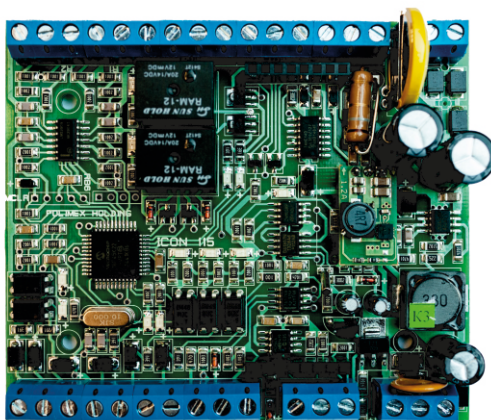


# User manual

## iCON 115

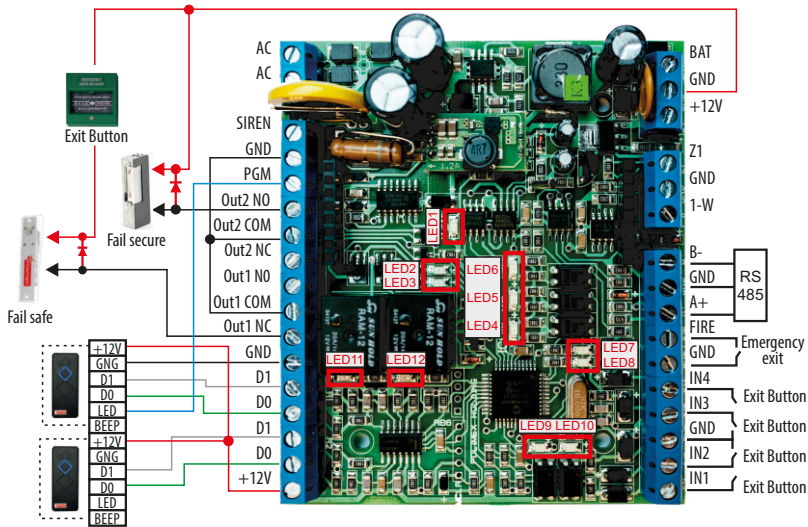
### Access control and Time&attendance controller with integrated Alarm function



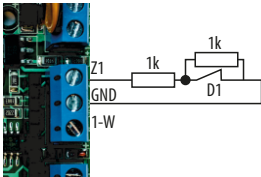
- Stand alone mode with **Master card**
- Communication mode via **USB / LAN** (additional module)
- Network communication over **RS485** (up to 253 devices)
- Dual working mode – as controller and converter **RS485 to LAN(USB)** at the same time.
- Time & attendance calculation with software **Andromeda Pro**
- Control of one double sided or two one sided doors
- Management of payed **services with Andromeda Pro** – fitness, spa, auto park, hotels
- Ability to synchronize with fire alarm system (NO contact)
- Automatic activation of the outputs by predefined time schedule (up to 15 pcs x 8 days and 3 hour periods)
- Time **schedules** for access control - up to 360 pcs
- 10 tables can be set automatic according to controllers mode or manually by user
- Volatile memory and real time clock
- Ability to control a turnstile without antipassback function
- Open protocol for integration with other systems **WEB SDK**
- Built in **Duress Mode** (forced opening the door with silent alarm)
- Integrated alarm system with **1 line for sensors**;

User capacity	8000
Transaction capacity	4000
Reades	2x readers 26 or 34 bit WIEGAND (auto) and 4-8 bit numbers for PIN
Readers mode	RFID, RFID and PIN, RFID or PIN, RFID, work code
Inputs	1x line for alarm sensors(ATZ), 2x readers 26 or 34 bit WIEGAND (auto) and 4-8 bit numbers for PIN , 5 pcs. (2x exit button, 2 x Magnetic sensor , 1x Emergency)
Outputs	4 pcs. (2 x OC -30V/0.5A, 2x Relay contact (125V/3A) ,1x Battery output 13,7VDC with protection from deep discharge
Communication	RS 485, Wiegand 26/34 bit, LAN, USB (with additional module)
Power Supply	16-24 VAC
Current	250
LED indicator	Yes
Operating temperature	-25°C +75°C
Operating humidity(RH)	10% - 90% RH ( non condensing)
Dimensions	105*90*58

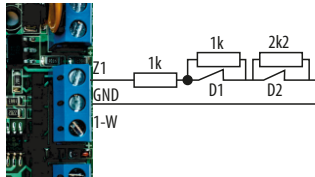
# Wiring Diagram



Connection diagram for one alarm sensor

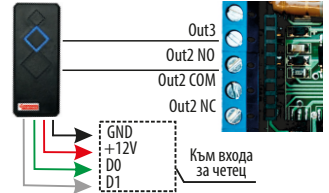


Connection diagram for two alarm sensors



\* The alarm function can be deactivated from the software if it is not used.

