

**ADDRESSABLE SMOKE DETECTOR
DETECTO SMK100/ DETECTO SMK110**

Passport

AAZCh. 425232.004 PS



10206



EN 54

DSTU ISO 9001:2015

Serial number:

Firmware version:

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This passport refers to addressable smoke detectors (further - ASD) DETECTO SMK110 AAZCh.425232.004 (with short circuit isolator) and DETECTO SMK100 AAZCh.425232.004-01 (without short circuit isolator) and contains information on the design, and operation rules of ASD, which are used as part of addressable fire alarm systems, based on the fire alarm control panels *Tiras PRIME A*.

ASD meets the requirements of DSTU EN54-7, and DSTU EN54-17 standards (DETECTO SMK110).

1 List of abbreviations

- SCI - short circuit isolator;
- FCP – Fire alarm control panel *Tiras PRIME A*;
- AFAS – addressable fire alarm system;
- AI – addressable interface;
- OC - open collector;
- RI – remote indicator.

2 Purpose

2.1 ASD is intended for use in the AFAS to detect combustion products exceeding the threshold concentration and generate a fire alarm signal. ASD has plastic housing.

3 Declarations of manufacturer

3.1 The ASD design meets the requirements of the quality management system, which contains the set of design rules for all its elements.

All components of ASD are used as intended and under the conditions of their operation correspond to the environmental conditions outside the housing in accordance with class 3k5 IEC 60721-3-3.

4 Technical characteristics

4.1 The list of ASD terminals and their functions is given in Table 1

Table 1

Terminal name	Functional
L+	AI positive wire connection terminal
L1-	AI negative wire connection terminal
L2-	Connection terminal for an AI negative wire. This terminal is absent in ASD DETECTO SMK100 (Fig.1)
KT1	Connection terminal for ROSD. This terminal is absent in ASD DETECTO SMK100 (Fig.1)

ASD DETECTO SMK100 does not contain SCI and OC transistor output for RI connection. In ASD DETECTO SMK110 "L1-" and "L2-" terminals are separated by SCI.

