iLock control unit – Wiring Manual

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1. Basic information

For proper operation of the iLock control unit, power the device and connect it to your local area network (LAN). Be careful and remember to disconnect the equipment from the power supply when the cables are connecting.

List of connections:

- **GND** - Ground
- **12V** - Power supply 12V (max 2A)
- **I0L** - Input 0 - Low
- **I0H** - Input 0 - High
- **I1L** - Input 1 - Low
- **I1H** - Input 1 - High
- **I2L** - Input 2 - Low
- **I2H** - Input 2 - High
- **I3L** - Input 3 - Low
- **I3H** - Input 3 - High

Relay 1

- **R0** - Output 0
- **R0 NC** - Output normally closed
- **R0 NO** - Output normally open

Relay 2

- **R1** - Output 1
- **R1 NC** - Output normally closed
- **R1 NO** - Output normally open

Relay 3

- **R2** - Output 2
- **R2 NC** - Output normally closed
- **R2 NO** - Output normally open

Relay 4

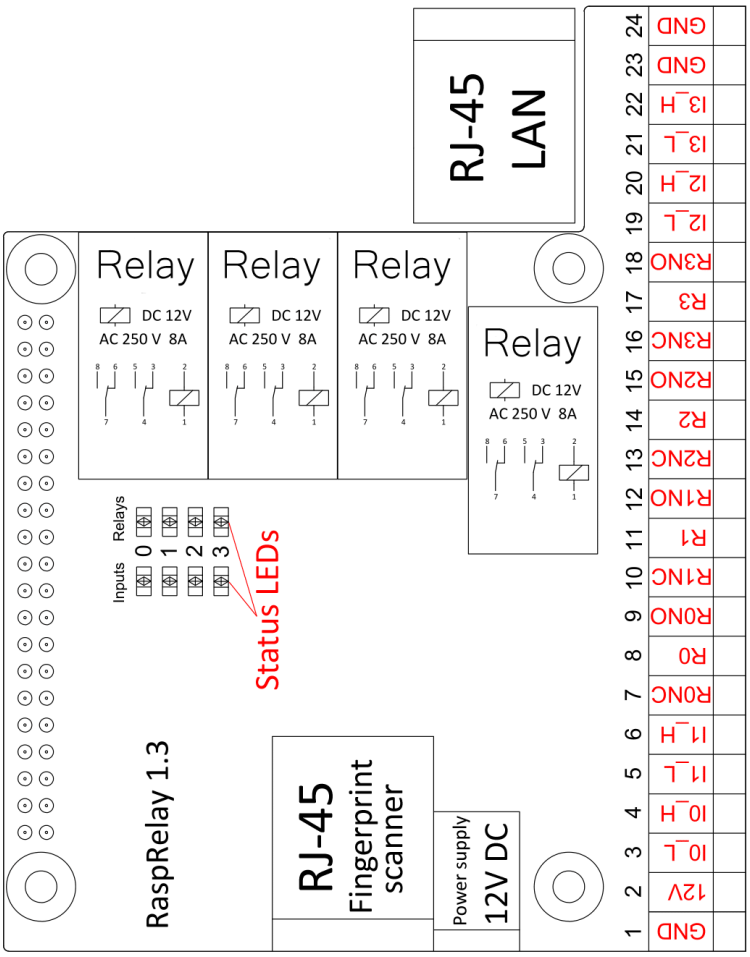
- **R3** - Output 3
- **R3 NC** - Output normally closed
- **R3 NO** - Output normally open

A description, list of connections and their location on the board can be found in **Scheme 01** of the technical documentation.

1.1. Scheme 01

Pin list:

GND - Ground
12V - Power supply 12V (max 2A)
I0L - Input 0 - Low
I0H - Input 0 - High
I1L - Input 1 - Low
I1H - Input 1 - High
I2L - Input 2 - Low
I2H - Input 2 - High
I3L - Input 3 - Low
I3H - Input 3 - High
Relay 1
R0 - Output 0
R0 NC - Output normally closed
R0 NO - Output normally open
Relay 2
R1 - Output 1
R1 NC - Output normally closed
R1 NO - Output normally open
Relay 3
R2 - Output 2
R2 NC - Output normally closed
R2 NO - Output normally open
Relay 4
R3 - Output 3
R3 NC - Output normally closed
R3 NO - Output normally open



2. Fingerprint scanner connection.

All wiring should be connected according to the diagram shown on **Scheme 02** or **Scheme 03** of the technical documentation.

The connection of the system must be carried out by a person with appropriate electrical knowledge. Check the quality and correctness of the connections before the first use.

Be careful and remember to disconnect the equipment from the power supply when the cables are connecting.

The **Fig. 1** shows the description of the RJ45 T-568B plug. The plug is placed in the corresponding slot on the iLock control unit.

