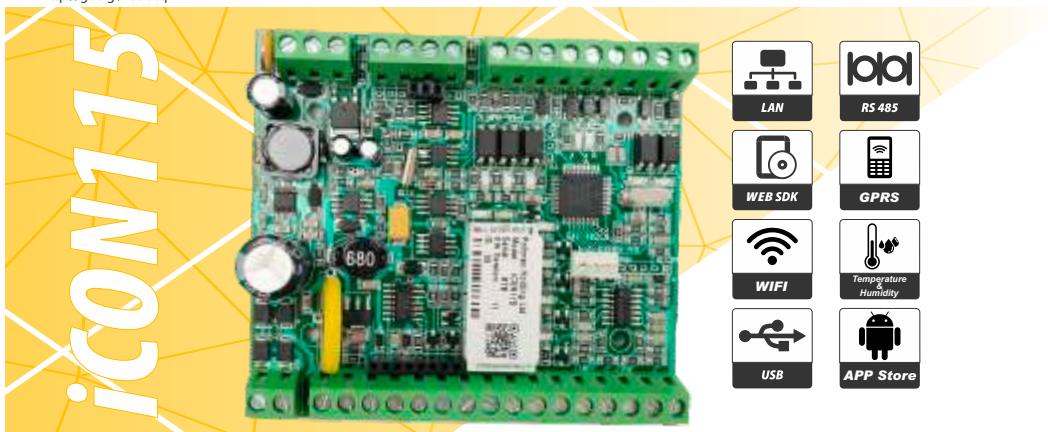



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# SHORT USER GUIDE

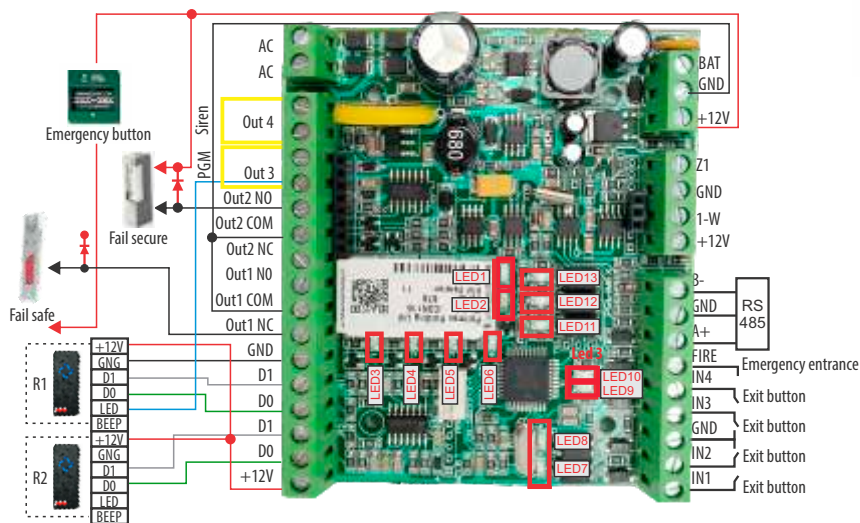
## Access Control and Time Attendance Controller with Built-in SOT Function