Scheme for LED and BEEP connection of RFID reader for one door mode



Functionality table iCON115

Inputs	One door mode	Two doors mode
IN1	Exit button - door 1	Exit button - door 1
IN2	Door sensor - door 1	Door sensor - door 1
IN3	Not used	Exit button - door 2
IN4	Not used	Door sensor - door 2
Z1	Alarm line - door 1	Alarm line - door 1
Fire	Fire alarm signal	Fire alarm signal
R1	Check in Reader - door 1	Check in Reader - door 1
R2	Check out Reader - door 1	Check in Reader - door 2
Outputs		
OUT1	Output for door 1	Output for door 1
OUT2	Output for general application	Output for door 2
OUT3	PGM / Alarm	PGM / Alarm door 1
OUT4	Alarm	Alarm door 2

Controllers LED indication

Led №	Indicates status of:	Status of indicators:
Led 1	Power U	On <span style="color:blue">■</span> X
Led 2	Out 3 condition	On <span style="color:red">■</span> Off <span style="color:red">□</span>
Led 3	Out 4 condition	On <span style="color:red">■</span> Off <span style="color:red">□</span>
Led 4	Exit button 2 (In3)	On <span style="color:green">■</span> Off <span style="color:green">□</span>
Led 5	Door 2 condition (In4)	On <span style="color:green">■</span> Off <span style="color:green">□</span>
Led 6	Fire alarm input	On <span style="color:green">■</span> X
Led 7	Communication Rx	Fast blink X
Led 8	Communication Tx	Fast blink X
Led 9	Door 2 condition (In2)	On <span style="color:green">■</span> Off <span style="color:green">□</span>
Led 10	Door 1 exit button (In1)	On <span style="color:green">■</span> Off <span style="color:green">□</span>
Led 11	Out 1 condition	On <span style="color:red">■</span> Off <span style="color:red">□</span>
Led 12	Out 2 condition	On <span style="color:red">■</span> Off <span style="color:red">□</span>

## Recommendatory types of cables and permissible lengths

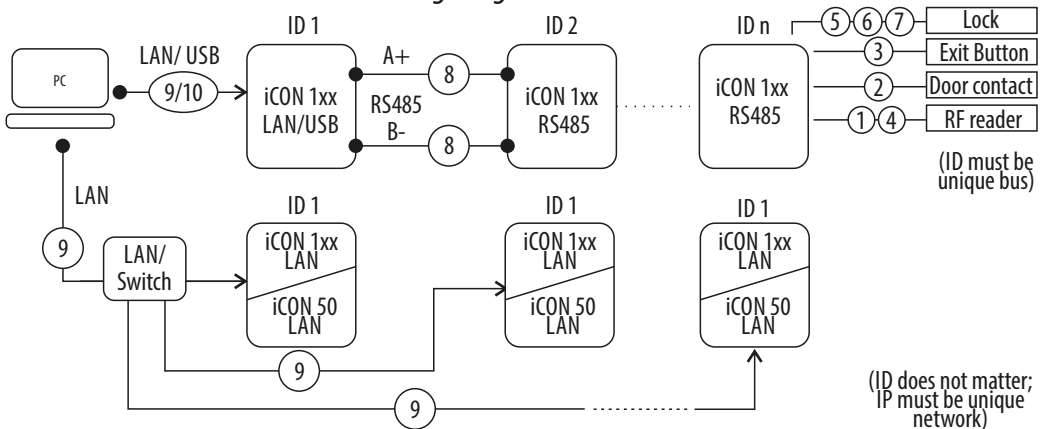
The recommendatory type of cable for establishing connection between the controller and the peripheral units of the system is multicore 2x0.5+8x0.22.

(2x0.5 is used for management of the locking mechanism, and the rest 8x0.22 – for supplying the readers, data from the readers, management of the buzzer and the light-emitting diode indication of the readers, exit button, magnetic-controllable stud, bell, etc. If the cores are not enough in quantity, full virtual mass could be used (for example: the black 0.5mm).)