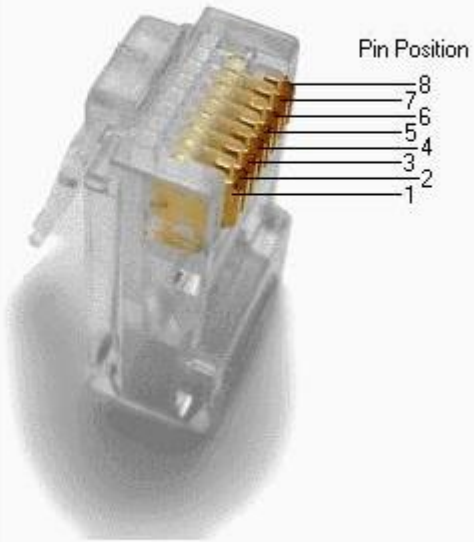
Pin	T568B Color	Pins on plug face (socket is reversed)
1	white/orange stripe	
2	orange solid	
3	white/green stripe	
4	blue solid	
5	white/blue stripe	
6	green solid	
7	white/brown stripe	
8	brown solid	

Fig. 1 Rj45 plug with T-568B connection standard.

Please see how to connect the control unit to the fingerprint reader. **Table 1** contains the complete assignment of 4 wires used to connect the power supply and the communication bus between the fingerprint reader and iLock.

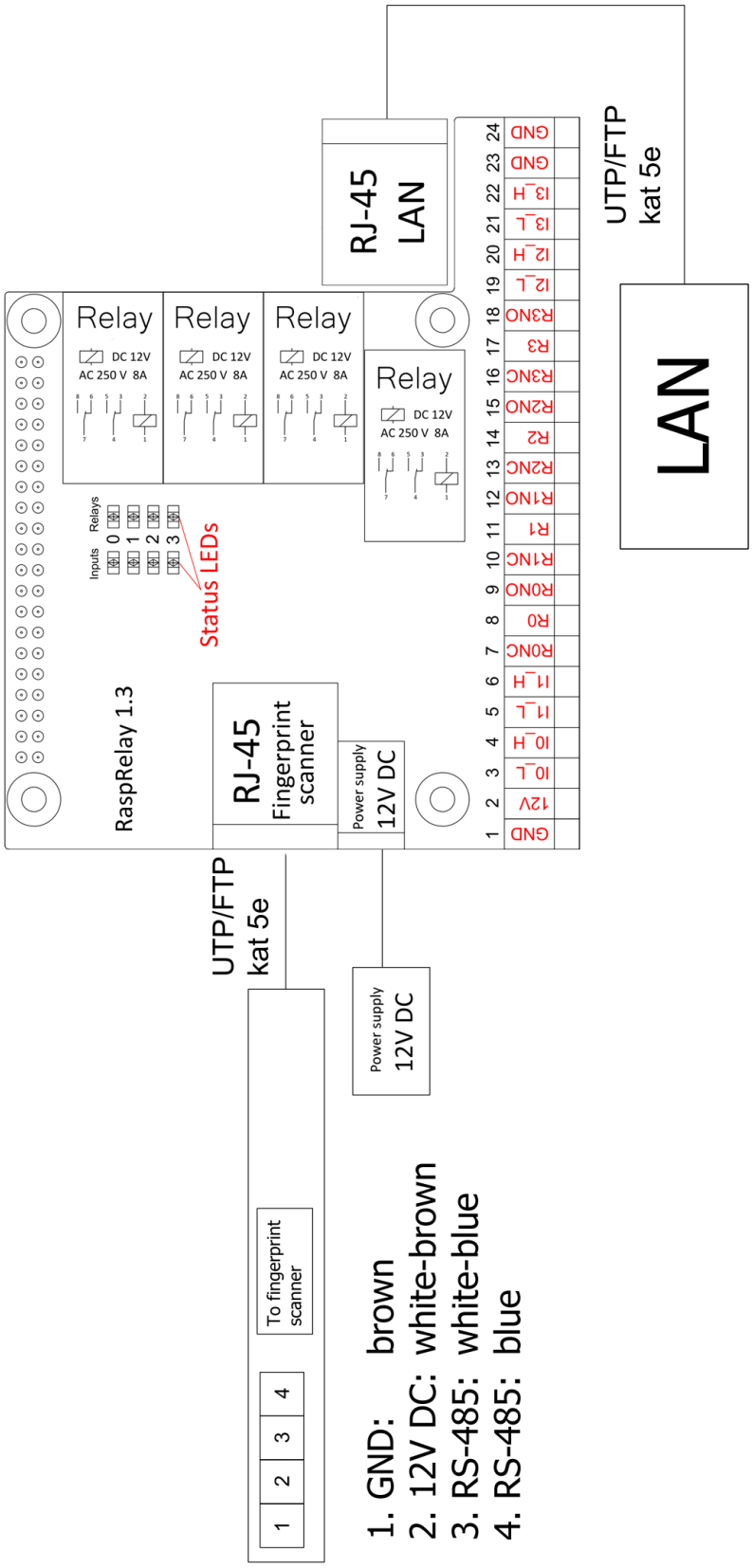
	Numbering on the terminal block (Fingerprint scanner)	Colour of the cord	Numbering on the terminal block (control unit) – DESCRIPTION ABOVE
UTP/FTP to fingerprint scanner	4	Blue	4
	3	White-blue	5
	2	White-brown	7
	1	Brown	8

Table 1 Connection of the fingerprint scanner.

