



Manual

power[cube] incl. Data Logger met[LOG]
Id-No. 30.95800.015000

**power[cube] incl. Data Logger met[LOG]
with Wi-Fi Router**
Id-No. 30.95800.115000



Power[cube] Wi-Fi with met[LOG]

When met[LOG] is delivered it has an automatic reference to an IP address via a DHCP server.

The Wi-Fi module is pre-configured to create an own, (initially) unsecured Wi-Fi network.

In a few steps this network can be:

- ⇒ renamed
- ⇒ secured (with password)
- ⇒ integrated as a station in an existing network

Create first connection with met[LOG]

Needed information:

| | |
|---|--|
| MAC address Wi-Fi module | |
| Wi-Fi name Wi-Fi module (factory setting) (name ends with the last 4 signs of the MAC address (without „:“ or „-“)) | USR-WIFI232-630_ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> |

1.) Connect power[cube] to mains power

In condition as delivered to the customer the Wi-Fi module works with address area 10.10.100.100 to 10.10.100.253 and assigns met[LOG] an appropriate IP address.

The Wi-Fi module has the IP address 10.10.100.254 when it's delivered.

2.) Open Wi-Fi settings at notebook, PC or tablet, choose Wi-Fi net USR-WIFI232-630_ xxxx and connect.

„xxxx“ refer to the last 4 sign of the MAC address of the Wi-Fi module. The network is uncoded and unprotected. So, there's no need to type a pass word.



3.) With an IP scanner the IP address can be found which the met[LOG] has been assigned from the DHCP server of the Wi-Fi module. For this scan the address area 10.10.100.1 to 10.10.100.254 for met[LOG] or its MAC address. You can find the MAC address of met[LOG] at the housing side of met[LOG] and the inner side of power[cube]. Alternatively you can find all units of the network with their MAC address and IP address be found when using the prompt in Microsoft Windows with the command „arp -a“ (don't forget the blank and set only ONE blank)

Normally only the computer and met[LOG] are registered in the network at the beginning. Thus, met[LOG] mostly has the IP address 10.10.100.100 or 10.10.100.101.

Make a note of the MAC and IP address hereunder:

MAC address met[LOG]

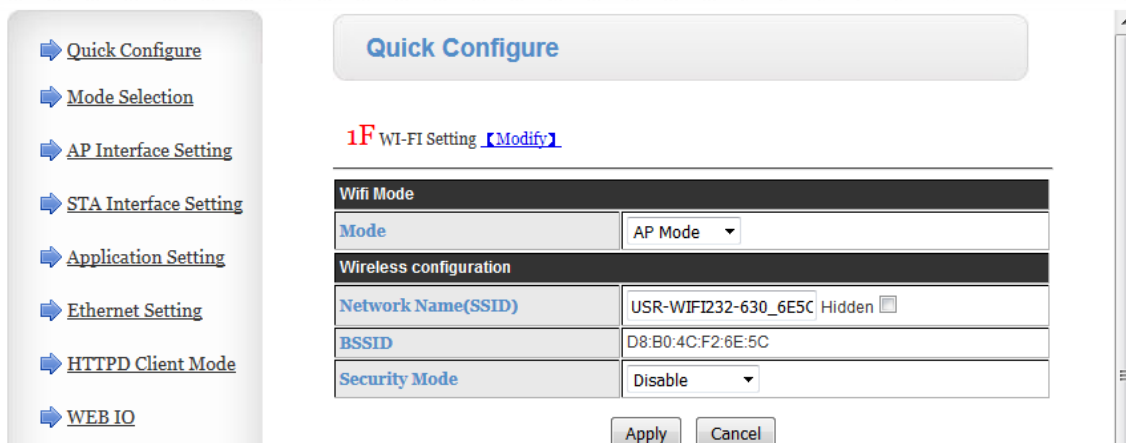
IP address met[LOG]

| |
|--|
| |
| |

4.) When entering the met[LOG] IP address in a browser the connection to met[LOG] will be made. (See also the met[LOG] handbook)

Setting of a secured Wi-Fi with met[LOG]

- 1.) The USR-WIFI232-630 Wi-Fi module in power[cube] can be reached under IP address 10.10.100.254 via a browser.
- 2.) Log in at the website of the Wi-Fi module as user „admin“ with the password „admin“.
- 3.) The website of the Wi-Fi module is available in English and Chinese. In condition as delivered to the customer English is set as standard. In case Chinese is set the language can be changed via the link „English“ which is located in the upper right side.
- 4.) Open the page „Quick Configure“ via the correspondent link.