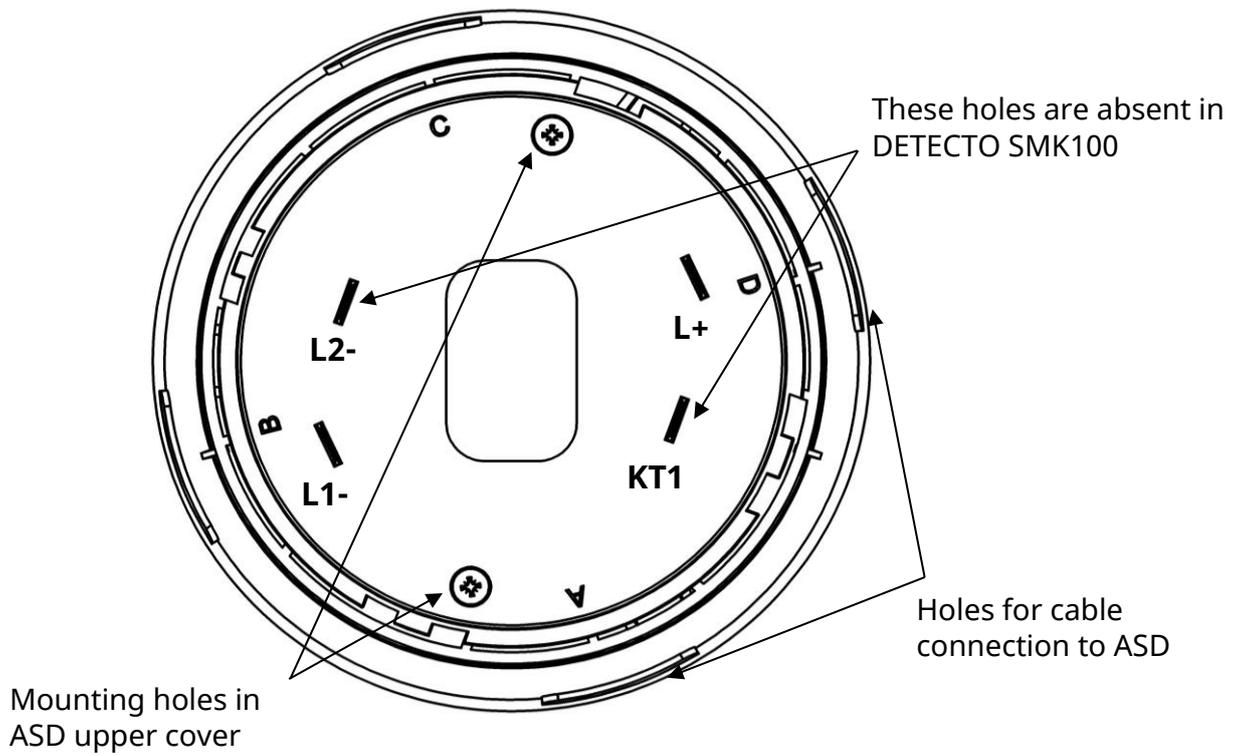


Figure 1 - ASD view from the side of the contact

4.2 Technical features of ASD are given in Table 2.

Table 2

Feature name	Value
General	
Dimensions WxHxD, mm	
- diameter	110
- height	50
Net weight, kg	0,12
Enclosure protection degree	IP30
Meantime to failure, hours, not less	40 000
Average lifetime, years, not less	10
Time to detect faults, s, not more than	10
Power supply	
Supply voltage through AI, V	20 – 25
Maximum current consumption, standby mode/alarm mode of DETECTO SMK110, mA	0,13/0,20
Maximum current consumption, standby mode/alarm mode of DETECTO SMK100, mA	0,09/0,19
SCI (only for DETECTO SMK110)	
Maximum SCI opening voltage, V	15,0
Minimum SCI recovery voltage, V	4,2
Maximum Current through SCI in the closed state, mA	65
Maximum SCI opening current, mA	75
Maximum leakage current through SCI (in the open state), mA	4,2
Maximum transient resistance of SCI in the closed state, Ohm	0,09

4.3 LED indicators are used to indicate the operation modes and ASD status, combined with one light guide mounted in the cover (Fig. 2):

- blinking green one time in four seconds - an indication of the standby mode;
- blinking green with an interval of 0.5 s (for not more than 4 s) – an indication of the ASD registration process in AI;
- blinking red with a period of 0.5 s – an indication of fire alarm mode;
- double blinking red – an indication of the fault status;
- blinking green and red alternately - ASD is marked for visual search in a zone.

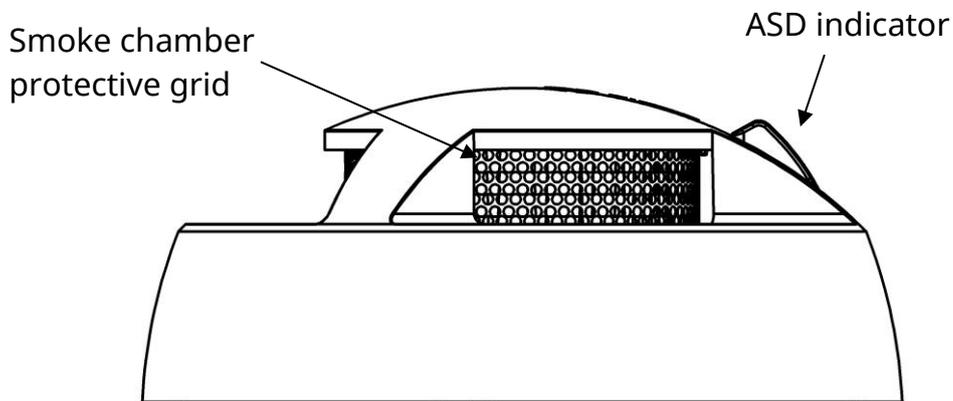


Figure 2 – ASD view of from aside

5 Connection

5.1 To install ASD do the following:

- 1) unpack ASD, disconnect the base from it;
- 2) install the base on a flat surface, fasten it with screws according to Figure 3, after tightening the base must not be deformed.
- 3) fix AI wires in screw terminals of a base according to Fig. 3 and Table 1. There are four terminals in the base of ASD DETECTO SMK110, and there are two terminals in ASD DETECTO SMK100;
- 4) align the ASD with the base, turn it clockwise until it lowers in the base, then turn it in the same direction to restrict movement.

