CJSC ERIDAN

# Development and production of explosion-proof equipment

## GOST R ISO 9001-2008

*Eridan Company started production of explosion-proof fire alarm systems in 1999, when the IP 103-2/1 detector appeared. Since then, we have strengthened our position significantly thanks to development and production of high quality equipment designed for ensuring safety of people and various facilities with explosion hazards in different climatic zones, including the polar and coastal regions.*

*Products of CJSC Eridan are noted for their state-of-the-art and original intellectual and technical solutions as well as for their reliability.*

*Their indisputable advantages are installation convenience and compatibility of our products with those supplied by other manufacturers.*

*The equipment produced by CJSC Eridan ensures safety of more than 750 industrial facilities in 75 regions of Russia and in the CIS countries, i.e., in Belarus, Kazakhstan, Azerbaijan, Uzbekistan, Ukraine and Moldova.*

*Currently we cooperate with a lot of R&D institutions and organizations pertaining to the Emercom of Russia, OJSC Gazprom, OJSC Energoatom, OJSC Transneft, OJSC Lukoil Oil Company, TNK-BP and a number of other organizations.*

*On July 13, 2009, our subsidiary Eridan-Export, LLC was established to take care of explosion-proof equipment supplied to foreign customers.*

*Our dealers cooperate with us successfully in Moscow, Saint-Petersburg, Yekaterinburg, Nizhny-Novgorod, Novosibirsk, Perm, Rostov-on-Don, Samara, Tyumen, Ufa, Nizhnevartovsk, Almaty and Tashkent.*

*Sales promotion of the company in combination with quality, flexible pricing policy and short lead times meets a positive response of customers in the market.*

*By carrying out in-depth analysis of revealed faults and unrealized potential of similar products that are present in the market, we can set prospective tasks to our design team, and they are able to find well-balanced solutions thanks to their high competence, creative approach and, especially, their commitment. That is why the products we make enjoy customers' trust and are highly appreciated by experts.*

*By now, we manufacture ten types of products with twenty modifications; development of new products is under way. Jointly with Nita Company we have designed and certified an analogue address system based on FASCU (Fire alarm system control unit) Dozor intended for applications in explosive environment.*

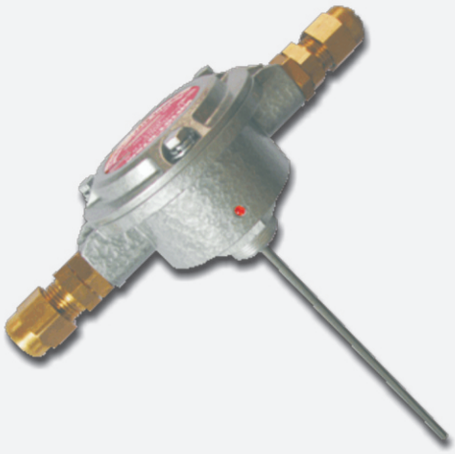
*A specific area of our activities is production of TVK-07, i.e., an explosion-proof thermohousing with an integrated video camera. During production of this system, components from the leading Russian and foreign suppliers are selected, and full-scale prototype and field tests are carried out so as to ensure reliable operation of our products under extreme climatic conditions.*

*The well-developed production processes meet the state-of-the-art requirement of quality control in accordance with the international quality management system GOST R ISO 9001-2008 that has been effective since 2009.*

*The heart and the core of our company are high motivation and commitment of each staff member to the Eridan brand. Owing to that, we can be proud of the results of our joint efforts and look into the future with optimism.*


*M.D.Chistyakov,*
*Director General*

# IP101-07em Programmed explosion-proof heat fire detector



## Awards


Gold medal
Novosibirsk
2007




Gold medal
Rostov-on-Don
2008

IP101-07em detector is entered into the Nomenclatural Reference book of MTR (material and technical resources) of OJSC Gazprom. Code MTR 1706902
Code of the GKI department: 50-007/26-22,3
It holds the Certificate of Typical Approval of the Maritime Register of Navigation of the RF

ROSNEFT

IP101-07em detector is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

It is designed to generate alarm signal to the loop circuit of fire alarm when the response temperature rises above the set point in the controlled environment.

It is applied at enterprises of chemical, oil and gas production, oil and gas processing, shipbuilding industries and in explosion hazard zones of other production facilities.

### Distinctive features:

- applicable in explosion hazard zones (in reservoirs for oil and other combustible mixtures, in premises and installations of other explosion hazard production facilities)
- connection for both opening and closing of a circuit
- possibility of connection to address fire-alarm systems

### Design:

- produced in a body made of aluminum alloy
- sensitive element is made of stainless steel
- non-oxidizing spring clips WAGO

### Key characteristics:

- operability testing of the detector and the loop circuit directly in the explosion hazard zone without dismantling (by means of a magnetic key)
- it is possible to readjust the detector's response temperature by the customer at the place of operation without changing parameters of the loop circuit
- unique thermal sensitivity
- high dust- and water proofness IP67 and vibration resistance (filling with compound)
- light indication at operation

### Technical characteristics

| | |
|---|---|
| explosion-proof marking | 1Exd[ia]IICT4/T5/T6 X |
| readjustment of the response temperature with a step,°C | 3-5 |
| temperature class of the detector's adjustment | A1, A2, A3, B, C, D |
| response temperature,°C | 54-115 |
| supply voltage, V | 8-28 |
| maximum input current, μA | 200 |
| operating conditions:<br>ambient air temperature for corresponding temperature classes,°C | T4 from -55 to +115<br>T5 from -55 to +100<br>T6 from -55 to +85 |
| overall dimensions, max., mm | 180 x 94 x 200 |
| weight, max., kg | 1,0 |
| lifetime, min., years | 10 |
| warranty period, months | 36 |

# IP101-07vt High-temperature explosion-proof heat fire detector

## Awards


Gold medal
Novosibirsk
2007



Gold medal
Rostov-on-Don
2008

IP101-07vt detector is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom.
Code MTR 1706906
Code of the GKI department: 50-007/26-22,3
It holds the Certificate of Typical Approval of the Maritime Register of Navigation of the RF.

IP101-07vt detector is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

ROSNEFT

It is designed to generate alarm signal to the loop circuit of fire alarm when the response temperature rises above the set point in the controlled environment.

It is applied at enterprises of chemical, oil and gas production, oil and gas processing, shipbuilding industries and in explosion hazard zones of other production facilities.

### Distinctive features:

- connection for both opening and closing of a circuit
- possibility of connection to address fire-alarm systems
- standard length of sensitivity of an element is 1,5 meter, maximum length is up to 30 meters (upon request)

### Design:

- produced in a body made of aluminum alloy
- sensitive element is made of stainless steel
- non-oxidizing spring clips WAGO
- detector's body with electronic component is located at a distance from the sensitive element, it allows controling heating zone up to 250°C

### Key characteristics:

- unique thermal sensitivity
- light indication at operation
- high dust- and waterproofness IP67 and vibration resistance (filling with compound)
- separate explosion-proof marking of the body and the sensitive element

### Technical characteristics

| | |
|---|---|
| explosion-proof marking of the body | 1Exd[ia]IICT6 |
| explosion-proof marking of the sensitive element | 0ExiaIICT2/T3/T4/T5/T6 X |
| temperature class of the detector's adjustment | A1, A2, A3, B, C, D, E, F, G, H |
| response temperature, $^0$C | 54-250 |
| supply voltage, V | 8-28 |
| maximum input current, μA | 200 |
| overall dimensions, max., mm | 200 x 94 x 60 |
| weight, max., kg | 1,0 |
| lifetime, min., years | 10 |
| warranty period, months | 36 |

Operating conditions of the detector:
ambient air temperature for corresponding temperature classes:
T2 – from 60°C below zero to 250°C above zero for remote element;
T3 – from 60°C below zero to 200°C above zero for remote element;
T4 – from 60°C below zero to 115°C above zero to +135°C above zero for remote element;
T5 – from 60°C below zero to 100°C above zero;
T6 – from 60°C below zero to 85°C above zero

# IP101-07md Peak differential explosion-proof heat fire detector

## Awards


Gold medal
Novosibirsk
2007



Gold medal
Rostov-on-Don
2008

IP101-07md detector is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom.
Code MTR 1706904
Code of the GKI department: 50-007/26-22,3
It holds the Certificate of Typical Approval of the Maritime Register of Navigation of the RF

ROSNEFT

IP101-07md detector is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

It is designed to generate alarm signal to the loop circuit of fire alarm when the response temperature rises above the set point in the controlled environment and/or heating rate.

It is applied at enterprises of chemical, oil and gas production, oil and gas processing, shipbuilding industries and in explosion hazard zones of other production facilities.