The screenshot shows the 'Quick Configure' interface. On the left is a navigation menu with options: Quick Configure, Mode Selection, AP Interface Setting, STA Interface Setting, Application Setting, Ethernet Setting, HTTPD Client Mode, and WEB IO. The main content area is titled 'Quick Configure' and shows '1F WI-FI Setting [Modify]'. Below this is a table of settings:

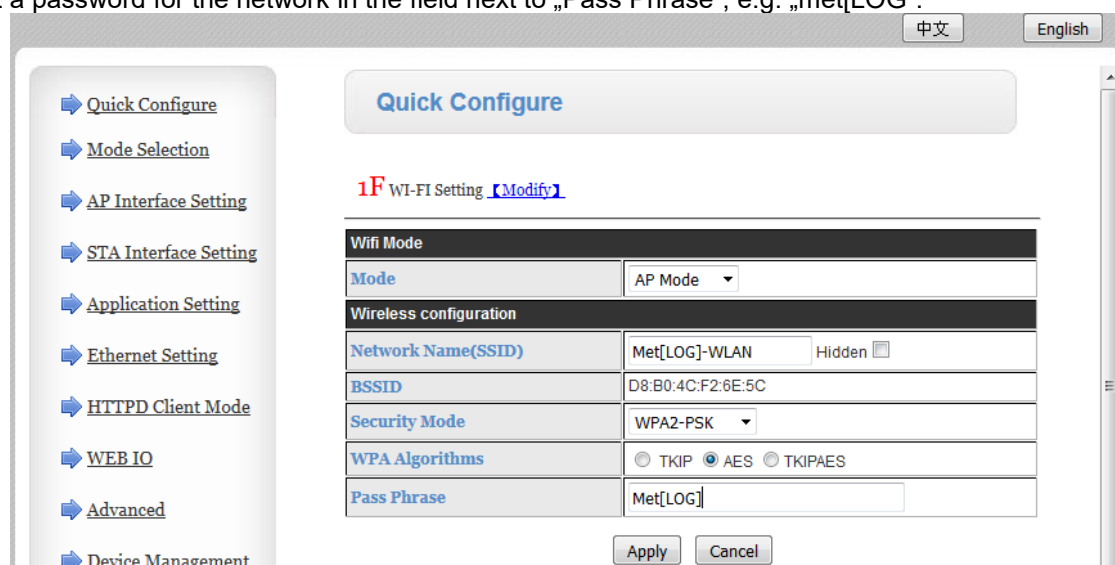
| Wifi Mode | |
|------------------------|--|
| Mode | AP Mode |
| Wireless configuration | |
| Network Name(SSID) | USR-WIFI232-630_6E5C Hidden <input type="checkbox"/> |
| BSSID | D8:B0:4C:F2:6E:5C |
| Security Mode | Disable |

Buttons for 'Apply' and 'Cancel' are visible at the bottom of the settings table.

- 5.) You can change the name of the network if you like (Network Name(SSID)), e.g. to „met[LOG]-Wi-Fi“. Make a note of the network name hereunder: Network name:

- 6.) Activate the network security via the button next to „Security Mode“. We suggest „WPA2-PSK“. According to the choice further buttons will be shown. We suggest choosing „AES“ as „WPA Algorithm“.

- 7.) Set a password for the network in the field next to „Pass Phrase“, e.g. „met[LOG]“.



The screenshot shows the 'Quick Configure' interface with updated settings. The language is set to 'English'. The settings table is as follows:

| Wifi Mode | |
|------------------------|---|
| Mode | AP Mode |
| Wireless configuration | |
| Network Name(SSID) | Met[LOG]-WLAN Hidden <input type="checkbox"/> |
| BSSID | D8:B0:4C:F2:6E:5C |
| Security Mode | WPA2-PSK |
| WPA Algorithms | <input type="radio"/> TKIP <input checked="" type="radio"/> AES <input type="radio"/> TKIPAES |
| Pass Phrase | Met[LOG] |

