TFIES03

ADDRESSABLE

Addressable high-power optical-acoustic alarm device

Addressable high power optical-acoustic alarm device, for VAD fire alarm signal, category O (Open class).
Optical coverage O-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.

MODEL		RSC	EN 54-3 54-23 54-17	VAD VISUAL ALARM DEVICE	CATEGORY O X5.5 Y3.2-Z7.7	135m³ COVERAGE VOLUME	SOUND LEVEL 118dB(A) @1m	2 LOGICAL UNITS	OPERATOR FORMULA	PC ABS BOX
Name	Item no.									
TFIES03	TF5TFIES03									

OBLIGATIONS AND NOTICES

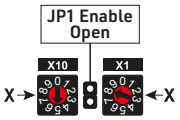
The TFIES03 siren can only be used when connected to a compatible Tecnofire control unit detection loop.
In the planning and installation phases, the regulations in force must be observed and applied.

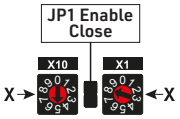
NOTIFICATION PRIORITY

If the siren receives the alarm activation command for both main and alias identities, priority will be given to main siren. An alarm cycle of the alias siren stops when the main siren activates.

LOGIC UNITS

The TFIES03 siren can be programmed to operate as a single or dual logic unit. By programming the second logical unit, called Alias, the siren takes on two functional addresses to which two signalling modes correspond.
The state of the Enable Jumper determines the number of physical/logical units of operation.
With the Enable Jumper closed, there is only one Main Siren operating logic unit. With the Enable Jumper open, there are two logical units of operation, Main Siren and Alias Siren.

	Logic unit 1	JP1 Enable Open
ID SINGLE	Main siren 	Physical address = XX 

	Logic unit 1	JP1 Enable Close
ID DOUBLE	Main siren 	Physical address = XX 
	Logic unit 2	**Logical address**
	Alias siren 	Logical address = Physical address XX + 1

ADDRESSING

The physical address of the siren module is programmed by means of two decimal rotary switches, visible on the electronic board. The selectors are marked by labels indicating the position of the digits that make up the address: X10 for the tens and X1 for the units. The numerical range of addresses allowed for the modules goes from address No.01 to address No.99.
The programmed address is assigned to logical unit 1 (main siren). Attention: programming address No.00 effectively excludes the siren from operation.

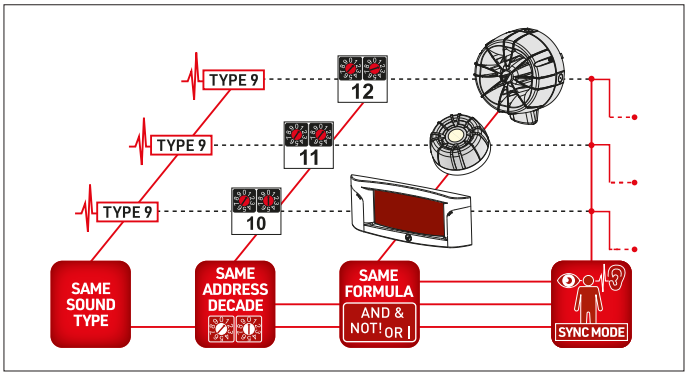
ADDRESSABLE

SHORT-CIRCUIT ISOLATOR

The siren is equipped with a line separator with double insulator. In the event of a short circuit of the Loop line, the separator intervenes by isolating the section of line affected by the fault, thus safeguarding the correct functioning of the devices connected upstream and downstream.
The intervention of the line separator preserves the smooth operation of the loop and generates the failure signal "Separator open".

