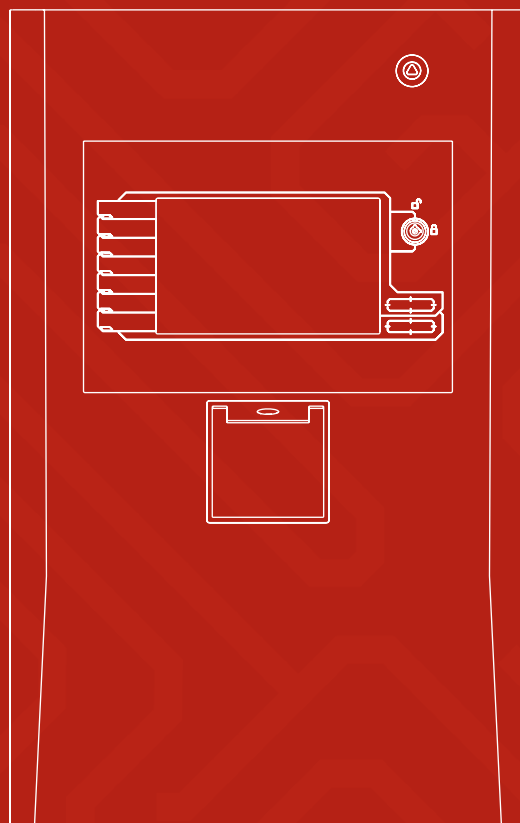
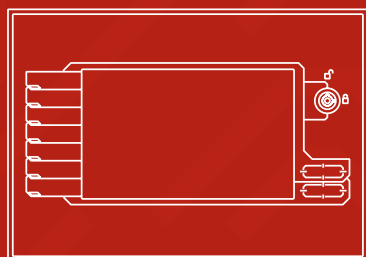
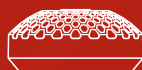


# FIRE ALARM SYSTEM

VER.18.1





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## CONTROL UNITS



## CONTROL UNITS IN THE FIRE ALARM SYSTEM

The control units are intended collect alarm signals from the elements located on supervisory lines. Grouped information are presented on the screens of user panels in the order dependent on their type and priority of display. Due to such application, communications are legible and clear for all users of the system. Seven-inch display connected with a transparent interface gives the possibility of easy and quick configuration of the system. The built-in controller while interpreting introduced settings controls the devices intended to protect a facility against fire.





## CONTROL UNITS

### FIRE ALARM CONTROL UNIT FAS

The control unit is manufactured in the module technique which makes it easy to expand and service. In the basic it has a user's panel, a control module with a detection loop, a power supply unit and a set of batteries. You can expand and adjust the control unit to your own need through installations and programming appropriate expansion cards.

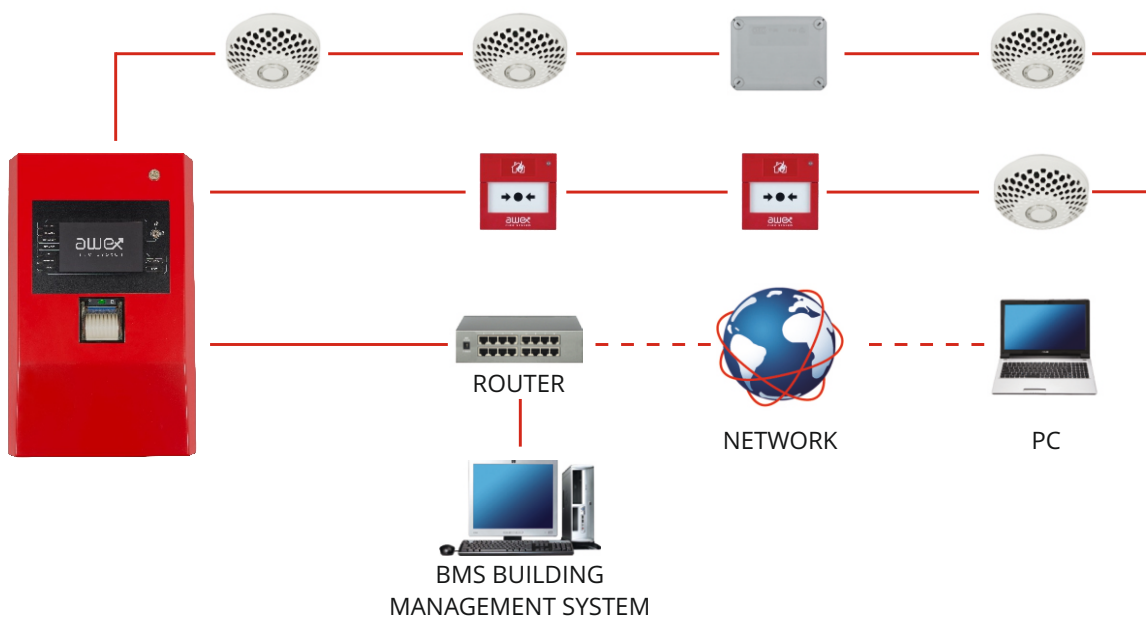


#### Characteristics of the control unit FAS

- Up to 7 detection loops
- Up to 250 elements per a loop
- Up to 250 supervisory zones per a loop
- Outputs built-in
  - ATE
  - Signal lines
  - Fault
  - Universal relay
- Maximum loop length 2 km
- Loop interval detection
- Events counter up to 15,000
- Expansion cards
- Conformity with EN 54-2, EN 54-4 standard
- 7-Inch touch screen
- Printer built-in
- BACnet and WEB interface

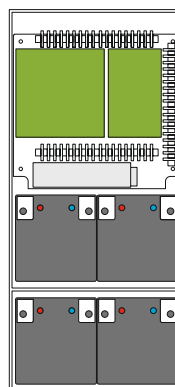
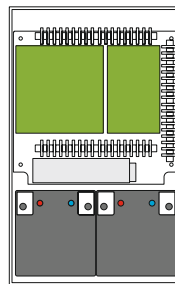
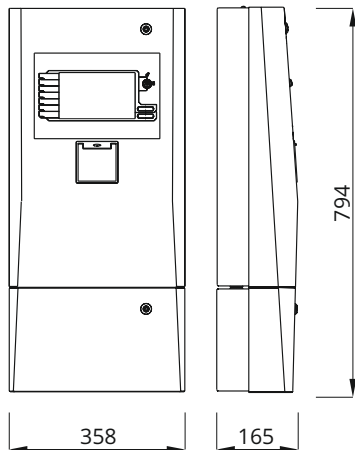
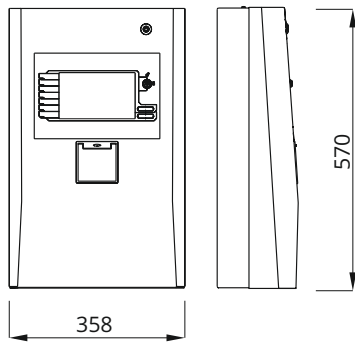
Optionally, the control units may be monitored through the TCP/IP protocol. Remote access to the system service is available through dedicated software or on the website.

Application of the RJ-45 connector and the IP technology allows to integrate the system and the building management systems (BMS), with the Safety management systems (SMS) and the visualisation systems (SMART VISIO).