### Distinctive features:

- reliable performance in operation of two programmed parameters: threshold value of temperature and/or environmental heating rate
- connection for both opening and closing of a circuit
- possibility of connection to address fire-alarm systems

### Design:

- produced in a body made of aluminum alloy
- sensitive element is made of stainless steel
- non-oxidizing spring clips WAGO

### Key characteristics:

- unique thermal sensitivity
- light indication at operation
- high dust- and waterproofness IP67 and vibration resistance (filling with compound)
- differential function turns on at t° >25°C and does not react to drop below set value

### Technical characteristics

| | |
|---|---|
| explosion-proof marking | 1Exd[ia]IICT4/T5/T6 X |
| temperature class of the detector's adjustment | A1R, A2R, A3R, BR, CR, DR |
| response temperature,°C | 54-115 |
| rate of temperature rise,°C/min | 5,10,20, or 30 |
| supply voltage, V | 8-28 |
| maximum input current, μA | 200 |
| detector's time of readiness to work after power on, max., s | 10 |
| detector's reset time at power off, max., s | 4 |
| operating conditions: ambient air temperature for corresponding temperature classes,°C | T4 from -55 to +115 |
| | T5 from -55 to +100 |
| | T6 from -55 to +85 |
| overall dimensions, max., mm | 180 x 94 x 200 |
| weight, max., kg | 1,0 |
| lifetime, min., years | 10 |
| warranty period, months | 36 |

# IP101-07e Explosion-proof heat fire detector

## Awards


IP101-07e detector is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom.
Code MTR 1559199
Code of the GKI department: 50-007/26-22,3

IP101-07e detector is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

It is designed to generate alarm signal to the loop circuit of fire alarm when the response temperature rises above the set point in the controlled environment.

It is applied at enterprises of chemical, oil and gas production, oil and gas processing, shipbuilding industries and in explosion hazard zones of other production facilities.

### Distinctive features:

- operation in severe climate conditions to -55°C
- connection for both opening and closing of a circuit
- detector's operating conditions in accordance with the temperature class T4/T5/T6
- possibility of connection to address fire-alarm systems

### Design:

- non-oxidizing spring clips WAGO
- produced in a body made of aluminum alloy
- sensitive element is made of stainless steel

### Key characteristics:

- unique thermal sensitivity
- light indication at operation
- high dust- and waterproofness IP67 and vibration resistance (filling with compound)

### Technical characteristics

| | |
|---|---|
| explosion-proof marking | 1ExdIICT4/T5/T6 X |
| explosion-proof marking in modification with a terminal element | 1Exd[ia]IICT4/T5/T6 X |
| temperature class of the detector's adjustment | A1, A2 , A3, B, C, D |
| response temperature,°C | 54-115 |
| supply voltage, V | 8-28 |
| maximum input current, max., μA | 30 |
| operating conditions: ambient air temperature for corresponding temperature classes,°C | T4 from -55 to +115 |
| | T5 from -55 to +100 |
| | T6 from -55 to +85 |
| overall dimensions, max., mm | 180 x 94 x 160 |
| weight, max., kg | 1,0 |
| lifetime, min., years | 10 |
| warranty period, months | 36 |

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

## Awards


IP103-2/1-TR detector is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom.
Code MTR 1935940
Code of the GKI department: 50-007/26-22,3
It holds the Certificate of Typical Approval of the Maritime Register of Navigation of the RF
IP103-2/1-TR detector is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

ROSNEFT

It is designed to generate alarm signal to the loop circuit of fire alarm when the response temperature rises above the set point in the controlled environment.

It is applied at enterprises of chemical, oil and gas production, oil and gas processing, shipbuilding industries and in explosion hazard zones of other production facilities.

### Distinctive characteristics:

- IP103-2/1-TR - passive type, no power consumption
- may be installed in Class 0 zone provided that it is connected through spark-safe circuit
- high dust- and waterproofness IP67 and vibration resistance (filling with compound)
- possibility of connection to address fire-alarm systems

### Design:

- non-oxidizing spring clips WAGO
- produced in a body made of aluminum alloy
- sensitive element is made of stainless steel

### Technical characteristics

| | |
|---|---|
| explosion-proof marking | 1ExdIICT5/T6 X |
| explosion-proof marking in modification with a terminal element | 1Exd[ia]IICT5/T6 X |
| temperature class of the detector's adjustment,°C | 70, 75, 90 (classes A3, B, C) |
| supply voltage, V | 6-28 |
| maximum input current, A | 0,1 |
| operating conditions:<br>ambient air temperature for corresponding temperature classes,°C | T5 from -55 to +100<br>T6 from -55 to +85 |
| overall dimensions, max., mm | 265 x 80 x 190 |
| weight, max., kg | 0,9 |
| lifetime, min., years | 10 |
| warranty period, months | 36 |

# Ex-TEST Explosion-proof device for functional testing of heat fire detectors

## Awards


Gold medal All-Russian Exhibition Centre Moscow

Ex-TEST is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom.
Code MTR 1706912
Code of the GKI department:
50-007/26-22,3

ROSNEFT

Ex-TEST is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

Ex-TEST allows carrying out checking of detectors IP103-2/1, IP101-07e and their analogs (according to design of the sensitive element), without dismantling directly at the place of their installation and also of the loop circuit and control and indicating equipment.

It is applied at enterprises of chemical, oil and gas production, oil and gas processing industries and in explosion hazard zones of other production facilities.

It is installed in a reinforced aluminum case. It is indispensable for specialists providing supervision over fire safety and technical conditions of automatic fire fighting equipment at fire and explosion hazard production facilities.

## Distinctive features:

- checking of detector's operability without dismantling directly at the loop circuit of fire alarm system in explosion hazard zones
- standalone operation (continuous operation time of the internal battery is at least 3 hours at the ambient temperature of -10°C)
- produced in a body made of aluminum alloy

## Key characteristics:

- protection of cable of a HMH* from breaking-down and short circuit
- protection from overheating
- battery level control

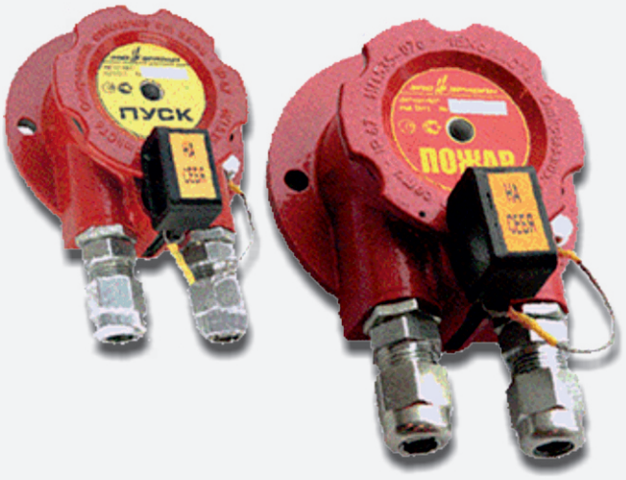
## Technical characteristics

| | |
|---|---|
| explosion-proof marking | 1Exs[ib]IIT3 X |
| weather proofing marking | IP54 |
| supply voltage in off-line mode, V | 10-15 |
| working temperature of operation,°C | -10...+50 |
| range of working temperatures of HMH*,°C | +50...+150 |
| battery charging voltage, V | 100-240 |
| alternating current (max), A | 0,375 |
| power frequency, Hz | 47-63 |
| cable length of HMH*, m | 3 |
| overall dimensions of the body, mm | 300 x 300 x 120 |
| weight, max., kg | 9,0 |
| lifetime, min., years | 10 |
| warranty period, months | 36 |

*HMH - heat monitoring head

# IP535-07e Explosion-proof manual fire detector

## Awards






Gold medal All-Russian Exhibition Centre Moscow

IP535-07e detector is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom.
Code MTR IP535-07e – 1935943, IP535-07e manual device START – 318356.
Code of the GKI department: 50-007/26-22,3

It holds the Certificate of Typical Approval of the Maritime Register of Navigation of the RF.

IP535-07e detector is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

ROSNEFT

It is designed for sending an alarm to the fire alarm loop circuit when the driving element is pulled out.

It is applied at enterprises of chemical, oil and gas production, oil and gas processing, shipbuilding industries and in explosion hazard zones of other production facilities.