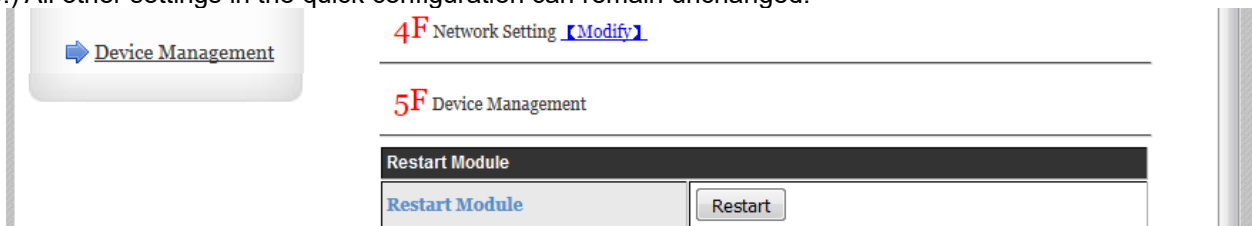
Buttons for 'Apply' and 'Cancel' are visible at the bottom of the settings table.

- Make a note of the password hereunder: Password:

Secure the password against unauthorized use!

8.) To save the configuration press „Apply“.

9.) All other settings in the quick configuration can remain unchanged.



10.) Scroll until the end of the page and restart the Wi-Fi module by pressing „Restart“. By doing the restart the changed configuration will work.

11.) After restart you reach the met[LOG] via the secured Wi-Fi network with afore set name and password, e.g.:

Network name: Met[LOG]-Wi-Fi

Password: Met[LOG]

The IP address of the met[LOG] remains unchanged (e.g.: 10.10.100.100). For this please see the chapter „Make the first connection to met[LOG]“ Point 3. and 4.

11.) By entry of the met[LOG] IP address in a browser you make the connection to met[LOG]. (See also the met[LOG] handbook)

Integration in an existing network with an own DHCP server via Wi-Fi

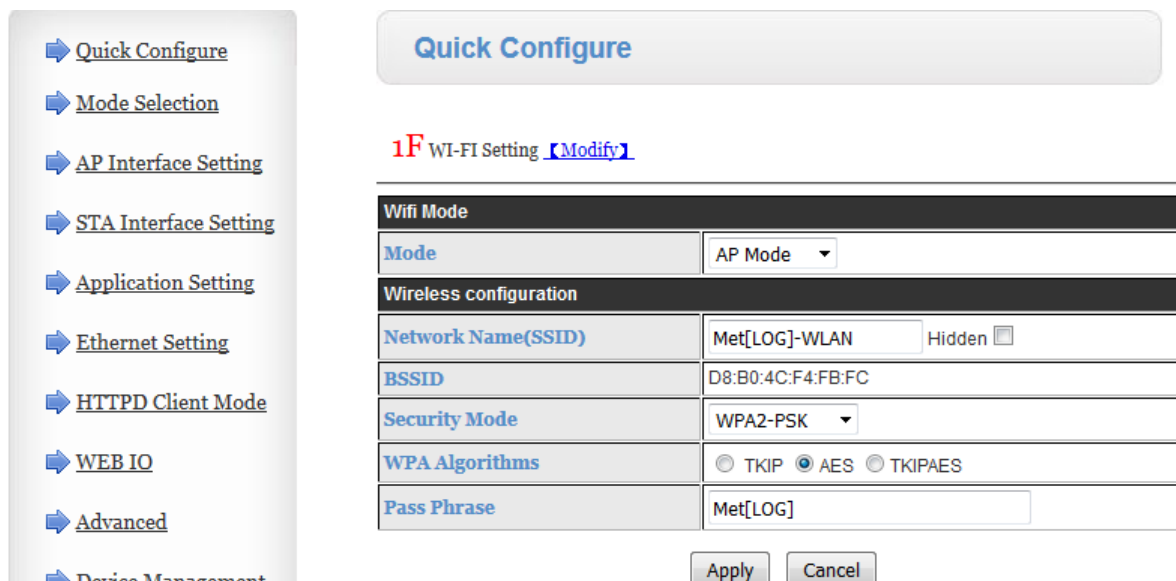
Following the previous chapter the network in the following configuration example has the Wi-Fi name „FB-LM“ and the address area 192.168.100.1 - 192.168.100.254. The password of the network is „1234567890“.

These data have to be replaced with the data of the existing network in which the power[cube]-Wi-Fi is integrated.

