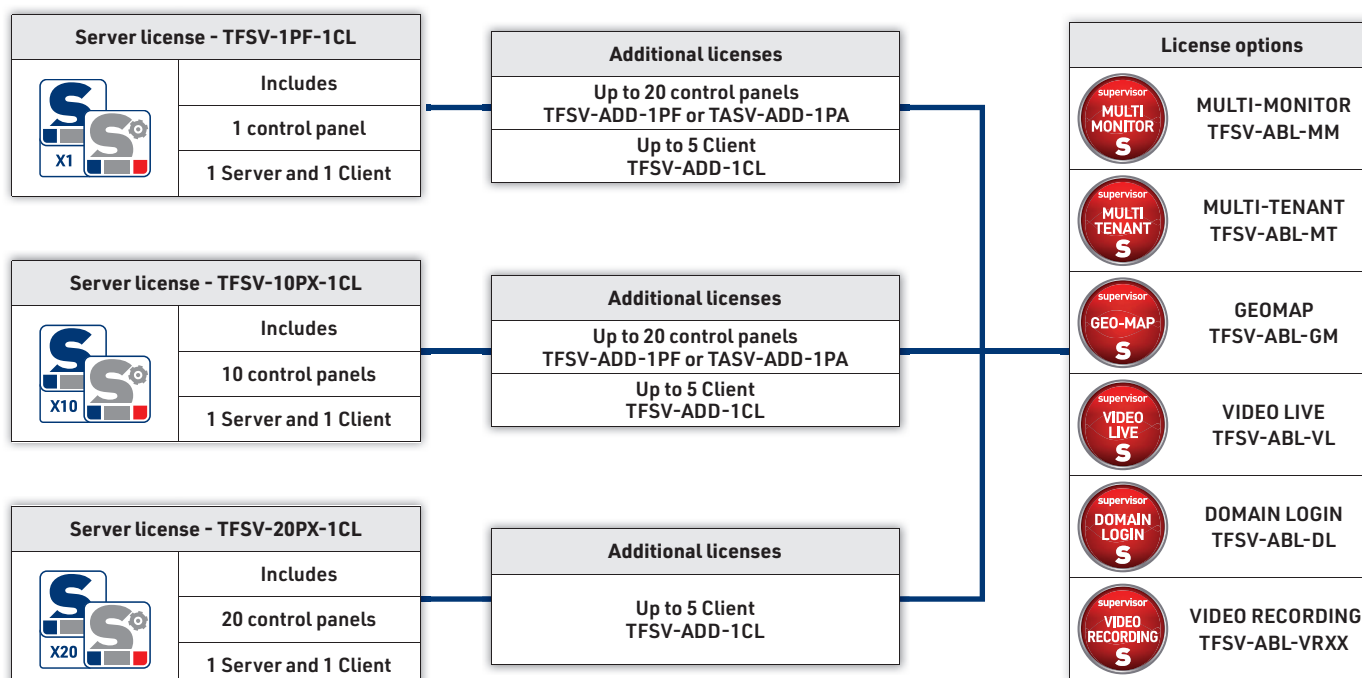
TFSV-ADD-1PF	Additional control panel. License to add the management of a Tecnofire Control panel to the Server licenses: TFSV-1PF-1CL and TFSV-10PX-1CL. Up to a maximum of 20 Control panels. Item no. TF11SVADD1PF	
TASV-ADD-1PA	Additional control panel. License to add the management of a Tecnoalarm control panel 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	
TFSV-ADD-1HV	NVR license implementing the management of an NVR Hikvision in Supervisor server licenses. N.B. For the list of NVR managed refer to the marketing department. Item no. TF11SVADD1HV	
TFSV-ADD-1AV	NVR license implementing the management of an NVR Avigilon Unity 7 in Supervisor server licenses. Item no. TF11SVADD1AV	

Supervisor - 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 - Enable up to 5 operational restriction groups for supervisory personnel. For each staff member, it is possible to define the systems, areas and functions they can operate or control.	
	Item no. TF11SVABLMT	
TFSV-ABL-GM	GEOMAP - Allows you to define and program the display mode of one or more geo-referenced HTML pages based on the OpenStreetMap, open source application.	
	Item no. TF11SVABLGGM	
TFSV-ABL-VL	VIDEO LIVE - Enables the display of video streams from an unlimited number of IP cameras using RTSP or Onvif RTSP protocol. Video streams can be displayed automatically in the event of an alarm or on demand.	
	Item no. TF11SVABLVVL	
TFSV-ABL-DL	DOMAIN LOGIN - Enables the Supervisor software access credentials to automatically match the Windows credentials that govern access to the corporate domain.	
	Item no. TF11SVABLVRRXX	
TFSV-ABL-VRXX	VIDEO RECORDING - Option for the mapping of an indefinite number of standard RTSP video streams, in LIVE mode and the recording of RTSP or Onvif RTSP streams from IP cameras in LAN network. Management of Plugins for streaming playback.	
	Item no. TF11SVABLVRRXX	

SUPERVISOR SOFTWARE LICENSES AND OPTIONS SUMMARY

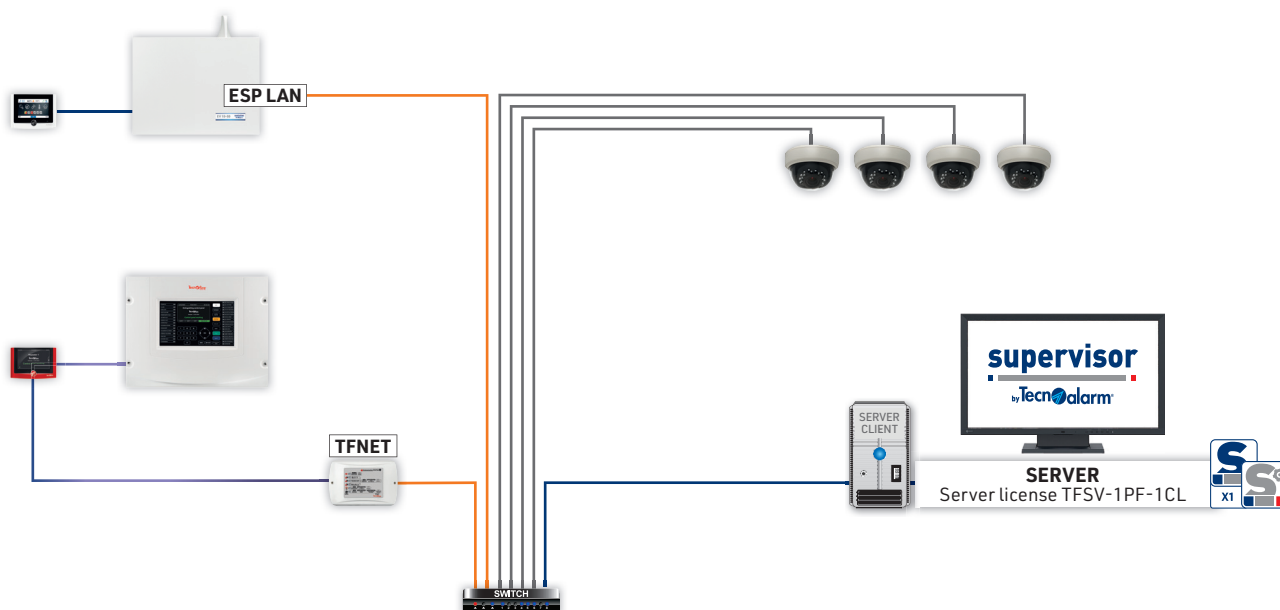
Configuration of the Supervisor software requires, a Server licence, chosen according to the number of control panels to be supervised. The additional licences allow the management of other control panels to be added and the number of Client workstations to be expanded. The licences options allow the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



