

**AUTAP Installation manual (V2.1 12.11.2020.)**

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## 1. General remarks

AUTAP is a automation system specifically intended for application in hospitality sector. AUTAP provides functionality in the field of access control, energy management and security.

This manual is intended to allow for efficient planing and installation of AUTAP components into functional system.

This Manual is not intended to assist in system planing. There is a separate document (AUTAP System Planing) used for such purpose. It is assumed that configuration of AUTAP system is already defined and if any uncertainties arise, or clarification are needed, such issues should be resolved prior the installation work begins. If necessary please contact AUTAP resale partner or MAJUR company directly for assistance ( [planing@autap.eu](mailto:planing@autap.eu) ).

While different sections will have specific remarks, following information is relevant to all installation work and should be observed and followed carefully.

**All installation work should be provided by certified electrician and shall satisfy the local codes and norms**



The AUTAP devices are classified as waste electronic equipment in terms of the European Directive 2002/96/EC (WEEE) and should not be disposed of as unsorted municipal waste. The relevant national legal rules are to be adhered to. Regarding disposal, use the systems set up for collecting electronic waste. Observe all local and applicable laws.



All AC 230 V supply cables should be fixed and/or made inaccessible to end user.

## 2. Installation planing

If installer has experience with AUTAP devices installation, than he may organise for order of devices installed freely, but if not sufficient experience exists, it is highly advised to start with controller installation (see section 3.) before other devices are installed. By installing the controller, internal software for configuration and testing can be used to diagnose most issues that can arise while installing other AUTAP devices.

As a modern control system, AUTAP does not need any special tools for configuration and basic testing. To access the software tools embedded inside the system a device like mobile smart phone, tablet or PC/Laptop can be used. While smart phone may be convenient to make checks and change some parameter after installation, tablet or Laptop will provide more comfort in commissioning, testing and configuring, specially for more complex systems.

When planing installation, positions of all devices should be defined prior commencement of installation work. This is particularly true if wired devices are involved, a little less if wireless devices are foreseen.

When planing for position of different devices following criteria should be observed:

- compliance with safety norms and codes
- enabling of full device functionality (see the particular sections)
- assessability by user
- avoiding exposure to heat, direct AC air stream, etc
- devices should not obstruct movement inside room/apartment or make probable impact of persons or objects carried by persons (luggage) with installed devices

While most of the functionality of installed devices can be checked in local mode (i.e. without Internet connected controllers), it is good practice to use the installation process to connect the controllers to Internet so they are accessible from cloud based applications.

### 3. Installation of controllers

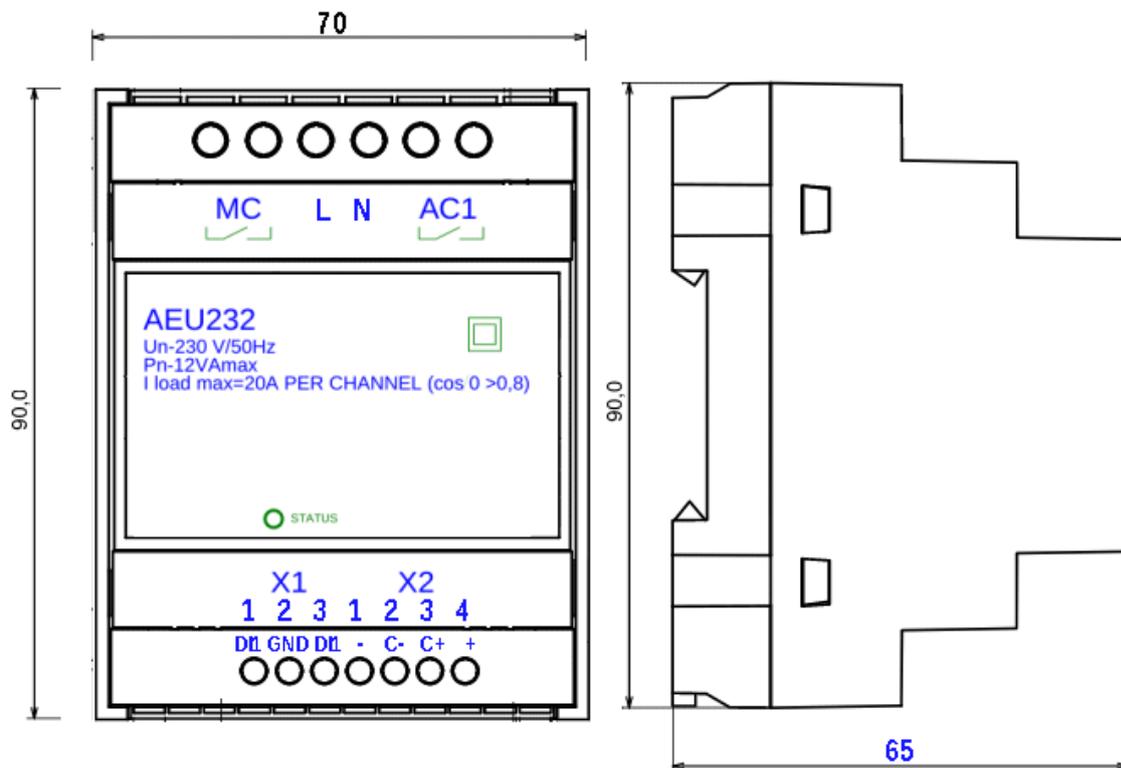
#### 3.1 Controller types

AUTAP system has several controllers that take central tasks when automating a room or apartment:

- AEU232 room controller is a most powerful unit and has support for all type of room entrance and/or presence control. It supports wired and wireless sensors. It can be supplemented with AEU233 extensions to control up to 5 AC groups
- AEU232B is variant of AEU232 controller without support for wireless sensors
- AEU243 AUTAP Solo controller is a simple controller designed to optimally control energy consumption of AC units.

#### 3.2 AEU232 & AEU232B controller

This controllers are installed on DIN rail (EN50022-35 x 7.5) inside electric distribution box or other electric enclosure. The dimensions (in mm) and connections are shown on following picture:



The wiring of AEU232 and AEU232B unit is shown on several examples in section 10.1. After the unit is wired and powered on a status LED should blink, indicating the unit is in AP WiFi mode. That means the unit has initiated WiFi access point ready to accept clients to connect to it.

With each unit a sticker with serial number and PIN is delivered (usually attached on the top plate in a way that it can be easily removed from the unit). Please take care not to loose this sticker (or write the data down), since the PIN indicated on it is essential to configure and control the unit.

