



**ALTENBURGER**

ELECTRONIC GMBH

# AQStation Dim 3x 250W

Typ: AQS Dim 3x 250W  
Order-No.: 90.10.100

LAN/Wi-Fi-based-control

Manual



# 1 Safety and installation instructions



- Before installation, read the user manual thoroughly and keep it for future reference.
- The device may be installed and put into operation by qualified electricians only.
- Any works involving the device, wiring and replacing lamps may be done only with the power off.
- To do the wiring, loosen the seal screw and remove the device from the housing base.
- Wire the device terminals according to the wiring diagram and the imprint.
- The device must be snap fitted onto the relevant DIN rail.
- It may be operated only in a horizontal position (with terminal clamps at the bottom).
- The device must be installed through rail mounting or switch cabinets.
- Any applicable safety regulations must be complied with.
- The device may not be disassembled nor operated without the housing or the housing base. You will lose your warranty if you improperly handle or disassemble the device.
- The device generates heat and must be sufficiently ventilated.
- The device may be operated only in dry, closed rooms at a temperature of 0°C to 35°C.
- In the "OFF" mode, the load will not be disconnected from the network (disengaged function / no galvanic separation).
- You may only connect and control loads that are suitable and allowed for use with a phase-cut dimmer (phase-cut operation). These include ohmic loads (e.g. incandescent light bulbs), capacitive loads (e.g. electronic transformers). Inductive loads are not allowed, as these might damage the dimmer and transformers. Relevant manufacturer's data and instructions must be complied with.
- You may not connect the outputs of multiple AQStation devices.
- Do not rely exclusively on the App's status confirmations, as these might differ from the actual status.

## 2 Function

The AQStation Dim 3 x 250 W LAN/Wi-Fi-controlled load dimmer for three circuits. Each circuit has a 250W/VA phase-cut load dimmer intended for the dimming of high-voltage halogen lamps, low-voltage halogen lamps (via electronic transformers), power-LEDs (230 V), LED converters and incandescent light bulbs. The three circuits are independently controllable. The in-house LAN/Wi-Fi is used as a bus system. This enables the use of off-the-shelf smartphones and tablet computers running on Android or iOS to control and visualise AQStation devices.

The AQStation Dim 3x 250W can be controlled with its integrated push-button panel, peripheral push-button panels or the relevant AQStation App. For more information about the visualisation, scenes, groups and timer functions, see the AQStation App description available from [www.altenburger.de](http://www.altenburger.de) or [www.aqstation.de](http://www.aqstation.de).

## 3 Dimming, turning on/off

In the "OFF" mode, the dimmer adjusts the connected load down to almost 0. The load is not disconnected from the network (disengaged function/no galvanic isolation). A command made with a push-button triggers the programmed switch-on value. A command made through the App icon causes the value to rise from 0% to 100%. Using the App, you can set the initial value (between 0 and 100%) of the dimmer in the case of a blackout. The factory-set initial value is 0%. Using the App and the control push-buttons, you can adjust the dimmers between 0 and 100%. The control keys have the following functions: On/Off/Brighter/Darker.