ON-SITE SUPERVISION

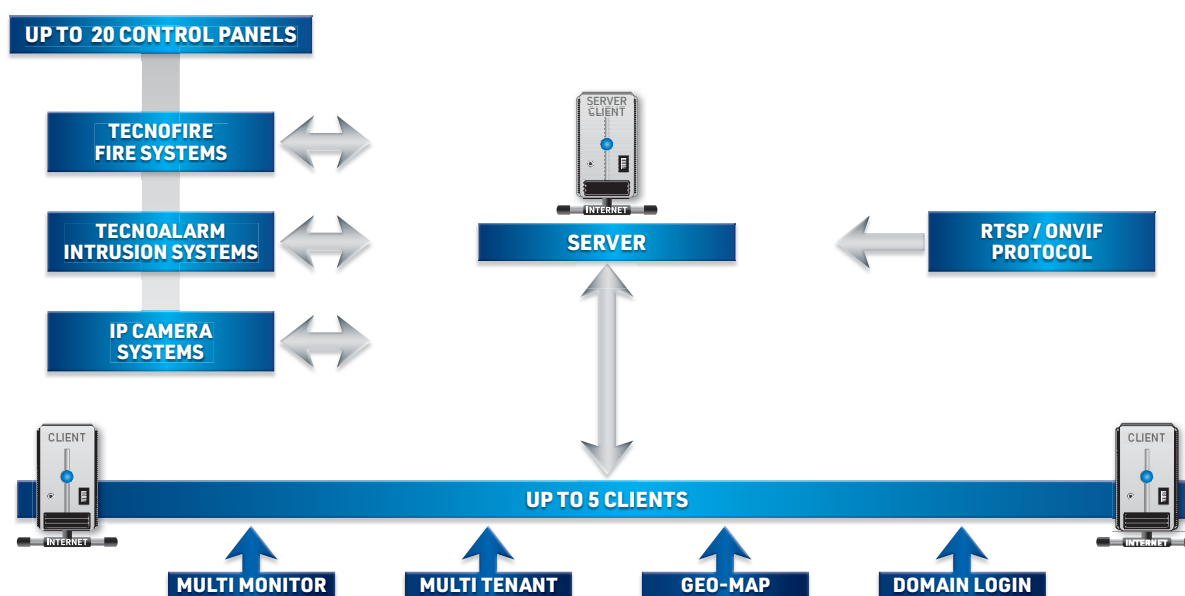
Application example of Supervision of a system connected on the same Lan local network, consisting of: a supervisory station, a fire control panel, a burglar control panel and IP cameras. The table indicates the licenses and option necessary for the configuration of the Supervisor software.

	1 Server license TFSV-1PF-1CL Management of a control panel	+1 CONTROL PANEL	1 additional license TASV-ADD-1PA Tecnoalarm control panel		1 license option TFSV-ABL-VL VIDEO LIVE
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SUPERVISOR - Architecture

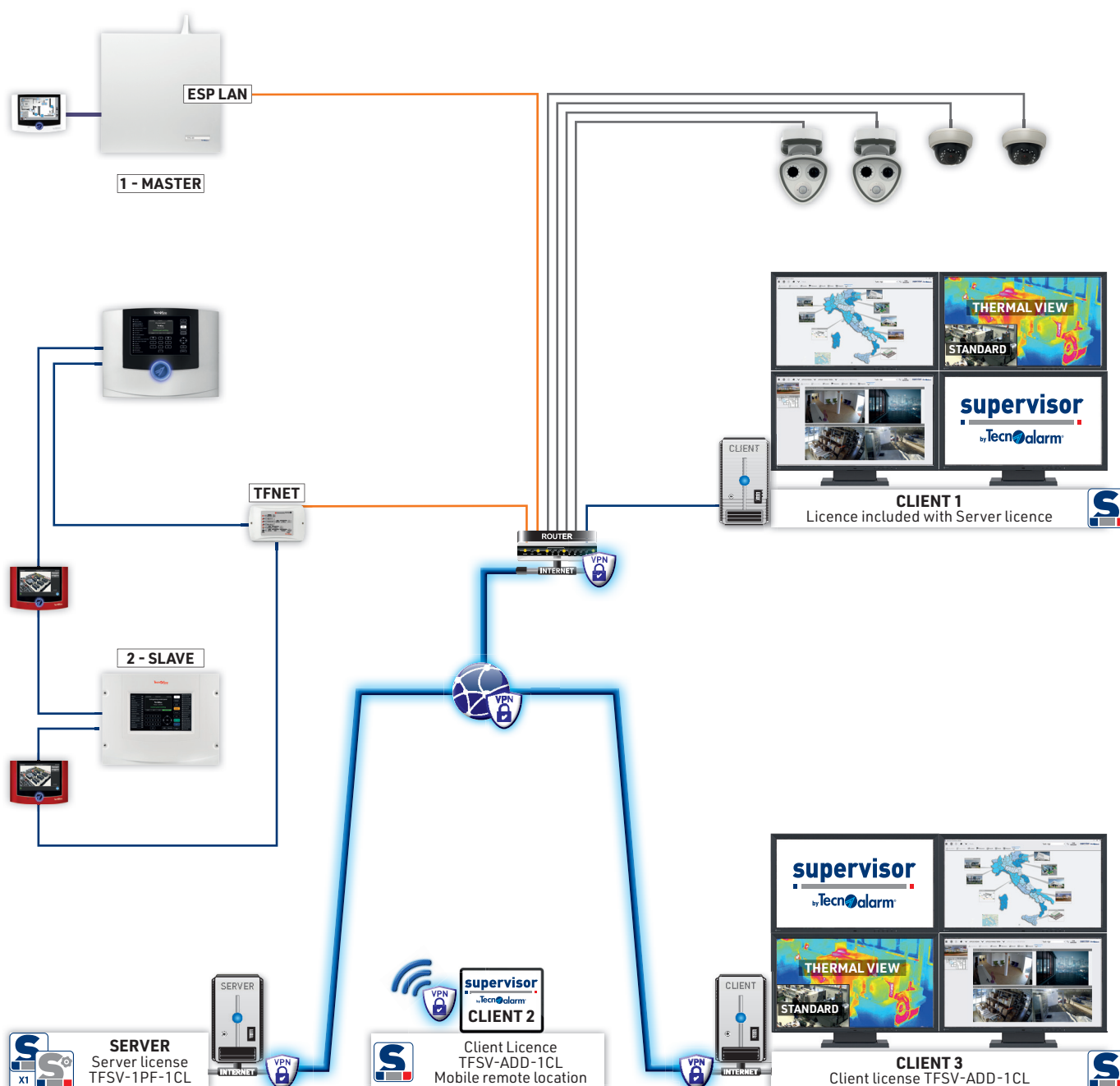
supervisor



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.