Needed information:

| | |
|---|--|
| MAC address Wi-Fi module | |
| Destination WiFi name: | |
| password destination WiFi: | |
| Free IP address (fix) in destination Wi-Fi for Wi-Fi module | |
| Subnet mask of destination network (e.g. 255.255.255.0) | |
| Security mode of destination network (z.B. WPA2PSK) | |
| Encryption type of destination network (e.g. AES) | |

- 1.) Connect with Wi-Fi „met[LOG]-Wi-Fi“; Password: „met[LOG]“ (See example in previous chapter)
- 2.) The USR-WIFI232-630 Wi-Fi module in power[cube] is reachable under the IP address 10.10.100.254 via a browser.
- 3.) Log in at the website of the Wi-Fi module as user „admin“ with the password „admin“.
- 4.) Open the page „Quick Configure“ via the correspondent link.



- 5.) Change the Wi-Fi mode in „STA Mode“ (Station Mode). According the choice further fields will be shown.

6.) Start the search for available networks by confirming the button „Search“ next to „AP,s SSID). Another window will open.

1F WI-FI Setting [\[Modify\]](#)

| Wifi Mode | |
|--------------------------|--|
| Mode | STA Mode ▾ |
| STA Interface Parameters | |
| AP's SSID | USR-WIFI232-630_FBFC <input type="button" value="Search"/> |

7.) Choose the Wi-Fi network in which the power[cube] Wi-Fi shall be integrated. In the present example it is the network with SSID (Name) „FB-Lm“.

8.) To save press the button „Apply“.

| | SSID | BSSID | RSSI | Channel | Encryption | Authentication | Network Type |
|----------------------------------|-----------|-------------------|------|---------|------------|----------------|----------------|
| <input type="radio"/> | FB-Lm Web | 5e:49:79:58:6b:cf | 100% | 6 | AES | WPA2PSK | Infrastructure |
| <input checked="" type="radio"/> | FB-Lm | 5c:49:79:58:6b:cf | 100% | 6 | AES | WPA2PSK | Infrastructure |
| <input type="radio"/> | GoeMobile | 00:0b:0e:2d:24:02 | 0% | 2 | NONE | OPEN | Infrastructure |
| <input type="radio"/> | eduroam | 00:0b:0e:2d:24:04 | 0% | 2 | TKIP | WPA2PSK | Infrastructure |

Apply Refresh

9.) Please make the following settings for the chosen network in „Quick Configure“:

| | |
|-----------------|--|
| Security Mode | Chosen security mode of the network, e.g. „ WPA2PSK “ (can be found in the upper search window) |
| Encryption Type | Chosen encryption code, e.g. „ AES “ (can be found in the upper search window) |
| Key | Network password, e.g. „ 1234567890 “ |

- [Quick Configure](#)
- [Mode Selection](#)
- [AP Interface Setting](#)
- [STA Interface Setting](#)
- [Application Setting](#)
- [Ethernet Setting](#)
- [HTTPD Client Mode](#)
- [WEB IO](#)
- [Advanced](#)
- [Device Management](#)

Quick Configure

1F WI-FI Setting [\[Modify\]](#)

| Wifi Mode | |
|--------------------------|---|
| Mode | STA Mode ▾ |
| STA Interface Parameters | |
| AP's SSID | FB-Lm <input type="button" value="Search"/> |
| MAC Address (Optional) | <input type="text"/> |
| Security Mode | WPA2PSK ▾ |
| Encryption Type | AES ▾ |
| Key | 1234567890 |

10.) To save the configuration press the button „Apply“.

11.) Open the page „AP Interface Setting“ via the corresponding link.

- [Quick Configure](#)
- [Mode Selection](#)
- [AP Interface Setting](#)
- [STA Interface Setting](#)
- [Application Setting](#)
- [Ethernet Setting](#)
- [HTTPD Client Mode](#)
- [WEB IO](#)
- [Advanced](#)
- [Device Management](#)

AP Interface Setting

AP Interface Setting such as SSID, Security...