If you open the WiFi connection setup of your mobile device (smart phone, tablet laptop), you should see the WIFI station with SSID like **AutAPxxxx** where xxxx is a serial number from above mentioned sticker. Connect to this station with password: **autap.eu** . If the device you are connecting with generates warning that no Internet connection is provided by this

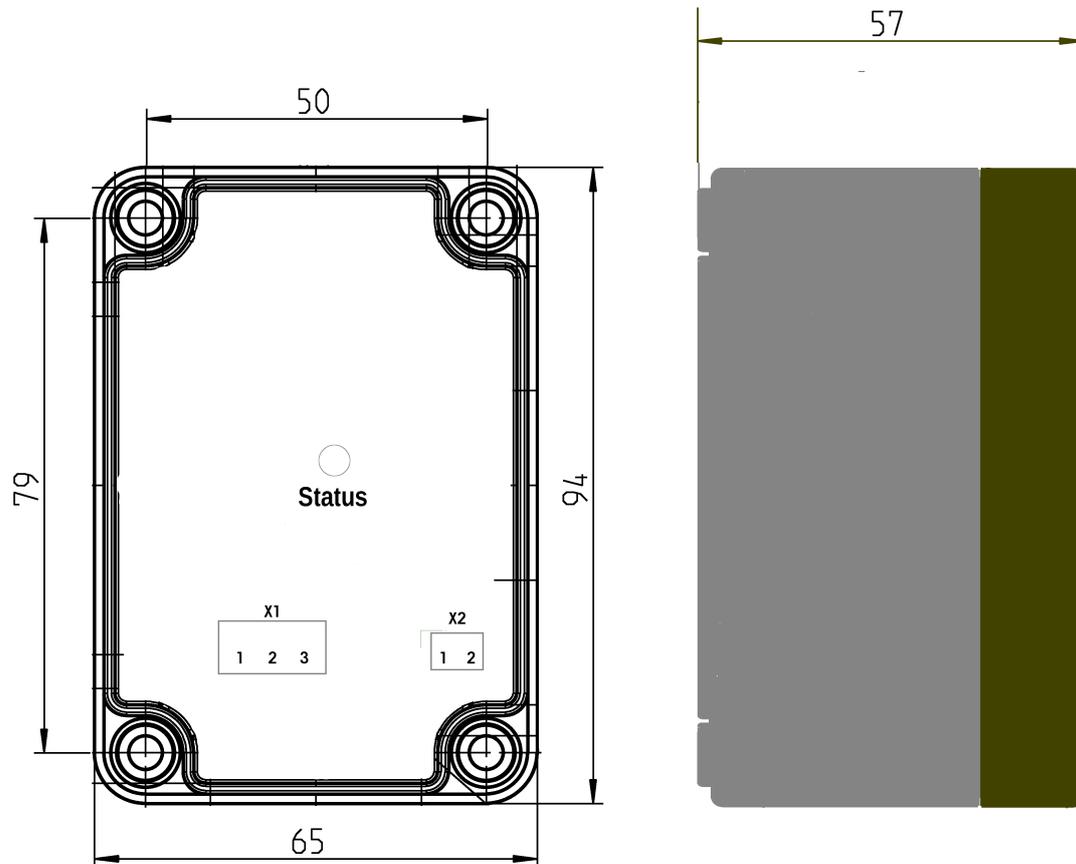
station, this is no problem. After connecting to controllers internal WiFi access point, open the web browser and type following address into it: **10.0.0.10**

A log in page should appear allowing you to use the PIN from the sticker to log into configuration application. The use of the configuration application is mostly self explanatory but detailed instructions can be found at: <http://autap.eu/docs/>

The configuration application will be useful in testing of other AUTAP units connected to AEU232(B) controller. Also it can be used to connect the unit to Internet, however, once connected to Internet it will not be possible to access it as WiFi access point. To access the unit, one should log in to <https://user.autap.eu> , add the device to his account and then a full control of the device is possible through anywhere where there is Internet access.

### 3.3 Installation of AEU243 AUTAP Solo controller

The controller is installed either on wall or in electrical enclosure. The dimensions (in mm) and connections are shown on following picture:



The screws and plugs for wall installations are included with unit. The wiring of AEU243 unit is shown on several examples in section 10.2. After the unit is wired and powered on a status LED should blink, indicating the unit is in AP WiFi mode. That means the unit has initiated WiFi access point ready to accept clients to connect to it.

With each unit a sticker with serial number and PIN is delivered (usually attached on the top plate in a way that it can be easily removed from the unit). Please take care not to loose this sticker (or write the data down), since the PIN indicated on it is essential to configure and control the unit.

If you open the WiFi connection setup of your mobile device (smart phone, tablet laptop), you should see the WIFI station with SSID like **AutAPxxxx** where xxxx is a serial number from above mentioned sticker. Connect to this station with password: **autap.eu** . If the device you are connecting with generates warning that no Internet connection is provided by this station, this is no problem. After connecting to controllers internal WiFi access point, open the web browser and type following address into it: **10.0.0.10**

A log in page should appear allowing you to use the PIN from the sticker to log into configuration application. The use of the configuration application is mostly self explanatory but detailed instructions can be found at: <http://autap.eu/docs/>

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#### 4. Installation of RFID set



The RFID set AEU242 consists of two units. Card holder and card reader. The card holder is mounted inside room/apartment as close to entrance door as possible. The holder should be mounted at 110-140 cm from fore level, and reader should be mounted at 80..120 cm level.

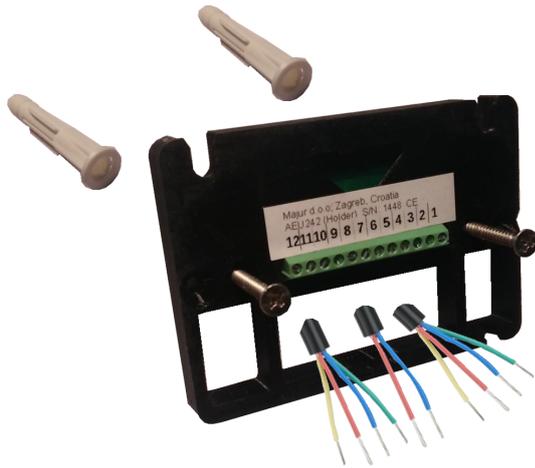


There are three basic ways of mounting those units. One is to use a 3 module installation box (Vimar, Legrand, etc.).

The fixing of unit can be done with supplied screws.



Another possibility is to use 60mm wall box like shown on the left. Please note that not all models of 60mm boxes have appropriate holes required for mounting.

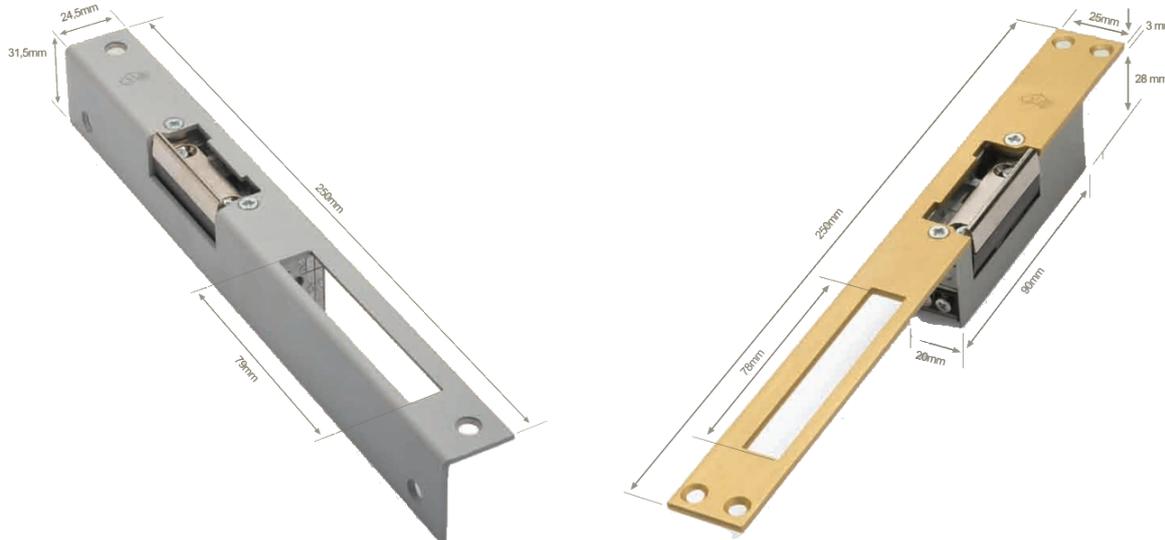


The units can be mounted directly on the wall with supplied screw plugs.