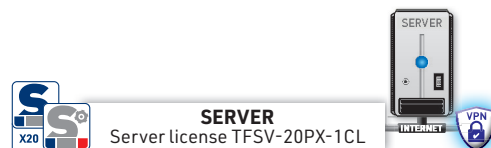
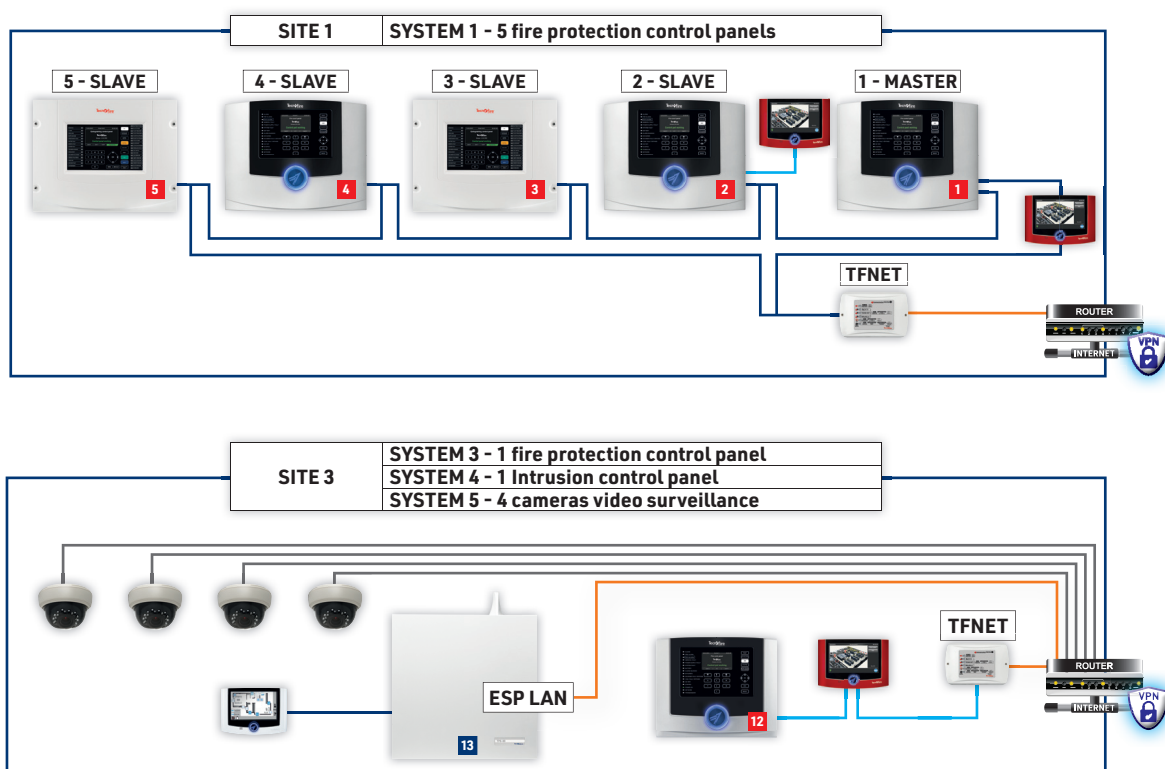
	1 Server license TFSV-1PF-1CL Management 1 control panel		2 licences TFSV-ADD-1CL Additional client		1 license TFSV-ADD-1PF Additional Tecnofire control panel		1 license TASV-ADD-1PA Additional Tecnoalarm control panel
	1 license option TFSV-ABL-VL VIDEO LIVE		1 license option TFSV-ABL-MM MULTI-MONITOR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

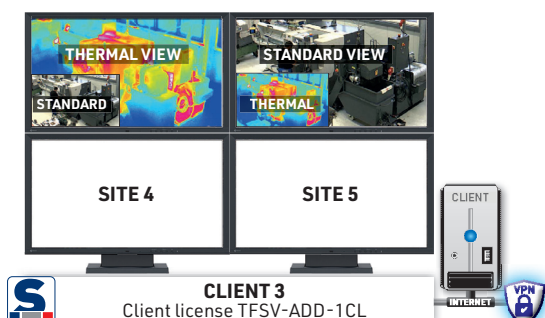
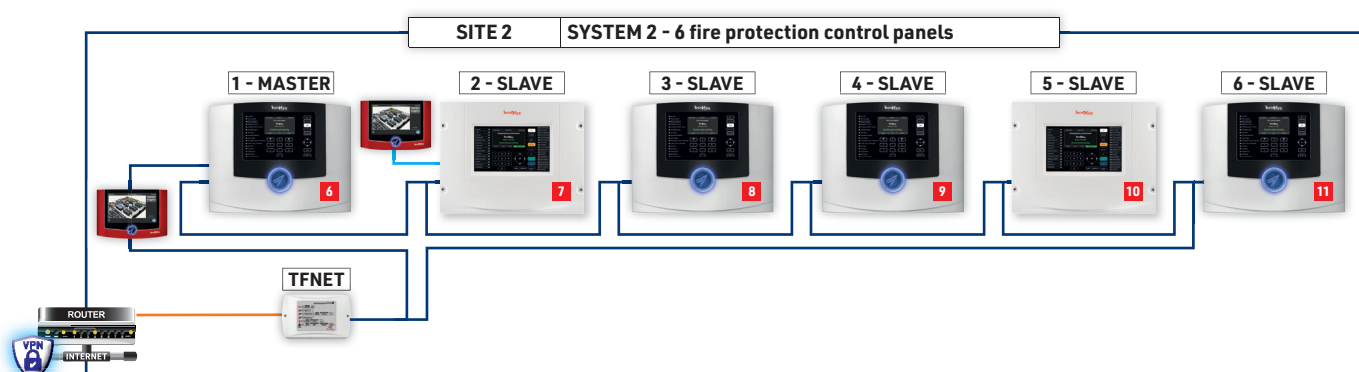


GEOGRAPHICALLY DISTRIBUTED SITE SUPERVISION

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 GEO-MAP		1 license option TFSV-ABL-VL VIDEO LIVE		1 license TFSV-ADD-1HV NVR Management						





Supervisor plus

Supervisor plus - Server licence

NEW	TFSVP-1010					Server licence for the Supervisor plus supervision software. The licence can manage a maximum of 40 client stations and an unlimited number of Tecnofire and Tecnoalarm control panels. Supervisor plus can manage and control up to 40 independent company units, with an unlimited number of profilable operators who carry out their activities with the support of graphic maps, links to HTML pages and video sources. Supervisor plus can manage the following systems: fire detection and extinguishing systems, intrusion detection systems, EVAC emergency systems and Konnex building automation systems, and can display an unlimited number of IP cameras. Up to a maximum of 25,000 data points. System mapping is supported and includes automatic download of data points and descriptions. Client stations can manage up to four monitors displaying preset layouts that can be selected manually or automatically in response to specific events. Dynamic Event Manager: for each station/event it is possible to define the actions to be taken, the images to be displayed, information tables, the emergency plan, useful contacts, the association of cameras for video verification, the display of documents and images and the sending of notification e-mails. The Supervisor plus software allows the management of an unlimited number of IP cameras with standard RTSP flow, in live mode, with up to 16 simultaneous views. The Supervisor plus software requires the Windows 10 operating system.
						Item no. TF11SVP1010