### Distinctive features:

- vandal-proof design of the body
- connection for both opening and closing of a circuit
- the driving element is magnetically controlled, vibration-resistant and shockproof
- possibility of connection to address fire-alarm systems

### Design:

- the driving element is installed at a distance from the body
- non-oxidizing spring clips WAGO
- produced in a body made of aluminum alloy

### Key characteristics:

- high dust- and waterproofness IP67 and vibration resistance (filling with compound)
- detector's activation without design damage
- green light-emitting diode is installed for constant control of the loop circuit and indication of standby mode at the detector’s activation, colour of green flashing signal changes to red

### IP535-07e START

- used to start actuators of fire extinguishing and smoke removal systems, etc.
- maximum allowable switching voltage is 60 V at maximum allowable switching current 0,5 A

### Technical characteristics

| | |
|---|---|
| explosion-proof marking | 1ExdmIICT6 |
| supply voltage, V | 8-28 |
| maximum input current, μA | 200 |
| operating conditions,°C | from -55 to +85 |
| overall dimensions of the body, mm | 245 x 135 x 80 |
| weight, max., kg | 9,0 |
| lifetime, min., years | 10 |
| warranty period, months | 36 |

# KKV-07e Explosion-proof switch box

## Awards

KKV-07e switch box is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom.
Code MTR: 1884102
Code of the GKI department: 50-007/26-22,3

KKV-07e switch box is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

It is designed for connecting and branching of electric circuits of general and special purpose (control and power supply cables of automation and telemechanics systems, control circuits, alarm systems, etc.) in explosion hazard zones.

It is applied at enterprises of chemical, oil and gas production, oil and gas processing industries and in explosion hazard zones of other production facilities.

### Boxes are produced in the following variants:

- KKV-07e-P – pass-through explosion-proof switch box
- KKV-07e-U – angle explosion-proof switch box
- KKV-07e-T – three-way explosion-proof switch box
- KKV-07e-K – cross-shaped explosion-proof switch box
- KKV-07e-A-(P, U, T, K) – explosion-proof switch box with extension board for address marks installation

### Distinctive features:

- operation temperature ranges from - 60°C to +70°C
- effective internal volume 200 $cm^3$
- opportunity of use for explosion-proofing of address marks placed inside

### Key characteristics:

- explosion-proof marking 1ExdIICT6
- sealed explosion-proof case IP67
- non-oxidizing spring clips WAGO
- produced in a body made of aluminum alloy

### Scope of supply in a box

| Name | Quantity per article | | | | Note |
|---|---|---|---|---|---|
| | KKV-07e-P | KKV-07e-U | KKV-07e-T | KKV-07e-K | |
| box | 1 | 1 | 1 | 1 | |
| connecting clips WAGO | | | | | |
| for 2 conductors | 5 | 5 | * | * | (On order) |
| for 3 conductors | * | * | 5 | * | (not for KKV-07e-A) |
| for 5 conductors | * | * | * | 5 | |
| clip key WAGO | 1 | 1 | 1 | 1 | for KKV-07e-A |
| O-ring<br>d8 mm for Ø6-8 mm cable<br>d10 mm for Ø8-10 mm cable | <br>2<br>2 | <br>2<br>2 | <br>3<br>3 | <br>4<br>4 | |
| special key for cover | 1 | 1 | 1 | 1 | Per package |
| hex wrench | 1 | 1 | 1 | 1 | |
| dowel, self-tapping screw | 3 | 3 | 3 | 3 | |

* scope of supply is discussed when placing an order

## Scope of supply of installation fixtures

All detectors are delivered in six types of configurations: (articles holding certificates of the Russian Maritime Register of Shipping are made of brass alloy BA 59, those without the certificate are made of galvanized steel 45Cr)

| | |
|---|---|
| K1- with two connecting pipes - for installation in the pipe arrangement with the thread G1/2 |  |
| K2- with two cable inlets CI12 for installation with the armored cable or metal hose, Ø of the armor is up to 12mm |  |
| K3- with one connecting pipe and one terminal plug |  |
| K4- with one cable inlet CI12 and one terminal plug |  |
| K5- with one connecting pipe and terminal element (TE)* |  |
| K6- with one cable inlet CI12 and terminal element (TE)* |  |
| K7- with two cable inlets CI15 for installation by the metal hose with Ø nominal diameter 15 mm |  |
| K8- with one cable inlet CI15 and one terminal plug |  |
| K9- with one cable inlet CI15 and terminal element (TE)* |  |

* Terminal element (TE) is not a separate device, it is included into one of configuration options for explosion-proof fire detectors IP103-2/1-TR, IP101-07e, and series IP101-07, and is designed for continuous failure monitoring of alarm loop circuit (it is installed in the detector's loop circuit).

Light-emitting diode located in the terminal element gives signals of loop circuit operability. It works in flashing mode

**Electrical characteristics of TE:**

- voltage in the loop curcuit, V 8-28
- maximum input current, μA 50

Scope of supply of installation fixtures

# EKRAN-INFO Explosion-proof fire-alarm device

EKRAN-INFO infrared spotlamp is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom. Code MTR: 2028465.


EKRAN-INFO explosion-proof fire-alarm device is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

The fire-alarm device is designed for application as a light or light and acoustic annunciator, an information indicating panel, and provides light and acoustic alarms in explosion hazard zone.

It is applied at enterprises of chemical, oil and gas production, oil and gas processing, shipbuilding industries and in explosion hazard zones of other production facilities.

The fire-alarm device may be used as an information light panel capable of remote administration by means of the connection line RS-485.

EKRAN-INFO - explosion-proof light and acoustic fire-alarm device (sound pressure level 95 dB) with programmed muting.

**Display text options:**

- static
- flashing
- creeping line

## Distinctive features:

- high contrast under bright sunlight
- display text and graphics in any language
- user programmable text via USB-port
- remote change of four programmed text messages
- operation in severe climate conditions from -55°C up to +75°C
- possibility of connection to address fire-alarm systems

## Design:

- steel body with powder coating
- hardened glass 6 mm thick
- weatherproof canopy

## Odular functions

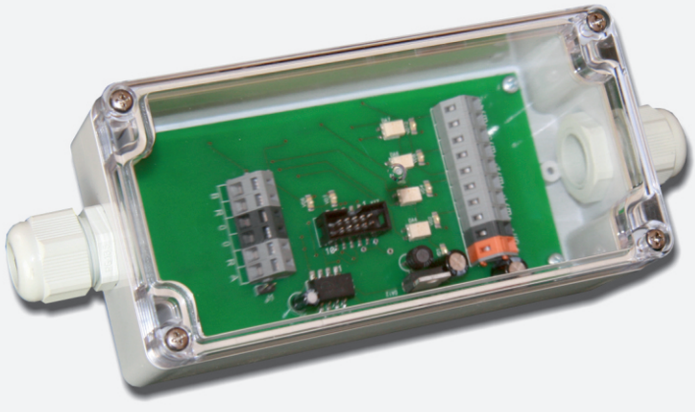
- any text message is programmed BY THE USER!
- explosion-proof marking 1Exdmb[ib]IICT4 X
- high corrosion resistance and dust- and waterproofness IP65
- supervision of breaking-down and short circuit of supply and control circuits
- use of super bright light-emitting diodes Kingbright

## Technical characteristics

| | |
|---|---|
| explosion-proof marking | 1Exdmb[ib]IICT4 X |
| supply voltage, V | 12-24/100-240 |
| maximum input current, max., A<br>at supply voltage 12-24 V, max.<br>at supply voltage 100-240 V, max. | <br>0,5<br>0,1 |
| information light field of the fire-alarm device, point | 56x16 |
| acoustic signal type – siren<br>sound pressure level at the distance of<br>(1,00±0,05) m, min., dB | <br><br>95 |
| light channel flashing can be set in frequency range, Hz | 0,5-5 |
| overall dimensions (with screen and cable inlet), max., mm | 453 x 226 x 155 |
| weight, max., kg | 7,0 |
| lifetime, min., years | 10 |
| warranty period, months | 36 |

The fire-alarm device EKRAN-INFO is packaged with DCD (fire-alarm device control device) upon request

The DCD is designed for remote control of text messages of the fire-alarm device.



## Characteristics of the fire-alarm device control device DCD:

- supply voltage 12 V ±10%
- maximum input current 0,3 A
- number of separately configured discrete inputs with priority – 4
- external signals – outlets (for instance, relay) of the control device
- connection with the fire-alarm device via RS-485 interface with galvanic separation
- DCD is a master device
- value of the tracking resistor, installed by means of a strap, 120 Ohm
- control of connection line with EKRAN-INFO fire-alarm device
- Text messages on EKRAN-INFO are displayed in turns depending on signals on DCD control inlets and input priority. An input with a higher number has higher priority. Only one message is displayed at a time, the last message to be displayed is the one from the corresponding control inlet, taking into consideration its priority.
- availability of two cable inlets PG13.5 for unarmored or flexible shielded cable
- overall dimensions 210x80x55 mm (with two cable inlets)

# EKRAN Explosion-proof fire-alarm device and indicator (panel)



## Awards

Prize Altyn Dabyl (Golden Ball) Astana Kazakhstan 2008


Gold medal All-Russian Exhibition Centre Moscow 2005


Best seller All-Russian Exhibition Centre Moscow 2009

EKRAN fire-alarm device is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom.
Code of the GKI department: 50-007/26-22,3
Code MTR: EKRAN-SU – 19984. EKRAN-S – 19987

ROSNEFT

EKRAN fire-alarm device is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

It is designed for application as a light or light and acoustic annunciator, an information indicator, and provides light and acoustic signal injection in explosion hazard zone.

