



ACCESS CONTROL



TIME&ATTENDANCE

Controller SK30

Manual



Lead Free



RoHS Compliant

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Technical data

- cooperation with two readers sending data in Wiegand (other standards on request)
- response time: up to 0.5s (after receiving data from the reader)
- Non-volatile memory: up to 512 KB
- timer: a dedicated RTC with battery backup
- system bus: via built-in Ethernet or RS-485 (9600 bps, 7, E, 1)
- additional interfaces: the serial synchronous (output only), asynchronous RS-232 or RS-485 (bi-directional)
- signaling of operation: control LED and buzzer in the reader through open collector output relay: 2
- door sensors: 2 (NO or NC)
- Input buttons on duty: 2
- tamper sensor inputs (separate controller and each of the readers)
- power supply: 10 ... 16 VDC
- maximum current consumption: 250mA (without readers)
- temp. Range: -25 C ... + 60 C
- dimensions: 111 x 100 x 25 mm
- weight: 100g

Description

The basic task of the controller is reading identifiers and take action according to the information contained therein. The controller also constantly monitors all of your input and by changing their state may take the programmed actions. Each time, the non-volatile memory device is stored information about the incident.

Data identifiers are reading by the reader and transmitted to the controller. Readers may have different types of signaling activity. Further description assumes that the reader has an optical and acoustic signaling is controlled by the controller and the business.

The most common controller is used for controlling access to sites (premises) and / or registration go. Then the relay controls the electric lock, turnstile or barrier. Door sensors monitor security status.

To gain access to the protected area must be more closely identifier to the appropriate reader. If the identifier assigned to the appropriate permissions, access to the protected zone will be open - actuators will be launched for a limited time. This fact will be registered and confirmed by the time the reader color change from red to green and a short beep.

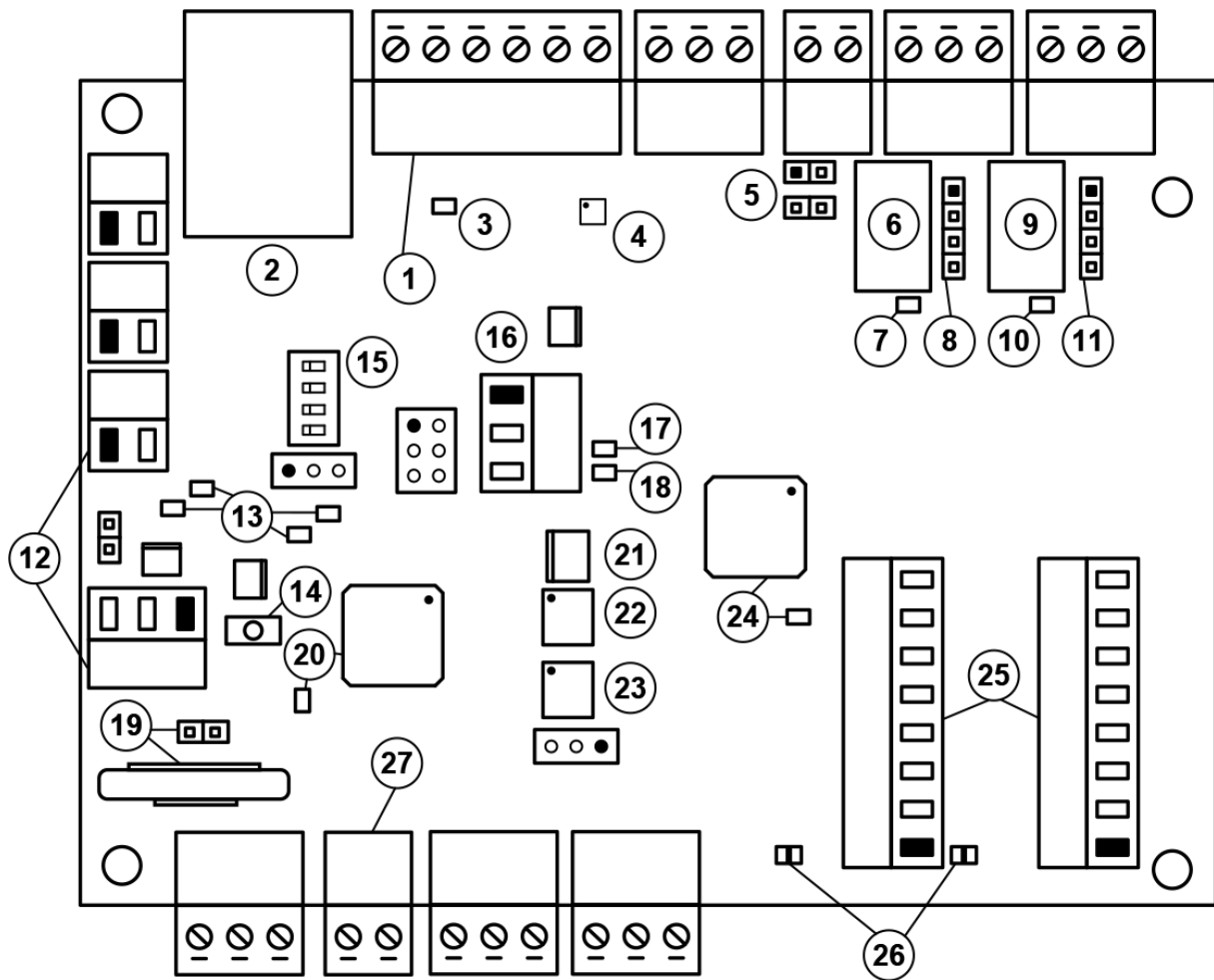
Long modulated sound when approaching identifier means a refusal of access and lack of modulation output devices.