Once mounted the units are installed as per wiring diagram in section 10.1. The suitable cables for wiring connection to AEU232 controller is 4 wire control stranded wire cable with cross section of 0.2 (cable length < 3m) to 0.5 mm<sup>2</sup>(cable length 3-8m). The same cable can be used to connect card reader to card holder. The maximal length for this connection is 2 meters, and cross section of cable is not critical. The wiring of strike should have cross section of 0.5mm<sup>2</sup>.

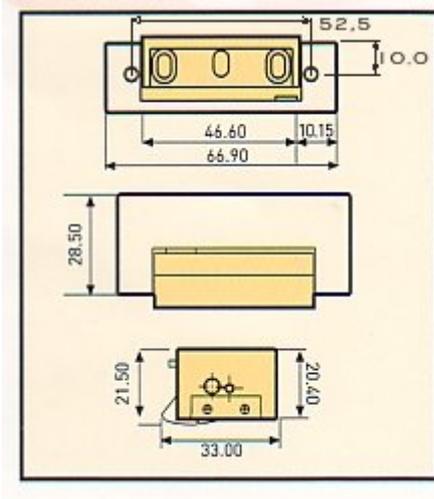
## 5. Installation of electric strike

The installation of electric strike requires a suitable mounting plate. For installation in PVC and Aluminium doors a universal mounting plate can be used (same plate for left and right hand operated doors). For wooden doors different plates for left and right doors have to be obtained.



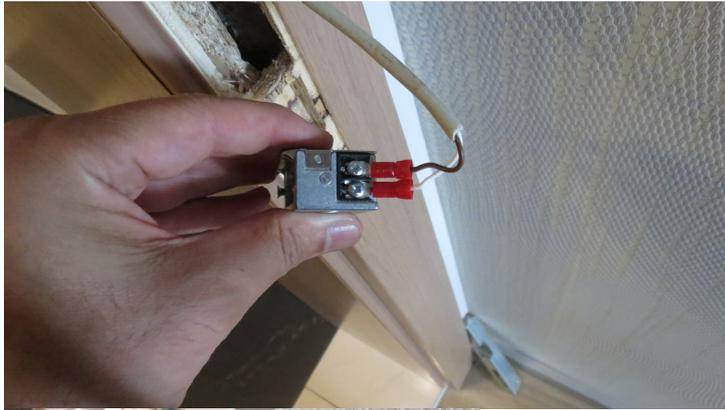
Example of mounting plate for wooden doors and for PVC/Aluminium doors.

Preparing the frame for installation of mounting plate and electrical strike is best made during door production, but can also be made after the door has been installed.



Typical electric strike is shown on pictures above. Note that latch can be adjusted (3mm). Mounting of the strike and adjusting of latch should allow for easy closing of door but also will press the door to frame slightly to provide for sound isolation of the room.

The procedure of strike installation can be summarised as shown on following pictures:



Connect cable to strike. Take care that no short circuit will occur once strike is pushed into opening in door frame. Also be sure that no excess cable is left that will be difficult to push into door frame.



Mount the strike on plate.



Mount the plate on door frame. Be sure not to damage or squeeze gasket.



Adjust latch position in the way that door closure does not require excessive force. If too much force is required to squeeze the gasket, strike will have not enough force to open the door. Also it is not desirable for door to be loose, have play, after closure. This will result in a air gap all around the door, which will greatly diminish sound isolation and will allow for air draft in and out of room.

Before testing operation of strike, be aware that once you closed the door and find yourself outside of the room, you should have alternative way of opening door (key). If latch is to tight and strike can not open the door you have to open it with other means and readjust the latch. Also the wiring errors may prevent latch from opening.

You may approach card reader with valid card even if door is opened. If no door sensor is foreseen and configured, latch should be energised, a slight click should be heard, and you should be able to rotate the latch with your thumb.

If the door is equipped with door opening sensor, and this sensor is already activated in room controller configuration, presenting the card will not energise latch if door is opened. Either short circuit the sensor on card reader or change

temporary configuration to state where no door sensor is foreseen. Once the strike operation is verified, you may reverse above actions.

## **6. Installation of Key fob holder**

Key fob holder is installed similarly as card holder. As close to entrance door inside the room/apartment. The key fob holder can be a wired or wireless unit (AEU240 or AEU236). The wired key fob holder (AEU240) is mounted very similarly as card reader (refer to section 4.). Since wireless unit (AEU236) does not require wiring, plain installation with screw plugs is sufficient.

The wired unit will have a blue light to illuminate key fob pocket. Once the key fob is inserted, the light goes off. The wireless unit does not have this functionality.

## 7. Installation of window sensor

The installation of windows sensor is quite different for wired and wireless sensors. If detection of two frame window has to be achieved, two wired sensors are needed, and probably only one wireless sensor will do the trick. Also installation of wired sensors should be carefully planned before window installation. Installing the wired sensors after the windows are installed may be challenging or result with aesthetical compromises (visible wire ducts). All instructions below can apply for installation of sensors for detection of door opening too.

### 7.1 Installation of wired window sensors

The best way to install the wired window sensor is to do it during window production. This way sensors will be functional, and will be practically not visible. Installation on windows that are delivered without sensors is possible but following has to be observed:

- aesthetical pleasing hidden sensors must be installed before windows are built in
- positioning of sensor is critical, since later repositioning of sensors may be difficult and/or result in visible holes made for first sensor position
- drilling in some windows may void window warranty
- wiring of sensors should be carefully planned before window and sensors are installed



An example of concealed window sensor is shown here. Some suppliers will allow to specify the length of connection wires at the time of ordering, which can make wiring much simpler.

Both parts (contact and magnet) are installed in holes drilled in window. The axis of both parts should align well or functionality of sensors may not be satisfactory.



Typical flush mounted window contact is shown here. Covering caps are used to conceal wiring.

## 7.2 Installation of wireless window sensors

Wireless sensors are mounted either with pre-applied stick tape or with screws. The use of double stick tape is a good solution for windows with smooth surfaces (PVC and Aluminium windows). For wooden frame windows, a screw mounting may be the only option.

Before mounting the sensor, one should examine possible mounting positions.



The active part of wireless window sensor has a light indicator to signal detection of magnet. It should be used to check that anticipated position will produce reliable detection of window opening, but also that there is sufficient space to mount both parts.