It is applied at enterprises of chemical, oil and gas production, oil and gas processing, shipbuilding industries and in explosion hazard zones of other production facilities.

Text, pictograms, inscription colour, panel background and cable length in the metal hose longer than 1,5 meter are selected upon request.

### Modifications:

EKRAN-SZ - sound-and-light fire-alarm device with flashing operating mode of the panel with minimum sound pressure 95 dB/m

EKRAN-S - light fire-alarm device with flashing operating mode of the panel (an option with a non-flashing panel is available upon request)

EKRAN-SU - light evacuation indicator with a non-flashing panel

Fire-alarm devices EKRAN-S and EKRAN-SZ with additional light-and-information section “Automation is turned off” or other upon request

### Distinctive features:

- operation of EKRAN-S, EKRAN-SZ, EKRAN-SU in severe climate conditions - from -55...+75°C
- availability of power supply line control
- high resolution display messages for EKRAN-S and EKRAN-SZ
- possibility of connection to address fire-alarm systems

### Design:

- produced in a body made of antistatic polyamide PA6-E8/1
- antistatic coating of glass surface

### Key characteristics:

- high dust- and waterproofness and shock resistance IP65
- vibration resistance (filling with compound)

### Technical characteristics

| | |
|---|---|
| explosion-proof marking | 1Exmb[ib]IICT4 X |
| supply voltage, V | 12-24 |
| maximum input current, max., A<br>EKRAN-SU<br>EKRAN-S<br>EKRAN-SZ | <br>0,15<br>0,2<br>0,3 |
| overall dimensions, max., mm | 385 x 160 x 45 |
| weight, max., kg | 2,5 |
| lifetime, min., years | 10 |
| warranty period, months | 36 |

# GRV - 07e Explosion-proof horn loudspeaker

GRV-07e loudspeaker is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom.
Code MTR: 1884103
Code of the GKI department: 50-007/26-22,3

GRV-07e loudspeaker is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

It is designed for application as a sound source in fire and security alarm systems, industrial-technological loud-speaking communication, and other kinds of annunciation and acoustic warning systems operating jointly with control and indicating equipment and amplifiers.

It is applied at enterprises of chemical, oil and gas production, oil and gas processing industries and in explosion hazard zones of other production facilities.

## 3 design variants:

- GRV-07e-20 - explosion-proof horn loudspeaker 20 W
- GRV-07e-30 - explosion-proof horn loudspeaker 30 W
- GRV-07e-50 - explosion-proof horn loudspeaker 50 W

## Distinctive features and characteristics:

- explosion-proof marking 1ExdIIBT6 X
- sealed explosion-proof case IP56
- operation temperature ranges from - 55°C to +55°C
- complete with universal cable inlets and a support arm

## Design:

- non-oxidizing spring clips WAGO
- produced in a body made of alloy

## Technical characteristics

| Parameter name | Loudspeaker model /parameter value | | |
|---|---|---|---|
| | GRV-07e-20 | GRV-07e-30 | GRV-07e-50 |
| rated sound-power level, W | 20 | 30 | 50 |
| rated voltage, Un max, V | 100 | | |
| electric resistance, R, Ohm | 8/500/1000 | 8/330/660 | 8/200/400 |
| effective operating frequency range, Hz | 380-3500 | | |
| level of sound pressure at the distance 1m, dB, min. | 106 | 107 | 109 |
| weight, kg, max. | 4,5 | 4,9 | 5,3 |
| overall dimensions (without the support arm), mm, max. | Ø250x330 | Ø280x380 | Ø320x400 |
| flare angle | 45 deg | | |
| lifetime | 10 years | | |
| warranty period, months | 36 | | |

# VS-07e Explosion-proof sound fire-alarm device (siren)

## Awards


VS-07e fire-alarm device is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom.
Code MTR: 1884104
Code of the GKI department: 50-007/26-22,3

ROSNEFT

VS-07e fire-alarm device is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

It is designed for sending an acoustic signal in fire and security alarm systems coupled with any control and indicating equipment.

It is applied at enterprises of chemical, oil and gas production, oil and gas processing industries and in explosion hazard zones of other production facilities.

## Distinctive features:

- operation in severe climate conditions - from -55...+70°C
- change of tonal characteristic - 2 modes
- availability of power supply line control
- possibility of connection to address fire-alarm systems

## Key characteristics:

- produced in a body made of aluminum alloy
- high corrosion resistance and dust- and waterproofness IP65
- vibration resistance (filling with compound)

## Technical characteristics

| | |
|---|---|
| explosion-proof marking | 1ExdIICT6 |
| supply voltage, V | 12-24 |
| maximum input current, A | 0,3 |
| level of sound pressure at the distance (1,00+0,05) m, min., dB | 100 |
| acoustic signal type – siren<br>frequency range of generated acoustic signal, kHz | 1,0 – 4,5 |
| permissible continuous operation time<br>in the beep injection mode, max., hour | 3 |
| overall dimensions of the fire-alarm device body,<br>without cable inlets and the support arm, max., mm | 85 x 85 x 135 |
| weight, max., kg | 2,0 |
| lifetime, min., years | 10 |
| warranty period, months | 36 |

# VS-07e-I Explosion-proof acoustic fire-alarm device with indication (light and sound)

VS-07e-I fire-alarm device is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom.
Code MTR: 1937244
Code of the GKI department: 50-007/26-22,3

VS-07e-I fire-alarm device is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

It is designed for sending the acoustic signal when it gets power supply in fire and security alarm systems, coupled with any control and indicating equipment.

It is applied at enterprises of chemical, oil and gas production, oil and gas processing industries and in explosion hazard zones of other production facilities.

## Distinctive features:

- operation in severe climate conditions - from -55...+70°C
- availability of power supply line control
- colour of light may be chosen by the customer from the range: Normal mode – red (R), yellow (Y), green (G) or blue (B) emergency mode – red (R), yellow (Y)
- selection is possible between flashing and non-flashing light modes
- change of tonal characteristic - 2 modes
- possibility of connection to address fire-alarm systems

## Key characteristics:

- produced in a body made of aluminum alloy
- high corrosion resistance and dust- and waterproofness IP65
- vibration resistance (filling with compound)

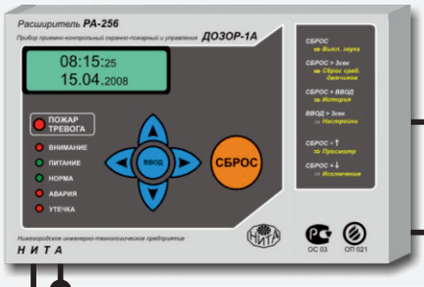
## Technical characteristics

| | |
|---|---|
| explosion-proof marking | 1ExdIICT6 |
| supply voltage, V | 12-24 |
| maximum input current, A | 0,3 |
| level of sound pressure at the distance (1,00±0,05) m, min., dB | 100 |
| acoustic signal type – siren<br>frequency range of generated acoustic signal, kHz | 1,0 – 4,5 |
| frequency of light flashing, Hz | 0,5 - 5 |
| permissible continuous operation time<br>in acoustic alarm mode, max., hour | 3 |
| overall dimensions of the fire-alarm device body,<br>without cable inlets and the support arm, max., mm | 85 x 85 x 135 |
| weight, max., kg | 2,0 |
| lifetime, min., years | 10 |
| warranty period, months | 36 |

## Reference designations

-Explosion hazard zone

**DOZOR-1A**
Dozor-07a protocol




RS-485 → PI1(2) → 

RS-485

BR AMR2 — DCD

**EKRAN-INFO**


BP-12-24V

**EKRAN-a**


Address acoustic-and-light fire-alarm device **EKRAN-a**

- separate control of light and acoustic section;
- additional light section;
- pulse and continuous operating mode;
- continuous control of detector's operability.

BP-12-24V


**KKV-07e + AMR2**

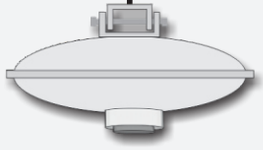

**VS-07e-I**

BP-12-24V

**KKV-07e + AMDSh**


**IP101-07e**

**KKV-07e + AMR**

Relay address mark **AMR2**

- switching load 60Wt;
- current consumption from the loop circuit, max. 1,5 mA;
- integrity control of circuit on breaking-down, shorting, power outage;
- using as starting circuit at power up to 3A from external power source.

Address mark **AMDSh**

- up to 3 addressless heat sensor of IP101 type;
- loop circuit length up to 50m;
- recognition of activation of one or two sensors within the loop circuit;
- sensors power supply from the loop circuit.

