



DETECTORS





Detectors are the most important elements of the fire alarm and automation systems. Fire detectors are technical devices installed directly at the protected facility and designed to transmit fire alarm notification to the fire detection control panel. The detector detects fire by controlling changes in the physical environmental parameters caused by the fire. The fire detectors are not measuring instruments.

They may be installed in open spaces and enclosed areas of different buildings and structures, as well as on river and sea-going vessels and production facilities, where explosive mixtures of air and combustible gases or vapors may be present.

The detectors may be used at chemical, oil and gas production, oil and gas processing and other plants with explosion hazardous areas.

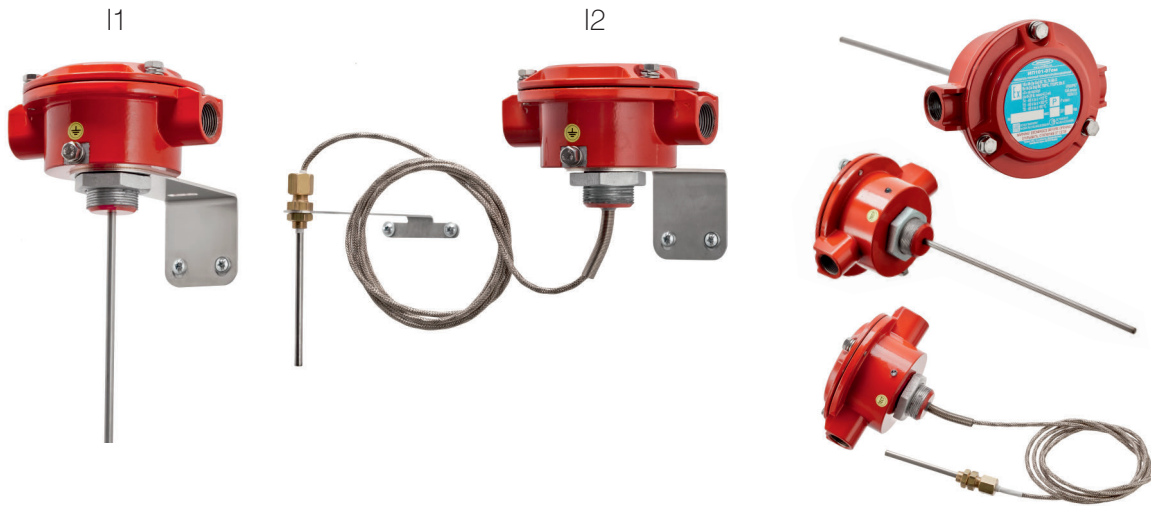
DETECTORS



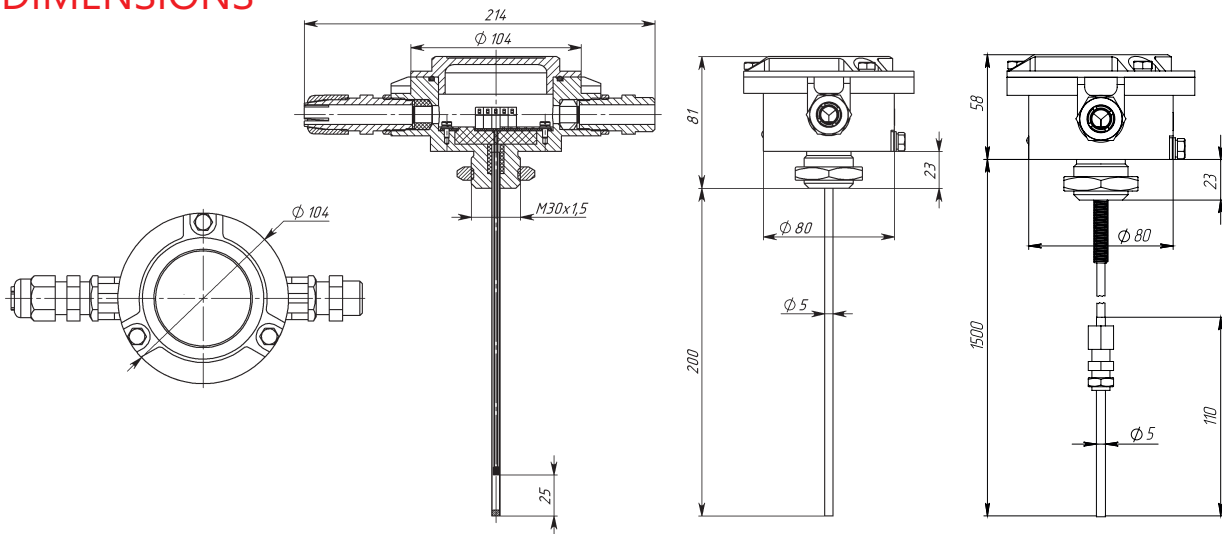
IP103-2/1 and IP101-07

Explosion-proof heat fire detectors

Explosion-proof heat fire detectors are applied in fire alarm systems and designed for detection of any inflagation followed by temperature rising within the monitored area and for transferring to a top level instrument or device of the temperature value, as well as for detection of fire signs in case the ambient temperature exceeds the preset threshold and/or the temperature growth rate. They are used at chemical, oil and gas production, oil and gas processing industry enterprises and in explosion hazardous areas of other production facilities.



DIMENSIONS



VERSIONS OF THE SENSING ELEMENT:

Versions	Version 1 (I1)	Version 2 (I2, upon request)
Sensing element length	0.2 meter long tube	Flexible external sensitive element, 1.5-30 m (upon request)

1Ex db
[ia Ga] IIC
T6...T4 Gb X

0Ex ia IIC
T6...T2
Ga X

IP66/
IP67

-60°+250°C

20 mA

8-28 V

Aluminum

5 years

10 years

MODIFICATIONS:

IP103-2/1-TR
Explosion-proof heat fire detector

The detector unit is designed for sending an alarm signal to the fire alarm loop in case the preset actuation temperature in the controlled environment is exceeded. This detector is passive and therefore non-current consuming. It can be used in class 0 explosive areas if connected to spark-safe circuits.

IP101-07e
Explosion-Proof Heat Fire Detector