Once the positions are determined, remove the backing material from double stick tape and use it to lightly attach one of the units to desired position (slightly press the unit against the window). Repeat it with other part. After parts are attached to window with double

stick tape, check again functionality by observing the signal light on active part. If functionality is satisfactory press the parts more firmly to ensure they won't move during application of screws. Cover both units with covers and apply screws. Plug the holes with plugs to cover screw holes.

## 8. Installation of temperature sensor

The temperature sensor can be wired device (AEU246) and wireless one (AEU249). The positioning of temperature sensor is critical to obtain representative measurement of room temperature. please observe following:

- The sensor mounting height should be between 120 to 170 cm form ground.
- Sensor should not be mounted at position where it will be exposed to hot or cold air streaming form heating or cooling equipment
- Avoid mounting sensor the way it would be exposed to sunshine
- Avoid mounting the sensor at position that can be covered easily (with coat, baggage, etc.)
- Avoid placing the sensor at position that can obstruct moving of persons inside room

The sensor is mounted with two screws and plugs (delivered with sensor). Wired sensor should be connected to room controller according to wiring plan (see Section 10.1).

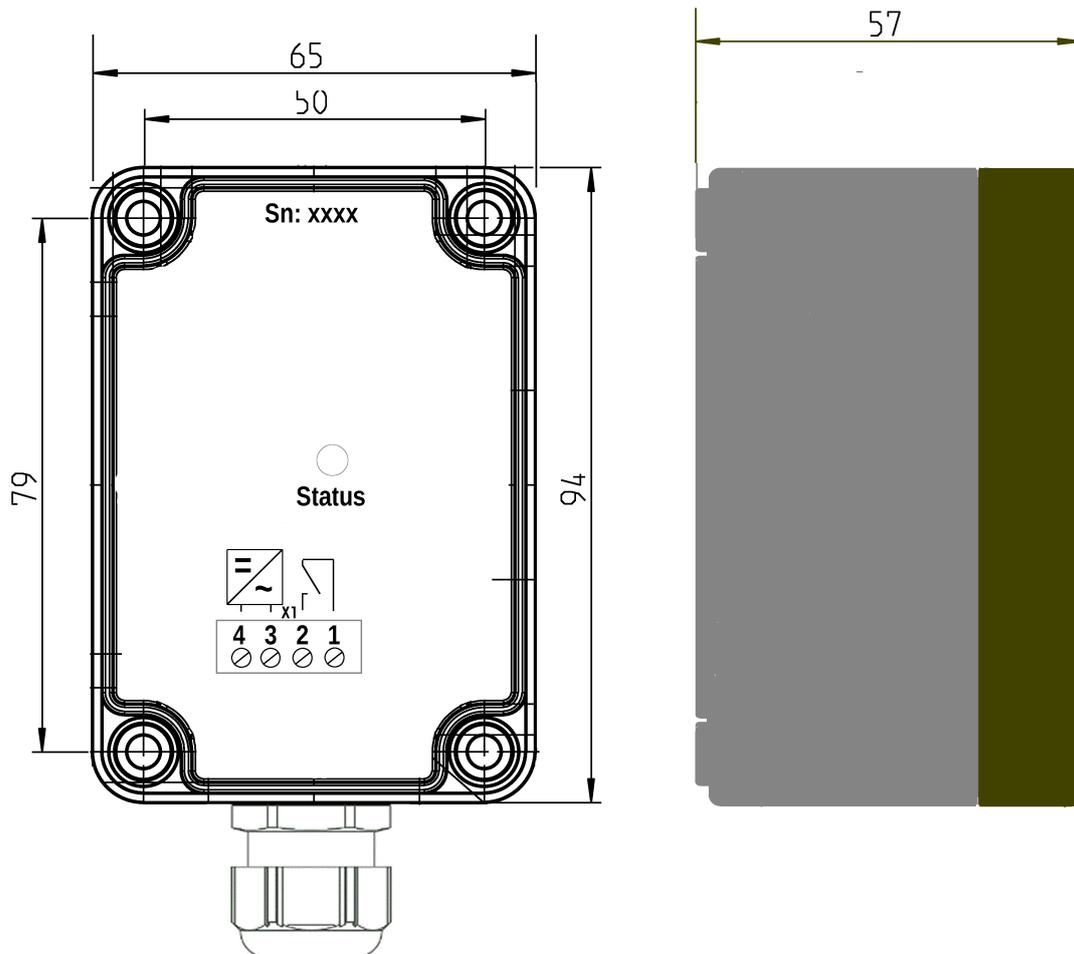
After mounting the base, mount the cover, but keep in mint that air openings are oriented vertically (are on top and bottom side) to allow for good air stream through sensor, and faster response to temperature changes.

## 9. Installation of remote load switch

The wireless load switch AEU241 is mounted as close as possible to load it controls. It is designed to be mounted on wall or inside another box. When mounting on wall use delivered screws and plugs. Please observe the local codes for surface wiring. Often a NYM type cable is required, and longer runs have to be secured.

Avoid installing the unit where directly exposed to hot air of heating device.

A PG9 gland is available for cable entry. A 3 or 4 wire cable is required, depending on wiring circuit selected (section 10.3).



The status light indicates as follows:

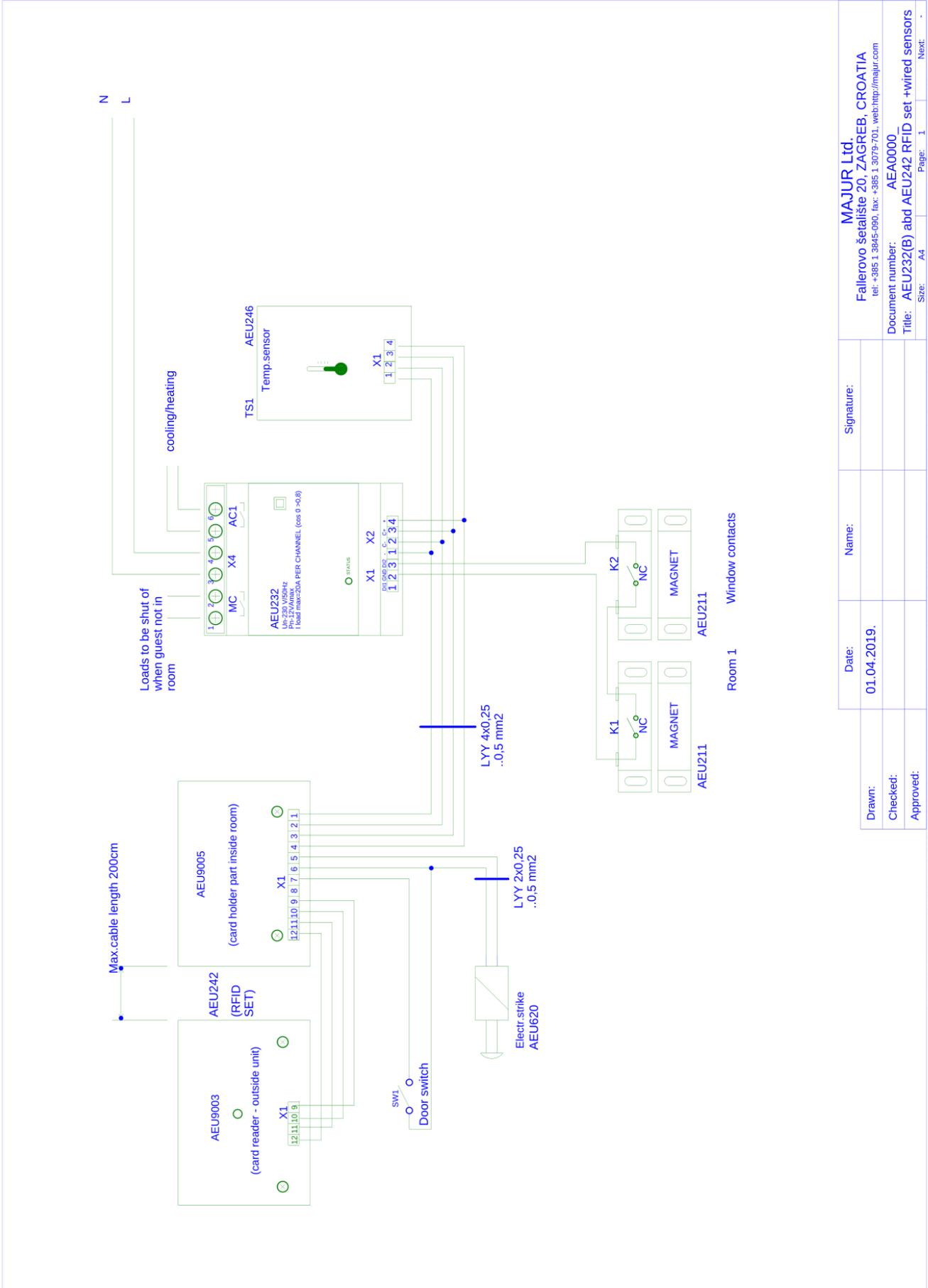
steady light means the relay is activated - this will be also default state when unit is powered on !