## CONTROL UNITS

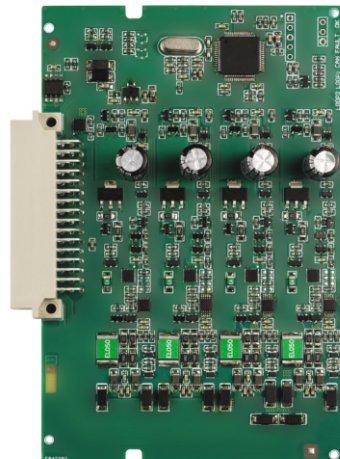
TECHNICAL DATA	
Name	Fire alarm control unit FAS
Type	Addressable
Supply voltage	170-260 V AC 50 Hz
Output power	24 V DC $\pm$ 25%
Batteries	26 Ah / 52 Ah
Wires cross-sections	2.5 mm <sup>2</sup> maximum
Detection loops wire cross-section	0,8 - 1,5 mm <sup>2</sup>
Length of detection loop	2 km
Types of detection circuit	detection loop, stub detection circuit, side stub detection circuit
Maximum number of detection loops	7
Maximum number of stub detection circuit	14
Maximum number of supervisory zones	250 per a loop
Maximum number on detection loop	250
Maximum number on stub detection circuit	32
Number of signal lines outputs	2
Alarming variants	16
Universal inputs	8 maximum
Universal relay outputs	9 maximum
Events counter	15000
Permissions levels	4 levels
Printer	Yes, optionally
LAN Input	Yes
Casing	Powder-coated steel, RAL 3000
IP rating	IP 30
Ambient temperature	from 10° C to 40° C



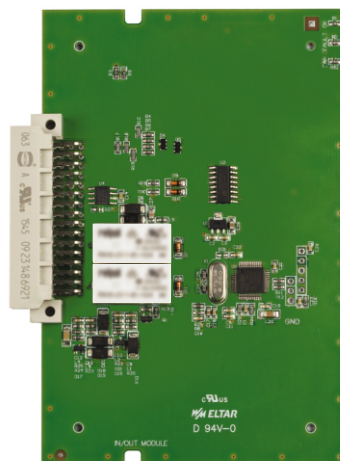
## CONTROL UNITS

### CONTROL UNIT EXTENTION CARDS

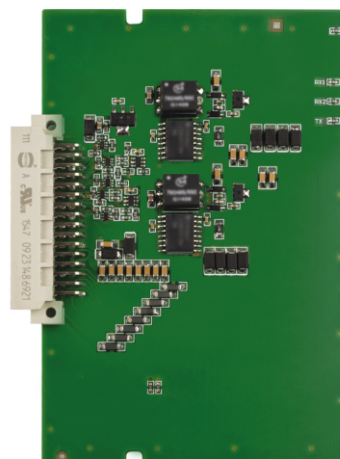
TECHNICAL DATA	
Name	Detection loops card KPD 2
Installation	inside the FAS control unit
Number of detection loops	2
Type of detection circuits	detection loop, stub detection circuit, side stub detection circuit
Maximum number of elements on detection loop	up to 250 per a loop
Maximum length of detection loop	2 km
Maximum number of cards	3
Product code	FSC000001



TECHNICAL DATA	
Name	Input/Outputs card KIO 22
Installation	inside the FAS control unit
Monitoring	input signal monitoring
Number of inputs	2 supervised inputs
Number of outputs	2 relay outputs
Maximum input load	30V DC 0.5A
Maximum number of cards	3
Product code	FSC000002



TECHNICAL DATA	
Name	Communication card KRS 422
Installation	inside the FAS control unit
Maximum number of central units	10
Maximum number of remote control panels	10
Maximum length of a wire	1 km
Maximum number of cards	1
Connection type	doubled loop
Product code	FSC000003





## CONTROL UNITS

### EXTERNAL SIGNAL PANEL ESP

The ESP panel allows to control the fire alarm control unit from a place which is distant from a physical localisation of the control unit by reproducing its interface by displaying, among others: alarm, fault, block and test communicates.

Due to application of the remote control panel, the fire alarm control unit may be installed in the most comfortable place from the point of view of the topology of the system, whilst the panel may be placed near the personnel handling the fire alarm system.

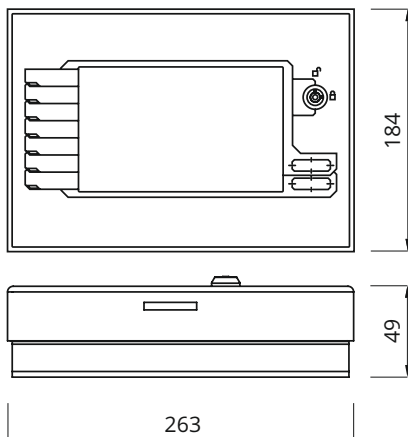
It is possible to verify alarming of the control unit, and then, remove the signalling. The panel controls its own systems and signals their possible fault. Efficiency of the signalling elements of the terminal can be tested. Accessibility to the manipulative elements and determined functions was diversified and divided into the access levels.



#### Characteristics of the ESP remote panel

- Double interface of the control unit
- 7-Inch touch screen
- 4 levels of access
- Multi-language service
- Access blockade by using a key
- Compact casing

#### Dimensions (mm):



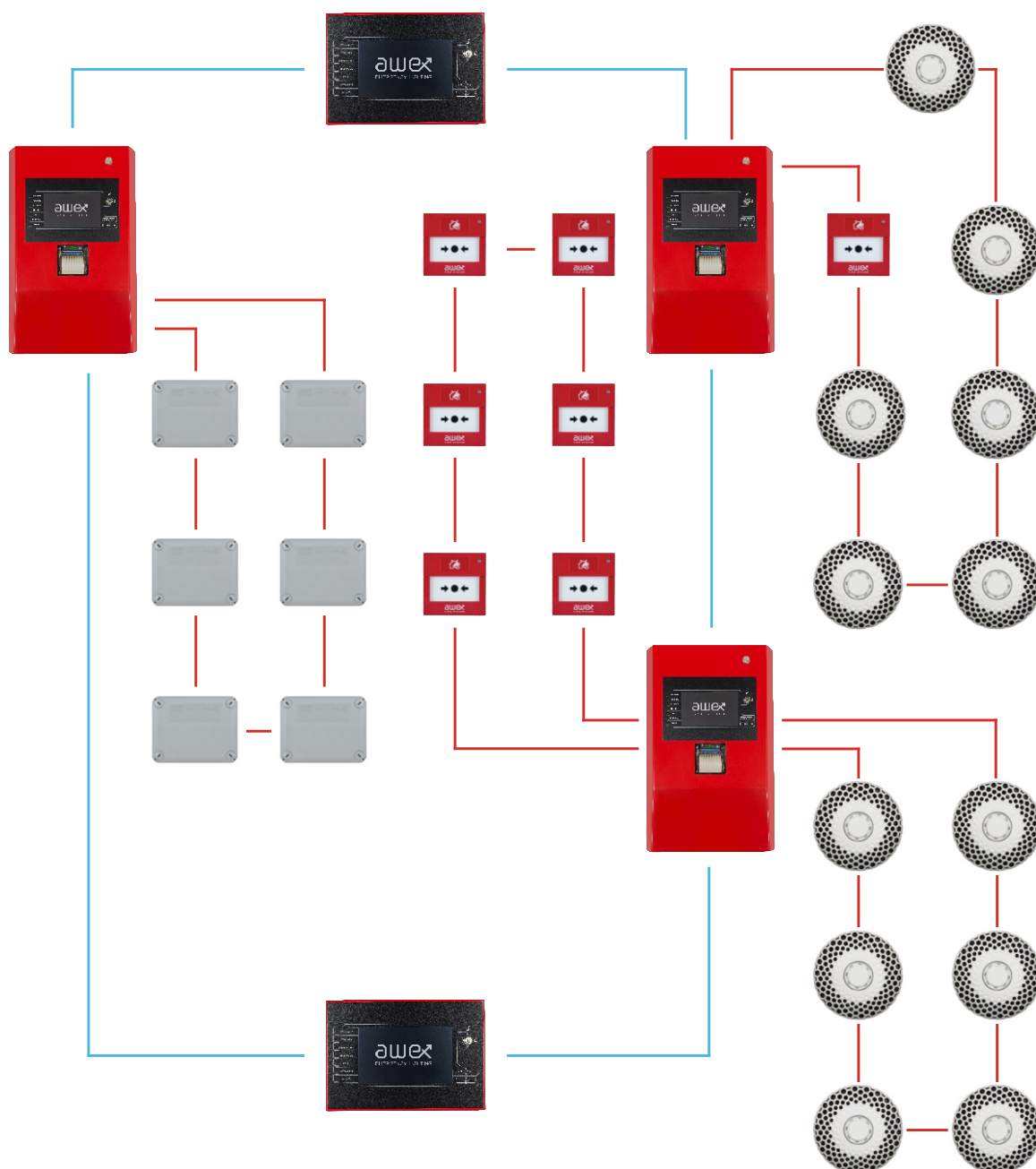
TECHNICAL DATA	
Name	External signal panel ESP
Device type	The device for remote signalling and servicing
IP rating	IP 30
Ambient temperature	-5° C to +40° C
Dimensions	263x184x49mm
Supply voltage	24V DC
Maximum current consumption	150 mA
Weight	2000 g
Maximum number of devices	10 per a network
Product code	ESP0000001

## CONTROL UNITS

### CONTROL PANEL

FAS control units can be combined to create the network of correlative control units. On the communication line of the network it is also possible to connect the ESP remote panels which allow to control the condition of each of the control units, as well as configure particular control units.