The detector unit is designed for sending an alarm signal to the fire alarm loop in case the preset actuation temperature in the controlled environment is exceeded.

IP101-07a
Explosion-Proof Addressable Programmable Heat Fire Detector

It is designed for detection of any inflagation followed by temperature rising within the monitored area and for transferring to a receiving and controlling instrument of the current temperature value, as well as for detection of fire signs in case the ambient temperature exceeds the preset threshold and/or the temperature growth rate. It is designed for operation only as part of addressable loop of devices with support of Dozor-07a protocol.

IP101-07em
Adjustable Explosion-Proof Heat Fire Detector

The detector unit is designed for sending an alarm signal to the fire alarm loop in case the preset actuation temperature in the controlled environment is exceeded. This detector is provided with the option of readjustment of the actuation temperature at its operation site without altering the loop parameters.

IP101-07md
Maximum Differential Explosion-Proof Heat Fire Detector

The detector unit is designed for sending an alarm signal to the fire alarm loop in case the preset actuation temperature in the controlled environment is exceeded. Availability of variation channel allows detecting combustion at early stages.

IP101-07vt
High-Temperature Explosion-Proof Heat Fire Detector

The detector unit is designed for sending an alarm signal to the fire alarm loop in case the preset actuation temperature in the controlled environment is exceeded. Thanks to spatial separation of the detector's body with electronic components from the sensing element, it is possible to monitor the controlled environment up to +250°C.




IP101-07a-RS
Addressable Programmable Explosion-Proof Heat Fire Detector (Modbus RTU protocol)

The detector is applied in fire alarm systems or in supervisory control and data acquisition systems. The detector is designed for detection of any inflagation followed by temperature rising within the monitored area and for transferring to a top level instrument or device of the temperature value, as well as for detection of fire signs in case the ambient temperature exceeds the preset threshold and/or the temperature growth rate. It is designed for transferring digital data signal via standard communication channel RS-485 with Modbus RTU protocol.