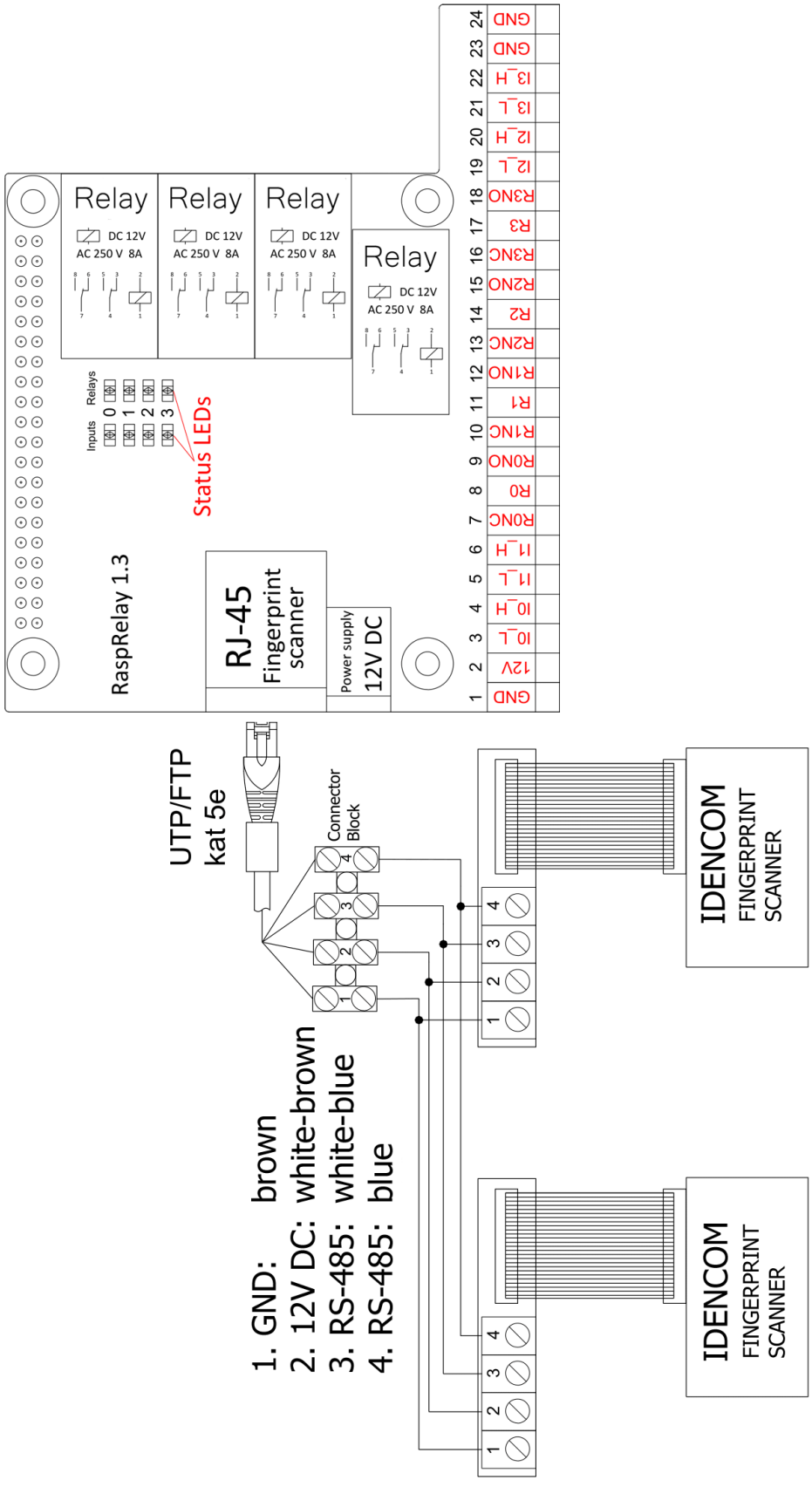
Connection of the basic components can be found in **Scheme 02** of the technical documentation.

Connect the UTP/FTP Cat 5e cable from the fingerprint reader to the appropriate RJ-45 socket. Connect readers according to schematic: **Scheme 02**. If more than one reader is used, use an additional connector block (see **Scheme 03**).

2.1. Scheme 02


RJ-45
LAN
UTP/FTP
kat 5e
LAN
Relay
DC 12V
AC 250 V 8A
Relay
DC 12V
AC 250 V 8A
Relay
DC 12V
AC 250 V 8A
Relay
DC 12V
AC 250 V 8A
Inputs
Relays
0
1
2
3
Status LEDs
RaspRelay 1.3
RJ-45
Fingerprint
scanner
Power supply
12V DC
GND
GND
I3_H
I3_L
I2_H
I2_L
R3NO
R3
R3NC
R2NO
R2
R2NC
R1NO
R1
R1NC
R0NO
R0
R0NC
I1_H
I1_L
I0_H
I0_L
12V
GND
1 2 3 4
To fingerprint
scanner
UTP/FTP
kat 5e
Power supply
12V DC
1. GND: brown
2. 12V DC: white-brown
3. RS-485: white-blue
4. RS-485: blue