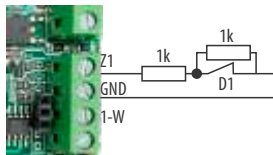
- Complies with the standard EN 50133-2-1/BDS 50133;
- Capability for communication via USB / LAN / WiFi / GPRS through an additional module;
- Communication via RS485 bus (up to 253 devices);
- Interlocking mode – Output is activated only if the others are not triggered.
- Automatic switching of communication mode - controller/converter RS485 to USB or LAN;
- Compatibility with software: Andromeda Tool, Andromeda Pro, or Polimex Cloud (<http://my.polimex.online>);
- Management of two doors unilaterally or one bidirectional;
- Four operating modes for readers with the possibility of automatic mode change based on a timeschedule;
- Ability to manage paid services using Andromeda Pro and Polimex Cloud software – parking, fitness, spa center, etc.;
- Emergency opening from an external system;
- Automatic activation of outputs according to a predefined time schedule - up to 256;
- Supports access restriction time schedules - up to 256;
- Customizable settings for input and output states according to user preferences;
- Non-volatile memory and clock;
- Open WEB SDK protocol for integration and development;
- Automatic operation mode: standalone or network (connection with software);
- Built-in Duress Mode function (forced door opening with a silent alarm);
- Alarm system with 1 line (supports ATZ);
- Output for an accumulator with deep discharge protection;
- Four operating modes for readers;
- Ability to automatically change the reader mode based on a time schedule;
- Ability to TEST the BATTERY without interrupting the controller's operation;
- Input for a digital sensor for temperature and humidity readings.

Capacity for users	9727
Event memory	3056
Inputs	2 pcs./reader interface: 26 or 34 bit WIEGAND (automatically determined) and 4-8 bit PIN digits
Readers	Card, card + PIN, card + work code, card or PIN
Reader mode	5 opto-isolated, active low inputs (2x Exit button, 2x Magnetic contact, 1x Emergency input) and 1x Alarm Zone (ATZ)
Outputs	4 pcs. Relay Outputs (30V/2A), when Duress Mode is disabled - OUT3 and OUT4 are access control alarms; when Duress Mode is enabled - OUT3 is the Duress Mode status, OUT4 is the alarm (siren). 1 pc. Output for accumulator 13.7 VDC with deep discharge protection
Communication	RS 485, (USB / LAN / WiFi / GPRS with additional module)
Power supply voltage	from 14V AC to 24V AC,* from 16 V DC to 30 V DC
Operating electrical current (mA)	80
Light indicators	Yes
Operating temperature	-25°C – +75°C
Operational humidity (RH)	10%– 90% RH (without condensation)
Dimensions	105*90*58

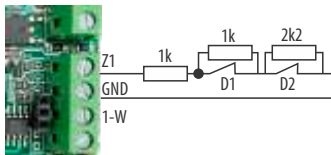
Connection diagram



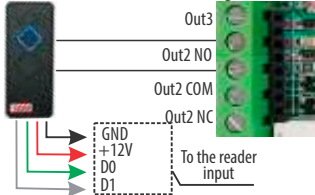
Connection diagram for 1 alarm system sensor



Connection diagram for 2 alarm system sensors



Connection diagram for LED and BEEP indication on a reader with controller in single-door mode



If the sensors are not connected, the SOT function is deactivated by the software

Table of the functionality of iCON115

Inputs	Mode 1 door	Mode 2 doors
IN1	Exit button - door 1	Exit button - door 1
IN2	Door status sensor 1	Door status sensor 1
IN3	Not in use	Exit button - door 2
IN4	Not in use	Door status sensor 2
Z1	SOT line for the door 1	SOT line for the door 1
Fire	Signal from PIR sensor	Signal from PIR sensor
R1	Entrance reader for door 1	Entrance reader for door 1
R2	Exit reader for the door 1	Entrance reader for door 2
1-W	Temperature and relative humidity sensor	Temperature and relative humidity sensor
Outputs		
OUT1	Door relay	Door relay 1
OUT2	Universal output	Door relay 2
OUT3	PGM output	PGM output
OUT4	Siren output	Siren output