TECHNICAL DATA			
Network of central units	10 control units		
Topology of control units	Ringed, Correlative		
Connection Distances between the	Wire type		
	FTP	YnTKSYekw	Fiber-optic cable
	1 km	500 m	5 km

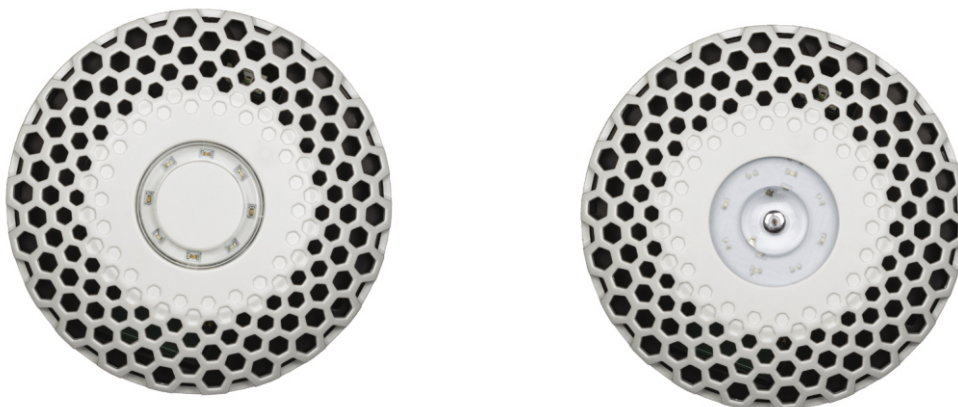


## FIRE DETECTORS



Fire detectors of the AWEX fire alarm systems are intended for detecting fires in their early phase. The detectors, because of their types can have the following sensors: heat, smoke, or combined sensors of smoke and heat, and an additional visual indicator. Detection systems applied in the detectors guarantee certainty and reliability in detecting fire. The heat detection is realised by means of 4-thermistor ambient temperature measurement system, on the other hand, the smoke detection system is being realised by means of photodiodes which uses the phenomenon of light dispersion. In case of detectors equipped with both fire detection systems it is possible, depending on a need on the place of installation, turn off one of the sensors using the control unit by selecting appropriate detector operation mode.

Every element is equipped with double-sided short-circuit isolator which ensures continuous operation of the loop, despite a short-circuit on the line and enables an easy localisation of a fault. Additionally, the detectors are monitoring their state of soiling continuously by sending the information on a possible need of their cleaning to the control unit. State of soiling is taken into consideration in the detection algorithm, thereby increasing the certainty of the fire detection.





## FIRE DETECTORS

### SMOKE DETECTOR S

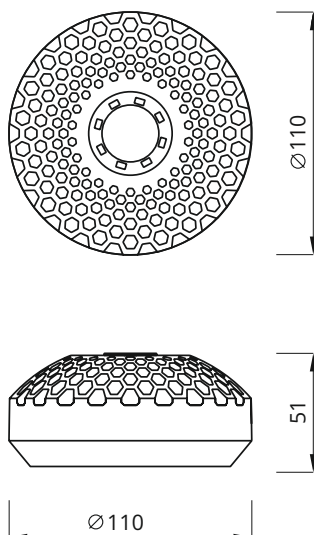
The smoke detector is intended for detecting fire in its early phase. The detector has an optic, scattering smoke sensor. The application of such type of a sensor allows to detect fire quick and with certainty.

The detector operates within the AWEX fire alarm system. The element can be installed on the detection loops or stub detection circuits.

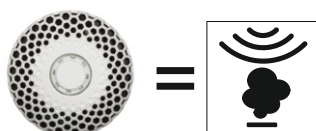
The smoke detection takes place in a detection chamber equipped with photoelectric diodes. Smoke goes to the chamber during fire. The particles of smoke reflect the light emitted by light emitting diodes which causes that an IR diode receives the signal and transmits it to a microprocessor. Then, it recognises the type of alarm and transmits it to the detection circuit, and to the control unit.



Dimensions (mm):



S detector operation mode



#### Characteristics of the smoke detector:

- The level of sensitivity comply with the EN 54 standard
- Recognition of the state of soiling
- Regulation of alarm threshold which compensates the influence of the environment
- Indication of an alarm by means of the LED diode
- Additional LED diodes for the testing state
- External status indicator
- The possibility of disconnection of particular detectors
- Integrated short-circuit isolator
- A casing with a low profile
- Operation in the addressable systems

#### TECHNICAL DATA

Name	Smoke detector S
Smoke detection	optical, scattering
Usefulness for test fires detecting	According to 54-7
Supply voltage	24 V DC ± 25%
Quiescent current	<160 µA
Alarm current	<550 µA
Ambient temperature	from -25°C to 55°C
IP rating	IP 20
Acceptable relative humidity	95% at the temperature of 35°C without condensation
Visual signalling	LED diodes, red, green
Dimensions	Ø110x50 mm
Detector colour	White
Weight	200g
Product code	FSD0000002

## FIRE DETECTORS

### HEAT DETECTOR T

The heat detector is intended for detecting fires in their early phase. The detector has a thermistor heat detection system. The application of such type of a sensor allows to detect fires quick and with certainty. The detector operates within the AWEX fire alarm system. The element can be installed on the detection loops or stub detection circuits.

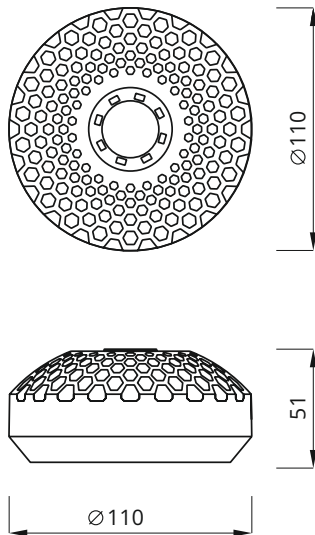
The heat detection takes place by means of 4-thermistor temperature measurement system. A fire alarm is generated when temperature limit is achieved, or in case of quick increase of temperature. Then, it recognises the type of alarm and transmits it to the detection circuits, and to the control unit.



#### Characteristics of the heat detector:

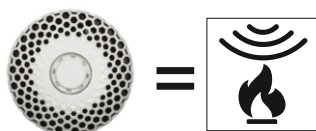
- Sensitivity degree and the temperature class comply with EN 54.
- Regulation of alarm threshold which compensates the influence of the environment
- Indication of an alarm by means of the LED diode
- Additional LED diodes for the testing state
- External status indicator
- Integrated short-circuit isolator
- A casing with a low profile
- Operation in the addressable systems

#### Dimensions (mm):



TECHNICAL DATA	
Name	Heat detector T
Heat detector class	A1R
Heat detection	Overload, differential
Supply voltage	24 V DC $\pm$ 25%
Quiescent current	<160 $\mu$ A
Alarm current	<450 $\mu$ A
Ambient temperature	from -25°C to 55°C
IP rating	IP 20
Acceptable relative humidity	95% at the temperature of 35°C without condensation
Visual signalling	LED diodes, red, green
Dimensions	$\varnothing$ 110 x 51 mm
Weight	200 g
Detector colour	White
Product code	FSD0000001

#### T detector operation mode



## FIRE DETECTORS

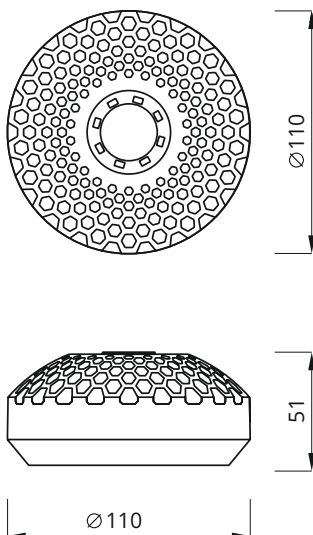
### SMOKE AND HEAT DETECTOR TS

The heat and smoke detector is intended for detecting fires in their early phase. The detector has two sensors: heat and smoke. The application of two types of a sensor allows to detect all types of fires quickly and with certainty. The detector operates within the AWEX fire alarm system. The element can be installed on the detection loops or stub detection circuits.

