

### 10. PACKAGE INFORMATION

Packing list

Detection and activation USP 101- -  
(version)

Quantity \_\_\_\_\_ pcs.

Packing date \_\_\_\_\_

Packed by \_\_\_\_\_  
(Signature)

### 11. MANUFACTURER'S WARRANTY

11.1. Device warranty life is 1 year after commissioning.

11.2. Device storage life in manufacturer's package is 1 year after manufacturing, if it is kept according to storage conditions of GOST 15150.

11.3. After finding any manufacturer's failure during warranty life the manufacturer is engaged to repair or replace it free of charge.

Note: Manufacturer's address – 1-A, Sportivny alley, Tver, Russia 170002  
Scientific-production association (NPO) "USP".

Phone/fax: +7 (4822) 32-08-94

www.usp101-tver.ru

### 12. RECLAMATION DATA

12.1. After finding any manufacturer's failure and faults the manufacturer's representative must be called. In case of his/her failure to appear during one month an unilateral statement should be made and the device with passport and this statement is returned back to manufacturer.

12.2. The manufacturer is engaged to ship an operational device to the client during 1 month after statement receipt.



Scientific-production association (NPO) "USP" Ltd

APPROVED

Director of NPO "USP" Ltd

O.G. Gvozdev

May 29, 2008

DETECTION AND ACTIVATION DEVICE USP 101

Passport

4371-005-47011152-2002 PS

Chief engineer  
of NPO "USP" Ltd

B. K. Evstigneev

May 29, 2008

2008

					Sheet
					8
Rev	Sheet	Doc. No.	Signature	Date	

4371-005-47011152-2002-PS

TABLE OF CONTENT

	<i>Sheet</i>
1. INTRODUCTION	3
2. DESIGNATION	3
3. TECHNICAL PARAMETERS	3
4. DELIVERY SET	4
5. DEVICE PRINCIPLE AND OPERATION	4
6. LABELLING	6
7. PACKAGE	6
8. SAFETY MEASURES	6
9. ACCEPTANCE CERTIFICATE	7
10. PACKAGE INFORMATION	8
11. MANUFACTURER'S WARRANTY	8
12. RECLAMATION DATA	8
Change registration sheet	9

<b>4371-005-47011152-2002-PS</b>				
<i>Rev</i>	<i>Sheet</i>	<i>Doc. No.</i>	<i>Signature</i>	<i>Date</i>
<i>Designed by</i>	Evstigneev			
<i>Checked by</i>				
<i>Contr</i>	Puzirev			
<i>Approved</i>	Kychatov			
<i>Detection and activation device</i>		<i>Lit.</i>	<i>Sheet</i>	<i>Total sheets</i>
USP 101 Passport TD & Man.		A	2	9

8.2. After delivering to the mounting site the case and electrical circuits' integrity must be checked, safety pin (9) must be removed, to make sure that the thermo sensitive element (1) is reliably fastened, to connect the link wire terminals to the corresponding screw contacts (6), spring washers must be obligatory installed, to torque and only after this the wires can be connected to the activation system.

8.3. Operation in explosion hazardous areas of V-Ia, V-Ib, B-Ig, V-II and V-IIa classes (acc.to p. 7 of PUE (electrical sets regulations) of 1985) is admissible if the corresponding level of explosion protection is respected and necessary operational measures are provided.

8.3.1. Connections of wire terminals with screw contacts as well as wire exit points must be coated with sealants VGO-4, VTU 29-1-69 to provide the sealing. Foamed sealants VPG-1, VPG -2, VPG -2Л, VPG -3 OCT 1 90049-72 can be used too. Sealant on the label seal is not admissible.

8.4. The risk of thermo sensitive element's (1) Figure 1) damage must be excluded during operation. The element should not be painted or be dirty.

9. ACCEPTANCE CERTIFICATE

Detection and activation device USP 101- -  
(version)

In number of \_\_\_\_ pcs. According to technical conditions TU 4371-005-47011152-2002, TU 4371-005-47011152-2004 and acknowledged as ready for operation

Shipment № \_\_ Date of issue \_\_\_\_\_

Signature of responsible \_\_\_\_\_

<b>4371-005-47011152-2002-PS</b>					<i>Sheet</i>
<i>Rev</i>	<i>Sheet</i>	<i>Doc. No.</i>	<i>Signature</i>	<i>Date</i>	7

5.3. Devices of version USP 101-45-Э, USP 101-72-Э, USP 101-93-Э, USP 101-110-Э can be loop mounted up to 10 pcs. Devices must be parallel loop mounted. Same name contacts should be connected ("+" to "+", "-" to "-").

