



## Astra - A ILS Short Circuit Isolator



User guide

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Made in Russia

Rev. ILS-v3\_0\_instr\_en

### 1 FUNCTION

- Isolator (further “Isolator” or “device”) is an unaddressed device designed for installation in SLC or RS-485 interface line, formed by the Control Panel Astra Pro.
  - The Isolator is designed for automatic isolation of an SLC segment or a section of the RS-485 interface line (with extender), in which a short circuit has occurred. The Isolator is designed to protect and maintain the system operability in case of a single failure of the SLC line, to accelerate the search for the location of the failure.
  - The Isolator is powered by:
    - in SLC - the Extender through the SLC power circuit,
    - in RS-485 interface - the nearest Extender power supply circuit.
- In case of power failure, the recovery of the Isolator SLC power line occurs when the power supply voltage is higher than 15 V.

### 2 SPECIFICATION

Power supply voltage, V..... 7.5 – 27.6  
Current consumption, mA, no more than..... 4  
Maximum cable cross-section for connecting to terminals, mm .....2.5  
Overall dimensions, mm.....87×54×28

### Operating Conditions

Temperature range, °C .....from - 30 to + 55  
Relative air humidity, %..... up to 93 at +40°C  
without moisture condensation

### 3 DELIVERY SET

Dowels – 2 pcs., screws – 2 pcs., sticker – 2 pcs.

### 4 INDICATION

Table 1

| Status                            | Reason  | LED                                     |
|-----------------------------------|---|---|
| Standby mode                      | Norm  | ON                                      |
| Power failure L1 or L2 (SLC only) | Short circuit of the power supply line connected to L1 or L2, or voltage below 8 V. | 1 time flashes with a period of 3 sec.  |
| Failure of data line L1 or L2     | Short circuit of the SLC data line or RS-485 interface connected to L1 or L2        | 2 times flashes with a period of 3 sec. |

### 5 OPERATING MODES CHANGE

By directing a laser beam of Astra-942 laser pointer to the Isolator indicator we can do the following:

- disable/enable indication of Isolator in StandBy mode (red LP button)
- disconnect/connect a part of SLC circuit (power and data interface) (bottom LP button)
- disable/enable the line Isolator function (middle LP button).

### **Note:**

1. The Isolator operating modes switching is performed at each laser beam directing to the Isolator indicator. When the Isolator is illuminated again by pressing the same button (not earlier than 5 sec. after the previous exposure), the operating mode of the Isolator is inverted.
2. The Isolator "memorizes" its state before the power is turned off and after the power is restored, it restores its functions in the modes established before the power was turned off.

## 6 INSTALLATION PLACE

### 6.1 Number of isolators:

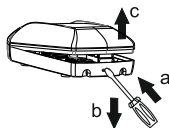
- Up to 32 devices in one SLC;
- Up to 64 devices in one circuit interface RS-485

6.2 Each SLC segment formed (between adjacent Isolators or between an Isolator and the Extender) should not exceed 32 addressable devices

6.3 The cable length in the SLC segment should not exceed 200 m.

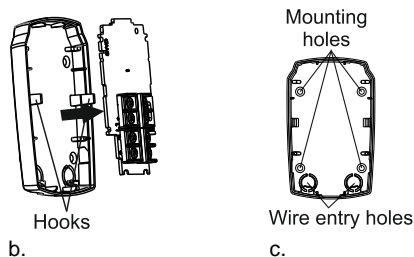
## 7 INSTALLATION PROCEDURE

1) Remove the cover from the base



2) Remove the PCB

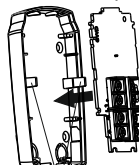
3) Make a marking at the selected installation location according to the attached base (pic. c.).



4) Get the SLC cables or RS-485 interface cables and power supply from the nearest Extension through the cable entry holes (pic.c.)

5) Fix the base of the Isolator to the selected place.

6) Return the PCB to its place



Hooks

7) Connect the cables to the terminals in accordance with Table 2 and the selected connection diagram



| Terminal |      | Terminal function   |   |
|----------|------|---|---|
|          |      | In SLC  | In RS-485   |
| L1       | A, B | Connecting the data line of the incoming (or outgoing) SLC  | Connecting the RS-485 interface line  |
|          | +, - | Connecting the power line of the incoming (or outgoing) SLC | Connecting the 12 (24) V power line from the nearest Extender according to the connection diagram |

|    |      |   |   |
|----|------|---|---|
| L2 | A, B | Connecting the data line of outgoing (or incoming) SLC      | Connecting the RS-485 interface line  |
|    | +, - | Connecting the power line of the outgoing (or incoming) SLC | Connecting the 12 (24) V power line from the nearest Extender according to the wiring diagram |

## 8 WARRANTY

Warranty period of operation - 5 years from the date of commissioning, but not more than 5 years 6 months from the date of manufacture, and subject to the requirements of the current user guide.