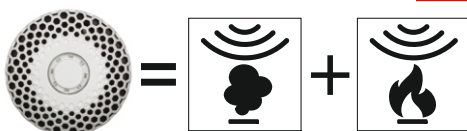
The smoke and heat detector with two sensors is equipped with two sensors which detect fire. The smoke detection takes place in a detection chamber equipped with photoelectric diodes. Smoke goes to the chamber during fire. The particles of smoke reflect the light emitted by light emitting diodes which causes that an IR diode receives the signal and transmits it to a microprocessor. The heat detection takes place by means of 4-thermistor temperature measurement system. A fire alarm is generated when temperature limit is achieved, or in case of quick increase of temperature. Then, it recognises the type of alarm and transmits it to the detection circuits, and to the control unit.



Dimensions (mm):



TS detector operation mode



#### Characteristics of the heat and smoke detector:

- Sensitivity degree and the temperature class comply with EN 54.
- Recognition of the state of soiling
- Regulation of alarm threshold which compensates the influence of the environment
- Smoke analysis supported by the heat analysis function
- The possibility of disconnection of particular detectors
- Indication of an alarm by means of the LED diode
- Additional LED diodes for the testing state
- External status indicator
- Integrated short-circuit isolator
- A casing with a low profile
- Operation in the addressable systems

#### TECHNICAL DATA

Name	Heat and smoke detector TS
Usefulness for test fires detecting	TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8, TF9
Smoke detection	Optical, scattering,
Heat detector class	A1R
Heat detector detection	Overload, differential,
Working voltage	24 V DC ± 25%
Quiescent current	<160 µA
Alarm current	<550 µA
Ambient temperatur	from -25°C to 55°C
IP rating	IP 20
Acceptable relative humidity	95% at the temperature of 35°C without condensation
Visual signalling	LED diodes, red, green
Dimensions	Ø110 x 50 mm
Weight	200 g
Detector colour	White
Product code	FSD0000003



## FIRE DETECTORS

### SMOKE DETECTOR WITH THE VISUAL SIGNALLING DEVICE SF

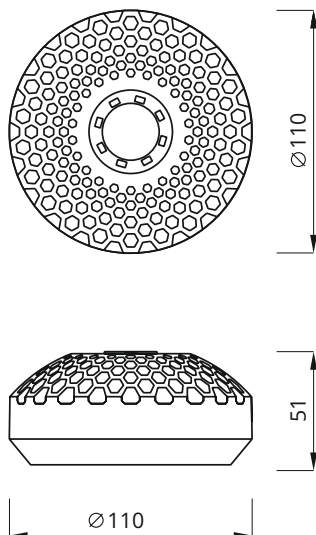
The smoke detector is intended for detecting fire in its early phase. The detector has an optic, scattering smoke sensor. The application of such type of a sensor allows to detect fire quick and with certainty.

Additionally, the detector has the flashing visual signalling device built-in due to which the detector fire alarm is visible from a large distance. The detector operates within the AWEX fire alarm system. The element can be installed on the detection loops or stub detection circuits.

The smoke detection takes place in a detection chamber equipped with photoelectric diodes. Smoke goes to the chamber during fire. The particles of smoke reflect the light emitted by light emitting diodes which causes that an IR diode receives the signal and transmits it to a microprocessor. Then, it recognises the type of alarm and transmits it to the detection circuits, and to the control unit.



Dimensions (mm):

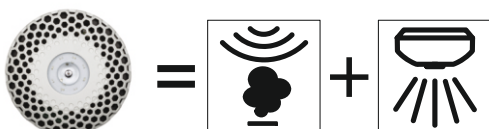


#### Characteristics of the smoke detector:

- The level of sensitivity comply with the EN 54 standard
- Recognition of the state of soiling
- Regulation of alarm threshold which compensates the influence of the environment
- Indication of an alarm by means of the LED diode
- Additional LED diodes for the testing state
- External status indicator
- Integrated short-circuit isolator
- A casing with a low profile
- Operation in the addressable systems

TECHNICAL DATA	
Name	Smoke detector with the visual signalling device SF
Usefulness for test fires detecting	According to EN 54-7
Smoke detection	Optical, scattering
Supply voltage	24 V DC ± 25%
Quiescent current	<160 µA
Alarm current	<2 mA
Ambient temperature	from -25°C to 55°C
IP rating	IP 20
Acceptable relative humidity	95% at the temperature of 35°C without condensation
Visual signalling	Green LED diode, red FLASH LED diode
Dimensions	Ø110 x 51 mm
Weight	200 g
Detector colour	white
Product code	FSD0000005

#### SF detector operation mode



## FIRE DETECTORS

### HEAT DETECTOR WITH THE VISUAL SIGNALLING DEVICE TF

The heat detector is intended for detecting fires in their early phase. The detector has a thermistor heat detection system. The application of such type of a sensor allows to detect fires quick and with certainty.

The detector operates within the AWEX fire alarm system. The element can be installed on the loop addressable supervisory lines and on the side addressable line. Additionally, the detector has the flashing visual signalling device built-in due to which the detector fire alarm is visible from a large distance.

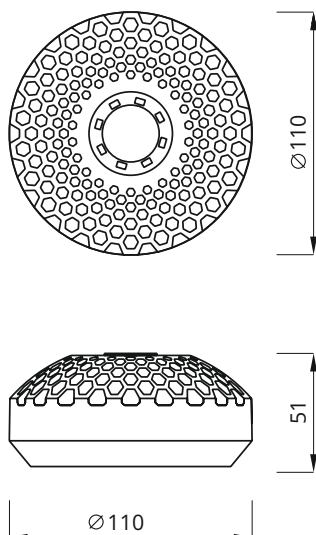
The heat detection takes place by means of 4-thermistor temperature measurement system. A fire alarm is generated when temperature limit is achieved, or in case of quick increase of temperature. Then, it recognises the type of alarm and transmits it to the detection circuits, and to the control unit.



#### Characteristics of the heat detector:

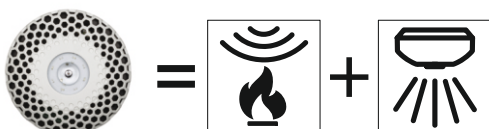
- Sensitivity degree and the temperature class comply with EN 54.
- Regulation of alarm threshold which compensates the influence of the environment
- Indication of an alarm by means of the LED diode
- Additional LED diodes for the testing state
- External status indicator
- Integrated short-circuit isolator
- A casing with a low profile
- Operation in the addressable systems

#### Dimensions (mm):



TECHNICAL DATA	
Name	Heat detector with the visual signalling device TF
Heat detector class	A1R
Heat detection	Overload, differential
Supply voltage	24 V DC +/- 25%
Quiescent current	<160 µA
Alarm current	<2 mA
Ambient temperature	from -25°C to 55°C
IP rating	IP 20
Acceptable relative humidity	95% at the temperature of 35°C without condensation
Visual signalling	Green LED diode, red FLASH LED diode
Dimensions	Ø110 x 51 mm
Weight	200 g
Detector colour	White
Product code	FSD0000004

#### TF detector operation mode



## FIRE DETECTORS

### SMOKE AND HEAT DETECTOR WITH THE VISUAL SIGNALLING DEVICE TSF

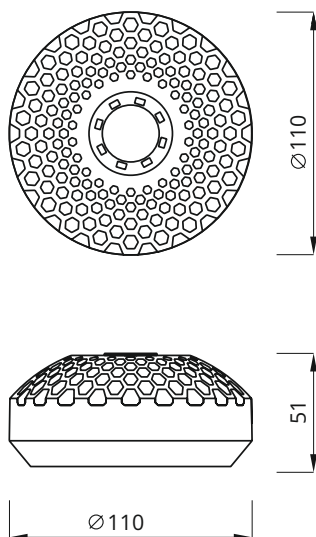
The heat and smoke detector is intended for detecting fires in their early phase. The detector has two sensors: heat and smoke. The application of two types of a sensor allows to detect all types of fires quickly and with certainty. The two-sensor detector operates within the AWEX fire alarm system. The element can be installed on the detection loops or stub detection circuits. Additionally, the detector has the flashing visual signalling device built-in due to which the detector fire alarm is visible from a large distance.