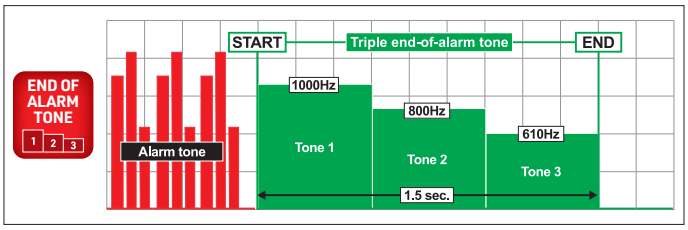
SYNCHRONISED OPTICAL-ACOUSTIC SIGNALLING

Optical-acoustic alarm devices installed in the same place must have a synchronised optical and acoustic signalisation mode.
Tecnofire optical-acoustic signalling modules handle synchronous signalling automatically only if: their addresses belong to the same decade, the programmed sound type and the formula to which they are possibly subjected are the same.



END-OF-ALARM TONE

The TFIES03 siren module manages the diffusion of the end-of-alarm tone. The tone diffused after the acknowledgment command consists of a succession of three tones with descending frequencies. The diffusion of the end-of-alarm tone can be excluded.



DIAGNOSTIC FUNCTIONS

Tecnofire control panels manage a series of specialised diagnostic functions for each type of device.
The diagnostic functions available for the siren module allow you to:
- Physically identify the module.
- Identify the device type.
- Identify the HW and FW version.
- Detect electrical operating data.
- Read statistics from the communication monitor.
- Activate the siren.

DIAGNOSTIC FUNCTIONS OF THE MODULE TECNO - siren EN 54-23	
Identification	Turns on the Led of the device for its identification
Self declaration	Self declaration of the module type
HW release	Self declaration of the hardware version
FW release	Self declaration of the firmware version
Level reading	Measurement of the electric values of operation
Statistic	Statistic/functional values related to communication
Activation	Allows to activate the siren

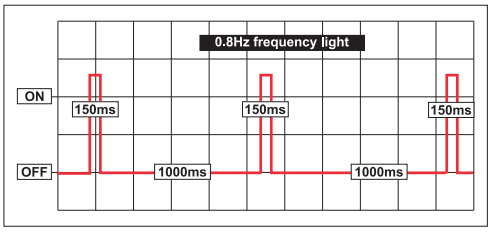
Consumption
Power supply level
Zero level
Consumption level
Loop resistance