5.4. Surface protected by one device is up to 25 m<sup>2</sup>.

5.5. Devices' placing, installation and mounting should be executed according to NPB (Fire Code) 88-2001 p. 12.34 "Firefighting and alarm devices".

## 6. LABELLING

6.1. Device labeling comprises:

- marking and version;
- date (manufacture month and year);
- manufacturer's trademark;
- explosion protection marking.

6.2. Transport package labeling comprises handling marks:

- "Fragile";
- "Risk of damage by damp";
- "Top, do not turn over".

## 7. PACKAGE

7.1. Devices (10 pieces) are placed into internal package.

7.2. Devices in the internal package are ranged in the box of 11-1 GOST 5959 type. Box walls and space between ranges is filled with GOST 7933 carton. A packing list and passports are placed on top (1 for every 10 items).

## 8. SAFETY MEASURES

8.1. Device is fire safe according to GOST 12.2.007.0 if its mounting and operation are correct.

4371-005-47011152-2002-PS

Sheet

6

Rev	Sheet	Doc. No.	Signature	Date

## 1. INTRODUCTION

This document, integrating passport with technical specification and operation manual (further referred to as "passport") is meant for the study of a detection and activation device YCП 101/USP 101 (further referred to as "device") and for obtaining data necessary for its operation.

## 2. DESIGNATION

2.1. Device is designed for actuating the activation system of an automatic fire suppression unit in the autonomous mode of a continuous control over fire dangerous environment state in case of exceeding set environment temperature value and in the mode of a manual starting by personnel's decision.

2.2. Device is marked as 1ExibIIBT4 in terms of explosion protection and is allowed to service in the explosion hazardous areas of B-Ia, B-Ib, B-Ig, B-II и B-IIa classes (section 7 of PUE (electrical sets regulations – ESR) of 1985).

2.3. As for protection from the environment influence, the device is meant for operating:

- USP 101-45-Э - from -60 to 35<sup>0</sup>C;
  - USP 101-72-Э - from -60 to 55<sup>0</sup>C;
  - USP 101-93-Э - from -60 to 85<sup>0</sup>C;
  - USP 101-110-Э and USP 101-P - from -60 to 105<sup>0</sup>C;
- At relative humidity 98 % at temperature up to 40<sup>0</sup>C.

## 3. TECHNICAL PARAMETERS

3.1. Device is being manufactured in 5 versions, depending on operation method and nominal activation temperature:

- USP 101-45-Э - automat. activation temperature 45± 5<sup>0</sup>C;
- USP 101-72-Э - automat. activation temperature 72± 5<sup>0</sup>C;
- USP 101-93-Э - automat. activation temperature 93± 5<sup>0</sup>C;
- USP 101-110-Э - automat. activation temperature 110 ± 5<sup>0</sup>C;
- USP 101 P - manual starting device.