The two-sensor smoke and heat detector is equipped with two sensors for fire detection. The smoke detection takes place in a detection chamber equipped with photoelectric diodes. Smoke goes to the chamber during fire. The particles of smoke reflect the light emitted by light emitting diodes which causes that an IR diode receives the signal and transmits it to a microprocessor.

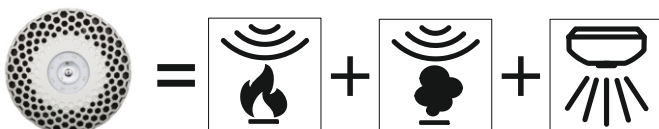
The heat detection takes place by means of 4-thermistor temperature measurement system. A fire alarm is generated when temperature limit is achieved, or in case of quick increase of temperature. Then, it recognises the type of alarm and transmits it to the detection circuits, and to the control unit.



Dimensions (mm):



TSF detector operation mode



#### Characteristics of the heat and smoke detector:

- Sensitivity degree and the temperature class comply with EN 54.
- Recognition of the state of soiling
- Regulation of alarm threshold which compensates the influence of the environment
- Indication of an alarm by means of the LED diode
- Additional LED diodes for the testing state
- External status indicator
- Integrated short-circuit isolator
- A casing with a low profile
- Operation in the addressable systems

#### TECHNICAL DATA

Name	Heat and smoke detector with the visual signalling device TSF
Usefulness for test fires detecting	TF1, TF2, TF3, TF4, TF5, TF6, TF7, TF8, TF9
Smoke detection	Optical, scattering
Heat detector class	A1R
Heat detection	Overload, differential
Supply voltage	24 V DC ± 25%
Quiescent current	<160 µA
Alarm current	<2 mA
Ambient temperature	from -25°C to 55°C
IP rating	IP 20
Acceptable relative humidity	95% at the temp. of 35°C without condensation
Visual signalling	green LED diode, red FLASH LED diode
Dimensions	Ø110 x 50 mm
Weight	200 g
Detector colour	White
Product code	FSD0000006

## SPECIAL DETECTION

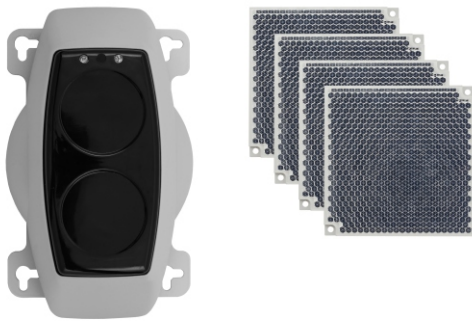
### BEAM SMOKE DETECTORS FIRERAY 50R/100R

The Fireray 50R/100R line detectors are designed to protect large-area premises such as production halls, warehouses, churches, shopping malls etc.

They are available in two versions with different ranges:

- Fireray 50R: 5 - 50m
- Fireray 100R: 50 - 100m

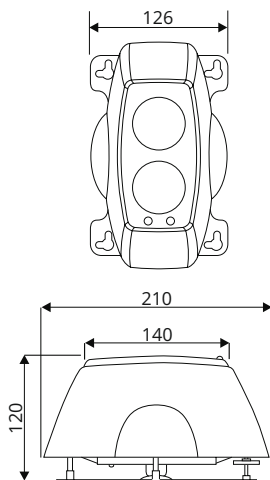
The linear detector consists of the transmitter and receiver in a single housing and the prism reflector. The transmitter sends an infrared beam, which reflects off the prism reflector at 180° and returns to the receiver. If the beam is obscured by smoke, the alarm condition is activated in the detector.



#### Characteristics of the beam smoke detectors:

- combined transmitter and receiver unit in one discrete unit
- automatic calibration
- automatic self check drift compensation
- LED status indicators to aid the alignment process
- connection with input/output module using relays
- 3 sensitivity/threshold levels
- Operation in the addressable systems

#### Dimensions (mm):

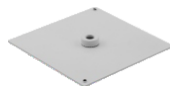


DANE TECHNICZNE	
Name	FIRERAY 50R/100R beam smoke detectors
Power supply	10 VDC - 30 VDC
Quiescent current	<4 mA
Alarm current	<15 mA
Fire Relay Contacts	Normally open (2A, 30 VDC)
Fault Relay Contacts	Normally closed (2A, 30 VDC)
IP rating	IP 50
Detector dimensions	12,6 x 21 x 12 cm
Prism dimensions	10 x 10 x 0,95 cm
Weight	670 g
Product code	FIRERAY 50R      FIRERAY 100R FSD0000027      FSD0000028

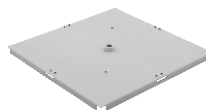
#### Accessories:



Wall bracket  
KOD: FSD0000011



Mounting adapter  
for 1 prism  
KOD: FSD0000012



Mounting adapter  
for 4 prisms  
KOD: FSD0000013



Bracket for mountig  
adapters  
KOD: FSD0000014



## MANUAL CALL POINTS

### MANUAL CALL POINT ROP 21

The manual call point ROP 21 is intended for passing on information about a fire to the fire alarm control unit by a person who saw the fire and has manually activated it. The device can operate on the detection loops or stub detection circuits controlled by the FAS fire alarm control unit only.

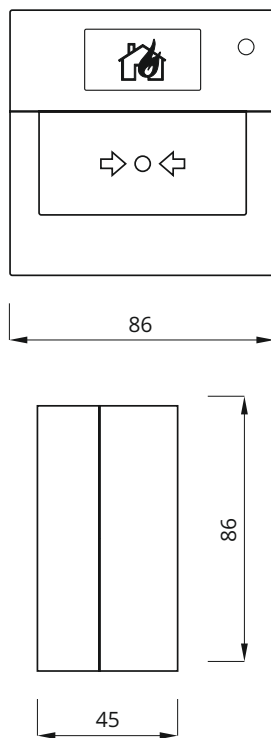
The element is equipped with a ratchet which allows to restore the supervision state again without the need to replace any elements. The element has a double-sided short-circuit isolator.



#### Characteristics of the manual call point:

- Double-sided short-circuit isolator built-in
- The manual call point type A
- Supervision state possible to be restored
- Operation in the addressable systems
- Signalling diode
- Applicable inside buildings

#### Dimensions (mm):



#### TECHNICAL DATA

Name	Manual call point ROP 21
Supply voltage	24 V DC $\pm$ 25%
Quiescent current	<130 $\mu$ A
Alarm current	<500 $\mu$ A
Environmental category	Indoor
IP rating	IP 21
Ambient temperatures	-10 °C to 55°C
Acceptable relative humidity	95% at 40°C
ROP dimensions together with the casing	86 x 86 x 45 mm
Weight	150 g
Type of activation	A
Casing colour	Red, RAL 3001
Product Code	FSR000005

## MANUAL CALL POINTS

### MANUAL CALL POINT ROP 65

The manual call point ROP 65 is intended for passing on information about a fire to the fire alarm control unit by a person who saw the fire and has manually activated it. The device can operate on the detection loops or stub detection circuits controlled by the FAS fire alarm control unit only.