2.2. Scheme 03


Relay
DC 12V
AC 250 V 8A
Relay
DC 12V
AC 250 V 8A
Relay
DC 12V
AC 250 V 8A
Relay
DC 12V
AC 250 V 8A
Inputs
Relays
0
1
2
3
Status LEDs
RaspRelay 1.3
RJ-45
Fingerprint
scanner
Power supply
12V DC
GND
GND
I3_H
I3_L
I2_H
I2_L
R3NO
R3
R3NC
R2NO
R2
R2NC
R1NO
R1
R1NC
R0NO
R0
R0NC
I1_H
I1_L
I0_H
I0_L
12V
GND
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
UTP/FTP
kat 5e
Connector
Block
1. GND: brown
2. 12V DC: white-brown
3. RS-485: white-blue
4. RS-485: blue
IDENCOM
FINGERPRINT
SCANNER
IDENCOM
FINGERPRINT
SCANNER

3. Connection of electric strike with door status microswitch.

All wiring should be connected according to the diagram shown on **Scheme 04** of the technical documentation.

The connection of the system must be carried out by a person with appropriate electrical knowledge. Check the quality and correctness of the connections before the first use.

Be careful and remember to disconnect the equipment from the power supply when the cables are connecting.

Connection of the electric strike with external power supply:

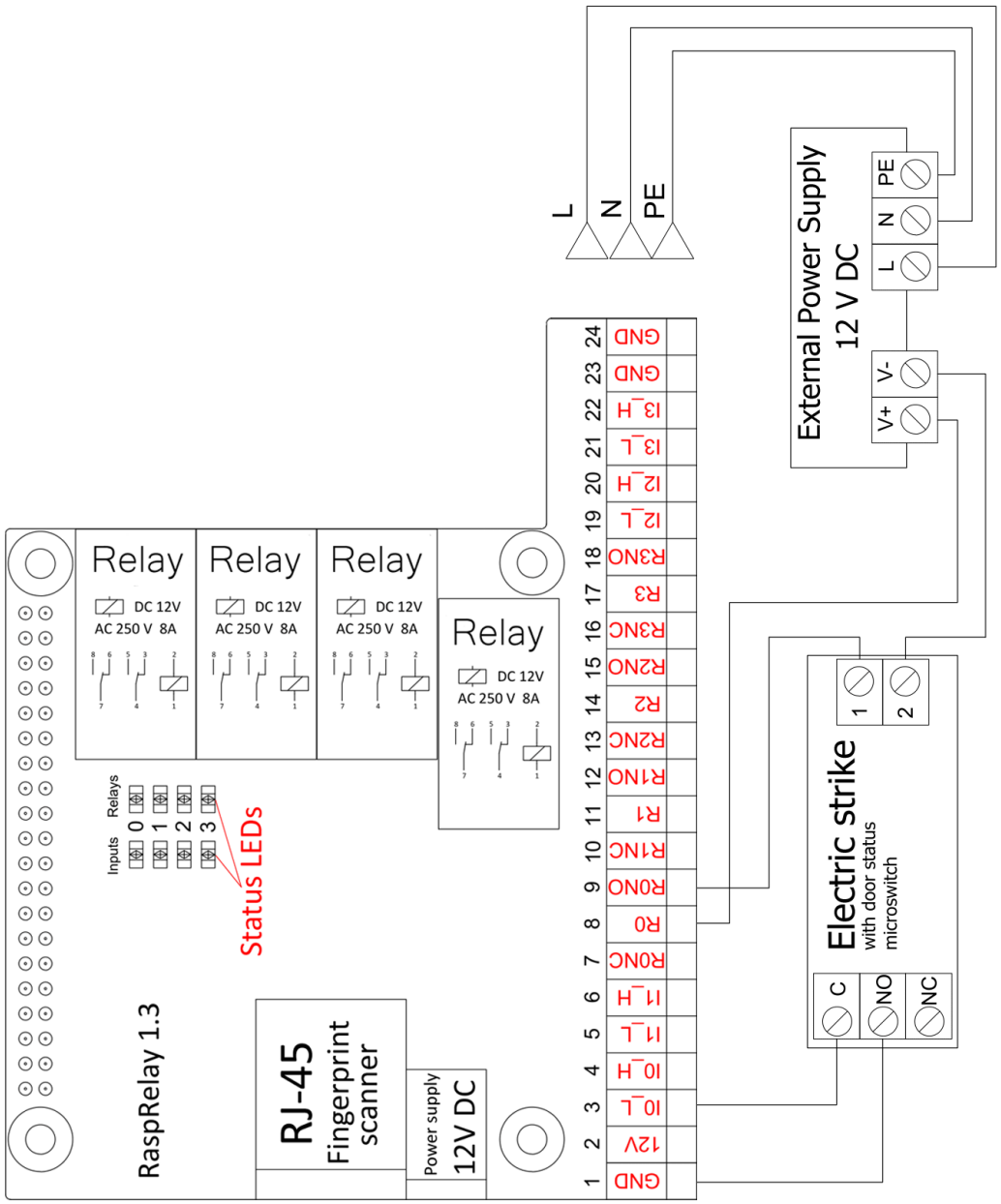
Positive output of the external power supply (**V+**) should be connected to one of the unused relay inputs: **R0**, **R1**, **R2** or **R3**.