Supervisor plus - Additional licenses

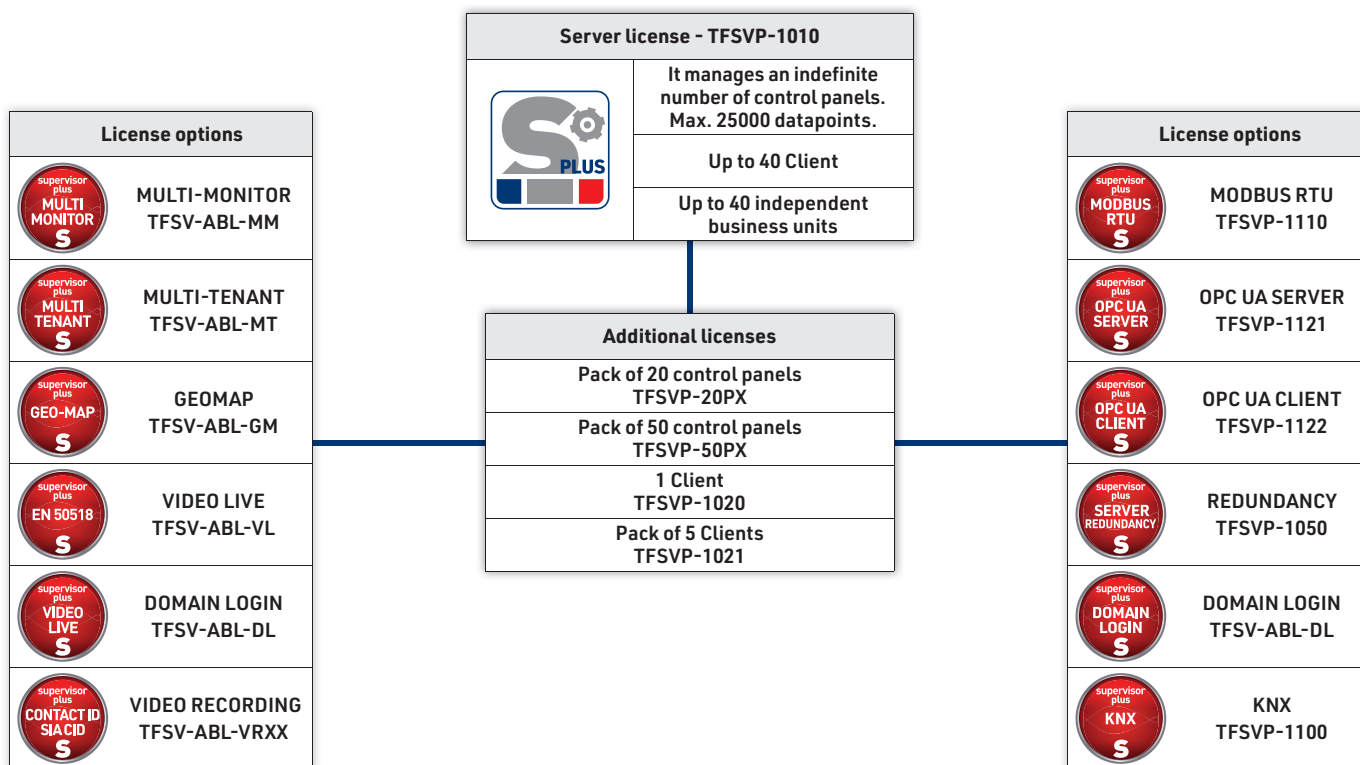
TASVP-20PX	Pack of 20 additional panels. Licence to add the management of twenty Tecnofire or Tecnoalarm panels to the TFSVP Server licence. Supervisor plus can manage multiple control panels up to a maximum of 25000 datapoints.	
	Item no. TF11SVP20PX	
TASVP-50PX	Pack of 50 additional panels. Licence to add the management of fifty Tecnofire or Tecnoalarm panels to the TFSVP Server licence. Supervisor plus can manage multiple control panels up to a maximum of 25000 datapoints.	
	Item no. TF11SVP50PX	
TASVP-1020	Additional Supervisor plus client. Licence to add a management client connected to the server via LAN/WAN for the TFSVP Server licence. Up to a maximum of 40 clients.	
	Item no. TF11SVP1020	
TASVP-1021	Pack of 5 additional clients for Supervisor plus. Licence to add five management clients, connected to the server via LAN/WAN, to the TFSVP Server licence. Up to a maximum of 40 clients.	
	Item no. TF11SVP1021	
TFSV-ADD-1HV	NVR license implementing the management of an NVR Hikvision in Supervisor server licenses. N.B. For the list of NVR managed refer to the marketing department.	
	Item no. TF11SVADD1HV	
TFSV-ADD-1AV	NVR license implementing the management of an NVR Avigilon Unity 7 in Supervisor server licenses.	
	Item no. TF11SVADD1AV	

Supervisor plus - License options

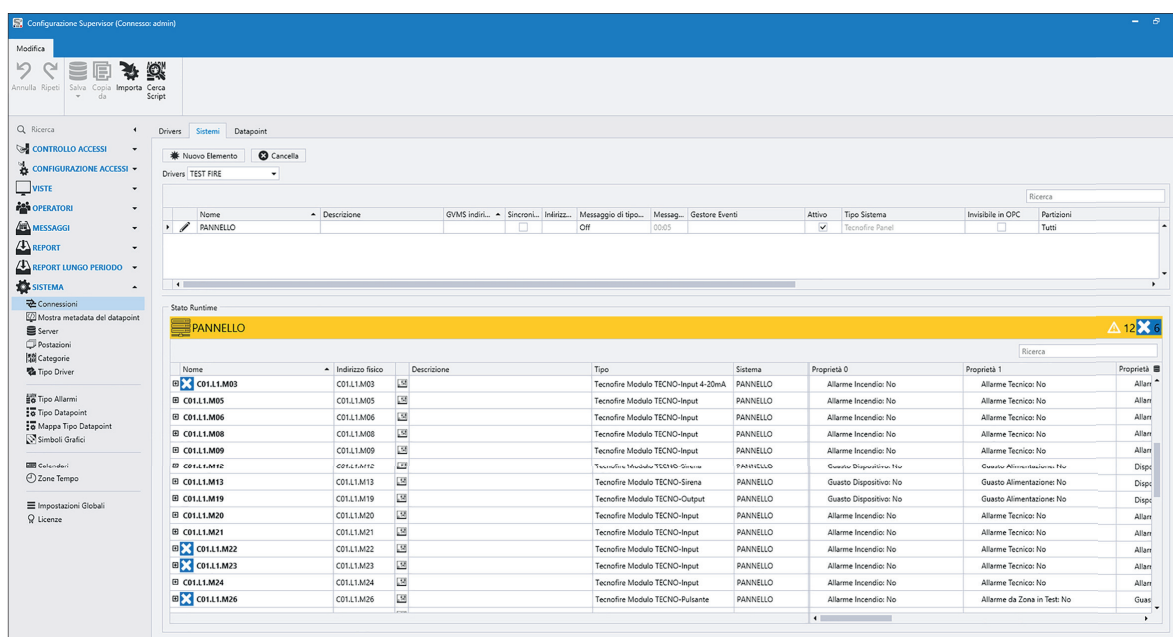
TFSVP-1030	MULTI-MONITOR SP - This option allows you to extend up to four monitors the equipment of all the Client stations of the Supervisor System. Each monitor can be assigned with the desired displaying.	
	Item no. TF11SVP1030	
TFSVP-1040	MULTI-TENANT SP - Enable up to 40 operational restriction groups for supervisory personnel. For each staff member, it is possible to define the systems, areas and functions they can operate or control.	
	Item no. TF11SVP1040	
TFSVP-1031	GEO-MAP SP - Allows you to define and program the display mode of one or more geo-referenced HTML pages based on the OpenStreetMap, open source application.	
	Item no. TF11SVP1031	
TFSVP-EN	EN SP - Enables functions required by EN 50518 for the management of an alarm receiving centre, such as: encryption, data packet certification, event log encryption, etc.	
	Item no. TF11SVPEN50518	
TFSVP-1033	VIDEO LIVE SP - Enables the display of video streams from an unlimited number of IP cameras using RTSP or Onvif RTSP protocol. Video streams can be displayed automatically in the event of an alarm or on demand.	
	Item no. TF11SVP1033	
TFSVP-1680	CONTACT ID SP - Enables the Supervisor software to manage the reception of data from an unlimited number of peripheral devices using the SIA DC-09 telephone communication protocols in SIA and Contact ID formats.	
	Item no. TF11SVP1680	
TFSVP-1110	MODBUS RTU - Enables the Supervisor software to manage the control of a Modbus RTU (Remote Terminal Unit) connection for devices using the standard Modbus RTU communication protocol.	
	Item no. TF11SVP1110	
TFSVP-1121	OPC UA SERVER - Allows the Supervisor software to communicate with automation systems. Converts a system's implemented data points, states and commands for transmission to OPC UA client software.	
	Item no. TF11SVP1121	
TFSVP-1122	OPC UA CLIENT - Enables the Supervisor software to decode: data, data points and states from an OPC UA server software.	
	Item no. TF11SVP1122	
TFSVP-1050	REDUNDANCY - Enables the management of a redundant server with multi-client organisation to connect systems using a dual communication channel/protocol.	
	Item no. TF11SVP1050	
TFSV-ABL-DL	DOMAIN LOGIN - Enables the Supervisor software access credentials to automatically match the Windows credentials that govern access to the corporate domain.	
	Item no. TF11SVABLRXX	
TFSVP-1100	KNX - Enables the Supervisor software to manage the control of building automation systems realized with devices using the standard KONNEX communication protocol.	
	Item no. TF11SVP1100	

SUPERVISOR PLUS SOFTWARE LICENSES AND OPTIONS SUMMARY

The configuration of the Supervisor plus software requires, a Server licence and the additional licences needed to manage the number of control panels to be supervised and the Client stations required. The licence options allow the Supervisor plus software to be equipped with various features and services.