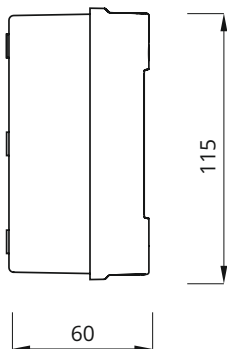
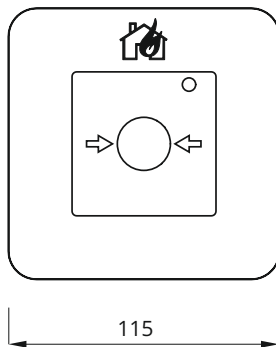
The element is activated by breaking a glass. When the call point is activated, it is necessary to replace the glass for a new one. The element has a double-sided short-circuit isolator.



#### Characteristics of the manual call point:

- Double-sided short-circuit isolator built-in
- The A type call point
- Supervision state possible to be restored through replacement of the glass
- Operation in the addressable systems
- Signalling diode
- Application inside and outside buildings

#### Dimensions (mm):

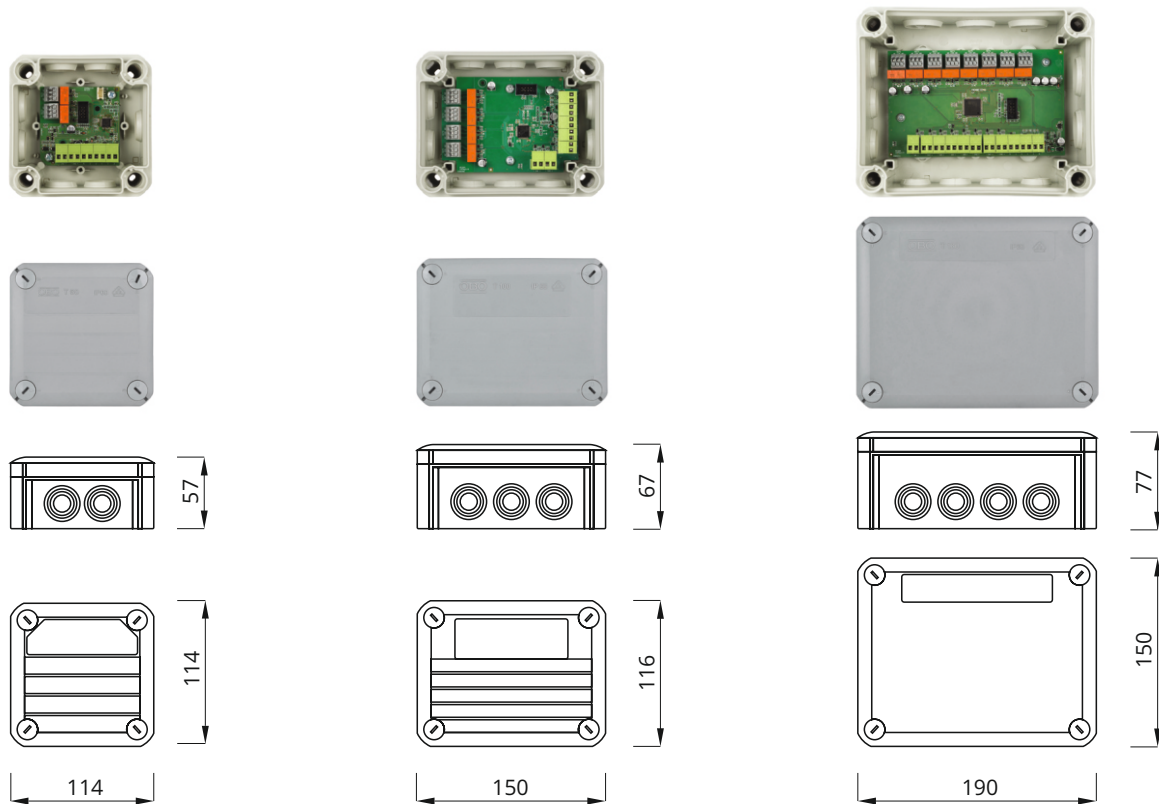


TECHNICAL DATA	
Name	Manual call point ROP 65
Supply voltage	24 V DC $\pm$ 25%
Supervision current	<130 $\mu$ A
Alarming current	<500 $\mu$ A
Environmental category	Indoor/outdoor
IP rating	IP 65
Ambient temperatures	-25°C to 70°C
Acceptable relative humidity	95% at 40°C
ROP dimensions together with the casing	115 x 115 x 60 mm
Weight	300 g
Type of starting	A
Casing colour	Red, RAL 3001
Does it contain a short-circuit isolator?	YES
Product code	FSR0000003

## INPUT/OUTPUT MODULES

### INPUT/OUTPUT MODULE MIO 22, MIO 44, MIO 88

The MIO module is the input/output device intended for the co-operation between fire-fighting devices and the AWEX fire alarm system. It is intended for the operation on the detection loops or stub detection circuits. The device can cooperate with emergency exit doors, smoke venting systems, automatic extinguishing systems, and other devices intended for the fire protection. The MIO modules are equipped with 2, 4, or 8 relay outputs, and 2, 4, or 8 monitored potential-free inputs, depending on their version. The element has integrated short-circuit isolator which allows quickly location of fault and appropriate operation of the loop line, even in the event of its fault.



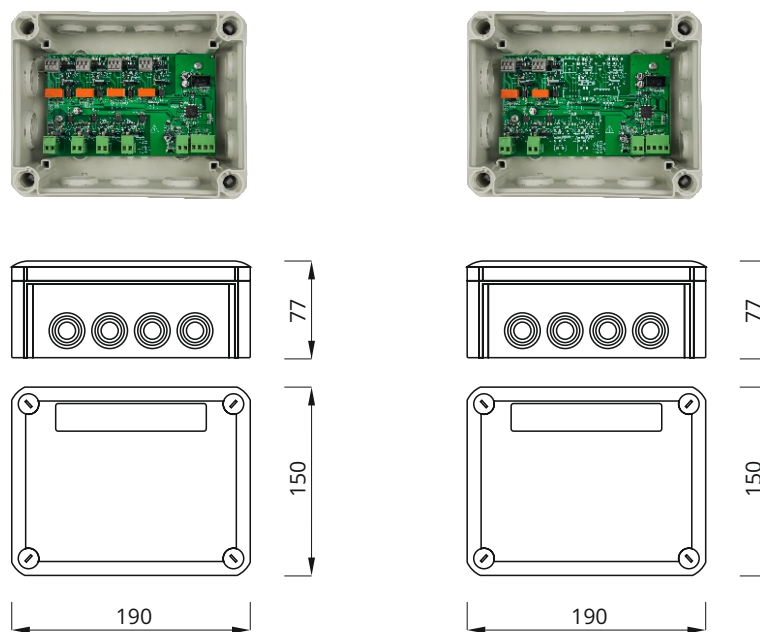
TECHNICAL DATA						
Input/output module name	MIO 22		MIO 44		MIO 88	
Supply voltage	24 V DC $\pm$ 25%					
Short-circuit isolator	Built-in, double-sided					
Outputs number	2		4		8	
Relay control outputs	Relay output (NO/NC/COM). AC contact load capacity: 2A / 250 V / 60 W DC contact load capacity: 2A / 220 V / 60 W					
Inputs number	2		4		8	
Input function	Active, Inactive, Short-Circuit, Break					
Input control	Yes					
Input initiation	Parametrising through resistance (22 k $\Omega$ )					
Casing type	O	S	O	S	O	S
IP rating	IP 66	IP 67	IP 66	IP 67	IP 66	IP 67
Dimensions	114 x 114 x 57 mm	118 x 118 x 67 mm	150 x 116 x 67 mm	187 x 118 x 67 mm	190 x 150 x 77 mm	187 x 118 x 67 mm
Weight	200 g		280 g		480 g	
Ambient temperature	from -10°C to 55°C		from -10°C to 55°C		from -10°C to 55°C	
Product code	FSM0000001	FSM0000004	FSM0000002	FSM0000005	FSM0000003	FSM0000006

## INPUT/OUTPUT MODULES

### INPUT/OUTPUT MODULE MIO 2n2n, MIO 4n4n

The MIO module is the input/output device intended for the co-operation between fire-fighting devices and the AWEX fire alarm system. It is intended for the operation on the detection loops or stub detection circuits. The device can cooperate with emergency exit doors, smoke venting systems, automatic extinguishing systems, and other device intended for the fire protection. The MIO modules are equipped with 2 or 4 relay outputs with monitoring, and 2 or 4 potential inputs, depending on their version.