The controller has two goals (reader + relay + door sensor), supporting two independent pass-sided or one-sided.

To register input / output as on duty, before approaching identifier you must press, second hold and release the red button. Readers will illuminate alternately green and red. Each registration identifier during blinking is marked as on duty trip.

Activation connected to the controller door sensors, without prior registration ID privileges, alarm activation (acoustic signal and color change lighting readers). The same occurs after too long (beneficial) open the passage. Depending on the configuration, the alarm state ends close of a valid card or deactivation of the sensor (locks the door).

Building

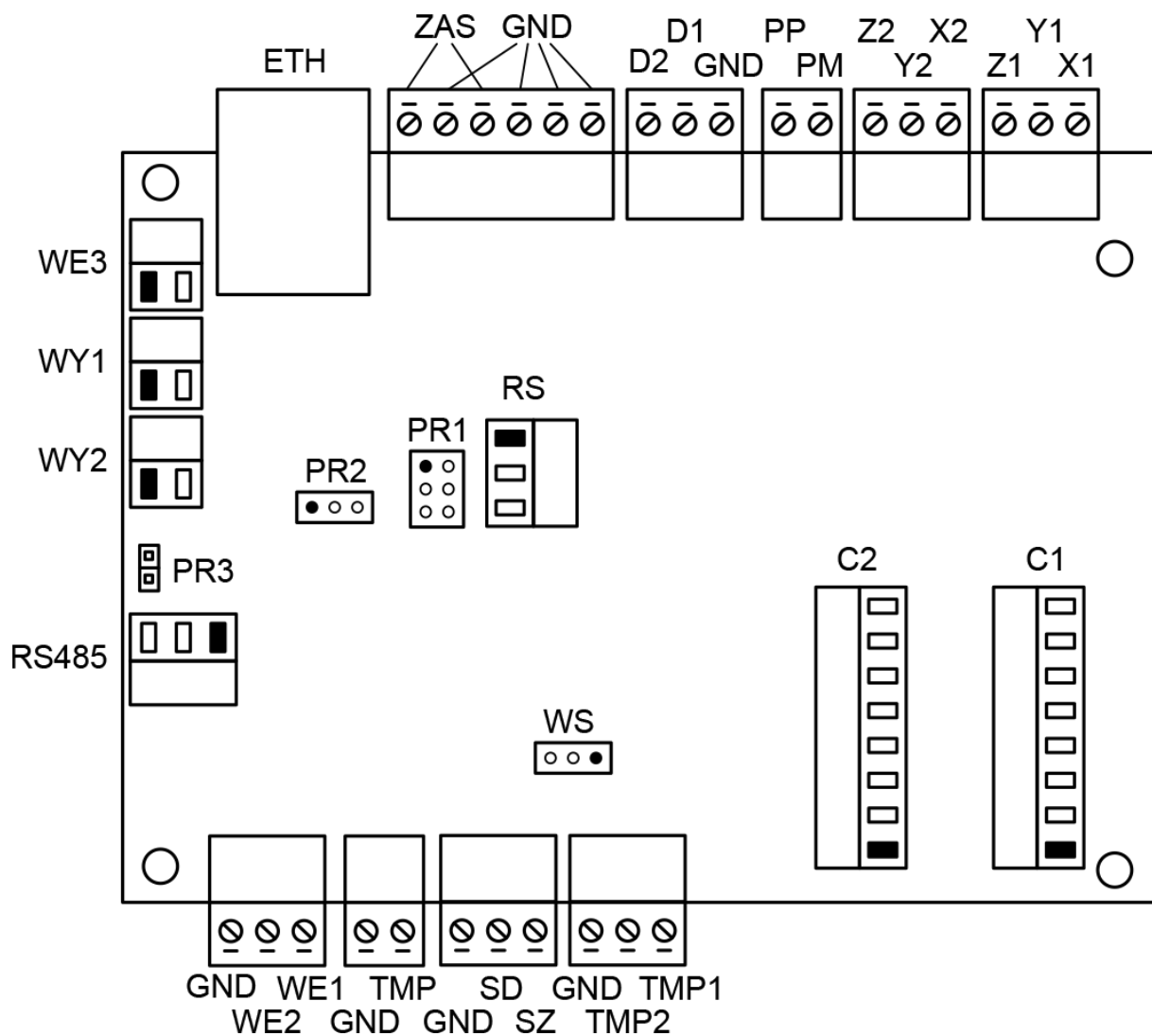


No.	Description	Option
1	The upper strip joints	
2	Ethernet Network Interface	
3	LED power indicator	
4	Power Conditioner	
5	Configuration PP signals PM	
6	Gateways 2 relay	
7	LED indicating operation of the relay gateways 2.	
8	Configuration jumpers of gate2 relay	
9	Gateways 1 relay	
10	LED indicating operation of the relay gateway 1.	
11	Configuration jumpers of gate1 relay	
12	Side strip joins	
13	Signals communication via the system bus	
14	Restore Defaults button Network Interface	
15	Programming switches	

16	Auxiliary asynchronous serial interface	•
17	Data from the interface (16) receive LED indicator	•
18	LED indicator sending data to the interface (16)	•
19	Battery Backup clock and its activation jumper	
20	Communications processor and LED indicating its operation	
21	Real Time Clock processor	
22	The main non-volatile memory	
23	Additional non-volatile memory (also on the other side of the plate)	•