Start address mark **AMR**

- start channel 0,15A within 1second;
- current consumption from the loop circuit is max. 2 mA;
- external power source is not required for activation;
- integrity control of start circuit;
- power supply from the loop circuit.

## Characteristic features AAS-PS:

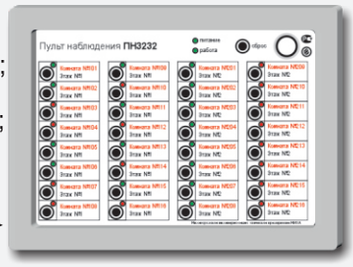
- System performance reliability is guaranteed by continuous dynamic interrogation of all address devices.
- Ring architecture of loop circuits.
- Improved system survivability.
- Possibility of change of sensors' sensibility depending on operating conditions.
- Possibility of connection to the loop circuit of address devices by means of address marks.
- Configuration (system programming).
- Minimum maintenance costs.

Observation panel **PN3232**

- 32 two-coloured light emitting diode indicators and 32 buttons;
- up to 8 observation panels for one device;
- possibility of access restriction to buttons by means of Touch Memory key;
- indication testing by means of a button on the panel.

RS-485

**PN3232** observation



**IP535-07a**

**IP535-07a** address manual fire detector

- power supply from the loop circuit;
- current consumption max. 1 mA.

**IP101-07a**

**KKV-07e + AMTSh**

**IP101-07md + AMD**

Address mark **AMD**

- creation of address of any smoke sensor or normally open sensor;
- possibility of installation in the sensor's body

Address mark **AMTSh**

- up to 10 addressless heat sensor of type IP103;
- loop circuit length up to 50m;
- operation recognition of one or two sensors in the loop circuit.

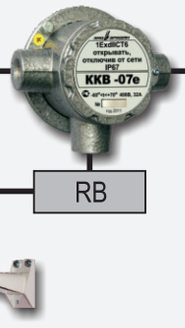
**KKV-07e + IZO**

Loop circuit isolator **IZO**

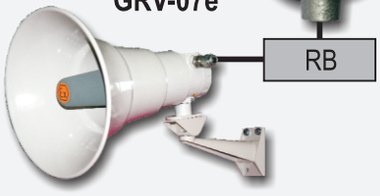
- up to 20 isolators in the loop circuit;
- power supply from the loop circuit.

**KKV-07e + AMR1**

**KKV-07e + AMR2**



**GRV-07e**




**IP103-2/1-TR + AMT**

Relay address mark **AMR-1**

- switching load 750Wt;
- current consumption from the loop circuit max. 5 mA;
- integrity control of circuit on breaking-down, shorting, power outage;
- using as starting circuit at power up to 3A from external power source.

Relay address mark **AMR2**

- switching load 60Wt;
- current consumption from the loop circuit max. 1,5 mA;
- integrity control of circuit on breaking-down, shorting, power outage;
- using as starting circuit at power up to 3A from external power source.

Address mark **AMT**

- creation of address of any heat sensor or normally open sensor;
- possibility of installation in the sensor's body.

# IP101-07a Programmed explosion-proof thermal fire address detector

IP101-07e detector is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom.
Code MTR: 1935941.
Code of the GKI department: 50-007/26-22,3

IP101-07a detector is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

It is designed to detect fire locations accompanied by rise of temperature within the monitored space and to transfer to the control and indicating device current ambient temperature values as well as signs of fire if the ambient temperature or the speed of temperature growth rises above the set point. The detector is designed to work only as a part of the address equipment loop supporting the Dozor-07a protocol.

It is applied at enterprises of chemical, oil and gas production, oil and gas processing, shipbuilding industries and in explosion hazard zones of other production facilities.

**Distinctive features:**

- supply and data exchange of the detector is operated by the two-wire line
- connection to the line is in parallel without consideration of polarity
- light indication at activation and in standby mode
- remote sensitive element (upon request)

**Design:**

- non-oxidizing spring clips WAGO
- produced in a body made of aluminum alloy
  sensitive element is made of stainless steel

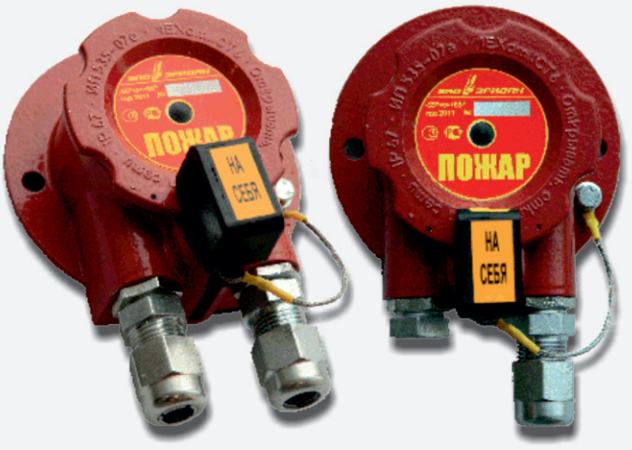
**Key characteristics:**

- unique factory (serial) number identified by the control and indicating unit Dozor-1A or by a similar device supporting the Dozor-07a protocol (Equipment compatibility must be checked with the producer)
- urgent detection of any activated detector
- unique thermal sensitivity
- high dust- and waterproofness IP67 and vibration resistance (filling with compound)
- remote changing of the temperature range of monitored environment

**Technical characteristics**

| | |
|---|---|
| explosion-proof marking | 1Exd[ia]IICT4/T5/T6 X |
| measuring range of environment temperature,°C | from -54 to +114 |
| range of temperature classes of the detector's adjustment | A1(A1R)-D(DR) |
| supply voltage from the address loop, V | 15-39 |
| maximum input current, max. mA | 1,0 |
| operating conditions:<br>ambient air temperature for corresponding temperature classes,°C | T4 from -55 to +115 |
| | T5 from -55 to +100 |
| | T6 from -55 to +85 |
| number of detectors in the address loop, max., unit | 255 |
| maximum request time, max., s | 3-5 |
| overall dimensions with two screwed cable inlets, max., mm | 238 x 104 x 81 |
| weight, max., kg | 1,0 |
| lifetime, min., years | 10 |
| warranty period, months | 36 |

# IP535-07ea Explosion-proof fire manual address detector




IP535-07ea detector is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom.
Code MTR IP535-07ea – 1935944
Code of the GKI department: 50-007/26-22,3
It holds the Certificate of Typical Approval of the Maritime Register of Navigation of the RF.

ROSNEFT

IP535-07ea detector is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

It is designed to switch on manually the fire alarm signal in explosion hazard zone and to transfer an alert signal into fire alarm system loop upon pulling out the driving element.

The detector IP535-07ea is designed for operation only as a part of equipment loop with Dozor-07a support.

It is applied at enterprises of chemical, oil and gas production, oil and gas processing, shipbuilding industries and in explosion hazard zones of other production facilities.

## Distinctive features:

- vandal-proof design of the body
- supply and data exchange of the detector is operated by the two-wire line
- detector's activation without design damage
- green light-emitting diode is installed for constant control of the loop circuit and indication of standby mode at the detector's activation colour of green flashing signal is changed into red

## Design:

- the driving element is installed at a distance from the body
- non-oxidizing spring clips WAGO
- produced in a body made of aluminum alloy

## Key characteristics:

- unique factory (serial) number, identified by control and indicating unit Dozor-1A or by a similar unit or by a similar unit device supporting the Dozor-07a protocol (Equipment compatibility must be checked with the producer)
- quick (extraordinary) detection of any activated detector
- an acknowledgment function (confirmation of response by console) is introduced
- high dust- and waterproofness IP67 and vibration resistance (filling with compound)
- the driving element is magnetically controlled, vibration-resistant and shockproof

## Technical characteristics

| | |
|---|---|
| explosion-proof marking | 1ExdmIICT6 |
| supply voltage from the address loop, V | 15-39 |
| maximum input current, mA | 1,0 |
| operating conditions,°C | from -55 to +85 |
| number of detectors in the address loop, max., unit | 255 |
| maximum request time, max., s | 3-5 |
| overall dimensions of the body, mm | 245 x 135 x 80 |
| weight, max., kg | 2,0 |
| lifetime, min., years | 10 |
| warranty period, months | 36 |

# EKRAN-a Explosion-proof address fire-alarm device


EKRAN-a fire-alarm device is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom.
Code of the GKI department: 50-007/26-22,3
Code MTR: EKRAN-a-S – 1935945
EKRAN-a-SZ – 1935942

EKRAN-a fire-alarm device is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

It is designed for application as a light or light and acoustic annunciator, an information indicator, and provides light and acoustic signals in explosion hazard zone.

The fire-alarm device is designed for operation only as a part of equipment loop with Dozor-07a support.