Table with lengths when supply is 13.7VDC

№	Equipment:	Cabels-mm	max. m
1	Reader	0.22	to 100
2	Door contact	0.22	to 100
3	Exit Button	0.22	to 100
4	LED and Buzzer	0.22	to 100
5	Electromagnetic Lock (550mA) Polimex	0.5	to 30
6	Electric Strike Polimex	0.5	to 70
7	Electric Bolt Polimex	0.5	to 40
8	RS-485	FTP min.5 cat.	to 1200
9	LAN	FTP min. 5 cat.	to 100
10	USB	Standart Cabel	2-3 m
11	Emergency Exit Button	0.5	At the door

### Wiring Diagram



## Connection in a bus bar through RS485 communication interface

A connection in a bus bar RS485 allows the construction of bigger systems. The transmission medium is a twisted pair cable with a maximum length of 1200m. We recommend the use of h-type cable (the screen at the one of the ends of the cable needs to be grounded). If there is not a suitable grounding point, the screen should be connected to the virtual mass of the converter or the controller, acting as a converter. With the purpose of lowering the noise level, termination of the line is recommended (especially if it is longer). The amount of the terminating resistance depends on the length of the line, as follows:

- For bus bars up to 50m, do use 1kΩ resistor
- For bus bars up to 150m, do use 620Ω resistor
- For bus bars over 150 m, do use 300Ω resistor



The personal computers do not support RS485 interface, which forces the use of a signal converter. For successfully doing this, the use of LAN or USB module is advisable. These modules could be connected to every single controller of the iCON 1xx series without any kind of hardware or firmware corrections. In order not to interrupt the topology of the controller web, one of the controllers in the bus bar could act as a converter. The use of an external converter is also possible.

Each controller in the bus bar has its own address with a value of 0 to 254. ADDRESS DUPLICATION IN THE BUS BAR IS NOT PERMITTED. The address of each controller is written on its identification mark.

## How to use the alarm function:

### 1. Activating the alarm

1.1. To operate with the alarm function the card (or other identifier) must have rights for activation / deactivation. To activate please open the door, mark twice your card on the reader and close the door. Readers led will blink 5 times and go to green light. This indicates that the alarm zone is activated.

### 2. Deactivating the alarm

2.1 Mark your card on the reader, the alarm will be deactivated and the door will open. If you don't have rights for the alarm system the door will not open even if your card is registered to the controller.

## FAQ

**Question:** I don't know the controllers ID. Where can I see it?

**Answer:** The ID is written on controllers label. If the label is not available or the ID is changed it can be searched with PolimexAutoDetect tool. If you are using a LAN module you can access LAN's web interface (default 192.168.1.202) go to SDK Device Manager and select START. You will get a list of all controllers connected to this line.

**Question:** How to exit Fire mode and bring controller to normal state?

**Answer:** When fire alarm system ends to supply NC contact to the controller mark a registered card on one of the readers.

**Question:** How to recognise check in and check out reader?

**Answer:** By default reader 1 is for check in and reader 2 for check out.

**Question:** When to use rectifier diode?

**Answer:** Always. Connect it to every locking device independently of the type.

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

**Answer:** Use the two spacers included in the set.

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

**Answer:** Mount it on the slot for external module with the RG45 located by the controller's power input directed towards the outside of the board.

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

**Answer:** Mount it on the slot for external module located by the battery directed towards the inside of the board.

**Question:** How to control the readers indication?

**Answer:** Led and beep indicators can be controlled by supplying readers inputs with GND from the controller.

**Question:** What is the maximum length between reader and controller?

**Answer:** The wiegand standard says that it is 100 meters, but it depends of the wire material. The best for long distance is to use twisted pair (FTP). See page 3.

**Question:** What is the maximum length between locking device and controller?

**Answer:** The thickness of the wire must be calculated to get maximum 1V voltage drop.

**Question:** How to switch Mastercard mode?

**Answer:** By using Andromeda Pro or Andromeda Tool software.

**Question:** How to understand when is the adding or deleting mode in Mastercard administration?

**Answer:** See the LED indication of the reader which is connected to the alarm output. When its blinking fast - adding, when its blinking slow - deleting, when it stops blinking it deletes all cards. This depends on how many times you check the master card on the reader: 1 time - for adding, 2 times - for deleting, 4 times - deletes all cards. After you select the mode readers led lights on for the time in which you have to add or delete a card. When the led is off it means you are out of mastercard mode.

**Question:** In two door mode which reader is used for the alarm function?

**Answer:** Reader 1.

## Software



INSTRUCTIONS  
USE OF

ANDROMEDA TOOL

<http://goo.gl/r88288>



INSTRUCTIONS  
USE OF

ANDROMEDA PRO

<https://goo.gl/cSuFfa>



DISCUSSIONS AND  
INFORMATION

<https://goo.gl/zbshx1>

## Web SDK

DOWNLOAD ANDROMEDA TOOL

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

REMOTE SUPPORT

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