The element has integrated short-circuit isolator which allows quickly location of fault and appropriate operation of the loop line, even in the event of its fault.



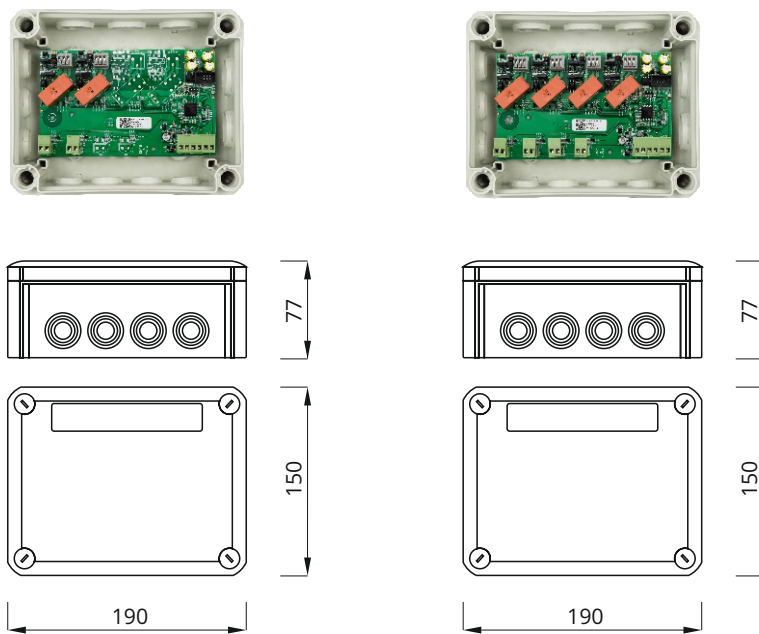
TECHNICAL DATA			
Input/output module name	MIO 2n2n		MIO 4n4n
Supply voltage	24 V DC $\pm$ 25%		
Quiescent current	200 $\mu$ A		
Alarm current	500 $\mu$ A		
Short-circuit isolator	Built-in, double-sided		
Outputs number	2	4	
Relay control outputs	Relay output (NO/NC/COM). AC contact load capacity: 2A / 250 V / 60 W DC contact load capacity: 2A / 220 V / 60 W		
Outputs monitoring range	LO: 9 - 220 V DC HI 77 - 220 V DC HI 60 - 250 V AC		
Inputs number	2	4	
Input function	Active, Inactive		
Input initiation	Voltage in the range: LO: 9 - 220 V DC HI 77 - 220 V DC HI 60 - 250 V AC		
FAIL-SAFE	yes		
Casing type	O	S	O S
IP rating	IP 66	IP 67	IP 66 IP 67
Dimensions	190x150x77 mm	187x118x67 mm	190x150x77 mm 187x118x67 mm
Weight	400 g		400 g
Ambient temperature	from -10°C to 55°C		from -10°C to 55°C
Product code	FSM0000007	FSM0000009	FSM0000008 FSM0000010



## INPUT/OUTPUT MODULES

### INPUT/OUTPUT MODULE MIO 22n, MIO 44n

The MIO module is the input/output device intended for the co-operation between fire-fighting devices and the AWEX fire alarm system. It is intended for the operation on the detection loops or stub detection circuits. The device can cooperate with emergency exit doors, smoke venting systems, automatic extinguishing systems, and other devices intended for the fire protection. The MIO modules are equipped with 2 or 4 relay outputs with monitoring, and 2 or 4 potential-free inputs, depending on their version. The element has integrated short-circuit isolator which allows quickly location of fault and appropriate operation of the loop line, even in the event of its fault.

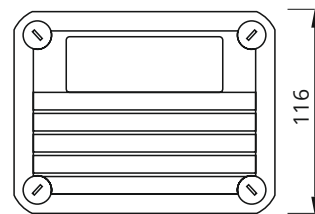
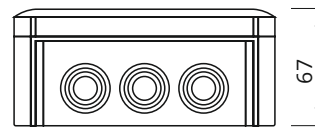
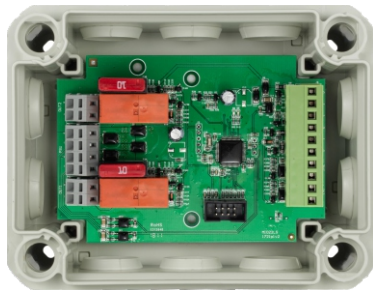


TECHNICAL DATA			
Input/output module name	MIO 22n		MIO 44n
Supply voltage	24 V DC $\pm$ 25%		
Quiescent current	200 $\mu$ A		
Alarm current	500 $\mu$ A		
Short-circuit isolator	Built-in, double-sided		
Outputs number	2		4
Relay control outputs	Relay output (NO/NC/COM). AC contact load capacity: 2A / 250 V / 60 W DC contact load capacity: 2A / 220 V / 60 W		
Outputs monitoring range	LO: 9 - 220 V DC HI 77 - 220 V DC HI 60 - 250 V AC		
Inputs number	2		4
Input function	Active, inactive, short-circuit, break		
Input initiation	Parametrising trough resistance		
FAIL-SAFE	yes		
Casing type	O	S	O S
IP rating	IP 66	IP 67	IP 66 IP 67
Dimensions	190x150x77 mm	187x118x67 mm	190x150x77 mm 187x118x67 mm
Weight	450 g		450 g
Ambient temperature	from -10°C to 55°C		from -10°C to 55°C
Product code	FSM0000011	FSM0000013	FSM0000012 FSM0000014

## INPUT/OUTPUT MODULES

### INPUT/OUTPUT MODULE MIO 22LS

The MIO module is the input/output device intended for the co-operation between alarm devices and the AWEX fire alarm system. It is intended for the operation on the detection loops or stub detection circuits. The MIO 22LS modules can cooperate with acoustic, optical, acoustic-optical, voice and other alarm devices. The MIO modules are equipped with 2 voltage outputs with monitoring and 2 potential-free inputs. The element has integrated short-circuit isolator which allows quickly location of fault and appropriate operation of the loop line, even in the event of its fault.



TECHNICAL DATA	
Input/output module name	MIO 22LS
Supply voltage	24 V DC $\pm$ 25%
Quiescent current	200 $\mu$ A
Alarm current	200 $\mu$ A
Short-circuit isolator	Built-in, double-sided
Outputs number	2
Relay control outputs	Relay output (NO/NC/COM). DC contact load capacity: 6A / 30 V / 180 W
Outputs monitoring range	resistance measurement
Inputs number	2
Input function	active, inactive, short-circuit, break
Input initiation	parametrising trough resistance
FAIL-SAFE	yes
Casing type	O   S
IP rating	IP 66   IP 67
Dimensions	150x116x67 mm   187x118x67 mm
Weight	250 g
Ambient temperature	from -10°C to 55°C
Product code	FSM0000015   FSM0000016

## SIGNALLING DEVICES

### SOUNDER SA-K5N

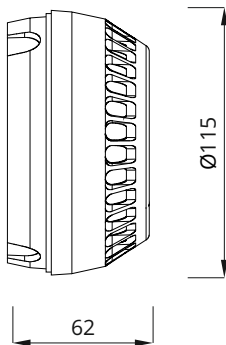
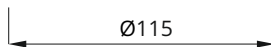
The acoustic fire signalling device SA-K5N is intended for signalling of fire inside buildings. The device allows you to adjust the volume of sound in range from 70 dB to > 100 dB from a distance of 1 meter and the type of acoustic signal. The signalling device is equipped with housing made of non-combustible material, enclosing electronic components. Additionally SA-K5N enables creation of synchronously operating signalling devices network.