## 4 Connectible loads

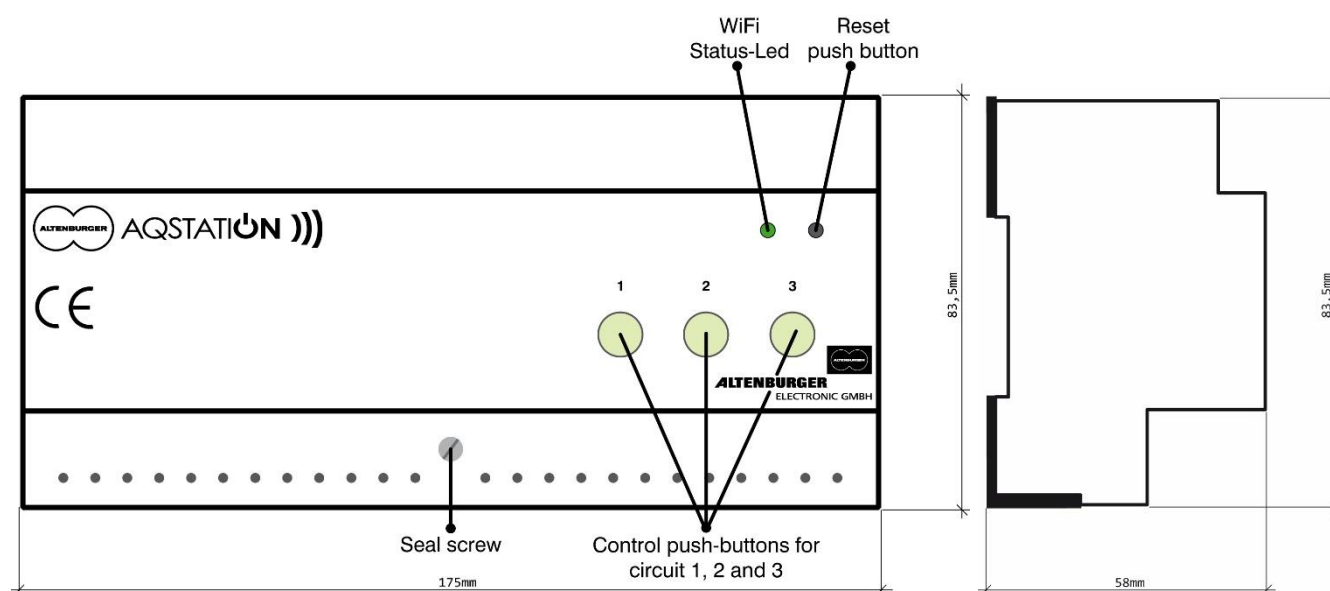
Using the dimmer, you can control loads (ohmic loads, e.g. incandescent light bulbs) and capacitive loads (e.g. electronic transformers) within a range of 15W/VA to 250W/VA. The total capacity of the connected load may not exceed the maximum load of the dimmer. The power dissipation and  $\cos \varphi$  of the electronic

transformers should be taken into account as well. The dimmer's maximum output current may not be exceeded as well. You may not connect the outputs of multiple dimmers. Electronic transformers may be connected to the dimmers on the mains (primary) side only. Their loads must comply with the manufacturer's data and they must be designed for appropriate mains electricity. Open-loop operation is not allowed. Electronic transformers may be connected only when they are designed for phase-cut operation. The operation of conventional transformers or inductive loads is generally not allowed, as it might damage the dimmer or the transformers beyond repair.

## 5 Load output

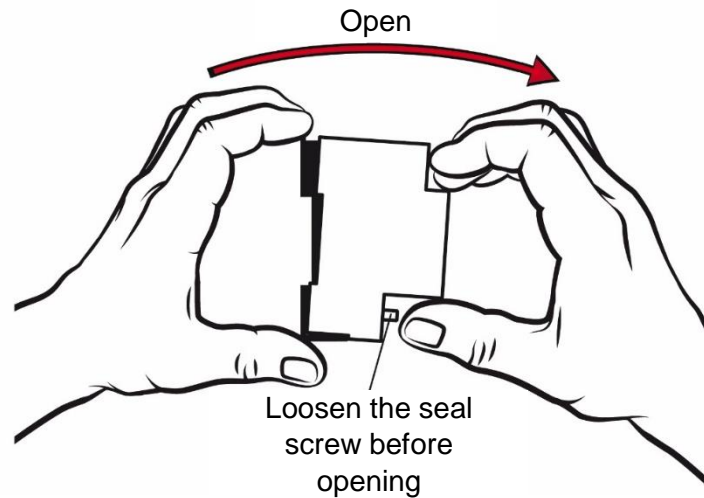
- Electronic current limitation (short-circuit current)
- Downward adjustment when maximum allowed temperature is exceeded
- Switching off when the temperature is too high (thermal cut-off, permanent)
- Switching off when the current is too high (microfuse, permanent)
- Switching off when voltage peaks are too high (inductive load), switching ON again after disconnection of supply voltage

## 6 Overview



## 7 Casing

Loosen the seal screw, grasp the device with both hands and open it as demonstrated on the picture below.