DETECTORS

TECHNICAL DATA:

Modification	IP103-2/1-TR (-OE) Explosion-Proof Heat Fire Detector	IP101-07e Explosion-Proof Heat Fire Detector	IP101-07a (I1, I2) Explosion-Proof Addressable Programmable Heat Fire Detector
			
Enclosure explosion proofness marking	0Ex ia IIC T6...T5 Ga X 1Ex db IIC T6...T5 Gb X Ex tb IIIC T85°C...T100°C Db X	1Ex db [ia Ga] IIC T6...T4 Gb X Ex tb [ia Da] IIIC T85°C...T135°C Db X	1Ex db [ia Ga] IIC T6...T4 Gb X Ex tb [ia Da] IIIC T85°C...T135°C Db X
Explosion proofness marking of the terminal/ external sensing element	0Ex ia IIC T6...T5 Ga X 1Ex db ia IIC T6...T5 Gb X Ex tb IIIC T85°C...T100°C Db X	0Ex ia IIC T6...T4 Ga X Ex ia IIIC T85°C...T135°C Da X	0Ex ia IIC T6...T4 Ga X Ex ia IIIC T85°C...T135°C Da X
Ingress protection rating	IP66/ IP67	IP66/ IP67	IP66/ IP67
Actuation temperature, °C;	+64...100	+54...130	+54...130
Temperature class of setting	A3, B, C	A1, A2, A3, B, C, D, E	A1, A2, A3, B, C, D, E
Operating conditions: Operating temperature, °C Monitored area temperature, °C	T5: -60...100 T6: -60...80 -35...80	-60...115 -60...130	-60...130 -60...130
Readjustment of detector's temperature at the installation site	No	No	Yes, with 2°C increment (by means of the console menu)
Possibility of connection to addressable loop	Yes (by means of setting the address marks)	Yes (by means of setting the address marks)	Yes (via the Dozor-07a protocol) Maximum number of addressable devices to be connected: 255
Supported protocol			Dozor-07a
Maximum current consumption, mA	0	In standby mode - 0.03 In activation mode - 0.05 OE - 0.05	1,0
Supply voltage, V	6...28 (without OE)	8...28	15...39
Max. overall dimensions (without cable glands), mm	128*281*104	128*104*81	128*104*81
Max. sensing element tube length, mm	200±2	200±2	I1: 200±2 I2: 1.5 to 30 m (upon request)
Enclosure material	Aluminum alloy AK 12 ПЧ	Aluminum alloy AK 12 ПЧ	Aluminum alloy AK 12 ПЧ
Sensing element material	Stainless steel	Stainless steel	Stainless steel
Light indication	No	Yes	Yes
Number of cable glands in the enclosure	2	2	2
Max. cable entry diameter, mm	6...12 (into equipment body) up to 22 (along the external insulation)	6...12 (into equipment body) up to 22 (along the external insulation)	6...12 (into equipment body) up to 22 (along the external insulation)
Detector installation mode	Bracket for mounting of the detector body (optional)	Bracket for mounting of the detector body (optional)	Bracket for mounting of the detector body (optional); for I2, bracket for mounting of the external sensing element (optional)
Check of detector's functionality	Is possible without disassembly at the installation site by means of the Ex-TEST instrument	Is possible without disassembly at the installation site by means of the Ex-TEST instrument	FACP polling each 3-5 sec. Is possible without disassembly at the installation site by means of magnetic key (included in the supply package) and/or the Ex-TEST instrument
Available packages	Bracket, input devices	Bracket, input devices	External sensing element, brackets, input devices
Max. weight, kg	1,0	1,1	1,1
Lifetime, min., years	10	10	10
Warranty period, years	5	5	5

TECHNICAL DATA:

IP101-07em (I1, I2) Adjustable Explosion-Proof Heat Fire Detector	IP101-07md (I1, I2) Maximum Differential Explosion-Proof Heat Fire Detector	IP101-07vt High-Temperature Explosion-Proof Heat Fire Detector	IP101-07a-RS (I1, I2) Addressable Programmable Explosion-Proof Heat Fire Detector (Modbus RTU protocol)
			