Configuration interface



Supervision panel

Supervisor (Commissario admin)

Tutti i tipi 13:38 10/04/2025 supervisor Tecnoalarm

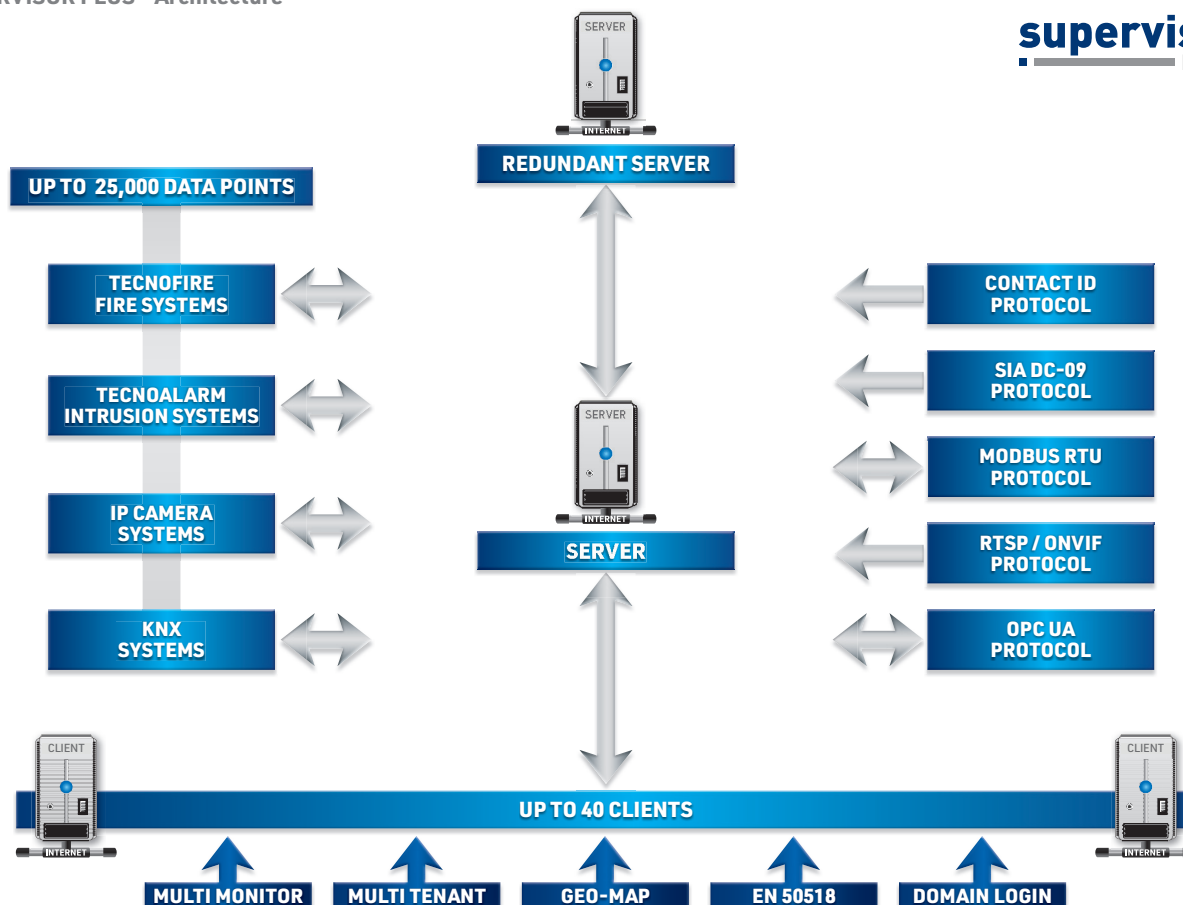
Evento Attivo Location Telecamere Pannelli Sistemi Datapoint Monitor

Nome	Priorità	Tipo	Datapoint	Messaggio di tipo di monitoraggio	Messaggio di intervallo di monitoraggio (9kmm)
UFFICIO Tecnoalarm	10000	Tecnoalarm Panel	32	OFF	
UFFICIO Tecnofire	10000	Tecnofire Panel	63	OFF	
VILLA Tecnoalarm	10000	Tecnoalarm Panel	66	OFF	
Camera	0	Dispositivo Sconosciuto	2	OFF	0005
HOTEL Tecnofire	0	Tecnofire Panel	336	OFF	
Locations	0	Dispositivo Sconosciuto	12	OFF	0005
LOGISTICA Tecnoalarm	0	Tecnoalarm Panel	64	OFF	
LOGISTICA Tecnofire	0	Tecnofire Panel	92	OFF	
SILOS Tecnofire	0	Tecnofire Panel	42	OFF	
SUPERMERCATO Tecnoalarm	0	Tecnoalarm Panel	23	OFF	
SUPERMERCATO Tecnofire	0	Tecnofire Panel	38	OFF	
Variabili	0	Dispositivo Sconosciuto	9	OFF	

Priorità	Ora evento	Location	Sistema	Datapoint	Indirizzo fisico	Motivo Allarme	Stato Allarme	Stato	Utente
10000	13:27:29 10:04:25	UFFICIO ROMA	UFFICIO Tecnofire	RIV. FUMO UFFICIO 13	C01.L15019	Allarme Rivelatore	Attivo	Attivo	
10000	13:27:29 10:04:25	UFFICIO ROMA	UFFICIO Tecnofire	RIV. FUMO UFFICIO 14	C01.L15020	Allarme Rivelatore	Attivo	Attivo	
10000	13:27:28 10:04:25	VILLA FIRENZE	VILLA Tecnoalarm	SENSORE BOX GRANDE	C01.2003	Allarme Intrusione	Attiva	Attiva	
10000	13:27:28 10:04:25	UFFICIO ROMA	UFFICIO Tecnofire	RIV. FUMO INGRESSO	C01.L15001	Allarme Rivelatore	Attivo	Attivo	

SUPERVISOR PLUS - Architecture

supervisor
plus





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 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 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 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 12
	FIAMM 12V/12Ah rechargeable lead-acid battery Dimensions (L x H x D) 151 x 99 x 98mm. Item no. TF17TFBF1212
	TFBF-12 7
	FIAMM 12V/7.2Ah rechargeable lead-acid battery Dimensions (L x H x D) 151 x 99 x 65mm. Item no. TF17TFBF127
	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 9
	Extracell 12V/9Ah rechargeable lead-acid battery Dimensions (L x H x D) 151 x 99 x 65mm. Item no. TF17TFBE129
	TFBE-12 18
	Extracell 12V/18Ah rechargeable lead-acid battery Dimensions (L x H x D) 175 x 160 x 75mm. Item no. TF17TFBE1218
	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) 175 x 160 x 75mm. Item no. TF17TFBE1220

Cables

Cables in accordance with European regulation CPR EU 305/2011, which assigns a risk level and fire class to each installation area. For the realisation of fixed automatic fire detection and fire alarm systems it is mandatory to use cables belonging to classes Cca and B2ca.

Loop cables for indoor installation - FTE290HM16

	EN 50575 CPR CLASS C_{ca} EN 50200 PH120 LSZH TYPE M16 INSULATION C-4 400V TWISTED CABLE SHIELDED CABLE						
	Cables with flexible red copper conductors. Sheathing in red thermoplastic material with flame retardant, halogen-free low smoke LSZH type M16 compound. CPR Class Cca s1b,d1,a1 (also available in Class B2ca). Fire resistance class PH120. Operating temperature -30°C...+75°C. Temperature during installation -5°C...+50°C. Silicone-ceramic insulation G29. Operating voltage 100/100V.						