Wireless Network

| | |
|---------------------|--|
| Network Mode | 11b/g/n mixed mode |
| Network Name(SSID) | Met[LOG]-WLAN Hidden <input type="checkbox"/> |
| BSSID | D8:B0:4C:F4:FB:FC |
| Frequency (Channel) | AutoSelect |

Met[LOG]-WLAN

| | |
|----------------|---|
| Security Mode | WPA2-PSK |
| WPA | |
| WPA Algorithms | <input type="radio"/> TKIP <input checked="" type="radio"/> AES <input type="radio"/> TKIPAES |
| Pass Phrase | Met[LOG] |

LAN Setup

| | |
|----------------------------------|---------------|
| IP Address(Default DHCP Gateway) | 10.10.100.254 |
| Subnet Mask | 255.255.255.0 |
| DHCP Type | Server |

12.) Change the LAN settings (LAN Setup) of the Wi-Fi module:

| | |
|-----------------------------------|--|
| IP Address (Default DHCP Gateway) | Free IP address (fix) in destination Wi-Fi for Wi-Fi module |
| Subnet Mask | Subnet mask of destination network (e.g. 255.255.255.0) |
| DHCP Type | Disable – Deactivate the DHCP server of the Wi-Fi module. |
| (Rest) | (Unchanged) |

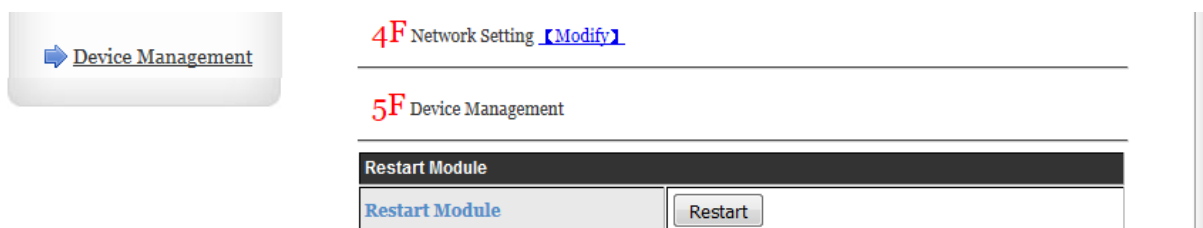
LAN Setup

| | |
|----------------------------------|-----------------|
| IP Address(Default DHCP Gateway) | 192.168.100.254 |
| Subnet Mask | 255.255.255.0 |
| DHCP Type | Disable |

13.) All other settings in „AP Interface Setting“ can remain unchanged.

14.) To save the configuration press „Apply“.

15.) Scroll until the end of the page and restart the Wi-Fi module by pressing „Restart“. By doing the restart the changed configuration will work.



16.) Disconnect the met[LOG] or the complete power[cube] Wi-Fi from mains power supply (e.g. by opening the fuse terminal) and wait until all LEDs have gone out. After this switch on the met[LOG] / complete power[cube] Wi-Fi again.

17.) Now the met[LOG] gets a new free IP address via the DHCP server of the destination network.

18.) With an IP scanner the IP address can be found which the met[LOG] has been assigned from the DHCP server of the Wi-Fi module. For this scan the address area of the destination network for the MAC address of the **Wi-Fi module**. Alternatively you can find all units of the network with their MAC address and IP address be found when using the prompt in Microsoft Windows with the command „arp -a“ (don't forget the blank and set only ONE blank). You can find the MAC address of met[LOG] at the housing side of met[LOG] and the inner side of power[cube].

As the met[LOG] is integrated in the destination network via the Wi-Fi module now it is shown by the command „arp -a“ in a generated list with the IP address of the Wi-Fi module. Search in the listed IP addresses for the IP address of the Wi-Fi module and make a note of the corresponding MAC address. Now search the list for further IP addresses with the same MAC address. Normally the second IP address is the met[LOG]'s. Find further IP addresses with the same MAC address, please read the remark „Repeater“. In case the MAC address is not shown immediately please wait 1-2 minutes and search the network for the MAC address again.

Remark: „Repeater“: In case a repeater is in use it can happen that the Wi-Fi module and the met[LOG] is listed with the MAC address of the repeater or the listing is disturbed by the repeater. If you don't find the met[LOG] deactivate the Repeater and start the search again. If the met[LOG] still can't be found restart the power[cube]-Wi-Fi and start the search again after approx. 1 minute.

Remark: We suggest to search the IP addresses via an Ethernet-cable connected to a PC that is integrated in the network.

