

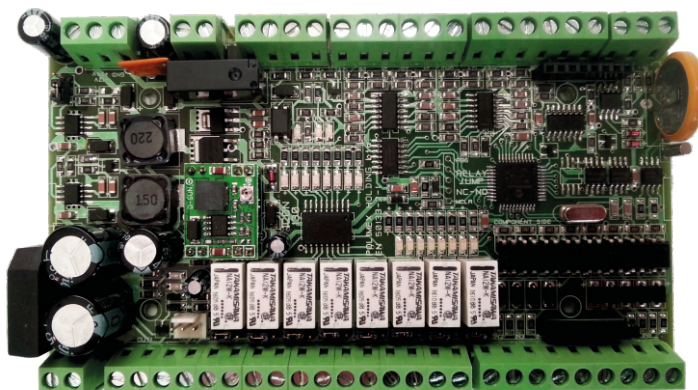


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## USER MANUAL

# iCON 130

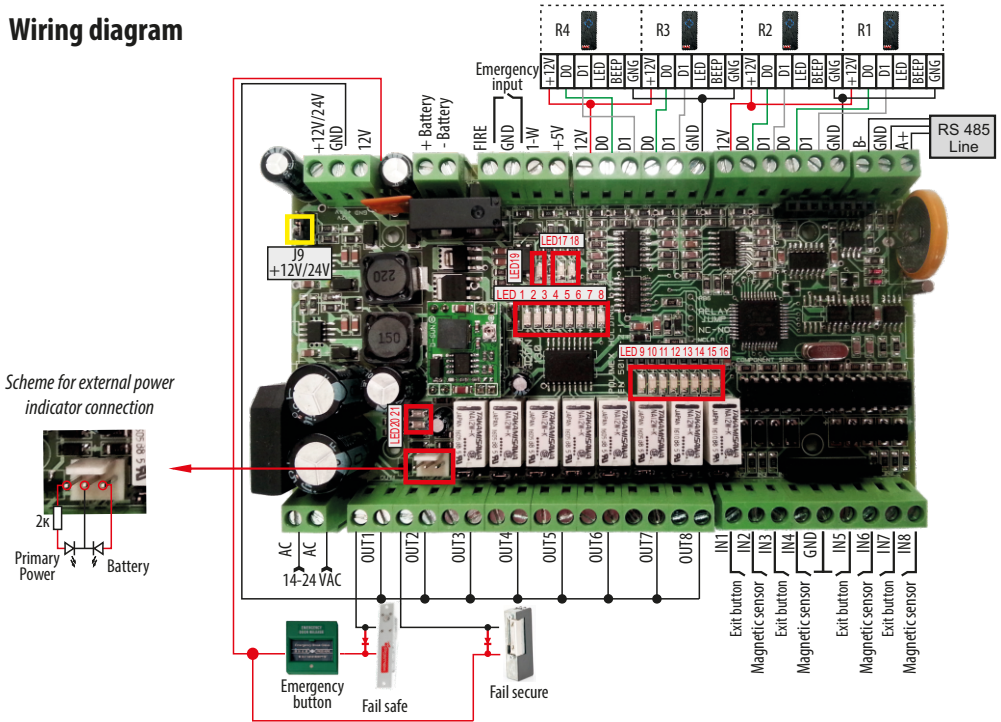
## Access control, Time & attendance and automation



- Conforms to **EN 50133-2-1** and **БДС 50133 standard**;
- 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** and **Cloud solutions**;
- Control of 4 singlesided doors, two dualsided doors and combination;
- Ability for **emergency opening** by other system;
- Automatic activation of the outputs by predefined time schedule (up to 13pcs x 8 days and 4 hour periods);
- Time **schedules for access control** - up to 72 pcs;
- Automatic activation of the outputs by predefined time schedule - up to 72 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 with **antipassback function**;
- Open protocol for integration with other **systems WEB SDK**;
- Built in **Duress Mode** ( forced opening the door with silent alarm);
- Battery output with **protection from deep discharge**;
- Ability for battery test without interrupting controllers activity;
- Ability for automatic switching readers mode;
- Modern design.

User capacity	16000
Transaction capacity	16000
Readers	4 pcs
Readers mode	RFID, RFID and PIN, RFID or PIN, RFID
Inputs	4 x readers 26 or 34 bit WIEGAND (auto) and 4-8 bit numbers for PIN code, 9ea (4xExit button, 4 x magnetic sensor ), 1x Emergency input
Outputs	10 pcs. (8x relay outputs (125V/3A), 1x Battery output 13,7 VDC with protection from deep discharge, 1 x Output for outsourcing power indication - primary and backup)
Communication	RS 485 (LAN, USB by additional module)
Power Supply	14 - 24 VAC
Current	130 mA
LED indicator	Yes
Operating temperature	-25°C--+75°C
Operating humidity(RH)	10%- 90% RH ( non condensing)
Dimensions	150*85*25 mm