NAME	COMPOSITION	SPOOL	RESISTIVITY Ohm/km @ T20°C	DIAMETER	BEND RADIUS	WEIGHT kg/km	ITEM NO.
TFCF-FTE29 2X1S CCA2	2x1	200m	Max 20.3	6.6mm	52.8mm	63	TF18FTEC2X1S2
TFCF-FTE29 2X15S CCA2	2x1.5	200m	Max 13.8	7.6mm	60.8mm	82	TF18FTEC2X15S2
TFCF-FTE29 2X15S CCA5	2x1.5	500m	Max 13.8	7.6mm	60.8mm	82	TF18FTEC2X15S5
TFCF-FTE29 2X25S CCA5	2x2.5	500m	Max 8.3	9.2mm	73.6mm	122	TF18FTEC2X25S5

Cables also available with classe of reaction to fire B2ca

Loop cable for outdoor installation - FTE290HM16

	EN 50575 CPR CLASS C_{ca} FOR OUTDOORS USE EN 50200 PH120 LSZH TYPE M16 INSULATION C-4 400V TWISTED CABLE SHIELDED CABLE						
	Outdoor cable suitable for laying in underground conduits. The cable can withstand immersion in water even for long periods of time. Flexible red copper conductors. Red thermoplastic sheath with flame-retardant compound, halogen-free with low smoke emission LSZH type M16. CPR class Cca s1b,d1,a1. Fire resistance rating PH120. Operating temperature -40°C...+75°C. Temperature during installation -5°C...+50°C. Mica-XLPE insulation. Operating voltage 100/100V.						

NAME	COMPOSITION	SPOOL	RESISTIVITY Ohm/km @ T20°C	DIAMETER	BEND RADIUS	WEIGHT kg/km	ITEM NO.
TFCF-FTE29 2X15S CCA5 EXT	2x1.5	500m	Max 13.8	7.6mm	60.8mm	88	TF18FTEC2X15SE5

Power supply cable 24V

		EN 50575	CPR CLASS C _{ca}	EN 50200 PH120	LSZH TYPE M16	INSULATION C-4 400V	TWISTED CABLE
	Cables with flexible red copper conductors. Sheathing in red thermoplastic material with flame retardant, halogen-free low smoke LSZH type M16 compound. CPR Class Cca s1b,d1,a1 (also available in Class B2ca) Fire resistance class PH120. Operating temperature -30°C...+75°C. Temperature during installation -5°C...+50°C. Silicone-ceramic insulation G29. Operating voltage 100/100V.						

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

Cables also available with classe of reaction to fire B_{2ca}

Serial Bus cable

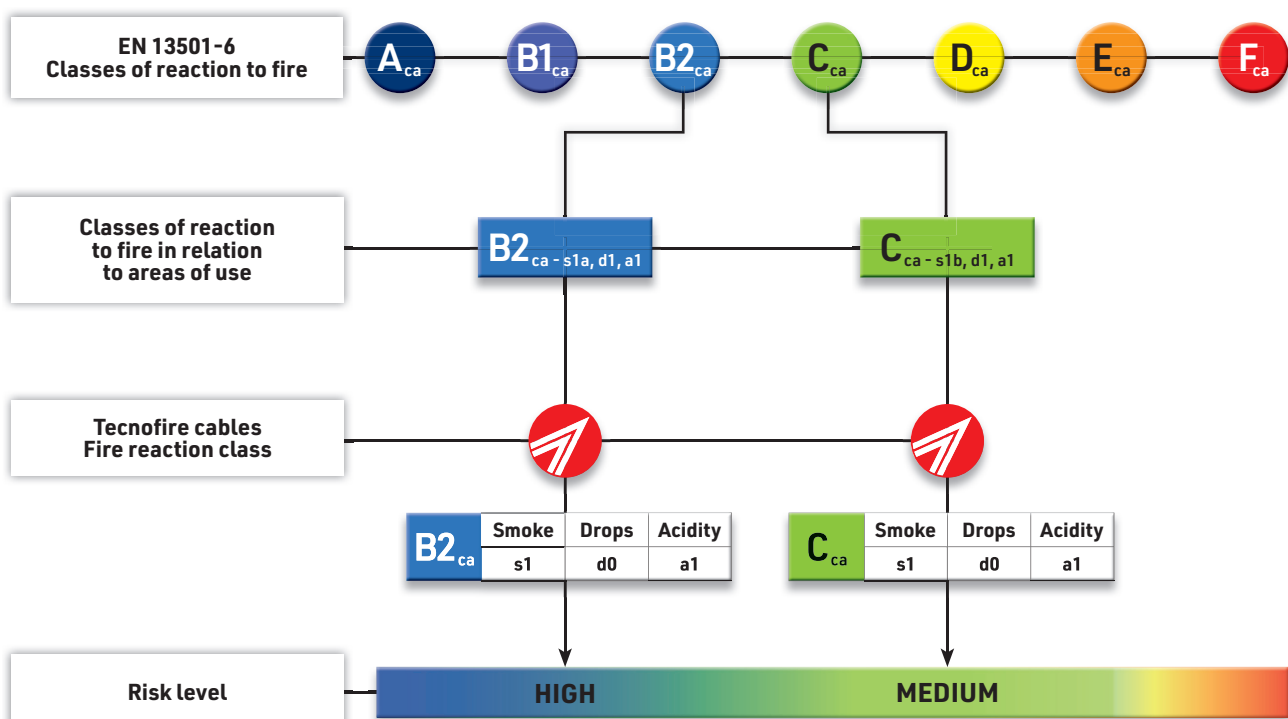
		EN 50575	CPR CLASS C _{ca}	EN 50200 PH120	LSZH TYPE M16	INSULATION C-4 400V	TWISTED CABLE	SHIELDED CABLE
	Cable with flexible red copper conductors, for transmission of digital signals. Sheathing in red thermoplastic material with flame retardant, halogen-free low smoke LSZH type M16 compound. CPR Class Cca s1b,d1,a1 (also available in Class B2ca). Fire resistance class PH120. Operating temperature -30°C...+75°C. Temperature during installation -5°C...+50°C. Mica-XLPE insulation. Operating voltage 100/100V.							

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 B_{2ca}

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



CONVENTIONAL

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.

TFEL-50					
	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					
	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					
	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					
	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				

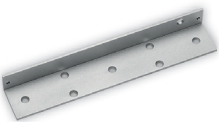
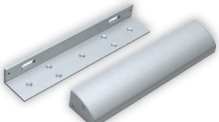
TFELS-50 150 - TFELS-100 150 - Accessories

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

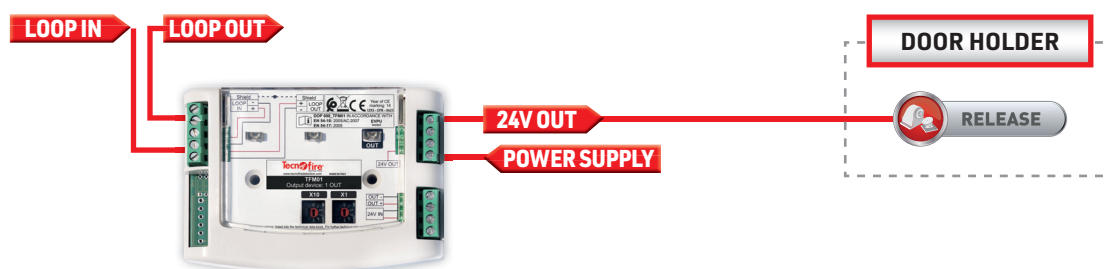
CONVENTIONAL

TFEL-300T		HOLDING FORCE 300kg	DELAYED ACTION	STATUS SENSOR WITH RELAY	WALL OR FLOOR MOUNT	ALUMINUM BOX
	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. Item no. TF8TFEL300T					
TFEL-300	Safety electromagnetic door holder, with the same technical characteristics as the TFEL-300T model, but without closing delay timer. Item no. TF8TFEL300					

TFELT-300 - TFEL-300 - Accessories

	TFELS-300 "L" bracket in anodised aluminum for fixing TFEL-300 and TFELT-300 electromagnetic holders. Item no. TF8TFEELS300		TFELSC-300 Anodised aluminum bracket for fixing the TFELS-300 counter plate to be used when a through hole cannot be made. Item no. TF8TFELSC300
	TFEL-STLC 300 "L" bracket with cover in anodised aluminum for fixing TFEL-300 and TFELT-300 electromagnetic holders. Item no. TF8TFELSTLC300		TFEL-STZL 300 "L" bracket and "Z" bracket in anodised aluminium for fixing TFEL-300 and TFELT-300 electromagnetic stops positioned on the outside of the door. Item no. TF8TFELSTZL300