Connect the corresponding input: **R0NO**, **R1NO**, **R2NO** or **R3NO** (Depending on the selected relay, for example, when **V+** is connected to the input **R0**, select **R0NO**) to one of the double connector jacks of electric strike. Negative output **V-** of the external power supply connects directly to the second connector jack on the electric strike.

Door status microswitch (triple connector jack on the electric strike) should be connected to the appropriate input on the iLock control unit, i.e. if electric strike is connected to the **R0** and **R0NO** then output **C** of the microswitch should be connected to **IOL** input. Connect the **NO** output to the **GND** from the control unit (any output can be used).

Once all components have been correctly connected, connect the iLock to the LAN and the appropriate power supply (also to the power supply of the electric strike).

3.1. Scheme 04


L
N
PE
External Power Supply
12 V DC
PE
N
L
V-
V+
Relay
DC 12V
AC 250 V 8A
Relay
DC 12V
AC 250 V 8A
Relay
DC 12V
AC 250 V 8A
Relay
DC 12V
AC 250 V 8A
Inputs
Relays
0
1
2
3
Status LEDs
RaspRelay 1.3
RJ-45
Fingerprint
scanner
Power supply
12V DC
GND
GND
I3_H
I3_L
I2_H
I2_L
R3NO
R3
R3NC
R2NO
R2
R2NC
R1NO
R1
R1NC
R0NO
R0
R0NC
I1_H
I1_L
I0_H
I0_L
12V
GND
1
2
Electric strike
with door status
microswitch
C
NO
NC

4. Connection of Somfy Inteo RTS

All wiring should be connected according to the diagram shown on **Scheme 05** of the technical documentation.

The Scheme shows the connection of the Somfy Inteo RTS device only, connection diagrams of readers or other components are presented in other chapters.

The connection of the system must be carried out by a person with appropriate electrical knowledge. Check the quality and correctness of the connections before the first use.

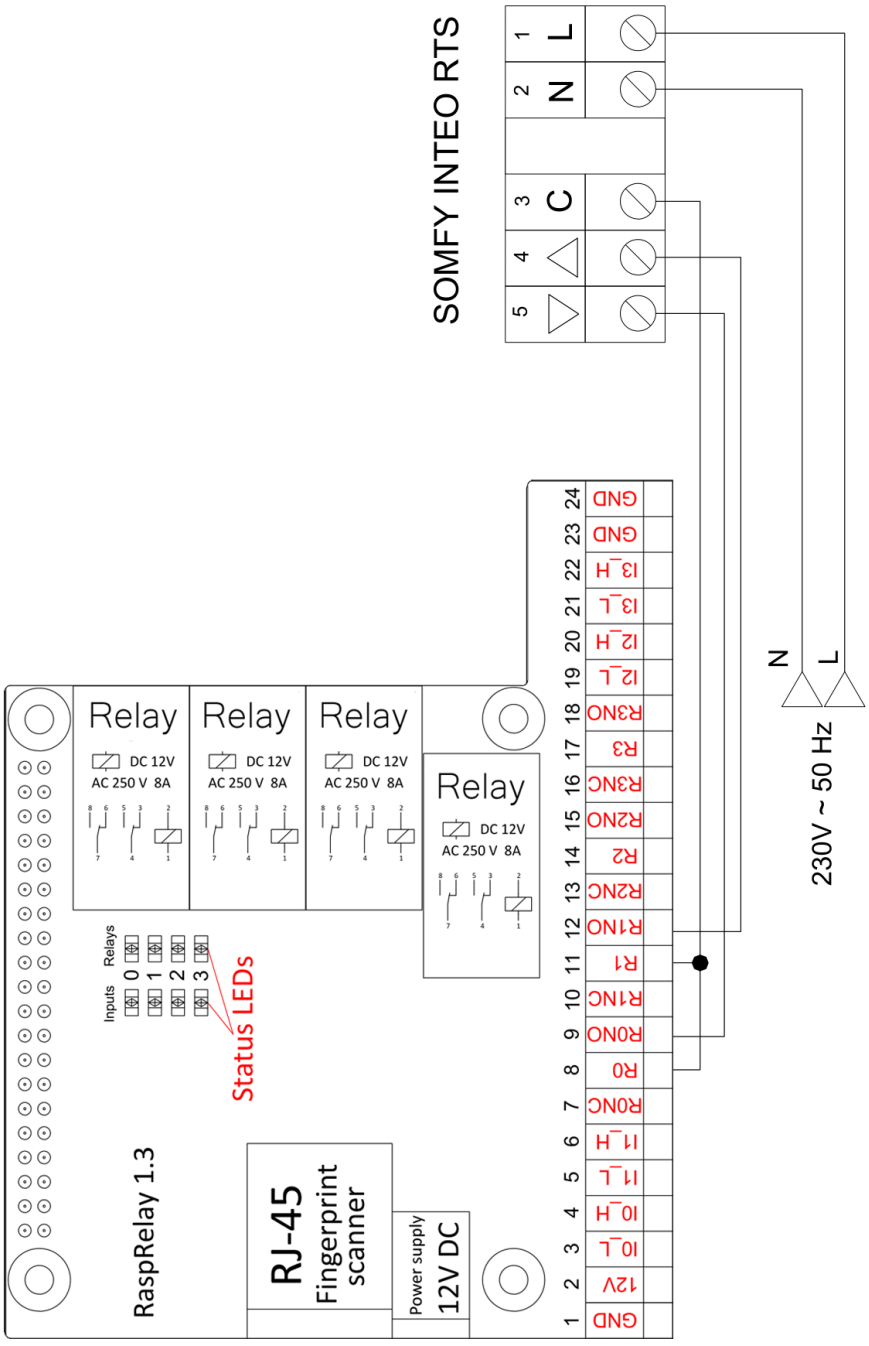
Be careful and remember to disconnect the equipment from the power supply when the cables are connecting.