It is applied at enterprises of chemical, oil and gas production, oil and gas processing, shipbuilding industries and in explosion hazard zones of other production facilities. Text, pictograms, inscription colour, panel background and cable length in the metal hose more than 1,5 meter are selected upon request.

## Modifications:

EKRAN-a-S - light fire-alarm device with flashing operating mode of the panel (an option with a non-flashing panel is available upon request)

EKRAN-a-SZ - acoustic-and-light fire-alarm device with flashing operating mode of the panel with minimum sound pressure 95 dB;

Fire-alarm devices EKRAN-a-S and EKRAN-a-SZ with additional light-and-information section "Automation is turned off" or other upon request.

## Distinctive features:

- connection through four-wire line
- the fire-alarm device's electric diagram supply is made by means of the address loop
- supervision of supply circuits from breaking-down and short circuit – from external power source

## Design:

- produced in a body made of antistatic polyamide PA6-E8/1
- antistatic coating of glass surface

## Key characteristics:

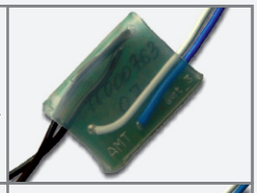
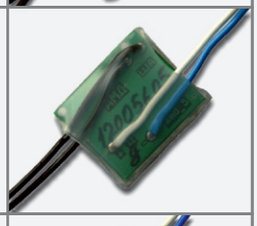
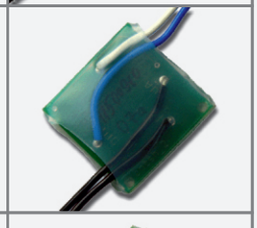
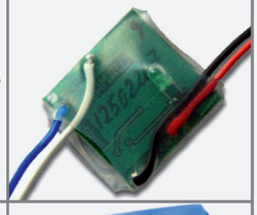
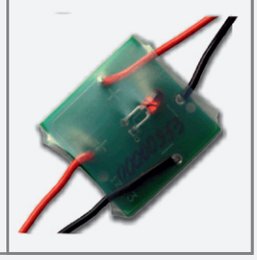
- each function of the fire-alarm device has a unique factory (serial) number identified by Dozor-1A address control and indicating unit with support of Dozor-07a protocol
- high dust- and waterproofness and shock resistance IP65
- vibration resistance (filling with compound)

## Technical characteristics

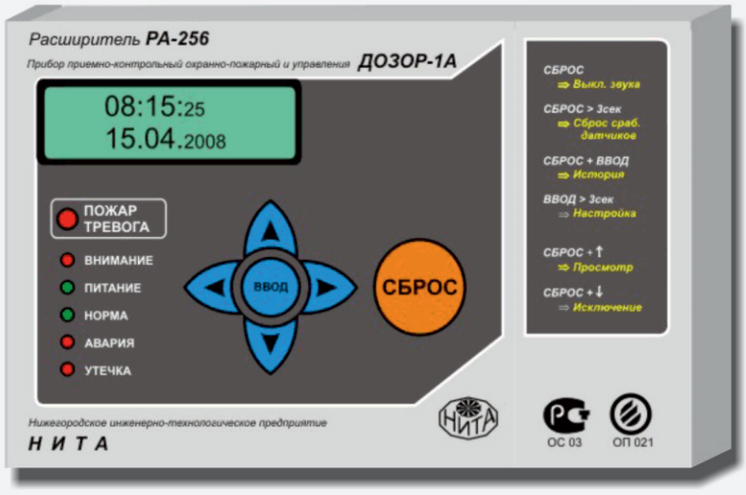
| | |
|---|---|
| explosion-proof marking | 1Exmb[ib]IIT4 X |
| supply voltage, V | 12-24 |
| maximum input current from power source, max., mA<br>- light function<br>- sound function<br>- additional section | <br>300<br>50<br>50 |
| maximum input current, max., mA – from the address loop, max., unit | 2,0 |
| operating conditions,°C | from -55 to +75 |
| number of fire-alarm devices in the address loop, max., unit | 120 |
| overall dimensions, max., mm | 385 x 160 x 45 |
| weight, max., kg | 2,5 |
| lifetime, min., years | 10 |
| warranty period, months | 36 |

An address mark is a microprocessor based device that is designed to form an address of one heat sensor or any contact sensor with normally closed or normally open contacts.

Thanks to application of address marks, a conventional detector can be converted into an address detector.

| | |
|---|---|
| AMT address mark (normally closed contacts)<br>Thanks to application of the AMT, a conventional cheap detector can be effectively converted into an address detector. The detector acquires its own unique address in the system. The AMT is a small-size mark, and it is easily placed inside the housing of many detectors and switch boxes KKV-07e. |  |
| AMD address mark (normally open contacts)<br>Thanks to application of the AMD, conventional threshold detectors (for example, smoke, manual or flame detectors) as well as any sensors with normally open dry contacts can be converted into address detectors.<br>The AMD is a small-size mark, and it is easily placed inside the housing of many detectors, for example, smoke or manual detector, or switch boxes KKV-07e. |  |
| AMTSh loop address mark (normally closed contacts)<br>Thanks to application of the AMTSh, threshold alarm loops can be created for conventional cheap detectors, for example, heat and manual detectors, SMK, as well as any sensors with normally closed dry contacts. In this case, the alarm loop acquires its own unique address in the system, and it is controlled by its mark. This arrangement provides for finding exact location of the loop in case of activation or failure. |  |
| AMDSh loop address mark (normally open contacts)<br>Thanks to application of the AMDSh, threshold alarm loops can be created for conventional cheap detectors, for example smoke, manual or flame detectors (as well as arbitrary normally open dry contacts). In this case, the loop acquires its own unique address in the system, and it is controlled by its mark. This arrangement provides for finding exact location of the loop in case of activation or failure. |  |
| AMR1 high voltage relay address mark<br>The AMR1 address mark is designed for external load control (via switching relay contacts) of flame retardant valves, smoke extraction valves, process equipment, as well as for activation of fire extinguishing modules. |  |
| AMR2 low voltage relay address mark<br>The AMR2 address mark is designed for external load control (via switching relay contacts) and monitoring of controlled circuit, according to the effective Technical Regulations on Fire Safety Requirements (TRonFSR).<br>In practice, the AMR2 is normally used to control various fire-alarm devices, valves (flame retardant valves, smoke extraction valves, etc.), process equipment as well as for activation of fire extinguishing modules (gas, powder and aerosol modules). |  |
| AMP start address mark<br>The AMP start address mark is designed for sending a current pulse in order to activate fire extinguishing modules or other systems. It ensures continuity monitoring of start circuits according to the effective TRonFSR.<br>In practice, the AMP is used for activation of various fire extinguishing modules activated by destruction of pyrocartridge. Most often these are powder type fire extinguishing modules. |  |
| IZO address loop isolator<br>The IZO address loop isolator is designed for isolation of a certain loop section in case of short circuit. The isolator is connected to the address loop created by PKP-1A; it is an independent device that is only powered from the loop.<br>The isolator is activated when the loop is open.<br>In practice, if there are a number of the IZO devices within an address loop, it is possible to find the faulty section with higher precision, and to ensure serviceability of the remaining address devices. |  |

# Dozor-1A Control, indicating and fire safety address unit including «Dozor-07a» protocol




It is designed for building an effective fire and security alarm system and also for fully functional control of smoke removal, ventilation, fire alarm, manufacturing equipment, and fire extinguishing of all types (gas, powder, aerosol, water and foam) at small facilities of various applications, both in standalone mode and together with panels of central surveillance and control and indicating devices.

## Distinctive features:

- work with address detectors and fire-alarm devices made by CJSC Eridan
- possibility of connection to the loop circuit of addressless devices by means of address marks
- possibility of changing sensitivity of sensors depending on operating conditions
- continuous cyclic interrogation of address devices in system
- full-scale condition monitoring of each address device
- constant integrity control of address loop circuit on breaking-down and short circuit

## Key characteristics:

- urgent detection of any activated units
- integration into one circuit of up to 128 units of Dozor series
- connection of up to 255 peripheral units to one control and indicating unit
- recording of all happened events in non-volatile memory

## Technical characteristics

| | |
|---|---|
| supply voltage, V | 10,5-13,5 |
| consumption current from power supply source:<br>- without external devices, max., mA<br>- at peak load, max., A | <br>230<br>2,0 |
| maximum current consumed by external units from the address loop circuit, mA | 280 |
| voltage in the address loop circuit (in output of control and indicating unit -1A), V | 28-38 |
| resistance of the address loop circuit (at peak load), max., Ohm | 33 |
| number of ring address loop circuits | 1 |
| number of fire-alarm devices in the address loop, max., unit | 120 |
| overall dimensions, max., mm | 200 x 130 x 30 |
| overall dimensions, max., mm | 2,0 |
| lifetime, min., years | 10 |

# IK-07e – Explosion proof infrared spotlamp

IK-07e infrared spotlamp is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom.