3.2. Device dimensions, mm, no more than:

- length - 100.
- diameter - 70

4371-005-47011152-2002-PS

Sheet

3

Rev	Sheet	Doc. No.	Signature	Date

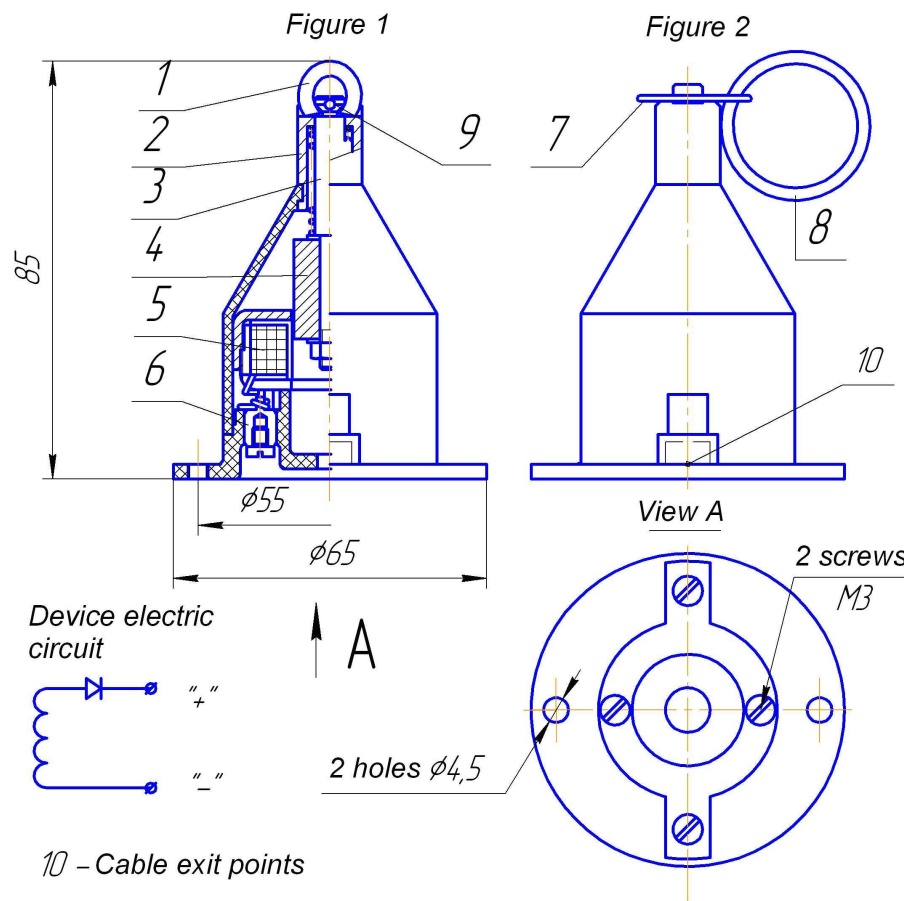
- 3.3. Device weight, kg, no more than 0.2.
- 3.5. Operation response rate corresponds to NPB (Fire Code) 85 - 2000 «Heat fire sensors. Technical requirements. Testing methods».
- 3.6. Device generates an electric impulse with amplitude no less than 3.5 V at a load of 1 Ω. At the level of 3 V (I=3A) impulse duration is no less than 1 ms.
- 3.7. Device is resistant to the influence of single shocks with duration from 2 to 50 ms with peak acceleration up to 3 g.
- 3.8. Device is resistant to vibration influence with the frequency from 0.5 to 100 Hz with acceleration up to 1 g.
- 3.9. Number of the device control operations is no less than 10.
- 3.10. The device conforms with the severity grade 4 to induced electromagnetic interference and electromagnetic emission as per GOST (All Russian State Standard) R 50009 and NPB 57-97.
- 3.11. The device is an unserviceable product. For the device restoration after activation it is necessary to lift a pin through the hole in the basing and attach a thermo sensitive element. For USP -101-P it is necessary to lift the pin and fix it with a safety locking pin. This operation should be performed by specialized organizations.
- 3.12. Average operating lifetime is 10 years.

#### 4. DELIVERY SET

Device delivery set comprises: device, passport with technical description and operation manual 4371-005-47011152-2002 PS (1 for 10 items).

#### 5. DEVICE PRINCIPLE AND OPERATION

5.1. Principle of versions USP 101-45(72,93,110)-Э is shown on Fig. 1, principle of the version USP 101-P – on Fig. 2.



5.2. Thermo sensitive element (1) is activated at excessive environmental temperature, which releases in the case (2) a spring assisted pin (3). A magnet (4) fixed on the pin passes through an inductor coil (5) and generates impulse in it which passes through contacts (6) by link wires to the activation system of an automatic fire suppression unit and/or alarm devices.

In the device of version USP 101-P the pin is held in a spring assisted position by a safety locking pin (7). During fire the locking pin is released with the ring (8). Then the device is operating in a similar way.

Rev	Sheet	Doc. No.	Signature	Date	4371-005-47011152-2002-PS	Sheet
						4

Rev	Sheet	Doc. No.	Signature	Date	4371-005-47011152-2002-PS	Sheet
						5