#### Characteristics of the low current sounder:

- low current consumption <20mA
- adjusting volume of sound
- possible to increase the volume linearly
- working in synchronously operating signalling devices network

#### Dimensions (mm):



#### TECHNICAL DATA:

Name	Sounder SA-K5N
Power supply	24 VDC ± 30%
Quiescent current	0 mA
Alarm current	<20 mA
Sound output at 1m	>100 dB
Dimension	Ø115x62 mm
Weight	185 g
Product code	FSS0000002

## SIGNALLING DEVICES

### ACOUSTIC-OPTICAL ALARM DEVICE SA-K7N

The acoustic-optical fire signalling device SA-K7N is intended for signalling of fire inside buildings. SA-K7N is made in three variants: 9m, 6m, 3m. Depending on version of signalling device, optical coverage area changes. The signalling device is equipped with housing made of non-combustible material, enclosing electronic components. The acoustic part of signalling device enables volume adjustment and use of linear volume increase option.

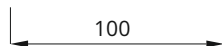
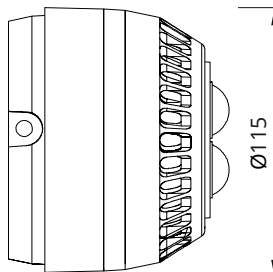
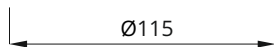
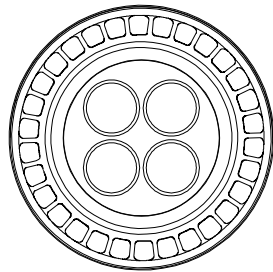
Additionally SA-K7N enables creation of synchronously operating signalling devices network.



#### Characteristics of the acoustic-optical device:

- adjusting volume of sound
- 3 variants of devices: 3m, 6m, 9m
- up to 16 patterns of acoustic signals
- working in synchronously operating signalling devices network

#### Dimensions (mm):



#### TECHNICAL DATA:

Name	SA-K7N acoustic-optical alarm device		
Power supply	24 VDC ± 30%		
Quiescent current	0 mA		
Alarm current	3 m - 75 mA	6 m - 75 mA	9 m - 110 mA
Sound output at 1m	>100 dB		
Dimension	Ø115x100 mm		
Weight	3 m - 300 g	6 m - 300 g	9 m - 350 g
Product code	3m	6m	9m
	FSS0000010	FSS0000011	FSS0000012



## SIGNALLING DEVICES

### VOICE ALARM DEVICE SG-PGW2

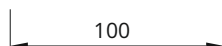
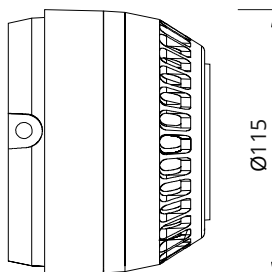
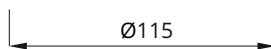
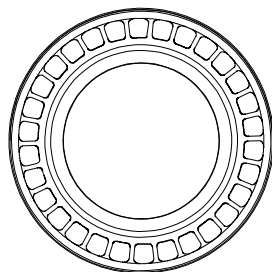
Signalling device with voice messages is intended for signalling a fire alternately with acoustic signal and voice message signal (Sequence according to EN54-3). SG-Pgw2 signalling device is intended for indoor applications. The signalling device can emit up to 18 patterns of acoustic signals; it is also possible to choose the "no acoustic signal" option. SG-Pgw2 enables operation in two modes: up to three messages or up to ten messages. The operation mode depends on the position of the jumper placed in the device cover and on the number of messages.



#### Characteristics of the voice alarm device:

- up to three messages or up to ten messages
- up to 18 patterns of acoustic signals
- the USB connection makes it possible to copy messages from a PC to the internal memory of the device
- working in synchronously operating signalling devices network

#### Dimensions (mm):



#### TECHNICAL DATA

Name	SG-PGW2 voice alarm device
Supply voltage	24 VDC ± 30%
Quiescent current	0 mA
Alarm current	<300 mA
Sound output at 1m	>90 dB
Dimension	Ø115x80 mm
Weight	350 g
Product code	FSS0000007

## SIGNALLING DEVICES

### ACOUSTIC-OPTICAL OUTDOOR ALARM DEVICE SAOZ-PK

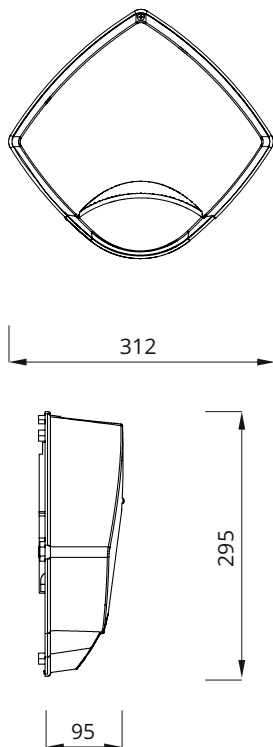
The SAOZ-Pk optical-acoustic alarm device is designed to emit fire alarm warning, alternately with an acoustic signal and an optical (visual) signal, both in outdoor and indoor (internal and external) fire alarm systems. The alarm device consists of a cover made of non-combustible material, an electronic circuit and a lamp with xenon flash tubes. The alarm device generates an acoustic signal simultaneously with an optical signal. The device has a four-position micro-switch which permits to select the device operating mode (as "master" or "slave"), the sound pattern (1 of 4) and to reduce the sound volume by about 10dB. In addition, the signaling device also allows to build networks of alarm devices operating synchronously.



#### Characteristics of the acoustic-optical outdoor alarm device:

- for indoor or outdoor use
- adjusting volume of sound
- up to 4 patterns of acoustic signals
- working in synchronously operating signalling devices network

#### Dimensions (mm):



#### TECHNICAL DATA

Name	SAOZ-Pk acoustic-optical outdoor alarm device
Supply voltage	24 VDC $\pm$ 30%
Quiescent current	0 mA
Alarm current	<450 mA
Sound output at 1m	>110 dB
Dimension	312 x 295 x 95 mm
Weight	1100 g
Product code	FSS0000013

## SIGNALLING DEVICES

### STATUS INDICATOR WZ 4

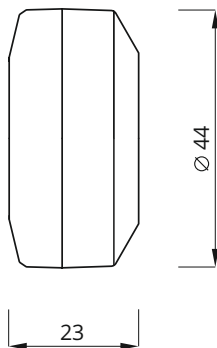
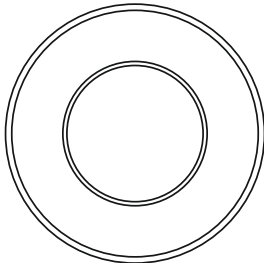
The WZ 4 status indicator is intended for optical repetition of the signalling alarming state of the detector or a group of detectors in the fire alarm systems. It can be added to the detector or a group of detectors. The indicator is applied when installed detector is invisible or there is limited access to a room supervised by detectors, for example, it is installed in spaces above ceiling, in cable passages, technical rooms, hotel rooms, etc.



#### Characteristics:



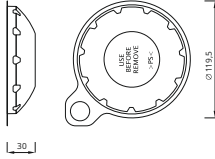

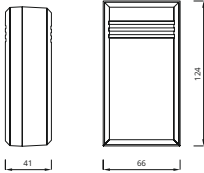
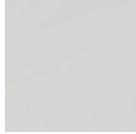
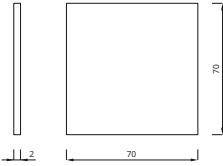

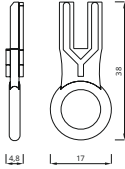
- Additional visual signalling
- Small dimensions
- 4 LED signalling diodes
- Consumption of current <4mA

#### Dimensions (mm):



TECHNICAL DATA	
Name	Status indicator WZ 4
Supply voltage	24 VDC ± 30%
Quiescent current	0 mA
Alarm current	<4 mA
Dimensions	Ø44 x 23 mm
Weight	18 g
Product code	FSS0000001

**ACCESSORIES**

NAME	PHOTO	TECHNICAL DRAWING	PRODUC CODE
<b>DETECTOR BASE</b>			FSD0000007
<b>DUST COVER</b>			FSD0000014
<b>MIO TESTING MODULE</b>			FSM0000004
<b>PANE GLASS FOR ROP 65</b>			FSR0000003
<b>KEY FOR ROP 21</b>			FSR0000004









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#### Dystrybutor