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	INDOORS OUTDOORS 0° +60°	IP68	ABS BOX
	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. Operating status signaling LED. Free changeover relay output, contacts 1A 30V DC. Power supply 10V...30V DC. Consumption 30mA. Operating temperature -0°C...+60°C. Protection rating IP68. 1 metre long pre-wired cable. ABS casing. Dimensions (L x H x D) 73 x 92 x 36mm.		
	Item no. TF12TFRPL118		

Accessories

Module TFM20 - Application scheme





Merchandising

Demo-cases - Display equipment Apparel and Gadgets

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 apparel and gadgets, which can promote and encourage the sales activities. The purchase of apparel and gadgets helps support charitable projects

Demo-cases



TF-VALIGIA A1

Item no. TF19TFVALDEM0A1

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-S2	Optical smoke detector	TF3TFDAS2
TFDA-TR1	Rate-of-rise detector	TF3TFDATR1
TFDA-STR2	Combined optical smoke and heat detector	TF3TFDASTR2
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 1000 x 3mm.

Item no. TF19TFPANNEL01



TF-PANNELLO

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-S2, TFDA-STR2,
TFRIP-R, TFIS01, TFCP01, TFM21.
Dimensions (L x H) 1000 x 1000mm.

Item no. TF19TFPANNESPUK



TF-ROLLUP

Roll up banner for retail outlets
and show rooms.
Dimensions (L x H) 800 x 2000mm

Item no. TF19TFROLLUP

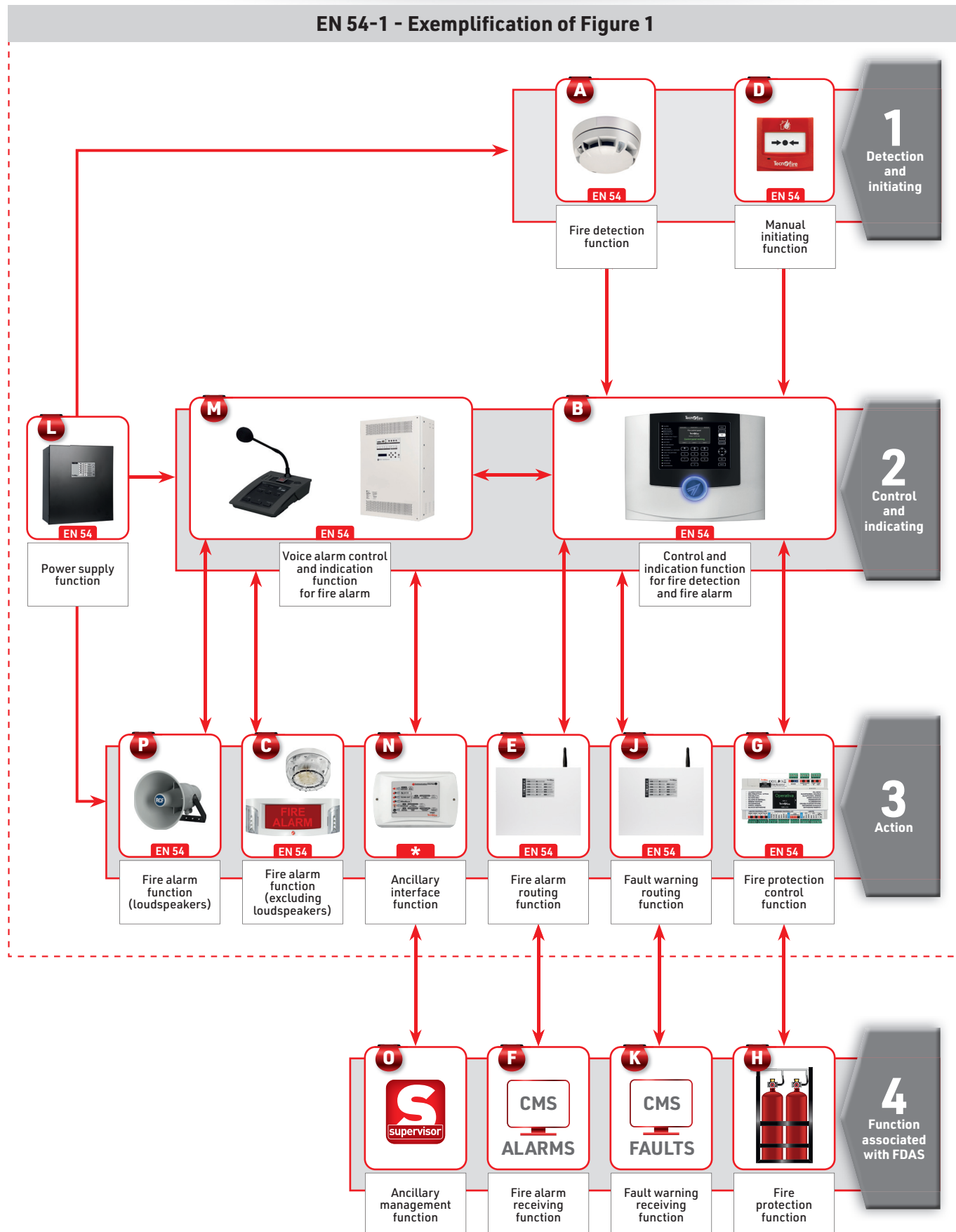
Apparel and Gadgets

	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 side pockets and Tecnofire logo. Red color. 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
	TF-MOUSEPAD Mouse pad with Tecnoalarm and Tecnofire logos. Dimensions (L x H x D) 23 x 19 x 3mm. Item no. TF19TFMOUSEPAD		TF-ZAINO Laptop backpack with Tecnoalarm and Tecnofire logos - Black. Item no. TF19TFZAINO
	TF-SHOPPER Large shopping bag with Tecnoalarm and Tecnofire logo. Double long and short handles. TNT material. White colour. Dimensions (L x H x D) 460 x 500 x 180 mm. Item no. TF19TFSHOPPER		TF-BAG Large shopping bag with Tecnoalarm and Tecnofire logo. Cotton material. White colour. Dimensions (L x H x D) 375 x 420 x 135mm. Item no. TF19TFBAG

FOCUS - EN 54-1

EN 54-1 - Exemplification of Figure 1

FOCUS - EN 54-1



*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

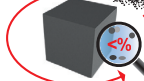
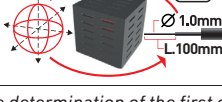
Green colour - Voluntary standards that are not mandatory

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.				
2nd 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  The device, represented here by a sphere, has no protection to prevent contact with its dangerous parts.	Not protected  The device, represented here by a sphere, has no protection to prevent contact with its dangerous parts.
IP1x	Protection against access to hazardous parts with the back of the hand  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.	Protection against solid foreign bodies ≥ 50mm in diameter  Protected from penetration by solid objects. Test calibre 50mm diameter sphere. The maximum diameter of the sphere must not penetrate inside the device enclosure.
IP2x	Protection against access to hazardous parts with a finger  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.	Protection against solid foreign bodies ≥ 12.5mm in diameter  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.
IP3x	Protection against access to hazardous parts with a tool  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.	Protection against solid foreign bodies ≥ 2.5mm in diameter  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.
IP4x	Protection against access to hazardous parts with a wire  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.	Protection against solid foreign bodies ≥ 1mm in diameter  Protected from penetration by solid objects. Test calibre 1mm diameter. The calibre must not penetrate inside the device enclosure.
IP5x	Protection against access to hazardous parts with a wire  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.	Protected against dust  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.
IP6x	Protection against access to hazardous parts with a wire  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.	Totally protected against dust  Totally protected against dust penetration. Penetration of dust is not permitted inside the device enclosure.