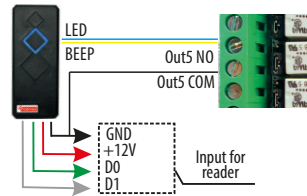
## Wiring diagram



Functionality table iCON130

Inputs	2 door mode	3 door mode	4 door mode
IN1	Exit button - door 1	Exit button - door 1	Exit button - door 1
IN2	Magnetic sensor - door 1	Magnetic sensor - door 1	Magnetic sensor - door 1
IN3	Not used	Not used	Exit button - door 2
IN4	Not used	Not used	Relay - door 2
IN5	Exit button - door 2	Exit button - door 2	Exit button - door 3
IN6	Magnetic sensor - door 2	Magnetic sensor - door 2	Magnetic sensor - door 3
IN7	Not used	Exit button - door 3	Exit button - door 4
IN8	Not used	Magnetic sensor - door 3	Magnetic sensor - door 4
Fire	Fire alarm signal	Fire alarm signal	Fire alarm signal
R1	Reader in - door 1	Reader in - door 1	Reader in - door 1
R2	Reader out - door 1	Reader out - door 1	Reader in - door 2
R3	Reader in - door 2	Reader in - door 2	Reader in - door 3
R4	Reader out - door 2	Reader in - door 3	Reader in - door 4
<b>Outputs</b>			
OUT1	Relay - door 1	Relay - door 1	Relay - door 1
OUT2	Relay for general application	Relay for general application	Relay - door 2
OUT3	Relay - door 2	Relay - door 2	Relay - door 3
OUT4	Relay for general application	Relay - door 3	Relay - door 4
OUT5	LED/ BEEP reader 1	LED/ BEEP reader 1	LED/ BEEP reader 1
OUT6	LED/ BEEP reader 2	LED/ BEEP reader 2	LED/ BEEP reader 2
OUT7	LED/ BEEP reader 3	LED/ BEEP reader 3	LED/ BEEP reader 3
OUT8	LED/ BEEP reader 4	LED/ BEEP reader 4	LED/ BEEP reader 4

Wiring diagram for LED and BEEP connection of RFID reader for one door mode



Controllers LED indication

Led №	Indicates status of:	Status of indicators:	
Red 1, 2, 3, 4, 5, 6, 7, 8	Out 1,2,3,4,5,6,7,8	ON <span style="color:red">■</span>	OFF <span style="color:red">□</span>
Red 9, 10, 11, 12, 13, 14, 15, 16	In 1,2,3,4,5,6,7,8	ON <span style="color:green">■</span>	OFF <span style="color:green">□</span>
Red 17	Communication receive Rx	Fast blink	X
Red 18	Communication transfer Tx	Fast blink	X
Red 19	GND to Fire input	ON <span style="color:green">■</span>	X
Red 20	Main power	ON <span style="color:blue">■</span>	X
Red 21	Backup power	ON <span style="color:red">■</span>	X

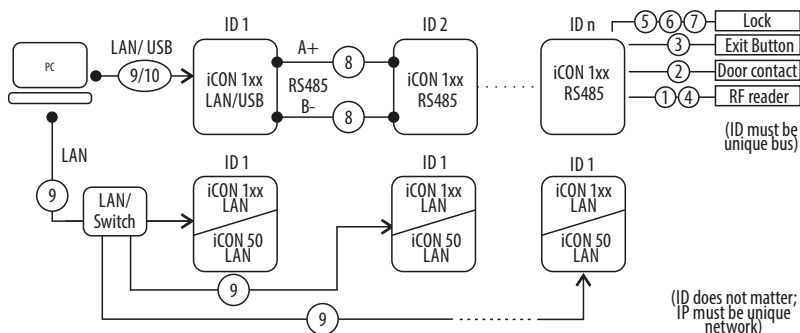
## Recommended types of cables and permissible length

Recommended wire for connection between the controller and the door (readers, buttons,...) is 2x0.5+8x0.22. (2x0,5 is used for the locking device and the other 8 wires are for powering the readers, data from the readers (D0, D1), controlling led and beep of the readers, exit button, magnetic sensor and others. If the wires are not enough you can connect everything with common GND (for example the black 0,5 mm wire)

Table with eligible lengths when powering with 13.7VDC

№	Equipment	Wire Specification - mm2	Maximum length - meters
1	Readers - data and power	0.22 mm	up to 100 m
2	Magnetic sensor	0.22 mm	up to 100 m
3	Exit button	0.22 mm	up to 100 m
4	LED and Beep	0.22 mm	up to 100 m
5	Electromagnet (550mA) Polimex	0.5 mm	up to 100 m
6	Electric strike Polimex	0.5 mm	up to 70m
7	Electric drop bolt Polimex	0.5 mm	up to 40m
8	RS-485	FTP min. 5 cat.	up to 1200m
9	LAN	FTP min. 5 cat.	up to 100 m
10	USB	default cable	2-3 m
11	Emergency button	0.5 mm	Its aways by the door

### Connections



## Connection in a bus bar through RS485 communication interface

The connection via RS485 Line gives you the ability to build great systems with many controllers. A twisted pair from FTP cable is used for a communication line between the controllers with maximum length of 1200 meters. We recommend shielded wire which is grounded at the end. If there is no grounded point you can connect the shield to the GND of the power supply, controller or converter. In order to reduce the level of noise in the RS485 line is recommended to terminate the line, especially if it has a great length. The value of the resistors is selected depending of the lines length:

For lines up to 50 m length use 1 kΩ resistor.

For lines up to 150 m length use 620 Ω resistor.

For lines more than 150 m length use 300 Ω resistor.



## FAQ

**Question:** I dont know the controllers ID. Where can I see it?

**Answer:** The ID is written on controllers lable. If the lable 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 four spacers included in the set.

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

**Answer:** Mount it on the slot for external module with the RJ45 located by the controllers 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 lenght 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:**How to switch outputs from NO to NC?

**Answer:** Use the jumpers positioned between the relay and the terminal. If the jumper is positioned to the right the contact is NC and if the jumper is positioned to the left the contact is NO (The controller must be oriented with the relays to the underside)

## Software



INSTRUCTIONS  
USE OF  
ANDROMEDA TOOL  
<http://goo.gl/r88288>



INSTRUCTIONS  
USE OF  
ANDROMEDA PRO  
<https://goo.gl/cSuFFa>



DISCUSSIONS AND  
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## Web SDK