Strings sent
Errors
Percentage of success
Percentage of errors
Latency

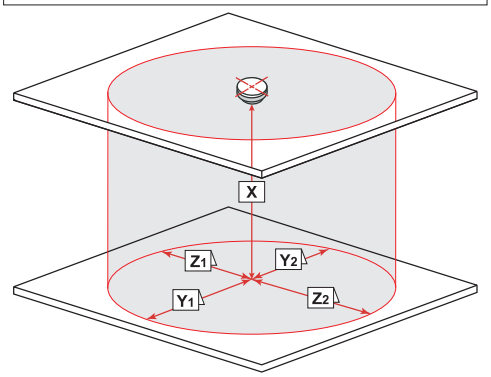
OPTICAL COVERAGE DIAGRAMS

EN 54-23

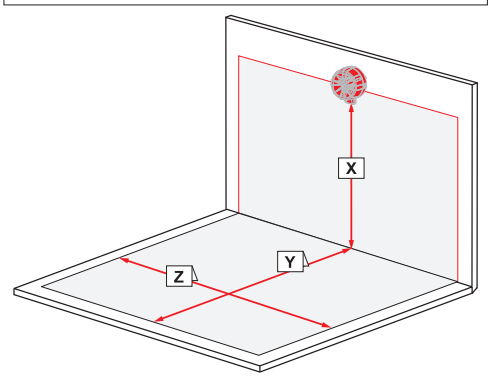
CATEGORY 0 X5.5 Y3.2-Z7.7



VAD Category 0 ceiling mounted
X = 5.5 m - Y(Y1+Y2) = 3.2m - Z(Z1+Z2) = 7.7m

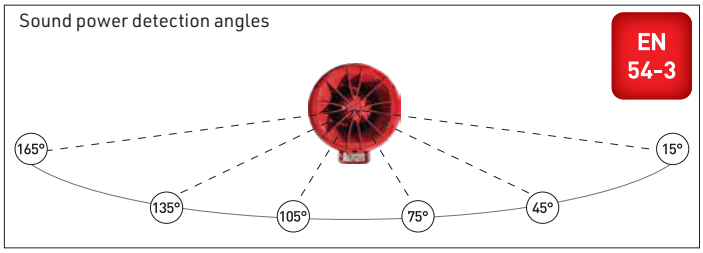


VAD category 0 wall mounted
X = 5.5m - Y = 3.2m - Z = 7.7m



SOUND SIGNALLING MODES

For each of the 64 sound modes, the table shows: frequencies, compliance with standards, sound levels measured at the angles indicated, with a 30V DC and 18V DC power supply, with high and low volume.