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	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	Drops of water falling vertically on the device must not cause harmful effects.
IPx2	Protected against vertically falling water drops	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	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	Protected against water jets	The water jet sprayed on the device from all directions must not cause harmful effects.
IPx6	Protected against powerful water jets	The powerful jet of water projected onto the device from all directions must not cause harmful effects.
IPx7	Protected against the effects of temporary immersion	Water must not penetrate in harmful quantities into the temporarily submerged device under specific conditions of time and pressure.
IPx8	Protected against the effects of continuous immersion	Water must not penetrate in harmful quantities into the device immersed. The manufacturer indicates the specific immersion conditions.

ICONOGRAPHY

STANDARDS AND APPROVALS		TECHNOLOGIES AND SERVICES	
EN 54-1	EN 54-1 Fire detection and fire alarm systems		RSC® Device featuring Remote Sensitivity Control technology
EN 54-2	EN 54-2 Control and indicating equipment		DDNS TECNOALARM Dynamic Domain Name System service by Tecnoalarm
EN 54-3	EN 54-3 Fire alarm devices - Sounders		MAIL SERVER TECNOALARM Mail Server by Tecnoalarm for alarm notifications by e-mail
EN 54-4	EN 54-4 Power supply equipment		SNTP Synchronization of the control panel clock with an NTP server
EN 54-5	EN 54-5 Heat detectors and point detectors		TECNOALARM SOFTWARE
EN 54-7	EN 54-7 Smoke detectors - Point detectors using scattered light, transmitted light or ionization		PROGRAMMING Local/remote programming software
EN 54-10	EN 54-10 Flame detectors - Point detectors	TCP/IP System management software	
EN 54-11	EN 54-11 Manual call points		MONITORING Local/remote monitoring software
EN 54-12	EN 54-12 Smoke detectors - Line detectors using an optical light beam		SUPERVISOR SOFTWARE
EN 54-13	EN 54-13 Compatibility assessment of system components		SUPERVISOR Server license for the Supervisor supervision software
EN 54-17	EN 54-17 Short-circuit isolators	SUPERVISOR PLUS Server license for the Supervisor plus supervision software	
EN 54-18	EN 54-18 Input/output devices		+1 CLIENT Additional client license for the Supervisor supervision software
EN 54-20	EN 54-20 Aspirating smoke detectors		+1 CONTROL PANEL Additional server license implementing 1 fire control panel
EN 54-21	EN 54-21 Alarm transmission and fault warning routing equipment		
EN 54-23	EN 54-23 Fire alarm devices - Visual alarm devices (VAD)		
EN 54-27	EN 54-27 Duct smoke detectors		
EN 54-28	EN 54-28 Non-resettable line-type heat detectors		
EN 1155	EN 1155 Electrically powered hold-open devices for swing doors		
EN 12094-1	EN 12094-1 Components for gas extinguishing systems		
EN 12101-10	EN 12101-10 Smoke and heat control systems - Power supplies		
EN 50136	EN 50136 Alarm systems - Alarm transmission systems and equipment		
EN 50200	EN 50200 Method of test for resistance to fire of unprotected small cables for use in emergency circuits		
EN 50518	EN 50518 Monitoring and alarm receiving center		
EN 50575	EN 50575 Fire resistance tests for electrical cables		
EN 60529	EN 60529 Degrees of protection provided by enclosures (IP code)		
EN 61000	EN 61000 Electromagnetic compatibility (EMC)		
EN 60332-1 60332-2	EN 60332-1 - 60332-2 Flame-retardancy tests		
EN 60332-3 60332-25	EN 60332-3 - 60332-25 Fire-retardancy tests		
CPR EU 305/11	CPR EU 305/2011 Construction Products Regulation		
	UL/FM Device certified by Underwriters Laboratories/Factory Mutual (USA)		
	ATEX CATEGORY Device certified for use in explosive environments (ATmosphères EXplosibles)		
	ATEX ZONE Zone classification according to gas (0, 1, 2) and dust (20, 21, 22) concentration		
SIL1	SIL1 Device with Safety Integrity Level 1 and risk reduction factor from >10 to ≥100		
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 AND NOT! OR! 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	CLASS A Highly sensitive device (class A)
CLASS B	CLASS B Device of medium sensitivity (class B)
CLASS C	CLASS C Normally sensitive device (class C)
AIR SAMPLING	AIR SAMPLING Device featuring air sampling function
IR DETECTION	INFRARED DETECTION Device equipped with infrared detection chamber
EXTRACTION UNIT	EXTRACTION UNIT Air intake unit
MODULAR SYSTEM	MODULAR SYSTEM Modular system composed of 1 or 2 detection chambers
DETECTOR MODULE	DETECTOR MODULE Detection chamber for modular air sampling units
PIPE LENGTH 300m 2x 300m	PIPE LENGTH Number and maximum length of the tubes managed
3 SIGNALING OUTPUTS	SIGNALING OUTPUTS Number of available signaling outputs
FROST PROOF	FROST PROOF Device featuring an extended temperature range
BLOWING CONTROL SYSTEM	BLOWING CONTROL SYSTEM Automatic pipe maintenance system with compressed air
2 CONTROL PIPES	CONTROL PIPES Number of pipes managed by the automatic maintenance system
AUTOMATIC START	AUTOMATIC START Automatic pipe blowing every 24h and/or controlled by air sampling unit
OPTICAL FLAME DETECTORS	
2 x IR DETECTION	2 x IR DETECTION Detector equipped with dual infrared element
3 x IR DETECTION	3 x IR DETECTION Detector equipped with triple infrared element
2 x IR 1 x UV DETECTION	2 x IR + 1 x UV DETECTION Detector equipped with dual infrared element and one UV element

ELECTRONIC HEAT DETECTORS	
HEAT	HEAT Detector detecting exceeding of the temperature threshold
RATE-OF-RISE	RATE-OF-RISE Rate-of-rise detector detecting the sudden rise in temperature
LINEAR HEAT DETECTORS	
HEAT-SENSITIVE 138°C	HEAT-SENSITIVE Heat detection cable with the indicated alarm threshold
TWISTED CABLE	TWISTED CABLE Twisted-pair cable
ELECTROMAGNETIC DOOR HOLDERS	
HOLDING FORCE 300kg	HOLDING FORCE Device featuring the indicated holding force
WALL OR FLOOR MOUNT	WALL OR FLOOR MOUNT Device suitable for wall or floor mounting
DOOR FRAME MOUNT	DOOR FRAME MOUNT Device suitable for surface mounting on the door frame
DELAYED ACTION	DELAYED ACTION Delayed door release
RELEASE SWITCH	RELEASE SWITCH Detector equipped with heat sensor for automatic release
GAS DETECTORS	
TOXIC GAS	TOXIC GAS Device detecting toxic gases
FLAMMABLE GAS	FLAMMABLE GAS Device detecting flammable gases
REFRIGERANT GAS	REFRIGERANT GAS Device detecting refrigerant gases
ELECTRO-CHEMICAL CELL DETECTOR	ELECTROCHEMICAL CELL DETECTOR Device equipped with electrochemical cell
INFRARED DETECTOR	INFRARED DETECTOR Device equipped with infrared element
CATALYTIC DETECTOR	CATALYTIC DETECTOR Device equipped with catalytic element

CABLES	
CPR CLASS B2ca	CPR CLASS B2ca Cable suitable for high-risk installations (RtF class)
CPR CLASS Cca	CPR CLASS Cca Cable suitable for medium-risk installations (RtF class)
EN 50200 PH120	EN 50200 - PH120 Cable resisting to fire for 120 minutes (compliant to EN 50200)
LSZH CABLES	LSZH CABLES Cable equipped with low smoke zero halogen thermoplastic jacket
INSULATION C-4 400V	INSULATION Cable featuring the indicated insulation voltage
TWISTED CABLE	TWISTED CABLE Twisted-pair cable
SHIELDED 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 "Tecnofire 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 acknowledgment 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 notifies 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 acknowledgment 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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