Connect Somfy Inteo RTS connectors to selected unused relay outputs of iLock. Output **C** (connector number **3**) should be connected to the common inputs on the control unit e.g. **R0** i **R1**. Connectors **5** (**down arrow**) and **4** (**up arrow**), should be connected to the corresponding normally open inputs of selected relays.

For example if output **C** (connector number **3**) of the Somfy Inteo RTS device is connected to the **R0** and **R1**, the **5** connector (**down arrow**) should be connected to the **R0NO** and connector **4** (**arrow up**) analogically to **R1NO**.

Once all components have been correctly connected, connect the iLock to the LAN and the appropriate power supply (also to the Somfy device, N – neutral, L - phase).

4.1. Scheme 05


SOMFY INTEO RTS
1 L
2 N
3 C
4
5
N
L
230V ~ 50 Hz
Relay
DC 12V
AC 250 V 8A
Relay
DC 12V
AC 250 V 8A
Relay
DC 12V
AC 250 V 8A
Relay
DC 12V
AC 250 V 8A
Inputs
Relays
0 1 2 3
Status LEDs
RaspRelay 1.3
RJ-45
Fingerprint scanner
Power supply
12V DC
1 GND
2 12V
3 I0_L
4 I0_H
5 I1_L
6 I1_H
7 R0NC
8 R0
9 R0NO
10 R1NC
11 R1
12 R1NO
13 R2NC
14 R2
15 R2NO
16 R3NC
17 R3
18 R3NO
19 I2_L
20 I2_H
21 I3_L
22 I3_H
23 GND
24 GND

5. Connection of EAV 3 Winkhaus lock and reel switch

All wiring should be connected according to the diagram shown on **Scheme 06** of the technical documentation.

The Scheme shows the connection of EAV 3 Winkhaus lock and reel switch only, connection diagrams of readers or other components are presented in other chapters.

The connection of the system must be carried out by a person with appropriate electrical knowledge. Check the quality and correctness of the connections before the first use.

Be careful and remember to disconnect the equipment from the power supply when the cables are connecting.

a) Connection of EAV 3 Winkhaus lock

The wires from the EAV 3 Winkhaus plug must be connected to the iLock control unit.

Socket	Wire colour
1	White
2	Brown
3	Green
Not used	Yellow
Not used	Grey
Not used	Pink

Table 2 *Assignment of connections on the connecting block*

From the connecting block (according to **Table 2**) wire number **1** (**white**) should be connected to the selected unused relay outputs of iLock (e.g. **R1**), analogically the **green** wire (number **3**) from connecting block should be connected to normally open relay output (According to the example above: **R1NO**).

Remember, to be sure that the EAV 3 Winkhaus lock is working properly the compatible power supply is required.