intermittent signal means that the unit is operating, but relay is off.

Observe the serial number applied on the top of unit. It will be used when configuring room controller to use the switch.

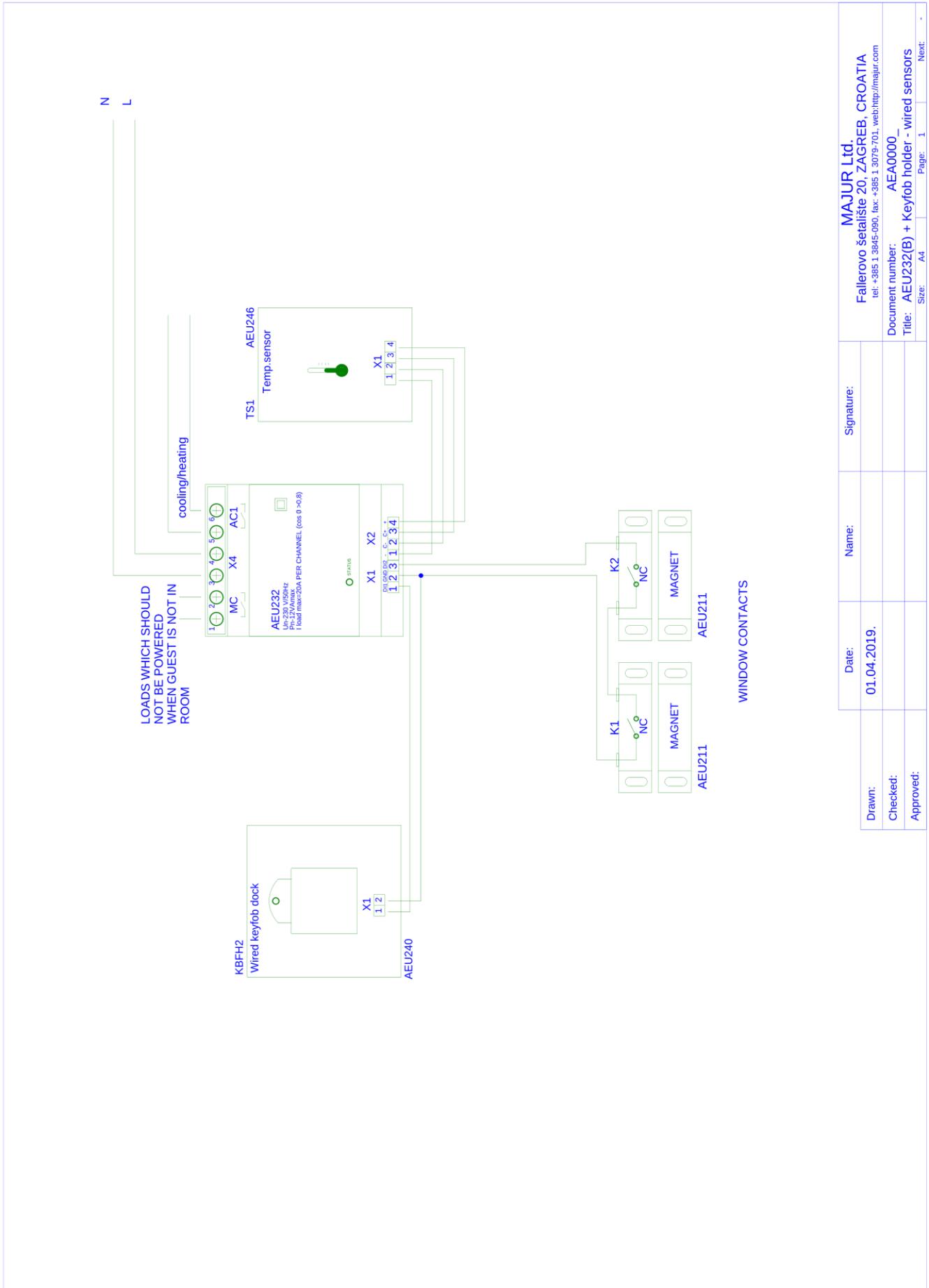
**10. Wiring diagrams**

## 10.1 Wiring diagrams for