1Ex db [ia Ga] IIC T6...T4 Gb X Ex tb [ia Da] IIIC T85°C...T135°C Db X	1Ex db [ia Ga] IIC T6...T4 Gb X Ex tb [ia Da] IIIC T85°C...T135°C Db X	1Ex db [ia Ga] IIC T6...T4 Gb X Ex tb [ia Da] IIIC T85°C...T135°C Db X	1Ex db [ia Ga] IIC T6...T4 Gb X Ex tb [ia Da] IIIC T85°C...T135°C Db X
0Ex ia IIC T6...T4 Ga X Ex ia IIIC T85°C...T135°C Da X	0Ex ia IIC T6...T4 Ga X Ex ia IIIC T85°C...T135°C Da X	0Ex ia IIC T6...T2 Ga X Ex ia IIIC T85°C...T250°C Da X	0Ex ia IIC T6...T4 Ga X Ex ia IIIC T85°C...T135°C Da X
IP66/ IP67	IP66/ IP67	IP66/ IP67	IP66/ IP67
+54...130	+54...130	+54...250	+54...130
A1, A2, A3, B, C, D, E	A1R, A2R, A3R, BR, CR, DR, ER	A1, A2, A3, B, C, D, E, F, G, H1, H2	A1, A2, A3, B, C, D, E
-60...130	-60...130	-60...115	-60...130
-60...130	-60...130	-60...250	-60...130
Yes, with increments of 3-5°C (by means of installation of the resistor in the terminals)	No, possible values of the differential channel 5, 10, 20, 30° C/min	No	Yes, with increments of 1-2°C (via PC) Possible values of the differential channel 5, 10, 20, 30°C/min
Yes (by means of setting the address marks)	Yes (by means of setting the address marks)	Yes (by means of setting the address marks)	Yes (in case of transferring of signal via communication channel RS-485 with Modbus RTU protocol). Maximum number of addressable devices to be connected: 32
			Modbus RTU
0,2	0,2	0,2	In standby mode - 5 In activation mode - 10 During polling - 20
8...28	8...28	8...28	8...28
128*104*81	128*104*81	128*104*81	128*104*81
I1: 200±2 I2: 1.5 to 30 m (upon request)	I1: 200±2 I2: 1.5 to 30 m (upon request)	1.5 to 30 m (upon request)	I1: 200±2 I2: 1.5 to 30 m (upon request)
Aluminum alloy AK 12 ПЧ	Aluminum alloy AK 12 ПЧ	Aluminum alloy AK 12 ПЧ	Aluminum alloy AK 12 ПЧ
Stainless steel	Stainless steel	Stainless steel	Stainless steel
Yes	Yes	Yes	Yes
2	2	2	2
6...12 (into equipment casing) up to 22 (along the external insulation)	6...12 (into equipment casing) up to 22 (along the external insulation)	6...12 (into equipment casing) up to 22 (along the external insulation)	6...12 (into equipment casing) up to 22 (along the external insulation)
Bracket for mounting of the detector body (optional); for I2, bracket for mounting of the external sensing element (optional)	Bracket for mounting of the detector body (optional); for I2, bracket for mounting of the external sensing element (optional)	Bracket for mounting of the detector body (optional); for I2, bracket for mounting of the external sensing element (optional)	Bracket for mounting of the detector body (optional); for I2, bracket for mounting of the external sensing element (optional)
Is possible without disassembly at the installation site by means of magnetic key (included in the supply package) and/or the Ex-TEST instrument	Is possible without disassembly at the installation site by means of the Ex-TEST instrument	Is possible without disassembly at the installation site by means of the Ex-TEST instrument (up to 150°C)	Is possible without disassembly at the installation site by means of the Ex-TEST instrument
External sensing element, brackets, input devices	External sensing element, brackets, input devices	Brackets, input devices	External sensing element, brackets, input devices
1,1	1,1	1,1	1,1
10	10	10	10
5	5	5	5



IP535-07e

Explosion-Proof Fire Call Points

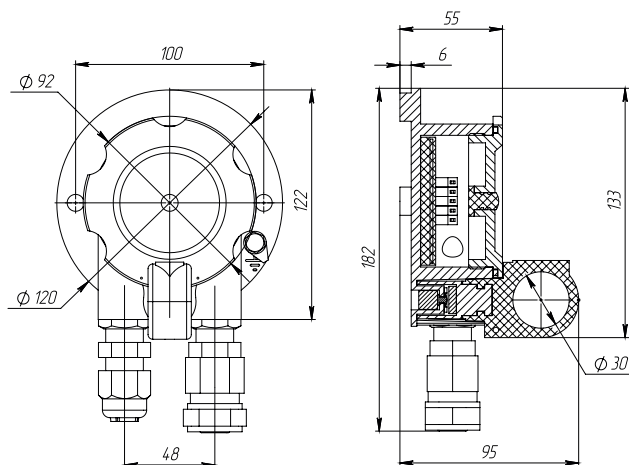
The explosion-proof fire call point IP535-07e is used in fire alarm and fire extinguishing systems and designed for manual activation of fire alarm signal in explosive areas or general industrial purpose areas.