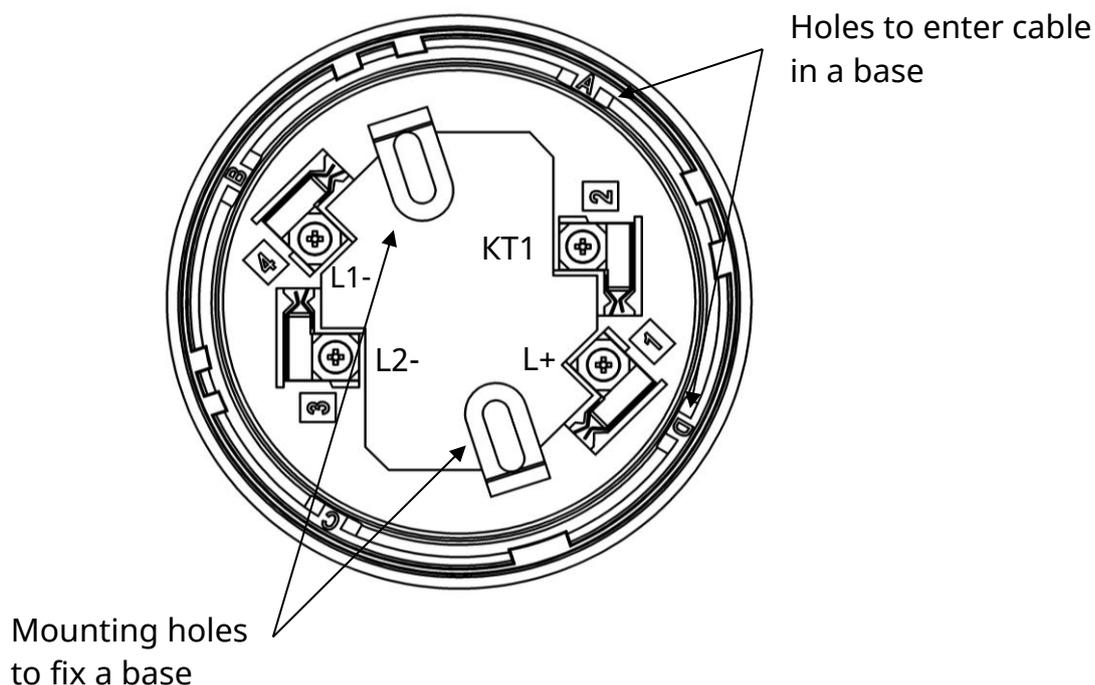


Figure 3 – Terminals on the ASD base

5.2 If according to the project RI is powered from AI, its negative contact must be connected to the screw terminal "2" (KT1), and the positive one – to the screw terminal "1" (L+) (Fig. 4a, the presence of R_{lim} (current limiting resistor) depends on the type of RI and its operating current). It is allowed to connect the LED through the resistor R_{lim} instead of RI, the R_{lim} resistance must be at least 10 kOhm. It is required to select the light-emitting diode for RI, it should have small current consumption (about 2 mA).

Warning! When calculating the total current consumption of AI, take into account the current consumption of RI in the switched on state. The maximum length of the wires connecting the RI to the ASD must not exceed 3 m.

If the power supply of remote indication devices is provided from external PS, connect ASD according to fig. 4b. The negative wire from the PS is connected to the "LGND" terminal of the FCP. The output voltage of PS should not exceed 30 V and should provide the operating current of RI.