AEU232 and AEU232B room controllers and AEU242 RFID set



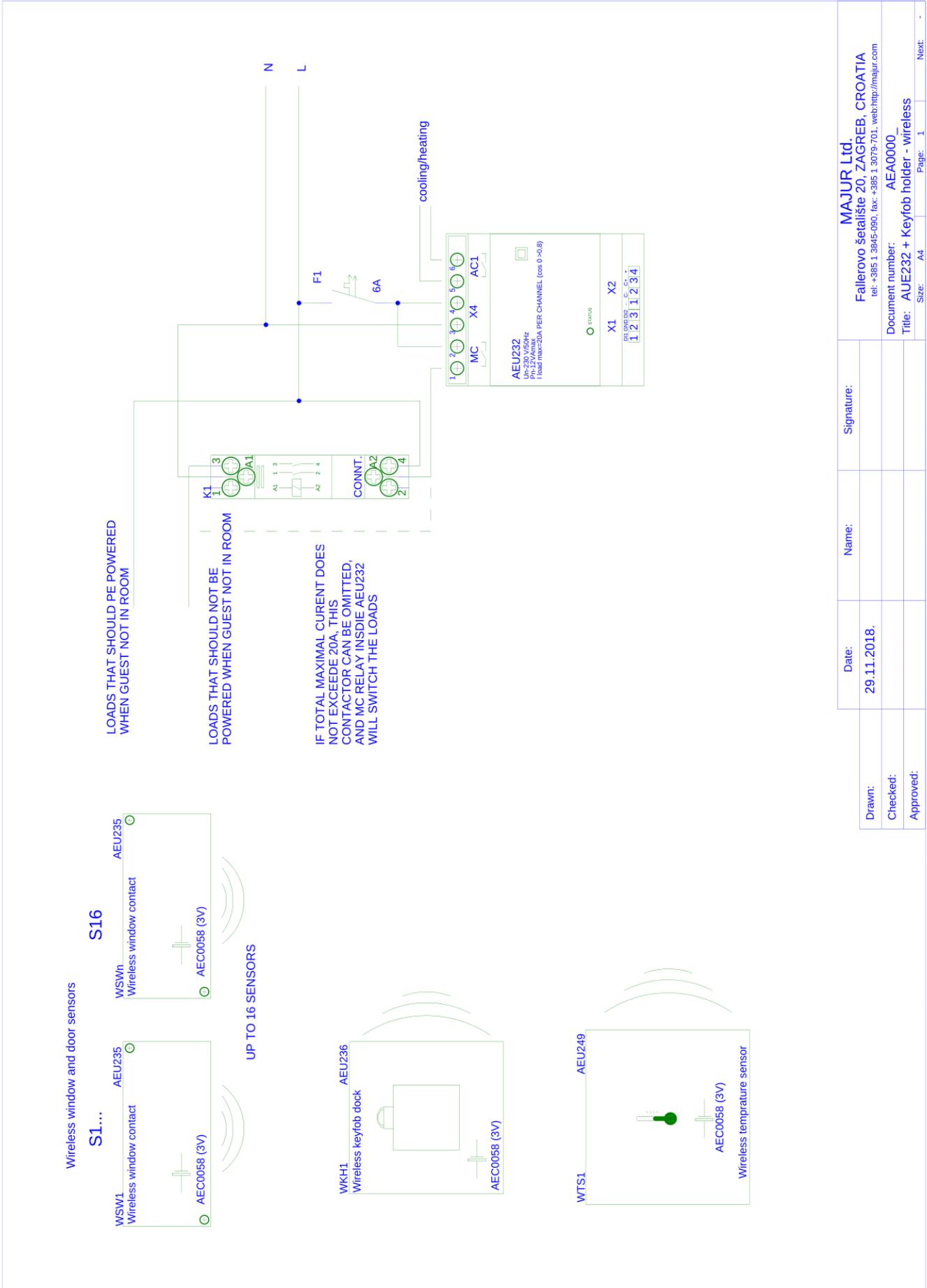
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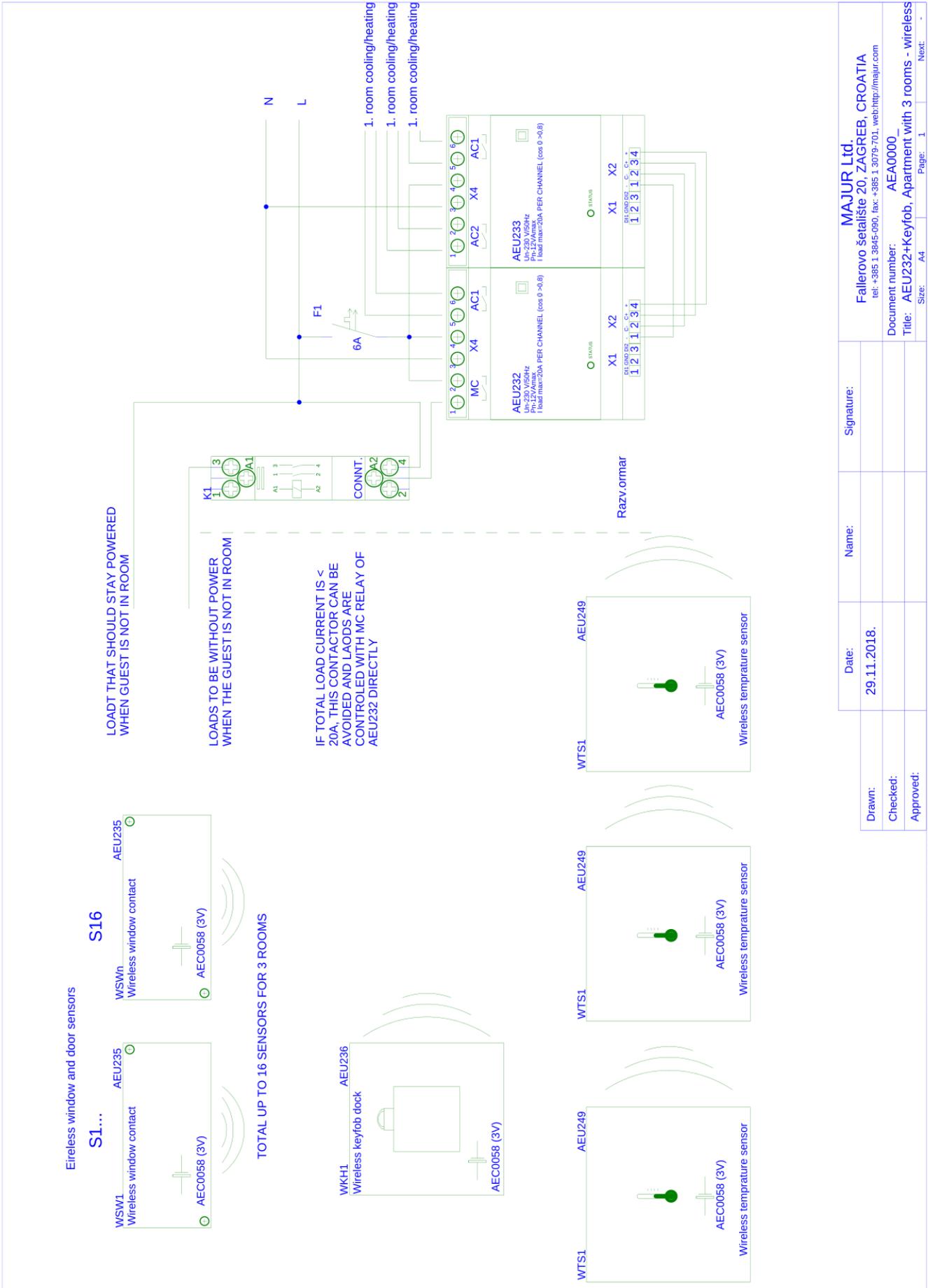
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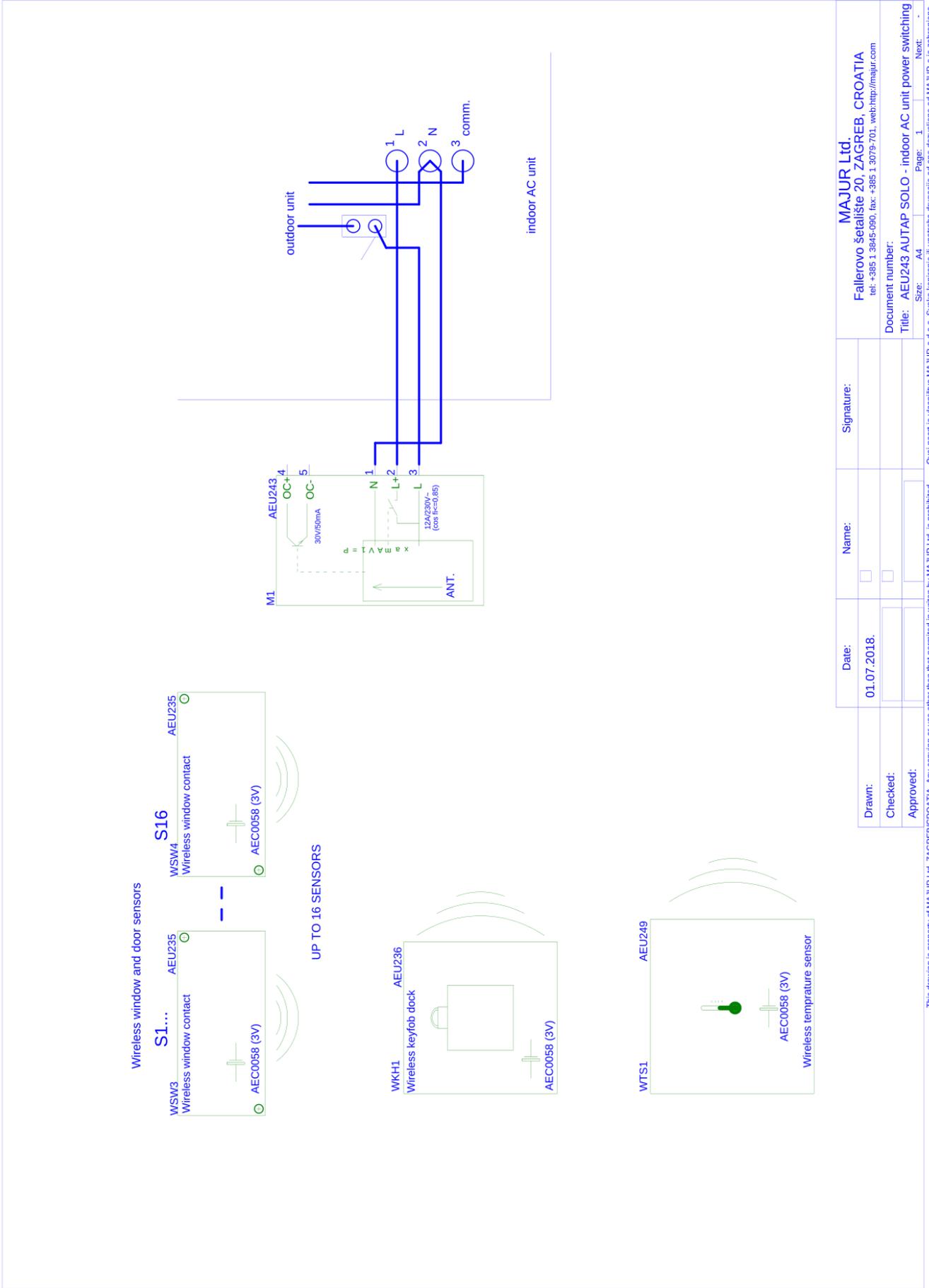