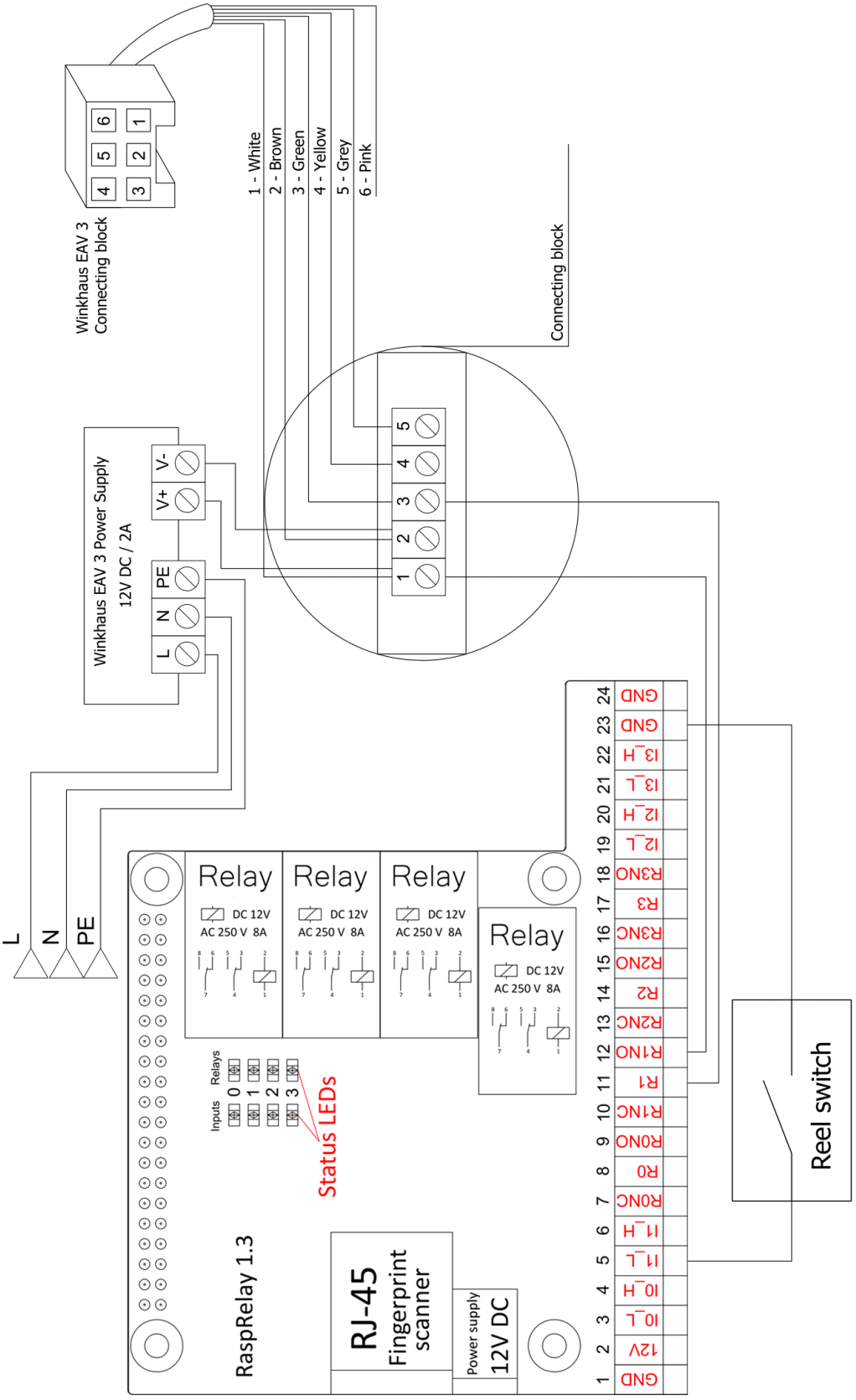
Positive output of the power supply **V+** should be connected to the **1** socket on the connecting block, negative output of the power supply **V-** should be connected to the socket number **2** on the connecting block also.

b) Connection of the reel switch for door status

One of the wires from the reel switch should be connected to the **GND** output on the iLock control unit (any output can be used). Second wire should be connected to the input (activated with low signal) which number is corresponding to number of the relay used for the lock. So if the lock if the lock is connected to the relay number **1** (**R1**) the second reel switch wire should be connected to **I1L** input on iLock control unit.

Once all components have been correctly connected, connect the iLock to the LAN and the appropriate power supply (also for the lock).

5.1. Scheme 06


Winkhaus EAV 3
Connecting block
1 - White
2 - Brown
3 - Green
4 - Yellow
5 - Grey
6 - Pink
Connecting block
Winkhaus EAV 3 Power Supply
12V DC / 2A
V-
V+
PE
N
L
L
N
PE
Relay
DC 12V
AC 250 V 8A
Relay
DC 12V
AC 250 V 8A
Relay
DC 12V
AC 250 V 8A
Relay
DC 12V
AC 250 V 8A
Inputs
Relays
0
1
2
3
Status LEDs
RaspRelay 1.3
RJ-45
Fingerprint
scanner
Power supply
12V DC
GND
GND
I3_H
I3_L
I2_H
I2_L
R3NO
R3
R3NC
R2NO
R2
R2NC
R1NO
R1
R1NC
R0NO
R0
R0NC
I1_H
I1_L
I0_H
I0_L
12V
GND
Reel switch

6. Connection of Portos SIR Controller

All wiring should be connected according to the diagram shown on **Scheme 07A** or **Scheme 07B** of the technical documentation.

The Scheme shows the connection of Portos SIR Controller only, connection diagrams of readers or other components are presented in other chapters.

The connection of the system must be carried out by a person with appropriate electrical knowledge. Check the quality and correctness of the connections before the first use.

Be careful and remember to disconnect the equipment from the power supply when the cables are connecting.

a) Controlling one Portos SIR.

This connection method is shown in **Scheme 07A** of the technical documentation.

To connect one controller to the iLock, the triple connector jack on the Portos SIR will be used. Connectors are described by **up arrow**, letter **P** and **down arrow**. Output **P** (middle one) should be connected to should be connected to two of the unused relay inputs e.g. **R0** and **R1**.