## 8 Wiring diagram

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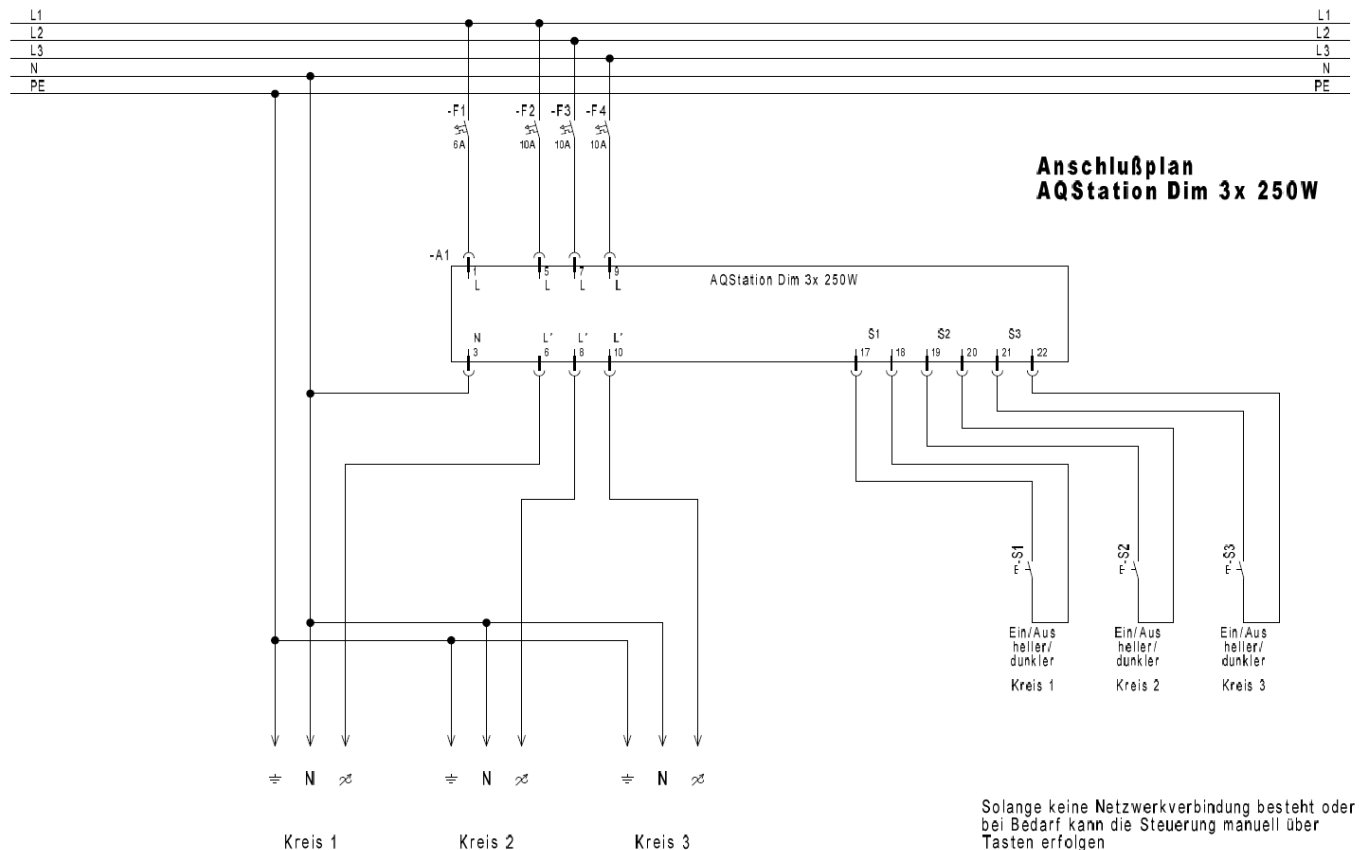
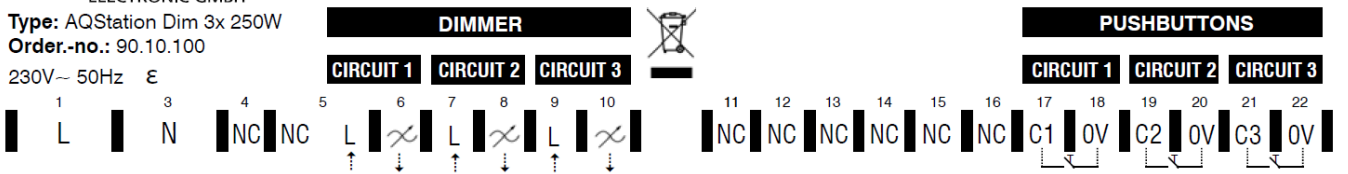
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Type: AQStation Dim 3x 250W

Order-no.: 90.10.100

230V~ 50Hz E

The NC labeled terminal must not be connected!  
Terminal 1 must not be used for looping!