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## 10.2 Wiring diagram for AEU243 AUTAP Solo controller

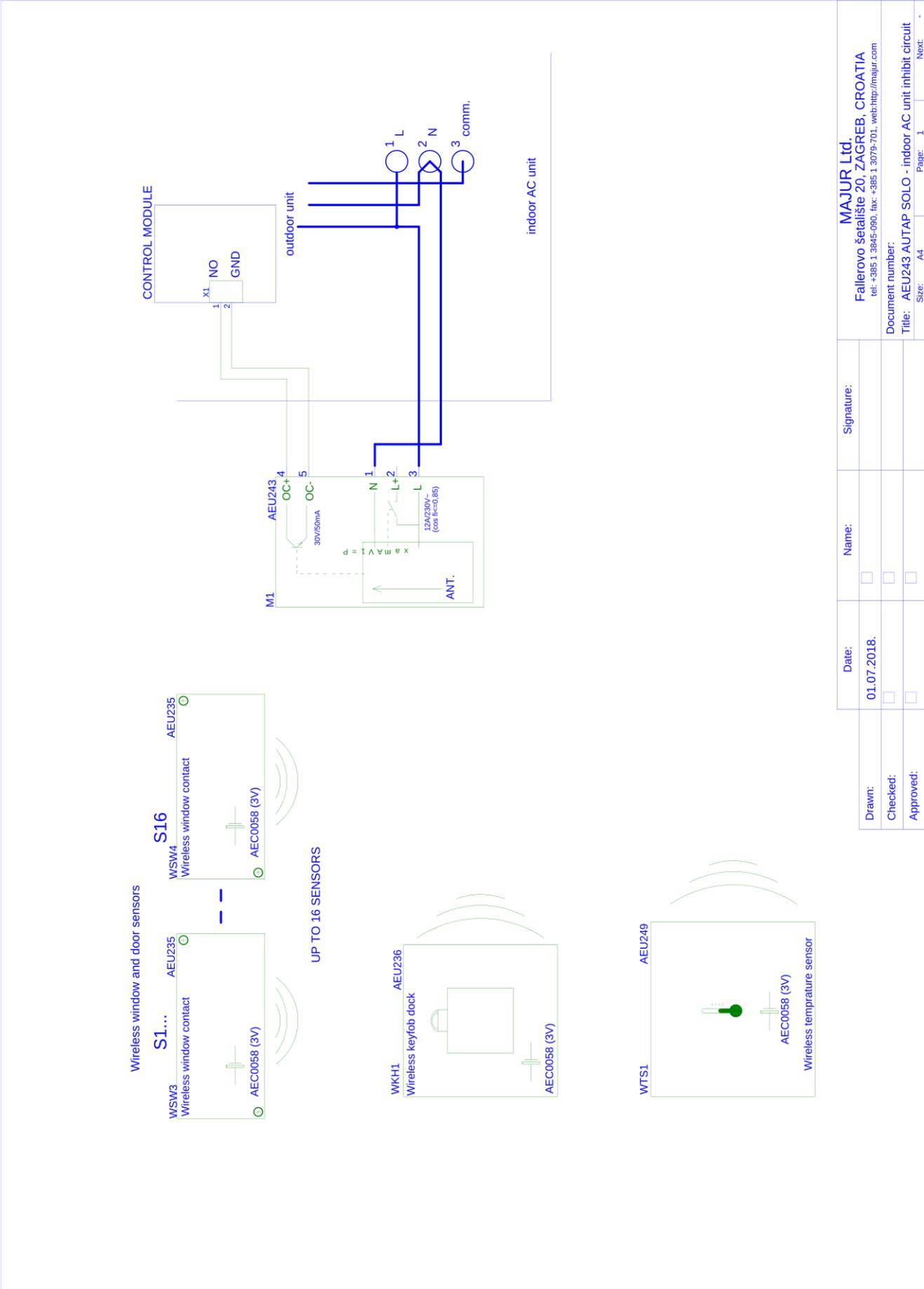


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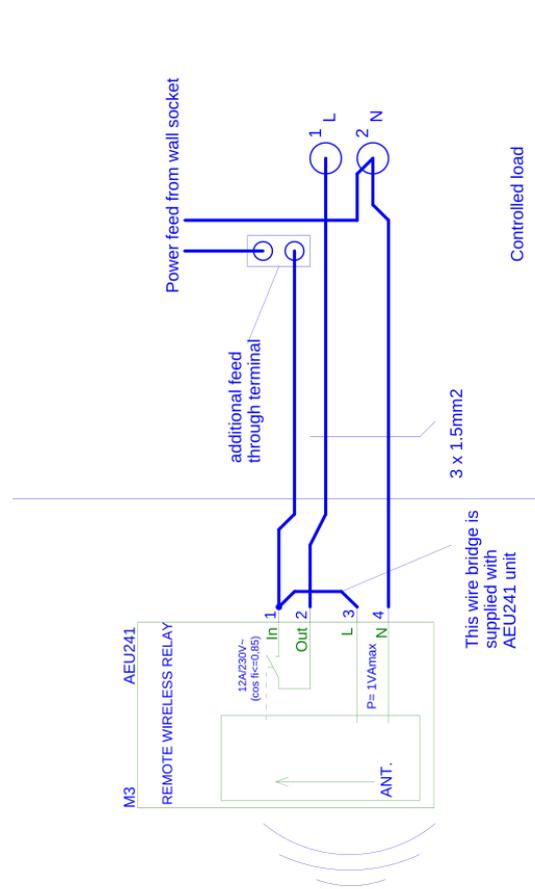
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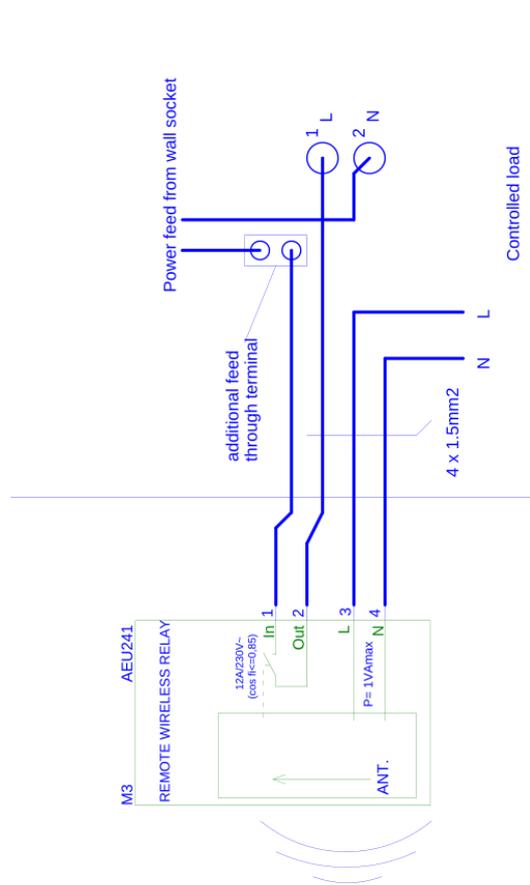
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### 10.3 Wiring diagram for AEU241 remote wireless switch



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**11. Data sheets**



Room controller AEU232 is an internet connected unit providing access control, energy management and security functions inside guest room/apartment. It is designed to comprise all essential periphery needed to control basic guest room. For more advanced usage scenarios, additional units like AEU233 can be connected. Please consult »AUTAP Planing Design Installation and Maintenance Manual« for more detail information.

<b>Installation</b>	Inside room/apartment	
	Electrical distribution box	
	35 mm DIN rail	
<b>Dimensions (H x W x D)</b>	90 x 70 x 65 mm	(4 modules width)
<b>Weight</b>	240 g	
<b>Enclosure</b>	Plastic, white/gray	
<b>Front panel signaling</b>	LED Light	Status (station/AP)
<b>Power supply connection</b>	85-264 V AC 47..440Hz	2 terminals (X3:3, X3:4)
	Maximal wire cross section	2.5 mm <sup>2</sup>
<b>Consumption</b>	4 VA (standby), 12VA max.	
<b>Relay outputs</b>	2	4 terminals:
	230V AC/20 A (cos φ <0,85)	X3:1,X3:2,X3:5,X3:6
	Maximal wire cross section	2.5 mm <sup>2</sup>
<b>Digital inputs</b>	2	potential free contacts
	connection	3 terminals (X1)
	Maximal wire cross section	0.25 ... 1.5 mm <sup>2</sup>
	Maximal cable length	30 m
	to sensors	
<b>Connection for peripheral units (RFID set, add. controllers, temp.sensor, etc.)</b>	connection	4 terminals (X2)
	Cable type	LYY-TP 2x2x 0.25...0.75 mm <sup>2</sup>