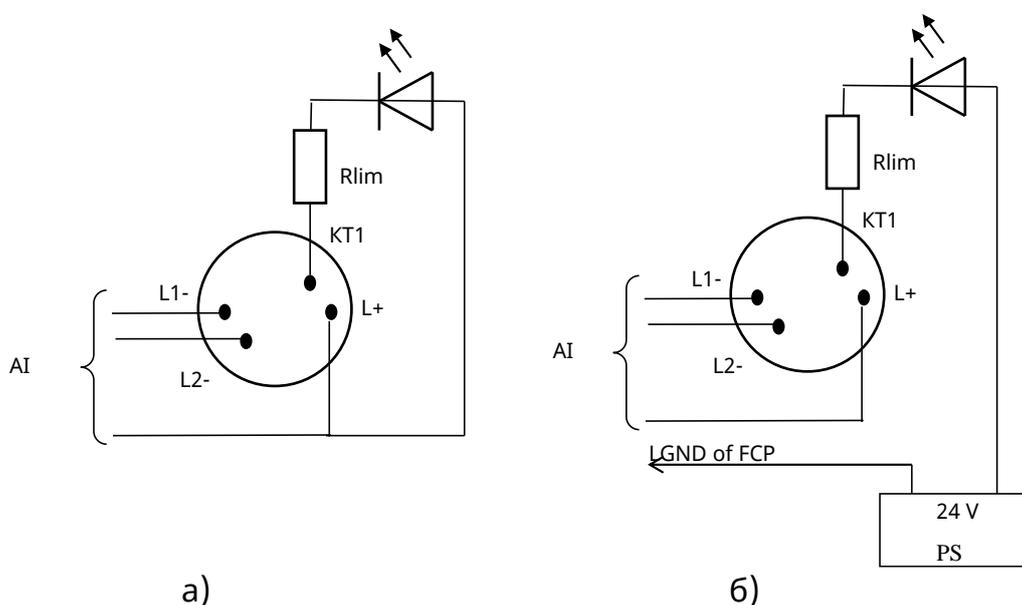


Figure 4 – RI or LED connection to ASD

5.3 There are special slots at the side surface of ASD for the case when the cable must go inside the base from aside, the corresponding slots must be cut out. These slots are marked with the letters "A", "B", "C", "D" (Fig. 1, Fig. 3).

5.4 Wires can be connected to the ASD terminals base only when there is no voltage on the AI.

6 Settings

6.1. When the supply voltage appears on the AI on the connected ASD, the automatic registration indication is switched on (see item 4.3). Then ASD switches to the standby mode if there are no conditions for the fault formation (for example, the SCI operation).

ASD is distributed in a zone and the necessary class is adjusted according to the FCP operation manual.

7 Operation

7.1 In the standby mode, the ASD indicator blinks green. When the smoke from the surrounding area enters the smoke chamber and reaches the threshold concentration, the ASD switches to a fire alarm state and sends a message to the FCP, setting the ASD indication to the fire alarm mode.

If the ASD is in a fault state (double blinking red), it will not switch to a fire alarm state at any concentration of smoke.

Reset the fire alarm message on the of the FCP (according to the FCP operation manual) to return the ASD to the standby mode from the fire alarm mode.

7.2, ASD periodically monitors the contamination level of the smoke chamber during operation, and when the threshold value is reached it switches to fault mode. To prevent this fault, please clean the smoke chamber at least once every 6 months.

To clean the smoke chamber, do the following:

1) remove the detector holding it by the protrusions on the body, turn it counterclockwise and separate from the base;

2) unscrew the 2 screws from the contacts on the detector housing (Fig. 1) and remove the top cover;

3) remove the protective grid (Fig. 2) from the smoke chamber, then remove the cover of the smoke chamber, pulling it away from the base (Fig. 5);

4) use a brush to clean the surface inside the base and cover of the smoke chamber, blow them with clean air;

5) reassemble the smoke chamber, install and secure the top cover;

6) put the ASD in its base.

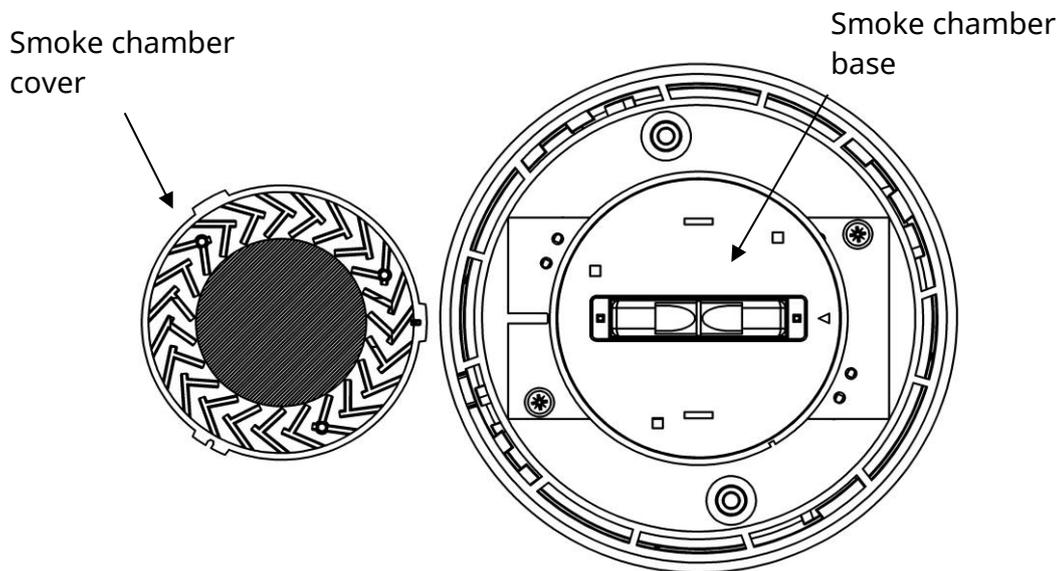


Figure 5 – Smoke chamber of ASD opened

8 Packaging

8.1 After ASD unpacking do the following:

- visually inspect the device and make sure there is no mechanical damage on it;
- check the delivery scope according to table 3.