IK-07e infrared spotlamp is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

The spotlamp is designed for round-the-clock operation as part of a video surveillance system, in case natural lighting is insufficient for normal operation of the video camera.

The IK-07e spotlamp provides efficient lighting of monitored sectors in explosion hazardous areas of chemical, oil and gas production and processing facilities and other hazardous industries. The spotlamp bears explosion-proof marking 1ExdIICT6 X; climatic version - U-1, operating temperature range - from -55$^0$C to +60$^0$C.

## Distinctive features:

- automatic power on/off depending on lighting conditions
- function of power on delay in case of intensive flaring is available (the function is necessary in order to reduce possibility of the spotlamp power off, for example, in case of brief flaring by headlights of a passing car)
- radiation power adjustment is possible
- produced in a body made of aluminum alloy
- complete with universal cable inlets and reinforced support arm

## Key characteristics:

- explosion-proof marking 1ExdIICT6
- high mechanical strength and dust- and waterproofness (IP67)
- tempered shock-resistant sight glass 6 mm
- non-oxidizing spring clips “WAGO”

## Technical characteristics

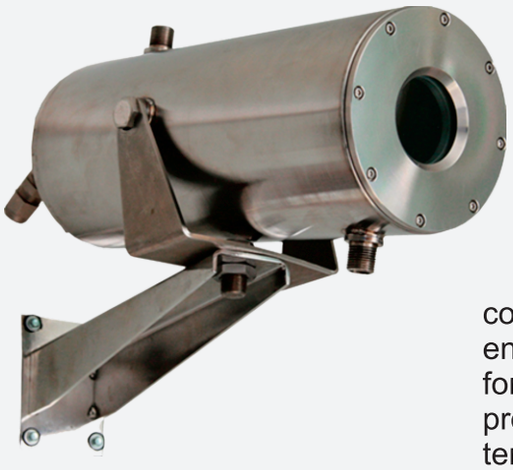
| | |
|---|---|
| explosion-proof marking | 1ExdIICT6 |
| supply voltage, V | 12-24 DC/AC |
| maximum input current, max., A | 0,6 |
| radiation wavelength, nm | 850 |
| operating temperature, °C | from -55°C to +60°C |
| overall dimensions, max., mm (HxWxD) | 150x150x75 |
| weight, max., kg | 2,2 |
| rated service life with utilization ratio of 0.5 (12-hour operation mode), year | 10 |

## * Beam parameters

| | | | | |
|---|---|---|---|---|
| radiation angle, ° | 35 | 50 | 70 | 120 |
| lighting range, m | 20 | 17 | 15 | 10 |
| horizontal coverage width, m | 11 | 16 | 22 | 34 |

* the above data are for the CCD matrix with sensitivity of 0.03 lux

# TVK-07-V - Explosion-proof thermohousing with cooling capacity



TVK-07-V thermohousing is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom.
Code MTR: 2028466

TVK-07-V thermohousing is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

It is designed for installation of a video camera and other components of video equipment; it ensures their protection from environmental impacts. It is used as part of video control system for maintenance of protection, safety and monitoring of production processes at explosion hazardous production facilities under high temperatures, such as foundries, rolling mills, furnaces, chemical industries and other aggressive media.

## Distinctive features:

- produced in the body made of stainless steel 12X18H10T
- nozzle G1/2" for coolant input/output
- complete with universal cable inlets and reinforced support arm made of stainless steel

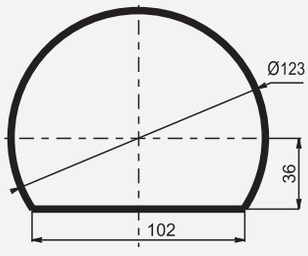
## Key characteristics:

- explosion-proof marking 1ExdIICT2
- high mechanical strength and dust- and waterproofness (IP67)
- tempered shock-resistant sight glass 6 mm
- stable operation under ambient temperatures from 1 to 200$^0$C
- overheat control

## Climatic version UHL-4

- UHL-4 from 1 to 200°C, supply voltage: 12-24VDC, 220VAC, 36VAC.
  Explosion-proof marking: 1ExdIICT2

## Effective volume of the thermohousing




Installation of video equipment is possible by the customer. Effective volume of the TVK-07-V explosion-proof thermohousing for installation: Ø123x240 mm (diameter x length).

## Parameters of TVK-07-V thermohousing

| | |
|---|---|
| explosion-proof marking | 1ExdIICT2 |
| effective volume, mm | 85x75x240 |
| overall dimensions without support arm, mm | 215x195x460 |
| weight, max., kg | 17,0 |
| rated service life, min., year | 10 |

## Power supply parameters

| Climatic version | Supply voltage, V | Input current, max., A |
|---|---|---|
| UHL-4 (1°C...+200°C) | 12-24VDC | 1,0 |
| | 36AVC±20% | 0,4 |
| | 220AVC±10% | 0,1 |

# TVK-07-N - Explosion-proof thermohousing in a stainless steel body

TVK-07-N thermohousing is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom.
Code MTR: 1937243
Code of the GKI department: 50-007/26-22,3

ROSNEFT

TVK-07-N thermohousing is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

It is designed for installation of a video camera and other components of video equipment; it ensures their protection from environmental impacts. It is used as part of video control system for maintenance of protection, safety and control of production processes of explosion hazard and aggressive production facilities including mines with gas and dust hazards.

## Distinctive features:

- increased effective volume 85 x 75 x 240 mm
- possibility of installing both analogue type and IP video cameras
- complete with universal cable inlets and reinforced support arm made of stainless steel
- stable work at the ambient temperature from -60 to +50°C
- complete with infrared lighting (option)
- complete with a canopy

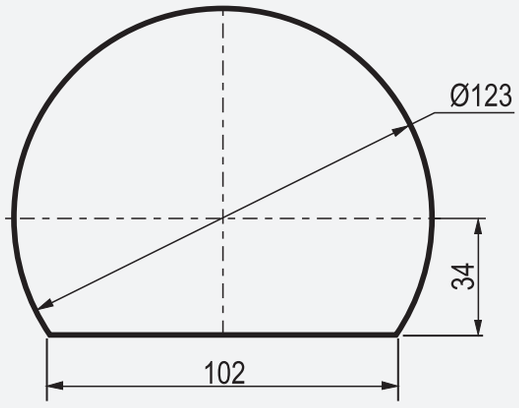
## Key characteristics:

- produced in the body made of stainless steel 12Cr18Ni10Ti
- high mechanical strength and dust- and waterproofness IP67
- separate glass and interior space heating excluding condensate formation at temperature drop
- overheat control

## Two climatic versions are available UHL-1 and UHL-4:

- UHL-1 from -60 to +50°C with supply voltage 24VDC, 24VAC and 220VAC.
  Automatic preheating of the interior space up to +5°C before cold start.
  Explosion-proof marking: 1ExdeIICT6
- UHL-4 from +1 to +50°C with supply voltage 12-24VDC or 100-240VAC, 36VAC.
  Mining version: UHL-4.
  Explosion-proof marking: PBExdI/1ExdIICT6

## Effective volume of thermohousing




Installation of video equipment is possible by the customer.
Effective volume of thermohousing for installation:
Ø123x240 mm (diameter x length).

## Characteristics of thermohousing TVK-07-N

| | |
|---|---|
| explosion-proof marking | **UHL-1** 1ExdeIICT6<br>**UHL4** PBExdI/1ExdIICT6 |
| working temperature, $^0$C | from -60 to +50 |
| overall dimensions, max., mm | 520 x 170 x 160 |
| maximum input current at cold start, max. A<br>at operation mode, max. A | 3,3<br>0,8 |
| weight, max., kg | 14,0 |
| lifetime, min., years | 10 |
| warranty period, months | 36 |

* Maximum input current 3,3A is indicated for extreme operating conditions at ambient temperatures below -20°C (to -60°C), and is necessary to heat interior space of TVK-07 and sight glass. For the period of heating only!
Consumption in operation mode is maximum 0,8A including and at the temperature below freezing point.

## Parameters of infra red lighting

| Model | | Characteristics |
|---|---|---|
| IK3O | emission wavelength, nm | 850 |
| | radiation angle,° | 30 |
| | distance for sensor Super HAD 550 television lines 0,06 lux, m | 20 |
| | power supply, V | 12(±10%) |
| | consumption current, max., A | 0,3 |
| IK120 | emission wavelength, nm | 850 |
| | radiation angle,° | 120 |
| | distance for sensor Super HAD 550 television lines 0,06 lux, m | 10 |
| | power supply, V | 12(±10%) |
| | consumption current, max., A | 0,3 |

# TVK-07-S - Explosion-proof thermohousing in a body made of low carbon steel

TVK-07-S thermohousing is entered into the Nomenclatural Reference book of MTR of OJSC Gazprom.
Code MTR: 1937243
Code of the GKI department: 50-007/26-22,3

TVK-07-S thermohousing is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

It is designed for installation of a video camera and other components of video equipment; it ensures their protection from environmental impacts. It is used as part of of video control system for maintenance of protection, safety and control of production processes of explosion hazard and aggressive production facilities including mines with gas and dust hazards.

