4 PACKAGE CONTENTS

After unpacking, visually inspect the module to make sure it has no mechanical damage, check the completeness according to Table 4.1.

Table 4.1 – Package contents of the module

Name	Quantity, (pcs.)
M-OUT2R box module	1
User manual	1
Nylon tie	2

ATTENTION! The characteristics and package contents of the module may be changed by the manufacturer without additional notification.

5 REGULATORY COMPLIANCE

Hereby, “Tiras-12” LTD declares that the model M-OUT2R box complies with EMC Directive 2014/30/EU, LVD Directive 2014/35/EU, RoHS Directive 2011/65/EU.

The full text of the EU declaration of conformity is available at the following internet address: tiras.technology.

In accordance with the EU Directive 2012/19/EU on waste electrical and electronic equipment, the module should be disposed of separately from household waste. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points.

6 WARRANTY OBLIGATIONS AND REPAIR INFORMATION

The manufacturer guarantees compliance of the module with the declared characteristics during the warranty period of operation and under the conditions of transportation, operation, and storage.

The warranty period is 36 months and is valid from the date of sale specified below or in other accompanying documents (contract, invoice, etc.). If you do not provide a document confirming the date of sale of the module - the warranty period is calculated from the date of manufacture of the module.

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

The module is repaired by the manufacturer or its authorized representative. The module is repaired for free, in case the warranty period has not expired and it was operated in accordance with the accompanying documentation. For repairs, the module is sent together with the document, which indicates the date of sale, and with a letter stating: the nature of the fault, the place of operation, contact person for repair.

If the module is not working properly, please contact technical support first, perhaps this problem can be resolved remotely.

The date of manufacture of the module and/or its serial number are indicated on the module label and packaging.

Information about limitation of liability is available in the "Warranty" section on the website: tiras.technology.

7 CONTACTS OF THE MANUFACTURER

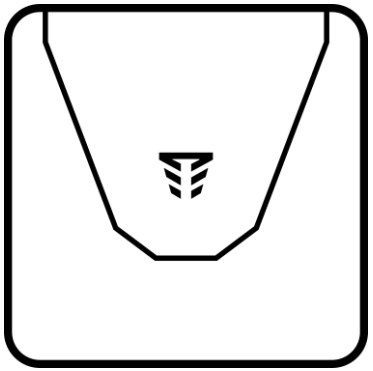
“Tiras-12” LTD, Ukraine, Vinnytsia, Khmelnytskoho Shose lane 2, b. 8

Sales department: market@tiras.ua

Technical support: support@tiras.ua

Warranty and post-warranty service: otk@tiras.ua

TIRAS technologies



M-OUT2R box

Outputs expansion module

User manual

“Tiras-12” LTD
Ukraine, Vinnytsia,
Khmelnytskoho Shose lane 2, b. 8

More information on the site
tiras.technology

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1 GENERAL INFORMATION

M-OUT2R box is an outputs expansion module (further – module) designed to increase the number of relay outputs by 2 relays in security alarm systems based on Orion NOVA L (LTE) security control panel (further – SCP). The module is connected to the SCP via the RS-485 interface.

The module is designed for continuous 24h work in premises with regulated climatic conditions without the direct influence of climatic factors of the environment.

2 SPECIFICATIONS

Specifications of the module are shown in Table 2.1.

Table 2.1 – Specifications of the module

Parameter	Value
Supply voltage, V (inputs + 12... 24V, GND)	9.3 – 30
Maximum current consumption for 12V, mA: ▪ all module relays are deactivated ▪ all module relays are activated	 30 100
Maximum current consumption for 24V, mA: ▪ all module relays are deactivated ▪ all module relays are activated	 15 50
Maximum output switching voltage/ current (each) ▪ AC ▪ DC	 250 V/10 A 30 V/5 A
Cross-section of connection wires, mm² ▪ for relay terminals ▪ others	 0.22 – 2.5 0.22 – 1.5
Degree of the case protection (IEC 60529)	IP30
Dimensions (L×W×H), mm	100×100×30
Net weight, kg	0.12
Operating temperature range at relative humidity up to 75% without condensation	from -10 °C to + 40 °C
Average service life, years	10

3 INSTALLATION, CONNECTION AND SETTING

3.1 Mounting

The module is designed for wall mounting. Before mounting the module, open its case to access the mounting holes from the inside.

To open the case, unscrew the two screws at the bottom of the case (not completely) and remove the cover.