It is used at chemical, oil and gas production, oil and gas processing industry enterprises and in explosive areas of other production facilities.

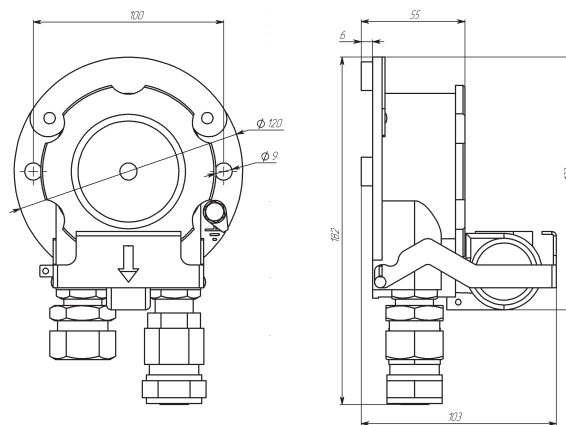


DIMENSIONS

IP535-07e-A



IP535-07e-B



CALL POINT CLASSES:

IP535-07e-A: explosion-proof fire call point with one-step activation
 IP535-07e-B: explosion-proof fire call point with several-step activation

1Ex db
IIC T6 Gb

IP66/
IP67



70 μ A

0,1 sec
Response
time

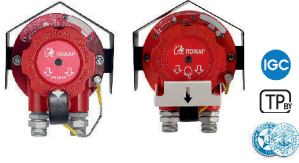
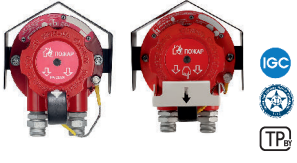
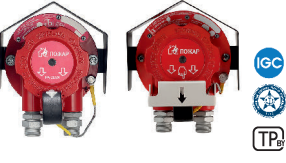
Vandal-
proof



Aluminum



TECHNICAL DATA:

Modifications	IP535-07e (A, B) Explosion-Proof Fire Call Point	IP535-07ea (A, B) Explosion-Proof Addressable Fire Call Point	IP535-07ea-RS (A, B) Explosion-Proof Addressable Fire Call Point
			
Enclosure explosion proofness marking	1Ex db IIC T6 Gb	1Ex db IIC T6 Gb	1Ex db IIC T6 Gb
Ingress protection rating	IP66/ IP67	IP66/ IP67	IP66/ IP67
Operating temperature range, °C	-60...85	-60...85	-60...85
Maximum current consumption, max., μ A	70	1,0	Standby mode - 5 In activation mode - 10 During polling - 20
Supply voltage, V	8...28	15...39	8...28
Driving element	Magnetically-controlled, vibration-resistant, shock-proof	Magnetically-controlled, vibration-resistant, shock-proof	Magnetically-controlled, vibration-resistant, shock-proof
Possibility of connection to addressable loop	Yes (by means of setting the address marks)	Yes (via the Dozor-07a protocol) Maximum number of addressable devices to be connected: 255	Yes (in case of transferring of signal via communication channel RS-485 with Modbus RTU protocol) Maximum number of addressable devices to be connected: 32
Supported protocol		Dozor-07a	Modbus RTU
Max. overall dimensions (without cable glands and bracket), mm	120*135*110	120*135*110	120*135*110
Enclosure material	Aluminum alloy AK 12 П4 Vandal-proof design	Aluminum alloy AK 12 П4 Vandal-proof design	Aluminum alloy AK 12 П4 Vandal-proof design
Light indication	Yes	Yes	Yes
Number of cable glands in the enclosure	2	2	2
Max. cable entry diameter, mm	6...12 (into equipment casing) up to 22 (along the external insulation)	6...12 (into equipment casing) up to 22 (along the external insulation)	6...12 (into equipment casing) up to 22 (along the external insulation)
Detector installation mode	To the surface by means of the mounting hole with the cable glands facing down	To the surface by means of the mounting hole with the cable glands facing down	To the surface by means of the mounting hole with the cable glands facing down
Available packages	Input devices, visor (optional)	Input devices, visor (optional)	Input devices, visor (optional)
Max. weight, kg	1,0	1,0	1,0
Lifetime, min., years	10	10	10
Warranty period, years	5	5	5

