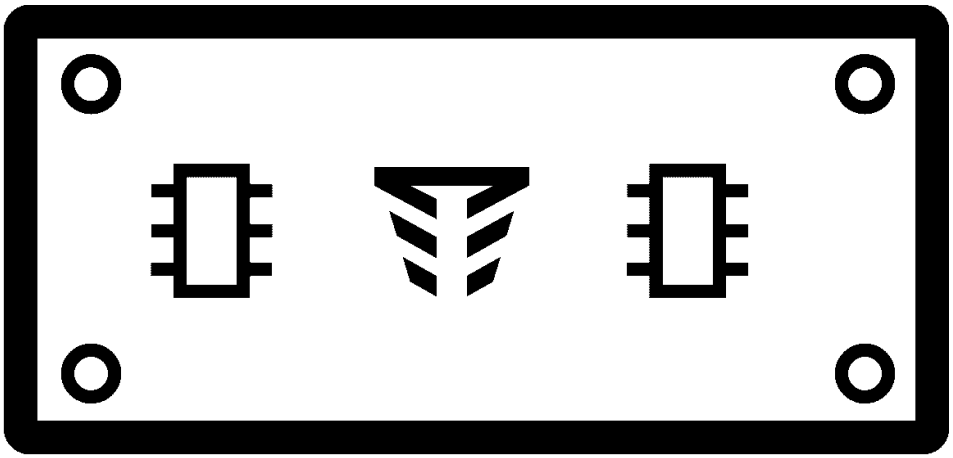
FIRE ALARM SYSTEMS

TIRAS



INPUT/OUTPUT DEVICE
AM-Converter

Passport AAZCh. 301411.149 PS

1O206

EN 54

DSTU ISO 9001:2015

Serial number:

Firmware version:

This passport contains information on the design, and operation of the I/O addressable device AM-Converter (further - device), which is used as part of addressable fire alarm systems, based on the fire control panels Tiras PRIME A.

The device meets the requirements of the DSTU EN54-17, and DSTU EN54-18 standards.

1 The list of abbreviations

SCI – short circuit isolator;

FCP – Fire Alarm Control Panel (*Tiras PRIME A*);

AFAS – Addressable fire alarm system;

AI – Addressable interface;

ECD – Electrical automatic Control and delay Device, with automatic controls of fire protection equipment, ECD Tiras 1X (AAZCh.425532.012).

2 Purpose

The device is intended to connect ECD or M-OUT8R module to AFAS. The device provides galvanic isolation between two serial asynchronous port interfaces. This device has no housing.

3 Declarations of manufacturer

3.1 The device design meets the requirements of the quality management system, containing the set of design rules for all of its elements.

3.1 All components of this device 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 features

4.1 The list of inputs, outputs, and their functions is given in table 1

Table 1

Name	Functional feature
L+	Inputs for connection of an AI positive cable. These two terminals are connected.
L-	Inputs for connection of an AI negative cable. These two terminals are separated by SCI.
XP1	Connection to ECD port or M-OUT8R module.

4.2 Technical features of AM-Converter are given in Table 2.

Table 2

Feature	Value
General	
Dimensions WxHxD, mm	40 × 60 × 21
Net weight, kg	0,015
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 on AI, V	20 – 25
Supply voltage on XP1 plug, V, not more than	5,5
Current on RX, TX contacts and XP1 plug, mA, not more than	2
Maximum current consumption, mA, standby mode/alarm mode, from AI	0,38/0,38
SCI	
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 SCI transient resistance in the closed state, Ohm	0,09

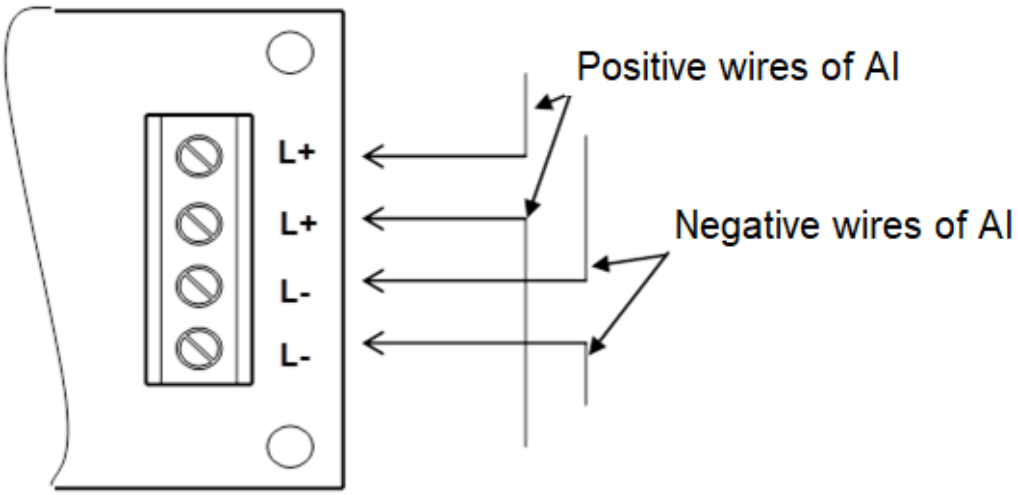
4.3 LED indicators located on the device board are used to indicate the operating modes and the device status. When the device is mounted on the ECD board or the M-OUT8R module, its indicators are available only when the housing of the specified devices is open. The purposes of the indicators are as follows:

1) HL1 (green):
   - blinking once in four seconds – standby mode indication;
   - blinking with an interval of 0.5 s (not more than 4 s) – the indication of the device registering process in the AI.
2) HL3 (red): double blinking – an indication of a fault.
3) alternating blinking indicators HL1, HL3 – the device is marked for visual search in the premise.

5 Connection

5.1 Plastic retainers supplied with the device must be installed inside the ECD or the M-OUT8R module, and the device itself is installed in the corresponding socket from above. Use the operating documents for the appliance to determine the installation location of the device.

The device must be connected to the AFAS according to Figure 1.



Positive wires of AI - AI wires are connected to L1-L4 terminals of the FCP;
Negative wires of AI - AI wires are connected to G1-G4 terminals of the FCP.

Figure 1 – Device terminals connection to AI

Wires with the cross-sectional area within the range of 0,22 to 1,5 mm^2 are allowed to clamp for connection in the terminals of AI. It is recommended to use stranded wires.

5.2 Connect the device to the non-addressable device and the AI wires to the terminals only when there is no voltage from the power supply.

6 Setup and operation

6.1 When the supply voltage appears on the device connected to AI, the automatic registration indication (4.3) is switched on. The device goes to the standby or fault mode.

The device itself does not require any adjustment. The data exchange with the ECD or the M-OUT8R module connected to the serial port (XP1) is established automatically if the connected device has been previously configured to connect to the AFAS in accordance with its operating documents.

6.2 The conditions for the device fault mode: SCI triggering or the loss of data exchange through the serial port if this exchange has been established.

7 Delivery scope

7.1 After device unpacking do the following:

- visually inspect the device and make sure there is no mechanical damage on it;

- check the delivery set according to Table 3.

Table 3

Name	***Code***	***Number***	***Note***
AM-Converter device	AAZCh.301411.149	1	
Passport	AAZCh.301411.149 PS	1	
Plastic racks		3	

8 Operation, storage, and transportation conditions

The device is intended for continuous 24h operation in the premises under regulated climatic conditions. Operating temperature range from - 10˚C to +55˚C.

Packaged devices are stored in warehouses under the following conditions: air temperature from - 50˚C to +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 premises where the devices are stored.

Packaged devices 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 devices 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.

9 Acceptance certificates

The AM-Converter device meets the requirements of regulatory and technical documents and is suitable for operation complete with FCP Tiras PRIME A.

The serial number is indicated in the lower right corner of the title page of this passport.

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

10 Warranty obligations

The manufacturer guarantees the device complies 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 device or in other accompanying documents

(sales contract, invoice, bill, etc.). If you cannot provide a document confirming the date of sale of the device, the warranty period starts from the date when the device was produced.

_____ _____

(date of sale) *(seller's signature)* *stamp*

11 Limitation of liability

The manufacturer reserves the right to refuse warranty service of the device in controversial circumstances. The manufacturer also has the right to make a final decision on whether the device is to be serviced under the guarantee.

Actions and damages that result in loss of warranty service:

1) damage caused by natural phenomena (fire, flood, wind, earthquake, lightning, etc.);
2) damage caused by a violation of the installation rules or the provision of improper conditions for the operation of the device, including:
   - faulty grounding;
   - over-voltage;
   - high humidity and vibration;
3) damage caused by foreign objects entering the device, liquids, insects and others;
4) mechanical damage to components of the device (chips, dents, cracks, broken contact terminals, etc.);
5) damage resulting from unauthorized repair;
6) damage caused by violation of the rules of transportation, storage and operation;
7) changing, removing, rubbing or damaging the serial number of the device (or labels with serial numbers on the device).

12 Information on repair

The device is repaired by the manufacturer or its authorized representative.

This device is repaired for free, in case the warranty period is not expired, it was operation in accordance with this passport.

The device is sent for repair, together with a letter, which should include: the description of the malfunction, the place of operation and the contact phone of the person in charge of repair.

13 Information on declarations of conformity to technical regulations and certificates

This device meets the requirements of following mandatory technical regulations:

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

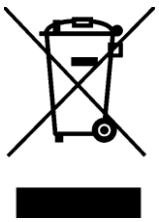
Certificate of compliance with the requirements of DSTU EN 54 series standards issued by the State Certification Center of the SES of Ukraine.

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 at https://tiras.technlogy.

14 Disposal

After the expiry of the service life of the device 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 device should be done separately from household waste. To dispose of the device, it must be delivered to a point of sale or a local processing point.

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TIRAS

tiras.technology

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