At the base of the case, there are two holes for mounting to the wall. The case-based element G3 serves to detect the separation of the case from the wall. It should be fixed with a screw to the wall. When the base of the case is detached from the wall, element G3 remains on the wall, leading to the tamper break. The surface for the module mounting should be smooth and ensure a tight fit of the base of the case after mounting.

Figure 3.1 shows the installation dimensions of the module.

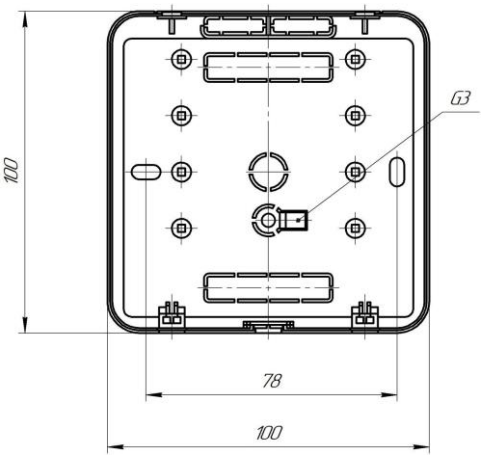

Figure 3.1 – Installation dimensions of the module

3.2 Connection

Caution:

1. All connections must be carried out by qualified personnel in accordance with the electrotechnical regulations and fire safety regulations.
2. Installation and connections must be carried out with the power supply disconnected.
3. Do not apply power to relay terminals (NO, NC, REL1, REL2) until connection and mounting will be complete.
4. The wires connected to relay terminals should have cross-section corresponding to the current of the connected load.
5. The load current of devices connected to the module relay must not exceed its maximum switching current (see p.3, Table 2.1).
6. It is not allowed to use a cable with damaged insulation for connection to relay terminals.
7. After connecting the wires to relay terminals, fix the cables with ties from package contents (Table 4.1).
8. Printed circuit board of the module contains static-sensitive components. To avoid damage to sensitive components before handling any boards you should discharge static electricity in your body by touching the ground.

Enter the wires via appropriate holes of the module case and make all connections. Make sure that the wires are securely fixed in the module terminals.

Connect the RS-485 interface (terminals "A" and "B") to the interface bus of the SCP (according to its user manual).

The supply voltage (+) should be applied to the 12...24V input from an external device (power supply and/or SCP). The GND (-) terminal should be connected to the circuit ground of the external device.

After installation and connection are complete, close the module case.

The appearance of the module board is shown in Figure 3.2. The description of the elements of the module board is given in Table 3.1.

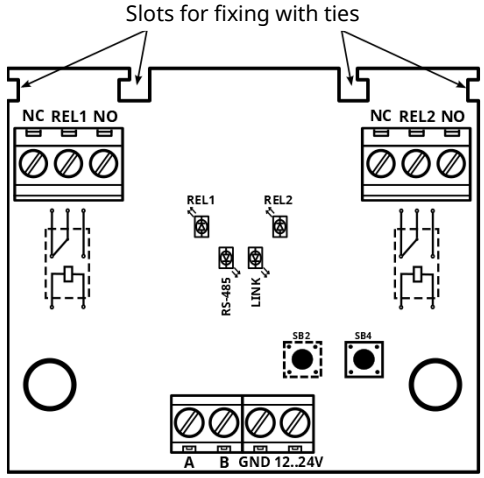

Figure 3.2 - Appearance of the module board

Indicators REL1, REL2 show the status of relay outputs, the indicator lights up when the relay is activated.

Table 3.1 – Description of the elements of the module board

Element	Purpose
12..24V	Terminal for connecting the power supply of the module
GND	Terminal for connection of circuit ground
A, B	Terminals for connecting the RS-485 interface (twisted pair cable)
REL1, REL2	The common contact terminals of the relay, the corresponding indicators on the board light up when the relay is activated
NO	Normally open relay contact relative to joint contact
NC	Normally closed relay contact relative to joint contact
SB2	Tamper detection of separation from the wall
SB4	Tamper detection of intrusion into the case
RS-485, LINK	Technological indicators (job description is given in Table 3.2)

3.3 Assigning

Each module has a unique nine-digit serial number. This number is used to assign the module to the SCP using oLoader II software. The serial number of the module is specified on its printed circuit board and duplicated on the module case.

Table 3.2 – The module indicators

Indicator	Status	Description of the communication status via the RS-485 interface
LINK	***Light***	Availability of exchange via the RS-485 interface. The module is assigned correctly
	Blink	No exchange via RS-485 interface. Module is not assigned or assigned incorrectly
RS-485	***Light***	Availability of incoming packets via RS-485 interface
	Blink	No incoming packets via RS-485 interface