## Distinctive features:

- increased effective volume 85 x 75 x 240 mm
- possibility of installing both analog type and IP video cameras
- complete with reinforced support arm, cable inlets
- stable work at the ambient temperature from -60 to +50°C
- complete with infrared lighting (option)
- complete with a canopy

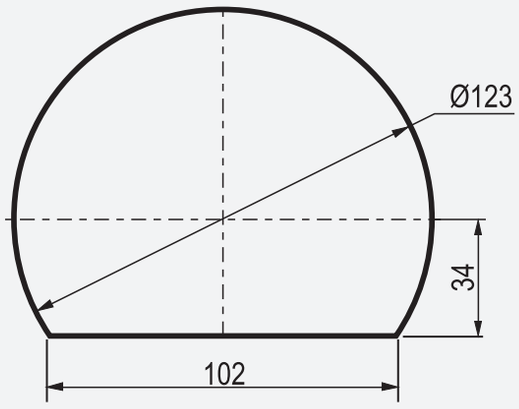
## Key characteristics:

- galvanized steel and powder coating of the body
- high mechanical strength and dust- and waterproofness IP67
- separate glass and interior space heating excluding condensate formation at temperature drop
- overheat control

## Two climatic versions are available UHL-1 and UHL-4:

- UHL-1 from -60 to +50°C with supply voltage 24VDC, 24VAC and 220VAC.
  Automatic preheating of the interior space up to +5°C before cold start.
  Explosion-proof marking: 1ExdeIICT6
- UHL-4 from +1 to +50°C with supply voltage 12-24VDC or 100-240VAC.
  Mining version: UHL-4.
  Explosion-proof marking: PBExdI/1ExdIICT6

## Effective volume of thermohousing




Installation of video equipment is possible by the customer.
Effective volume of thermohousing for installation:
Ø123x240 mm (diameter x length).

## Characteristics of thermohousing TVK-07-S

| | |
|---|---|
| explosion-proof marking | **UHL-1** 1ExdeIICT6<br>**UHL-4** PBExdI/1ExdIICT6 |
| working temperature,°C | from -60 to +50 |
| overall dimensions, max., mm | 520 x 170 x 160 |
| maximum input current at cold start, max. A<br>at operation mode, max. A | 3,3<br>0,8 |
| weight, max., kg | 14,0 |
| lifetime, min., years | 10 |
| warranty period, months | 36 |

* Maximum input current 3,3A is indicated for extreme operating conditions at ambient temperatures below -20°C (to -60°C), and is necessary to heat interior space of TVK-07 and sight glass. For the period of heating only!
Consumption in operation mode is maximum 0,8A, including operation at the temperature below freezing point.

## Parameters of infra red lighting

| Model | | Characteristics |
|---|---|---|
| IK3O | emission wavelength, nm | 850 |
| | radiation angle,° | 30 |
| | distance for sensor Super HAD 550 television lines 0,06 lux, m | 20 |
| | power supply, V | 12(±10%) |
| | consumption current, max., A | 0,3 |
| IK120 | emission wavelength, nm | 850 |
| | radiation angle,° | 120 |
| | distance for sensor Super HAD 550 television lines 0,06 lux, m | 10 |
| | power supply, V | 12(±10%) |
| | consumption current, max., A | 0,3 |

# TVK-07-A Explosion-proof thermohousing with a video camera

## Awards

Gold medal of "Integrated Business Safety and Security" Exhibition, Samara


Silver medal Ural Exhibitions, Yekaterinburg

TVK-07-A thermohousing is entered into the Nomenclatural Reference book of MTR of OJSC «Gazprom".
Code MTR: 1937242
Code of the GKI department: 50-007/26-22,3

ROSNEFT

TVK-07-A thermohousing is entered into the Supplier Database of MTR of OJSC Oil Company Rosneft.

It is used as part of of video control system for maintenance of protection, safety and control of production processes of explosion hazard and fire hazard production facilities.

The offered package of the thermohousing comrises: high quality cctv or ip-cameras made by well-know video equipment suppliers such as Watec, CNB, ACTI, Byterg, BEWARD, with lens made by Computar, BEWARD (available both with different fixed and varifocal focal distances, and also lens with zoom in/out functions); support arm supplied by Videotec; universal cable inlets; tools for installation and adjustment.

### Distinctive features:

- separate supply and video signal lines
- complete with universal cable inlets
- stable work at the ambient temperature to -60°C video signals:
  – composite signal. Distance up to 100 meters
  – via twisted pair. Distance up to 500 meters with integrated signal amplifier
  – via twisted pair. Distance up to 2,000 meters with integrated signal amplifier
- the video camera is installed in the thermohousing by producer in factory conditions to ensure performance reliability

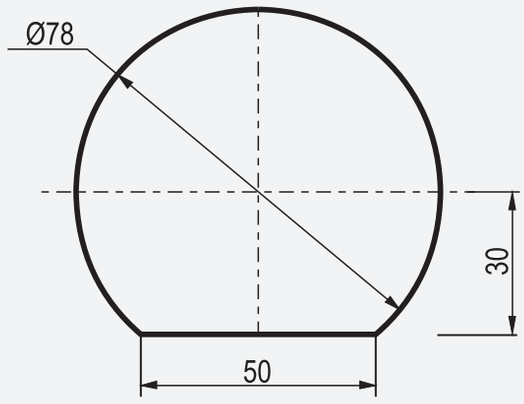
### Key characteristics:

- produced in a body made of aluminum alloy
- high mechanical strength and dust- and waterproofness IP67
- separate glass and interior space heating excluding condensate formation at temperature drop
- overheat control

### Two climatic versions are available UHL-1 and UHL-4:

- UHL-1 from -60 to +50°C with supply voltage 24 V DC or 220 V AC. Automatic preheating of the interior space up to +5°C before cold
- UHL-4 from +1 to +50°C with supply voltage 12-24 V DC or 220 V AC.

## Effective volume of thermohousing




Installation of video surveillance equipment in the thermohousing (cameras, lens, videoamplifiers) is carried out only at the manufacturing company. It is possible to choose suggested equipment from the price-list or send to the company the customer's own equipment (to be agreed).
Effective volume for installation the video camera and the objective - Ø 70x220 mm (diameter x length).

## Characteristics of thermohousing TVK-07-A

| | |
|---|---|
| explosion-proof marking | 1ExdmellCT6 |
| working temperature,°C | from -60 to +50 |
| overall dimensions, max., mm | 350 x 130 x 130 |
| maximum input current at cold start, max. A<br>at operation max. A mode, | 2,2<br>0,8 |
| weight, max., kg | 6,0 |
| lifetime, min., years | 10 |
| warranty period, months | 36 |

* Maximum input current 2,2 A is indicated for extreme operating conditions at ambient temperatures below -20°C (to -60°C), and is necessary to heat interior space of TVK-07 and sight glass. For the period of heating only!
Consumption in operation mode is maximum 0,8A, including operation at the temperature below freezing point.


Compact disk content:
1. Advertising film (3D-presentation)
2. Production certificates
3. Certificates of conformity
4. Price-list

**CJSC Eridan**
**12 Lenina str., Beryozovsky,**
**Sverdlovskaya oblast,**
**Russia, 623700**
**Tel.+7(34369) 451-31, 457-68**
**e-mail: market@eridan-zao.ru**
**www.eridan-zao.ru**

**Eridan-export, LLC**
**Subsidiary company: Export**
**of explosion-proof equipment within and**
**outside the CIS countries.**
**Tel:+7 (34369) 4-59-30**
**e-mail: eridan-export@mail.ru**
**www.eridan-export.ru**

## DEALERS

Limited partnership AktobeMontazhAvtomatika
Building A, 8 Shaykenova str., mikrorayon 11, Aktobe,
Republic of Kazakhstan, 030008
Tel.: 8 (7132) 23-35-21, 23-14-84
e-mail: sbyt@montaz-aktobe.kz
www.montaz-aktobe.kz

SSK Qurilish Texnologiyalari
89 Nukus str., Tashkent,
Republic of Uzbekistan, 100015
Tel.: (998 71) 281 50 83, 281 46 91
e-mail: qt-sales@mail.ru
www.qt-security.uz

**Our companies are interested**
**in extending our dealership network in the territory**
**of Russia as well as in the CIS and other countries**