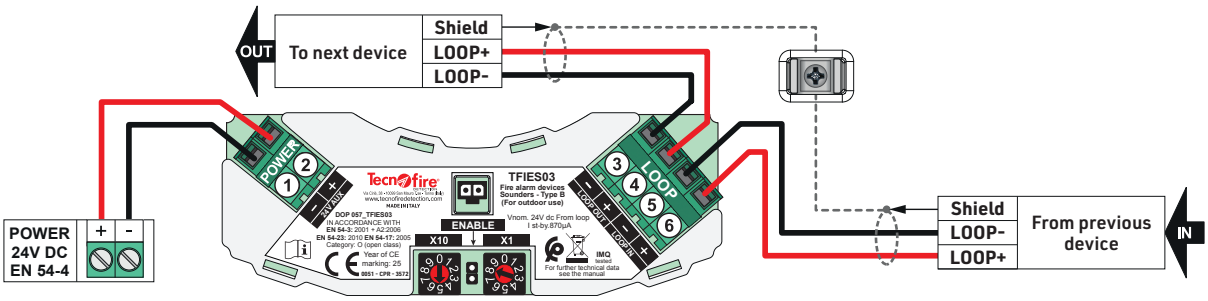
SOUND TYPES

Sound index	Type	Description	Functioning	Standard	Sound level - High volume dB @ 1m							Sound level - Low volume dB @ 1m						
					Max. @ 30V DC	@ 30V DC						Max. @ 18V DC	@ 30V DC					
						15°	45°	75°	105°	135°	165°		15°	45°	75°	105°	135°	165°
1	Pulse	Intermittent tone	500ms @ 3550Hz + 700ms off		103	84	86	102	103	84	83	101	83	85	102	101	82	81
2	Pulse	Intermittent tone	500ms @ 2450Hz + 700ms off		110	93	100	109	110	100	90	109	92	99	107	109	99	89
3	Bitonal		500ms @ 2450Hz + 700ms off + 500ms @ 3550Hz + 700ms off		110	93	100	109	110	100	91	109	92	99	107	109	98	89
4	Bitonal		4x (500ms @ 2450Hz + 700ms off) + 4x (500ms @ 3550Hz + 700ms off)		110	93	109	110	110	100	90	109	92	99	107	109	98	89
5	Bitonal		250ms @ 3550Hz + 250ms @ 2450Hz + 700ms off		109	92	100	108	109	100	90	108	91	98	107	108	98	88
6	Bitonal		250ms @ 2450Hz + 250ms @ 3550Hz + 700ms off		109	92	99	108	109	100	90	108	91	98	107	108	98	89
7	Sweep	**Prealarm UNI 11744**	1000ms @ 800Hz...970Hz + 0ms off	UNI 11744 - BS5839 Pt1	113	105	108	113	113	108	106	112	104	106	112	111	107	105
8	Continuous	**Evacuation alarm UNI 11744**	970Hz continuous	UNI 11744 - BS5839 Pt1	112	103	107	112	112	107	102	111	102	106	110	111	106	101
9	Special	Tecnofire alarm (sweep up)	1000ms @ 353Hz...1950Hz + 50ms off		112	103	107	111	112	107	104	112	103	107	111	111	107	104
10	Special	Tecnofire technical alarm (sweep up)	1000ms @ 445Hz...590Hz + 50ms off		113	104	108	113	113	108	104	112	103	107	111	112	107	103
11	Special	Tecnofire failure (sweep up/down)	1000ms @ 445Hz...1000Hz + 100500ms @ 3550Hz + 700ms offff		113	105	108	112	113	108	105	112	104	107	111	111	107	104
12	Special	Tecnofire prealarm (4 tone pulses)	100ms @ 1050Hz + 50ms off + 200ms @ 1300Hz + 50ms off + 100ms @ 1600Hz + 50ms off + 200ms @ 1900Hz + 50ms off		111	99	106	111	111	105	99	110	98	105	110	110	104	97
13	Bitonal	AFNOR French alarm tone	400ms @ 440Hz + 100ms @ 554Hz	NFS 32-001	113	106	108	113	113	108	106	112	105	107	112	112	107	105
14	Bitonal		500ms @ 440Hz + 500ms @ 554Hz		118	105	107	119	112	107	105	112	104	107	112	112	107	105
15	Bitonal		250ms @ 500Hz + 250ms @ 610Hz		112	102	107	112	112	109	103	111	101	106	111	111	107	101
16	Bitonal	AFNOR French alarm tone	500ms @ 500Hz + 500ms @ 1200Hz	NFS 32-001	111	102	106	111	111	107	101	111	101	106	111	111	107	101
17	Bitonal		500ms @ 580Hz + 500ms @ 1000Hz		112	103	107	111	112	109	101	111	101	106	110	111	108	100
18	Bitonal		250ms @ 628Hz + 250ms @ 925Hz		112	104	107	112	112	106	104	111	103	106	111	111	105	103
19	Bitonal		250ms @ 670Hz + 370ms @ 845Hz		112	105	107	112	112	107	104	111	104	106	111	111	106	103
20	Bitonal		500ms @ 800Hz + 500ms @ 970Hz	BS 5839 Pt1	111	103	106	111	111	107	103	110	102	105	110	110	105	102
21	Bitonal		150ms @ 800Hz + 150ms @ 970Hz		111	103	106	111	111	106	103	110	102	105	110	110	105	102
22	Bitonal		170ms @ 2400Hz + 170ms @ 2900Hz		111	103	106	111	111	106	103	110	102	105	110	110	106	102
23	Bitonal		150ms @ 2400Hz + 150ms @ 2850Hz		108	88	100	107	108	100	84	107	87	98	106	107	99	83
24	Bitonal		250ms @ 2400Hz + 250ms @ 2850Hz		108	88	100	107	108	100	84	107	87	98	105	106	99	83
25	Bitonal		250ms @ 2500Hz + 250ms @ 3100Hz		108	88	100	107	108	101	84	107	87	99	106	107	100	84
26	Pulse		600ms @ 440Hz + 600ms off		113	106	108	113	113	108	106	112	105	107	112	112	107	105
27	Pulse		250ms @ 580Hz + 250ms off		111	102	107	111	111	109	101	111	101	106	110	111	107	100
28	Pulse	Swedish alarm tone	150ms @ 660Hz + 150ms off		110	101	105	110	110	105	100	109	99	103	108	108	103	98
29	Pulse		1.8s @ 660Hz + 1.8s off		111	102	106	110	111	106	101	109	100	105	109	109	105	99
30	Pulse		6.5s @ 660Hz + 13s off		110	101	105	110	110	105	100	110	101	105	109	110	105	100