Table 3

Name	Code	Number	Note
ASD DETECTO SMK110 (SMK100)	AAZCh.425232.004 (-01)	1	
Passport	AAZCh.425232.004 PS	1	One passport for each 20 ASDs

9 Operation, storage, and transportation conditions

The ASD is intended for continuous 24h operation in the premises under the regulated climatic conditions. Operating temperature range: - 10°C .. 55°C at relative humidity not more than 93%.

Packaged ASDs are stored in warehouses under the following conditions: air temperature range: - 50°C .. 55°C, relative humidity must not exceed 98% at a temperature of 35°C. There must be no aggressive impurities in the air causing corrosion in the premise where the ASDs are stored.

Packaged ASDs are transported by low-tonnage shipments at any distance by road and rail in closed vehicles in accordance with the rules of transportation applicable to each type of transport. When placing and securing boxes with packed ASDs during transportation, ensure a stable position of the boxes to prevent shifting and bumps between them. During loading and transportation, the requirements of handling signs on the packaging must be met.

10 Acceptance certificates

ASD DETECTO SMK100/SMK110 meets the requirements of regulatory and technical documents and is suitable for operation complete with FCP Tiras PRIME A.

The date of acceptance (stamp) is on the last page of the passport.

11 Warranty obligations

The manufacturer guarantees ASD compliance with the requirements of regulatory and technical documents during the warranty period of operation under the conditions of transportation, storage, and the operation specified in this passport.

The warranty period is 36 months and starts at the date of sales specified in the operating documents for the ASD or in other accompanying documents (sales contract, invoice, bill, etc.). If you cannot provide a document confirming the date of sale of the ASD, the warranty period starts from the date when the device was produced.

(date of sale)

(seller's signature)

stamp

12 Limitation of liability

The manufacturer has the right to refuse the ASD warranty service under disputed circumstances. The manufacturer also has the right to make a final decision on whether the ASD is subject to warranty service or not.

These are the actions and damages that lead to loss of warranty service:

- 1) damage caused by natural phenomena (fire, flood, wind, earthquake, lightning, etc.);
- 2) damage caused by the violation of the installation rules or improper ASD operating conditions, including in particular:
 - poor grounding;
 - overvoltage;

- high humidity and vibration;
- 3) damage caused by other objects, liquids, insects, etc. getting inside the ASD;
- 4) mechanical damage to the ASD components (chips, dents, cracks, broken contact connectors, etc.);
- 5) damage caused by unauthorized repair;
- 6) damage caused by the violation of transportation, storage, and operation rules;
- 7) change, delete, erase or damage the device serial number (or stickers with serial numbers on the ASD).

13 Information on repair

The ASD is repaired by the manufacturer. ASDs for which the warranty period has not expired and which have been operated in accordance with the operating documents for the device are repaired free of charge. If you want to repair, ASD, send it to the manufacturer with a document indicating the date of the sale, and a letter describing the malfunction, the place of ASD operation, and the contact phone number of the person for repair

14 Information on declarations of conformity to technical regulations and certificates

ASD DETECTO SMK100/SMK110 meets the requirements of mandatory technical regulations, namely:

- Technical regulations on electromagnetic compatibility of equipment;
- Technical regulations restricting the use of certain hazardous substances in electrical and electronic equipment.

Certificate of compliance with the requirements of DSTU EN 54 series standards issued by the State Certification Center of the SES of Ukraine.

The Quality Management System of Tiras-12 LTD is certified in accordance with DSTU ISO 9001: 2015.

The full text of declarations of compliance with technical regulations and certificates are available on the website <https://tiras.technology>.

15 Disposal

After the expiry of the service life of the detector its utilization is carried out in accordance with the current legislation, separate from household waste.



In accordance with the EU Directive 2012/19/EU on waste electrical and electronic equipment, the disposal of detector should be done separately from household waste. To dispose of the detector, it must be delivered to a point of sale or a local processing point.

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tiras.technology

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