## 9 Technical data

Designation	AQStation Dim 3x 250W
Type	AQS DIM 3x 250W
Order Number	90.10.100
Supply Voltage	230V~ 50Hz, DC not allowed
Protection	external 6A, internal microfuse
Mounting form	DIN rail housing
Dimensions, weight	WxHxD=175 x 83.5 x 58 mm, approx. 200 gr.
Internal displays	1x green LED (Wi-Fi mode) 3x green LED (switch mode) at control push-buttons
Internal controls	3x push-buttons for the manual control (on/off, brighter/darker) 1x reset push-button (factory settings, including Wi-Fi)
Wi-Fi	2.4 GHz 802.11n
LAN	RJ45, 100-MBit-Ethernet (Fast Ethernet)
Operating temperature	0°C ... +35°C
Power consumption	< 2 W
Protection class	II (protective isolation)
Protection category	IP 20
Degree of contamination	2 (dry non-conductive)
Dimmer output	250W/VA (max. 1.0A~) - Electronic current limitation (short-circuit current) - Downward adjustment when maximum allowed temperature is exceeded - Switching off when the temperature is too high (thermal cutoff, permanent) - Switching off when the current is too high (microfuse, permanent) - Switching off when voltage peaks are too high (inductive load), switching ON again after disconnection of supply voltage
Loading capacity	max. 250W/VA (max 1.0 A~) ohmic load, capacitive load (incandescent light bulbs, electronic transformers)
Qualification	CE, RoHS, WEEE

## 10 Quick start

1. Download the AQStation App from the store of your choice and install the application.
2. Provide the AQStation devices with power supply through rail mounting. Wait up to one minute until the control push-buttons light up.
3. Connect your smartphone / tablet computer to the AQStation Wi-Fi. Wi-Fi Name: „AQStationNewDevice...“.
4. Start the AQStation App.
5. Select type of network (LAN or Wi-Fi).
6. Select your Wi-Fi network and provide the network password (key).
7. The AQ Station device needs about two minutes to load the settings. In the meantime, connect your smartphone / tablet computer again to the Wi-Fi.
8. After about two minutes, the new AQStation device will appear in the AQStation App.

## 11 Initialization

**Please note that this AQStation device may only be installed and put into operation by qualified electricians.**

1. Download the AQStation App from App Store or Google Play Store. Search term: AQStation
2. Provide the AQStation devices with power supply through rail mounting. (initialise the AQStation devices one by one, **NOT** all of them at the same time)
3. Make sure that your router as well as smartphone / tablet computer and the AQStation device receive the Wi-Fi signal or connect the AQStation devices by cable to the LAN network.
4. The start-up takes up to two minutes. As soon as the Wi-Fi status LED starts to blink, you can initialise "AQStationNewDevice...".
5. Go to the settings menu of your smartphone / tablet computer, select Wi-Fi settings and connect your smartphone / tablet computer to the "AQStationNewDevice..." Wi-Fi.
6. Make sure that you are connected to the "AQStationNewDevice..." network.
7. Start the AQStation App.
8. A message window will appear to guide you through the operation of the AQStation device. Read the instructions carefully. To close the message window, choose "OK".
9. To connect your AQStation device to your network:
  - Choose Wi-Fi or LAN (LAN is for rail-mounted devices only).
  - Choose the network in which you want to use your AQStation device.
  - Provide the password for the Wi-Fi you have selected.
  - Confirm entry with the keypad and push the "Save" push-button.If the Wi-Fi of your choice does not show up, run the network search again.
10. The AQStation device is now establishing connection with your Wi-Fi. This can take up to two minutes. Do not disconnect the AQStation device from power supply. Do not interrupt the network connection.
11. Go to the settings menu of your smartphone / tablet computer, select Wi-Fi settings and connect your smartphone / tablet computer to your Wi-Fi.
12. Start the AQStation App.
13. After a successful initialisation, your AQStation device will appear automatically in the App.
14. If the software does not recognise or show the AQStation device after about two minutes, check whether your smartphone / tablet computer is connected to the right Wi-Fi. Restart the App, if necessary. Should these measures fail, restore your AQStation device to factory settings and re-initialise.