31	Pulse	Intermittent tone	150ms @ 925Hz + 600ms off		112	104	106	112	112	106	104	111	103	105	111	111	105	103
32	Pulse	Intermittent tone	250ms @ 925Hz + 1s off	BS 5839 Pt1	113	105	107	113	113	107	105	112	103	106	112	111	106	104
33	Pulse	Intermittent tone	250ms @ 970Hz + 1s off	BS 5839 Pt1	111	102	106	111	111	106	102	111	102	106	111	111	106	102
34	Pulse		500ms @ 970Hz + 500ms off		112	104	108	112	112	108	103	111	103	107	111	111	106	102
35	Pulse		3x (500ms @ 950Hz + 500ms off) + 1500ms off	ISO 8201 LF & BS 5839 Pt1	112	104	108	112	112	109	103	111	103	107	111	111	106	102
36	Pulse	Intermittent tone	1s @ 970Hz + 1s off	BS 5839 Pt1	112	104	108	112	112	108	103	111	103	107	111	111	106	102
37	Pulse	Pelican crossing	150ms @ 2850Hz + 100ms off		103	79	90	101	103	90	76	102	77	89	99	102	89	75
38	Pulse	Backup alarm	500ms @ 2850Hz + 500ms off	HF & BS 5839 Pt1	104	80	91	102	104	91	76	103	78	90	100	103	89	75
39	Pulse		3x (500ms @ 2850Hz + 500ms off) + 1500ms off	ISO 8201 HF	103	78	90	100	103	89	74	103	78	90	100	103	89	75
40	Pulse		1000ms @ 2850Hz + 1000ms off		105	80	92	102	105	91	76	103	78	90	100	103	90	75
41	Continuous	US temporal tone 3	610Hz continuous	ISO 8201	112	100	107	111	112	107	100	111	99	106	110	111	106	99
42	Continuous	End of alarm or Swedish alarm tone	660Hz continuous		109	100	104	109	109	104	99	109	100	104	109	109	104	99
43	Continuous		845Hz continuous		112	105	107	112	112	107	104	111	104	106	111	111	106	103
44	Continuous		925Hz continuous		113	104	107	113	112	106	105	112	103	106	111	111	106	104
45	Continuous		1200Hz continuous		111	99	105	110	111	105	98	110	97	103	109	109	104	96
46	Continuous	US temporal tone 3	2850Hz continuous	ISO 8201	104	80	92	101	104	91	75	102	78	90	99	102	89	73
47	Continuous		4000Hz continuous		100	85	86	100	100	79	86	99	83	85	99	99	78	84
48	Sweep		1000ms @ 300Hz...1200Hz + 0ms off		112	104	107	112	112	108	104	111	103	106	111	111	107	103
49	Sweep		3x (500ms @ 300Hz...1200Hz + 500ms off) + 1500ms off		112	104	108	112	112	108	104	111	103	106	111	111	107	103
50	Sweep		3x (500ms @ 400Hz...1200Hz + 500ms off) + 1500ms off		112	104	108	112	112	108	104	111	103	106	111	111	107	103
51	Sweep		3000ms @ 400Hz...1200Hz + 500ms off		113	105	108	113	113	108	106	112	104	107	112	112	107	105
52	Sweep		140ms @ 500Hz...1000Hz + 0ms off		112	102	107	112	112	107	102	111	101	106	111	111	106	101
53	Sweep	Slow evacuation swap	3.5s @ 500Hz...1200Hz + 500ms off	NEN 2575	113	105	108	113	113	108	106	112	104	107	112	112	107	105
54	Sweep	Slow evacuation swap	3.76s @ 500Hz...1200Hz + 250ms off	NEN 2575	113	105	108	112	113	108	106	112	104	107	111	112	107	105
55	Sweep	LF buzzer	20ms @ 800Hz...970Hz + 0ms off	BS 5839 Pt1	111	104	107	111	111	107	104	111	103	106	111	110	106	103
56	Sweep	Fast sweep	140ms @ 800Hz...970Hz + 0ms off (7Hz)	BS 5839 Pt1	112	104	107	112	112	107	105	111	103	106	111	111	106	104
57	Sweep		330ms @ 800Hz...970Hz + 0ms off (3Hz)	BS 5839 Pt1	111	104	106	111	111	106	104	111	103	106	111	111	106	104
58	Sweep		500ms @ 800Hz...1000Hz + 0ms off		112	105	107	112	112	107	105	111	104	106	111	111	106	104
59	Sweep		3x (500ms @ 1200Hz...300Hz + 500ms off) + 1500ms off		113	104	108	112	113	108	104	111	103	106	111	111	107	103
60	Sweep	Evacuation tone	1000ms @ 1200Hz...500Hz + 10ms off	DIN PFEER	112	104	107	112	112	108	104	111	103	106	111	111	107	103
61	Sweep		20ms @ 2400Hz...2850Hz + 0ms off (50Hz)		108	91	100	107	108	100	87	107	90	99	106	107	98	85
62	Sweep	Fast sweep or Australian alarm tone	140ms @ 2400Hz...2850Hz + 0ms off (7Hz)	VdS, AS 2220	107	88	98	107	107	97	84	105	87	97	105	105	96	83
63	Sweep		330ms @ 2400Hz...2850Hz + 0ms off (3Hz)		108	88	98	107	108	98	86	106	87	96	105	106	97	84
64	Sweep		1000ms @ 2400Hz...2850Hz + 0ms off		108	92	101	108	109	102	89	108	90	99	107	108	100	88