24	Control processor and LED indicator its operation	
25	Readers connectors	
26	Input configuration fields reader	
27	Lower strip joints	

* The selected items are installed depending on the application controller

Description of connectors



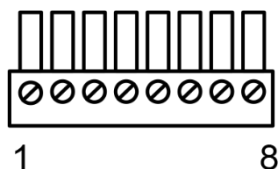
Connector		Description	Restrictions
ZAS	POWER	Power supply (+)	10-16 VDC 100mA (without readers)
GND	GROUND	Supply ground	
ETH		Ethernet network	RJ45 Connector
RS485		Bus communication	RS-485
D1	DOOR1	Gateway 1 door sensor	Shorted to GND
D2	DOOR2	Gateway 2 door sensor	Shorted to GND
PP	NC/NO	Relays power	Connected to the contacts signal relays
PM	COM		
Z1	COM1	Gateway 1 relay	Load capacity 1A at 24VDC 0,5A at 125VAC Maximum voltage: 125VAC or 60VDC
Y1	NC1		
X1	NO1		
Z2	COM2	Gateway 2 relay	
Y2	NC2		
X2	NO2		
PR1		Programming	
PR2			
PR3			
RS		Additional asynchronous serial interface	
OK		Relays lock	
C1	READER1	Gateway 1 reader	
C2	READER2	Gateway 2 reader	
TMP1	TAMPER1	Reader of gateway1 tamper sensor	Shorted to GND
TMP2	TAMPER2	Reader of gateway2 tamper sensor	
TMP	TAMPER	Tamper Sensor Controller	
SD	CLOCK SD	Output serial interface	
SZ	CLOCK SZ		
WS			
WE1	INPUT 1	Additional input / output lines	Shorted to GND
WE2	INPUT2		Shorted to GND
WE3	INPUT3		Shorted to GND Marital available only on the Web page
WY1	OUTPUT1		Controlled only
WY2	OUTPUT2		through a web page

The steps for installation

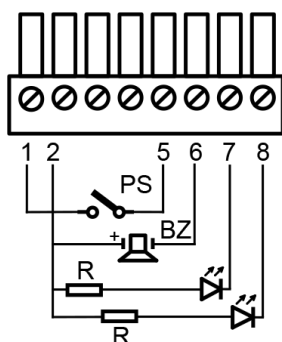
Connection readers

C1	Gate 1 reader
C2	Gate 2 reader

Reader communicates with the controller using for this purpose conductor, whose completion is connected to the connector (23).