LEDs for indicating operation

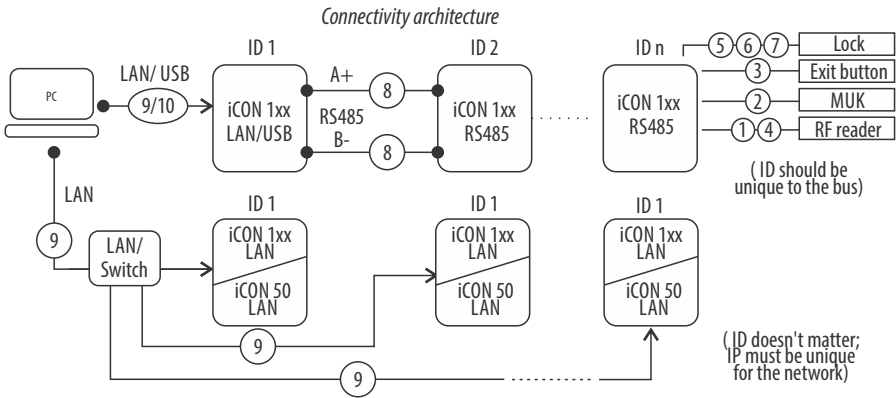
Led №	Displays the status of:	Status of the indicators	
Led 1	Main power supply U	ON	X
Led 2	Backup power supply U	ON	X
Led 3	Upon activation of Out 1	ON	Off
Led 4	Upon activation of Out 2	ON	Off
Led 5	Upon activation of Out 3	ON	Off
Led 6	Upon activation of Out 4	ON	Off
Led 7	Exit button -1 (In1)	ON	Off
Led 8	Door status 1 (In2)	ON	Off
Led 9	Communication exchange Rx	Fast blinking	X
Led 10	Communication exchange Tx	Fast blinking	X
Led 11	Exit button - door 2 (In3)	ON	Off
Led 12	Door status 2 (In4)	ON	Off
Led 13	Fire	ON	Off

# Recommended cable types and permissible lengths

Recommended cable for connection between the controller and peripheral devices of the system is multi-core 2x0.5+8x0.22. (2x0.5 are used to control the locking mechanism, and the remaining 8x0.22 are used to power the readers, data from the readers, control the buzzer and LED indication of the readers, exit button, mute, bell and others. If they do not reach the wire, it can be used as common mass (for example the black 0.5mm).)

Table of lengths for 13.7VDC power supply

№	Equipment	Specification of cable - mm2	Maximum length - meters
1	Readers - data and power	0.22 mm	up to 100 m
2	MUK	0.22 mm	up to 100 m
3	Exit button	0.22 mm	up to 100 m
4	LED and buzzer on the readers	0.22 mm	up to 100 m
5	Electromagnet (550mA) Polymex	0.5 mm	up to 30 m
6	Electromagnet counter Polimex	0.5 mm	up to 70 m
7	Polymex electric drop bolt	0.5 mm	up to 40 m
8	RS-485	FTP min. 5 category	up to 1200 m
9	LAN	FTP min. 5 category	до 100 м
10	USB	Ready cable	2-3 м
11	Emergency button	0.5 mm	Винаги е до вратата
12	Temperature and humidity sensor	0.22 mm	до 100 м



## Connecting to a bus via RS485 communication interface

RS485 bus connection allows the construction of larger systems. A twisted pair cable with a length of up to 1200 meters is used as a transmission medium. We recommend using a shielded cable, with the shield at one end of the cable being grounded. If there is no suitable grounding point, the screen is connected to the ground of the converter or of the controller performing the function of the converter. In order to reduce the noise level, it is recommended to terminate the line, especially if it is longer. The value of the terminating resistors depends on the length of the line as follows:

- For busbars up to 50 m long, use a 1 kΩ resistor.
- For busbars up to 150 m long, use a 620 Ω resistor.
- For busbars over 150 m long, use a 300 Ω resistor.
- Personal computers do not support an RS485 interface, which requires the use of a signal converter. For this purpose, it is recommended to use a LAN or USB module. These modules attach to any iCON1xx series controller without any hardware or firmware modifications. In order not to disturb the topology of the network of controllers, the role of converter can be performed by one of the controllers in the bus or by an external converter.
- Each controller in the bus has its own address with a value from 0 to 254 (address 203 and 206 are disabled). DUPLICATION OF BUS ADDRESSES IS NOT ALLOWED. The address of each controller is written on the label on the controller.