TFIES03

Addressable optical-acoustic alarm device

CONNECTION TO THE LOOP



Technical and functional specifications

General information	Addressable optical-acoustic alarm device	**TFIES03**
	Area of use	**Type B (for outdoors)**
Optical characteristics	VAD classification	**Visual Alarm Device**
	Category O Open Class	**Wall or ceiling mounting**
	Optical coverage	**O - 5.5 - 3.2 - 7.7**
Acoustic characteristics	Sound level	**Max. 118dB(A) @ 1m Number 14**
	Main sound type (compliant with EN 54-3)	**Number 9**
Programmable functions	Functional duplication	**Principal ID + Alias ID**
	Optical synchronisation	**Programmable**
	Polling signaling Led	**Excludable**
	Polling frequency	**Programmable**
	Functioning criterions	**6 modes**
	Optical signalling	**Excludable**
	Acoustic signaling	**Excludable**
	Acoustic signalling modes	**64**
	Acoustic volume adjustment	**2 settings**
	End-of-alarm tone	**Excludable**
	Activation delay	**Programmable**
	Activation time	**Programmable**
	Device activation	**It can be controlled by the formula**
Loop interface	Addressable module	**Connection over loop**
	Addressing	**2 rotary switch**
	Occupied addresses	**Max. 2 (Double ID)**
	Communication protocol	**FIRE-SPEED**
	Loop isolator	**Double insulator**

Automatic functions	Power supply monitor	**Fault signal for voltage <15V DC**
Electrical specifications	Power supply	**External power supply**
	Nominal voltage	**24V DC**
	Operating voltage	**18V...30V DC**
	Loop consumption in stand-by	**2,27mA @ 24V DC**
	Average absorption during signalling	**Optics and acoustics 377mA @ 24V DC**
		Acoustic only 325mA @ 24V DC
		Optics only 60mA @ 24V DC
Physical specifications	Operating temperature	**-25°C...+70°C**
	Relative humidity (non-condensing)	**10%...93%**
	Protection class	**IP54 (EN 60529)**
	Casing	**PC ABS**
	Dimensions (L x H x D)	**204 x 240 x 118,5mm**
	Weight	**2Kg**
Conformity	Standards	**EN 54-3:2001 + A2:2006 EN 54-23:2010 EN 54-17:2005**
	System compatibility	**EN 54-13:2020**
	Certification number	**0051-CPR-3572**
	Year of CE marking	**25**
	Number of declaration of performance	**057_TFIES03**
	Notified body	**IMQ**

High sound level: risk of hearing damage

N.B. Declarations of conformity and performance are available on www.tecnofiredetection.com

Tecnofire DETECTION

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