If applicable you can allocate a fixed IP address to the met[LOG]. (See met[LOG] handbook)

Make a note of the MAC address of the Wi-Fi module and the IP address of the met[LOG] hereunder:

MAC address WiFi-module

IP address met[LOG]

| |
|--|
| |
| |

19.) By entry of the met[LOG] IP address in a browser you make the connection to met[LOG]. (See also the met[LOG] handbook)

Return Wi-Fi module to factory settings

There are 2 ways to return the Wi-Fi module to factory settings:

- via software button on the configuration webpage of the Wi-Fi module
- via hardware button at the outside of the housing below the green 3-pole terminal

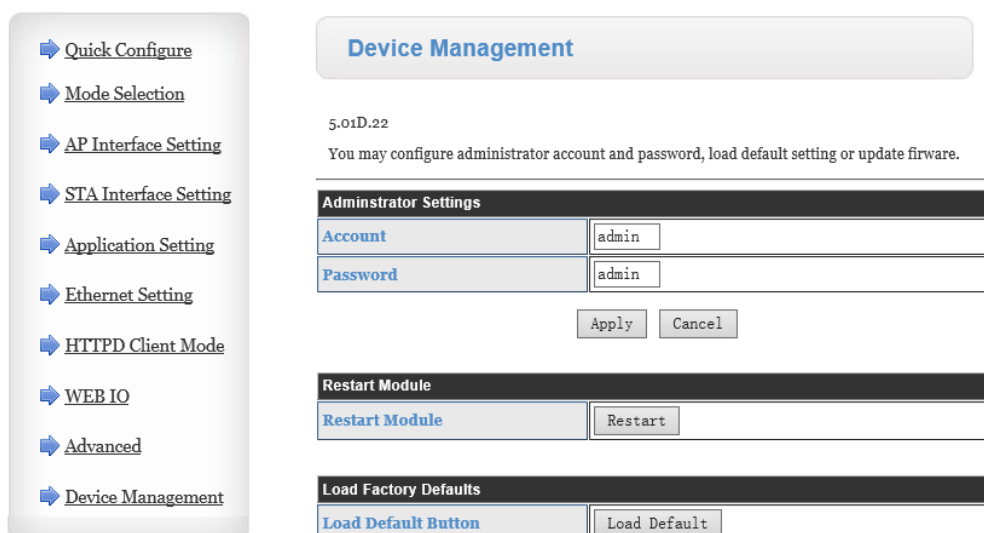
Factory setting via configuration webpage

If the Wi-Fi module can still be reached via the browser you can return to factory setting with the „Load Default Button“ at the page „Device Management“ of the Wi-Fi module.

The Wi-Fi module has following default settings:

IP address: 10.10.100.254
 User: admin
 Password: admin
 Wi-Fi name Wi-Fi module: USR-WIFI232-630_XXXX
 (the name ends with the last 4 signs of the MAC address (without „:“ or „-“))

1.) Open the page „Device Management“ via the corresponding link.



2.) By pushing the „Load Default Button“ the device returns to factory settings.



Factory settings via hardware button at the outside of the housing

At the outside of the housing below the 3-pole terminal is a small hardware button. By pushing the same in activated mode (Power LED and Ready LED ON) for at least 3 seconds the Wi-Fi module returns to factory settings.

- 1.) Dismantle the Wi-Fi module from the cap rail by pushing it upwards and tilting outwards. Alternatively you can unscrew the antenna and the 3-pole terminal to reach the hardware button.
- 2.) Push the hardware button in activated mode (Power LED and Ready LED ON) for at least 3 seconds.
- 3.) Loose the hardware button and wait 10 seconds while the Wi-Fi module is re-initialisating. The Ready

LED switches Off shortly and the LEDs „net1“ and „net2“ flash very shortly. When the Ready LED flashes again the Wi-Fi module is returned to factory settings and be reached again via the Default-IP.

Technical Data

(14966) power[cube] **Ident-Nr. 00.14966.715 000**

| | |
|-----------------------|------------------------|
| Output power-supply: | 24 VDC |
| Output voltage range: | 24...28 V |
| Output current: | max. 6,5 A |
| Input voltage range: | 90...264 VAC |
| Input frequency: | 47...63 Hz |
| Effective power: | 156 W |
| Temperature range: | -20...+60 °C |
| Storage temperature: | -40...+85 °C |
| Dimensions: | ca. 190 x 190 x 190 mm |

Accessories: Mast fixation for power[cube]
(optional) **Ident-Nr. 32.14966.030 000**

Version:

power[cube] „Wi-Fi“ power[cube] incl. Data logger met[LOG] and Wi-Fi router
Ident-Nr. 30.95800.115000

power[cube] power[cube] incl. Data logger met[LOG]
Ident-Nr. 30.95800.015000



Subject to change without notice.

BA_WiFi_powercube_metLOG_e (13.20)

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