## 12 Create the building structure

1. By pressing the arrow located on the right side of the entry of your AQStation device, you access the settings.
2. A new window called "Settings" opens. Here you can change the name of the device and assign the AQStation device symbol. Under the display "building", you can assign the AQStation device a building, a floor and a room.
3. After saving the settings the window closes and the app returns to the main view. There now, the building structure is displayed.

## 13 Navigation in the building structure

Press on the name of the entry to get to the floors. From the floors to access the rooms. At this location there is the entry of the AQStation device. Use the Back function (Android up arrow, iOS left arrow) to enter a back level of the building structure.

## 14 Operation of AQStation devices

On the entries of the AQStation devices there are more controls than the arrow that leads to the settings.

- Left on entry to the AQStation device is the symbol displayed that was previously selected in the settings of the device. By clicking on this icon the AQStation device is switched on or off. If the AQStation device is active the symbol is colored blue.
- At the AQStation Switch there is on the right side addition ON or OFF. At AQStation Dimmer the percentage of the currently set brightness value appears.
- AQStation Dimmer additionally have a slider for setting the brightness value.

## 15 Groups

Groups are used to collectively control (dimming, turning on and off, activating a scene) multiple devices. The groups are arranged in a couple of simple steps in the AQStation App. Each group can have its timer functions. Each device can be assigned to multiple groups.

The following groups are available:

### **On/Off Group**

In the on/off group, multiple devices are turned on and off together. Dimmable (0% - 100%) and switchable devices can be integrated into an on/off group. As an option, you can set automatic turn-off times for individual devices in the group.

### **Dimmable Group**

The dimmable group devices are controlled together. Dimmable devices can be assigned to this group.

### **Scene**

In a scene, all values of the devices integrated into the scene can be recorded, accessed and re-configured. Devices can be integrated into multiple scenes.

### **Creating a group:**

1. Groups are created in device settings. In the settings menu, scroll down until you see "Add group" and choose this option.
2. A new window with group settings will appear.
3. Create a new group or choose an existing group.
4. Choose "New Group".
5. Assign a name to the group and choose the building, floor and the room in which you want to save it.
6. Next, choose the group type (On/Off, Dimmable or Scene).
7. Depending on the group type, you can, for instance, set brightness values, fade times, etc.
8. Save the settings. Add new devices to the group following the same procedure. However, instead of creating a "New Group", choose the "Existing Group" option and select an already created group.

## 16 Timer

You can create Timer for every single device or for groups. The procedure is always the same.

1. Open in the settings of the device or the group. Scroll down to "Create Timer" and select.
2. A new window pops up with timer-settings.
3. Designate the timer. Select the time at which the switched device or the group to run.
4. Under setting-mode you can decide if the timer is single, repeated or inactive.
5. Select the weekdays on which the timer is to be active.
6. Depending on the type of device allows you to set an initial value (not groups).
7. Select SAVE to fix the settings.

Timer are displayed in the settings of devices and groups. An overview of all started timer can be found in "General Settings". Timer operation requires a timer in the system. Each initialized smartphone or tablet can be used as a timer. In general settings you can share your smartphone / tablet as a device for time synchronization.



## 17 App Settings

Use the cogwheel icon (main view, bottom left) to go to General Settings. There, you can manage all the App's settings. This menu also provides an overview of all existing devices, building structures, applications and timers. You can also use the menu to manage the software updates of your AQStation devices.

## 18 Factory settings

To make a factory reset of the AQStation device, press the reset switch for about 10 seconds with a thin pointed object (e.g. a ball pen refill). Do not disconnect the device; it takes the device 2 minutes to restart. After the restart, the AQStation device is restored to its factory settings. The previously saved functions (timers, groups, scenes, etc.) are deleted and cannot be recovered.

**For more information, visit  
[www.altenburger.de](http://www.altenburger.de) or [www.aqstation.de](http://www.aqstation.de)**

**ALTENBURGER ELECTRONIC GMBH**  
Schloßweg 5  
77960 Seelbach

Phone: +49 7823 5090  
Fax: +49 7823 50997

[info@altenburger.de](mailto:info@altenburger.de)  
<http://www.altenburger.de>  
<http://www.aqstation.de>

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