No.	PIN	Description	Type
1	GND	Ground	Power Controller
2	ZAS	Power	
3	DA0	Data 0	Inputs
4	DA1	Data 1	
5	PS	Buttons on duty	NO Input
6	BZ	Buzzer	Outputs open collector
7	LZ	Green LED	
8	LC	Red LED	



If the reader is not equipped with the on duty button or any of siren these elements can be added by connecting according to the drawing. Buzzer BZ should be adapted to voltage. Resistors R should be chosen so that obtain appropriate brightness LEDs (type 1k). Note the polarity of mounted elements.

Relays configuration

PP	Relay contacts power	
PM		
Z1	Gateway1 relay	The LED lights up when the relay's coil is energized.
Y1		
X1		
Z1	Gateway2 relay	
Y1		
X1		

Relay outputs system of controller SK30 is designed to provide control of actuators of various kinds. At each relay is a set of jumpers that configure, additional jumpers are set's power.

Variants of work:

A) Short and open circuit

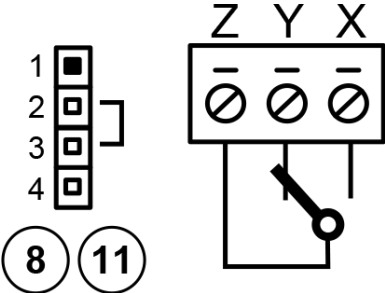
Only 2 and 3 contacts of jumpers (8) (11) is shorted.

The relay contacts are potential free and isolated from the system controller.

X - normally open (NO)

Y - compact with the common when the relay is not energized (NC)

Z - common (COM)



Shorting pin of power configuration (5) PM and PP contacts can used as a duplicate power supply (ZAS and GND).

Application: control gates, turnstiles, detentions.

B) Connection and disconnection controller's voltage

Shorted 1 – 2 and 3-4 contacts of jumper (8) (11). Founded jumpers (5).

The relay reports to the connected device supply voltage controller.

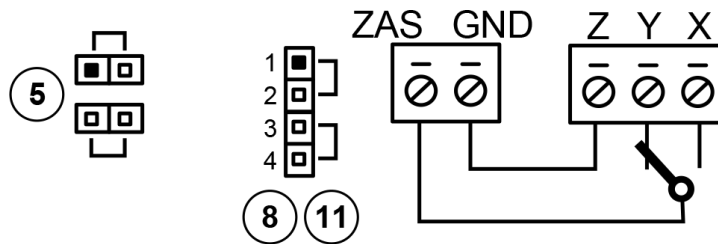
X - normally open (NO)

Y -shorted with ZAS when the relay is not energized (NC)

Z - GND

PP - shorted with ZAS

PM - shorted to GND



Application: Power electric strikes, electromagnetic lock powered by 12V.

C) Connecting and disconnecting external voltage (PP and PM)

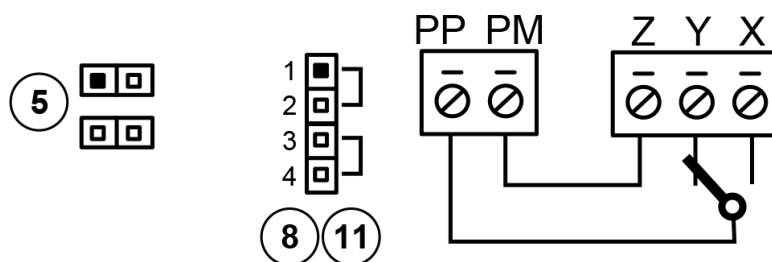
Shorted 1 – 2 and 3-4 contacts of jumpers (8) (11). Open jumpers (5).

The relay reports to the connected device the voltage of the contacts PP PM isolated from the system controller.

X - normally open (NO)

Y - PP closed when the relay is not energized (NC)

Z – PM

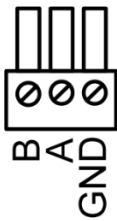


Application: switching voltage powered devices such as 24V.