Outputs which are described by arrows should be connected to normally open relay inputs corresponding to the selected before (used for **P**). For example: connector described by **up arrow** should be connected to **R0NO** and **down arrow** to **R1NO.**

For connection of the motor and power supply - please refer to the Portos SIR documentation. Once all components have been correctly connected, connect the iLock to the LAN *a*nd the appropriate power supply.

b) Group control

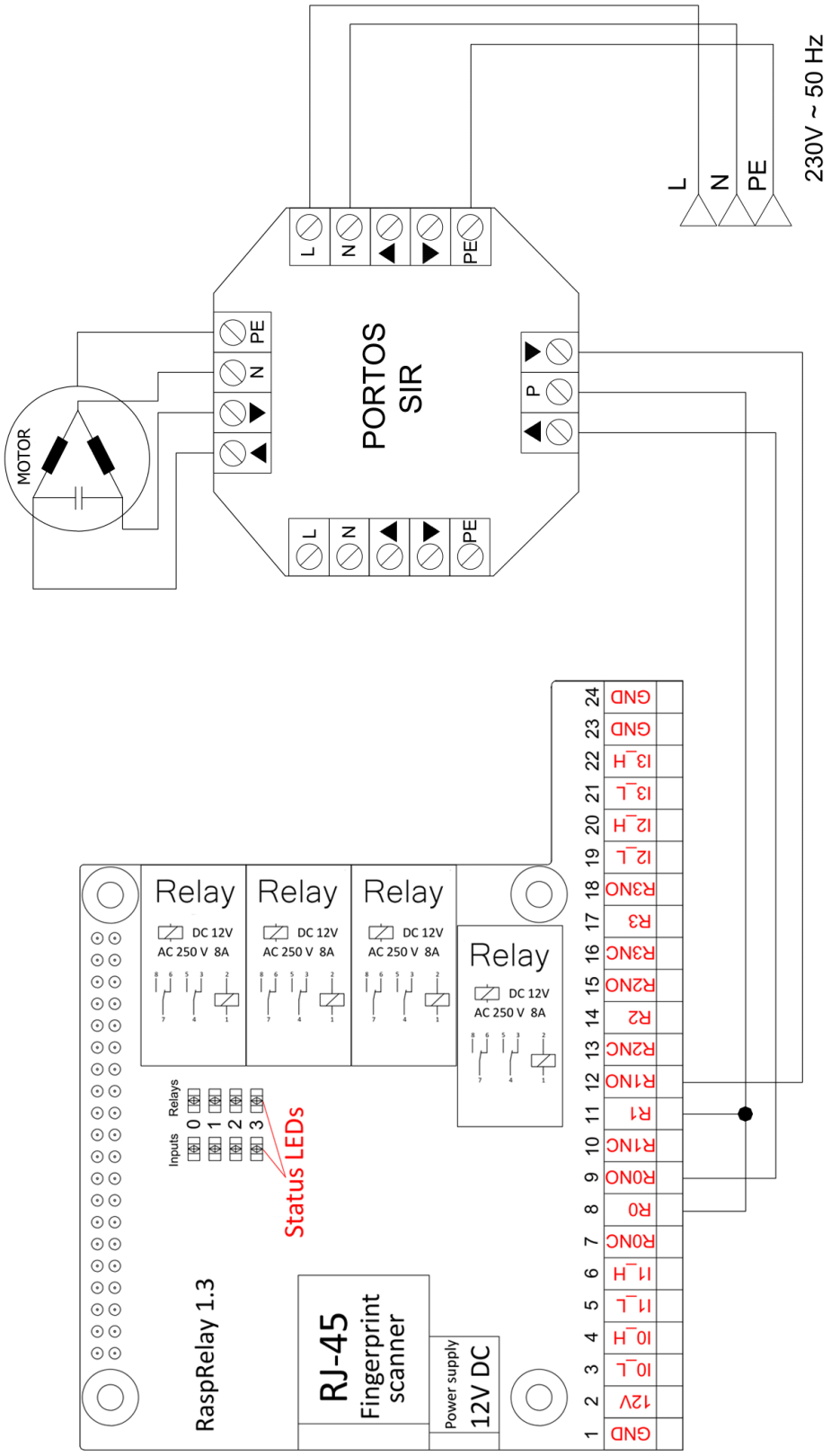
This connection method is shown in **Scheme 07B** of the technical documentation.

To connect one controller to the iLock, the fivefold connector jack (on the left side of the device) on the Portos SIR will be used. Connectors are described by letters: **PE**, **L**, **N** and shapes: **up arrow**, **down arrow**. Output **L** should be connected to should be connected to two of the unused relay inputs e.g. **R0** and **R1**

Outputs which are described by arrows should be connected to normally open relay inputs corresponding to the selected before (used for **L**). For example: connector described by **up arrow** should be connected to **R0NO** and **down arrow** to **R1NO.**

For connection of the motor and power supply - please refer to the Portos SIR documentation. Once all components have been correctly connected, connect the iLock to the LAN *a*nd the appropriate power supply.

6.1. Scheme 07A



6.2. Scheme 07B