	Maximal cable length	30 m
<b>Temperature</b>	operation	0...50 °C
	Transport and storage	-25...65 °C
<b>Humidity</b>	operation	85%
	Transport and storage	95%
<b>In conformance with norms:</b>	Safety	EN 62368-1
	EMC	EN 301 489-1
	EMC	EN 301 489-1
	Radio (RED)	EN 300 328

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	Doc no.: AEU232_DS_EN_1.2	Date: 05.04.2020



AUE242 RFID Set is essential supplementary unit to AEU232 room controller when rfid card controlled room entry and guest presence is required. The set is comprised of two units. The reader is installed outside of room near entrance door, and card holder is installed inside room, also close to entrance door. A electric strike is connected to card holder to enable room entrance after valid rfid card is presented on card reader.

<b>Installation</b>	Card reader	outside of room - IP40
	Card holder	Inside room - IP40
<b>Dimensions (H x W x D)</b>	Card reader	110 x 90 x 15 mm
	Card holder	110 x 90 x 18 mm
<b>Weigth</b>		185 g
<b>Enclosure, color</b>	Catin white on mat black	diff.combination possible
<b>Light signals</b>	Card reader	enter room,GIR, alarm
	Card holder	insert card
<b>Power and communication connection</b>	Connection type	4 terminals (X1:1-4)
	Cable type	LiYY-TP 2 x 0.25...0.50 mm <sup>2</sup>
	Maximal cable length	5 m (4x0,25 mm <sup>2</sup> )- 20 m (4x0,50 mm <sup>2</sup> )
<b>Power consumption</b>	0.8 W (standby), 9W while strike is energized	
<b>Electric strike connection</b>	Connection type	2 terminals (X1:5-6)
	Maximal cable length	3 m
	Cable type	2 x 0.5...1 mm <sup>2</sup>
<b>Temperature</b>	Operation	0...50 °C
	Transport and storage	-25...65 °C
<b>Humidity</b>	Operation	85%
	Transport and storage	95%
<b>In conformance with norms:</b>	Safety	EN 62368-1
	EMC	EN 61000-6-2
	EMC	EN 61000-4-2/-3/-4/-5
	Radio(RED)	EN 300 330

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