System bus service

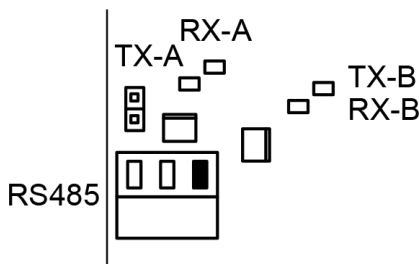
ETH	Ethernet network
RS485	Bus system

SK30 controller has two interfaces for connecting bus system. The Ethernet interface is implemented by incorporating Ethernet↔RS485 converter. RS485 line derived on out through the RS485 interface. Internally to the line is connected the communication processor controller (20). RS485 line can be connected to other system devices such as SK26 / SK30 controllers, SZ10 / SZ25 clocks.



PIN	Description
A	Bus
B	
GND	Ground

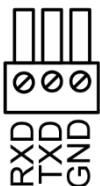
Signaling communication via the system bus (13) is completed by 4 LEDs.



LED	Descriptions
RX-A	Received data by network interface
TX-A	Transmitting data by network interface
RX-B	Received data by controller
TX-B	Transmitting data by controller

Connecting cooperating devices.

RS	An additional serial interface RS
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PIN	Description
RXD	Reception
TXD	Transmission
GND	Ground

RTC clock

When the power is switched off an internal real-time clock works is using a battery (19). Don't remove jumpers next to battery.

Use of

Starting up

After power device initialization (approx. 5s). After this gate pass into the stand. In operation, the LED controller indicating the operation status (20) and (24) flash at a constant frequency. The device is ready for operation.

Default Configuration

When you first start, and after clearing the configuration, the controller works by default:

- configuration of the readers (66 bit Wiegand received, without parity control)
- registration mode - acceptance of all similar identifiers,
- gateway works independently,
- door sensors are set to NO, inactive
- relay opening time 5s,
- button on duty time 5s,
- time to close the door 10s.

Network interface configuration

Device configuration is performed by a built-in website available on port 80.

The default user name and password: admin

The device is enabled by default automatically obtain an IP address from a DHCP server. If this fails, the device adopts as its address 192.168.127.254.

Options to configure the device, found on the following web page tabs. Options indescribable are irrelevant.

Description concerned 1.3 version firmware. In earlier versions, some features are not available, and a description of configuration options may vary slightly.

status

device Model	SK30
Mac address	The current network parameters
address Type	
IP address	
subnet Mask	
default Gateway	
HW version	Version hardware platform
SW version	Firmware Version
local Time	The current time and date
uptime	The time from power on
TCP Status	he state of network connections
UDP Status	
input 3	EC3 state (active = closed)
Output 1, 2	Method of control outputs: the schedule or website.
Control Output 1, 2	Buttons changing the status accordingly OUT1 OUT2

configuration

change your password	Change your administration page
Network Settings	
address Mode	DHCP (default) static magnifiers
IP address	Network parameters set for the statistical mode
subnet Mask	
default Gateway	
Web server port	80 (default)
UDP broadcast	Detection tools used by network devices
broadcast ID	
UDP Broadcast port	

NTP time settings

NTP server [IP]	Time synchronization server address
Time Zone [h]	Time correction with NTP for your current location. The total value of positive and negative. Default: 1.
Summertime	Automatic correction (default) or lack thereof.
Send time to 485 [s]	Tempo sync time display.

TCP, UDP

Call hold time [s]	The time period of connection without data flow.
Mode	A network communications protocol TCP or UDP
TCP Port (SK30)	TCP listening port
UDP Port (SK30)	UDP port listening for connections
UDP, IP Address (Client)	The return address UDP connections
UDP Port (Client)	A return port UDP connections
The buffer time [ms]	The maximum waiting time for the next data from RS485, before transmission buffer.

settings 485

speed	9600 (default)
The number of bits	7 + Parity (default)
Stop bits	1 (default)

Output 1, Output 2

8 entries schedule for each day of the week, with the ability to determine the hours and minutes commencement and the duration of the active state of the corresponding output

Each change must be confirmed Change (with appropriate section) and save restarting the machine's Complete Restart section.

To restore the default settings Network Interface turn off the machine, wait at least 15 seconds, then press the button (14) and re-power the device. Release the button (14) after 10 seconds.

Warranty

The manufacturer guarantees the efficient operation of the device.

The warranty covers hidden defects, revealed during the operation, which make the product is inconsistent with the documentation.

Warranty does not cover defects that arise as a result of normal wear and tear or as a result of improper, inconsistent with the purpose and documentation of the device use.

The manufacturer undertakes to remove defects occurring or replace the product with new ones.

Guarantee is for a period of 24 months from the date of purchase. The basis for warranty service is properly filled, the form below warranty.

The manufacturer provides a full after sales service authorized by a minimum of 5 years from the date of completion guarantees.