## Using the SOT function

### 1. Taking the area under guard:

1.1. When the door is open, the card is presented twice to the reader, after which the door is closed. The LED on the reader blinks 5 times, then turns solid green. The area is secured. The card must have rights to manage the SOT.

### 2. Removing a security zone

2.1 The card is presented to the reader once. The SOT is removed from security and the door opens. If a card is presented with access rights but no rights to manage the SOT, it will be denied access until the SOT is removed.

## FAQ

**Question:** I don't know the address of the controller. How can I find it?

**Answer:** The address of the controller is written on the label on the controller. In case the tag has been removed or the address has been changed without this being reflected on the tag, the address can be detected using the PolimexAutoDetect software or the controller search function built into the free Andromeda Tool software. In case you are using LAN communication, in the WEB interface of the LAN module, open the SDK Device Manager tab and press the Start button. A list of all controllers on the bus will appear.

**Question:** What potential do PGM and SIREN outputs give to the controller?

**Answer:** When activating the outputs of the controller, ground (GND) is supplied.

**Question:** How do I restore the controller to normal operation after entering Fire mode?

**Answer:** Believe that the signal from the PIC to the controller is stopped. The controller will automatically return to normal operation mode.

**Question:** Who is the incoming reader and who is the outgoing reader?

**Answer:** Normally reader 1 is incoming and reader 2 outgoing in 1-door duplex mode. This division is conditional.

**Question:** Is an external relay required at the output?

**Answer:** The output is designed to switch current up to 0.3A in pulse mode (up to several seconds). If it is necessary to keep the executive mechanism on for a long time, it is desirable to place an additional relay. There is no unequivocal answer. It all depends on the specific case.

**Question:** On which locking mechanisms is a diode placed?

**Answer:** Protective diodes are placed on all locking mechanisms, regardless of type. **It is important that it is placed immediately next to the locking mechanism.**

**Question:** How to install the controller in the box?

**Answer:** In the set you get 4 pcs. spacer bushings

**Question:** How to install the LAN module?

**Answer:** Place the LAN module so that the RJ45 connector is oriented towards the SOT

input.

**Question:** How to insert the USB module?

**Answer:** The USB module is plugged into the connector located next to the battery, facing the inside of the board.

**Question:** How the reader indication is managed?

**Answer:** The reader indication is controlled by applying "0" (ground) to the corresponding wire - to control the LED or the buzzer.

**Question:** How to check controller ID?

**Answer:** There is an Andromeda Autodetect program in the software folder or on the controller label.

**Question:** Allowable distance between the controller and the reader?

**Answer:** heoretically, the standard specifies a maximum of 100 m. This depends on the wires used. Check the table of recommended cable types and permissible lengths (page 3)

**Question:** Permissible distance to the locking mechanism?

**Answer:** The cross-section of the wire is calculated so that no more than 1V falls into it.

**Question:** How to take the system under protection?

**Answer:** Through a computer or the description for using the SOT function (see - "Using the SOT function")

**Question:** In two-door mode, which door is the SOT line attached to?

**Answer:** To door 1.

**Question:** In two-door mode, to which door is the SOT line attached?

**Answer:** To door 1.

**\* Note:** The controller can also operate normally with an input voltage in the range of 13.5VDC to 16VDC, provided that the battery output is not used.

## Software



USER MANUAL FOR  
ANDROMEDA TOOL

<http://goo.gl/r88288>



USER MANUAL FOR  
ANDROMEDA PRO

<https://goo.gl/cSuFFa>



DOCUMENTATION

<https://goo.gl/hwKr2F>

DOWNLOAD LINK FOR ANDROMEDA TOOL

<http://www.securitybulgaria.com/files/Andromeda/NewAndromedaToolLast.zip>

REMOTE SUPPORT MODULE

<http://www.securitybulgaria.com/files/Andromeda/PolimexSupport.exe>

Download the application  
*iCONManager* from:



Google play

