USER MANUAL

power[cube]

Power Supply Unit

aem | LAMBRECHT meteo

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1. Versions with data logger met[LOG]

ID No. 30.95800.015000 power[cube] including data logger met[LOG]

ID No. 30.95800.115000 power[cube] including data logger met[LOG] with WiFi router

2. Warranty

Note the loss of warranty and exclusion of liability in the event of unauthorized access to the system. Modifications or interventions in the system components may only be carried out by qualified personnel with the express permission of LAMBRECHT meteo GmbH.

The warranty does not include:

- Mechanical damage due to impact from outside (e.g. ice chipping, stone chipping, vandalism)
- Effects or damage caused by power surges or electromagnetic fields that go beyond the standards and specifications referred to in the technical data.
- Damage caused by improper handling, such as the use of incorrect tools, incorrect installation, incorrect electrical installation (reverse polarity) etc.
- Damage that can be attributed to operation of the devices outside the specified conditions of use.

3. power[cube] WiFi with met[LOG]

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

The WiFi module is preconfigured to create an own, (initially) unsecured WiFi network.

In a few steps this network can be:

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

4. Create first connection with met[LOG]

Needed information:

MAC address WiFi module	
WiFi name WiFi module (factory setting) (name ends with the last 4 signs of the MAC address (without ":" or "-")	USR-WIFI232-630_☐☐☐☐

1) Connect power[cube] to mains power

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

The WiFi module has the IP address 10.10.100.254 when it's delivered.

2) Open WiFi settings at notebook, PC or tablet, choose WiFi net USR-WIFI232-630_xxxx and connect.

"xxxx" refer to the last 4 sign of the MAC address of the WiFi 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 WiFi 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).

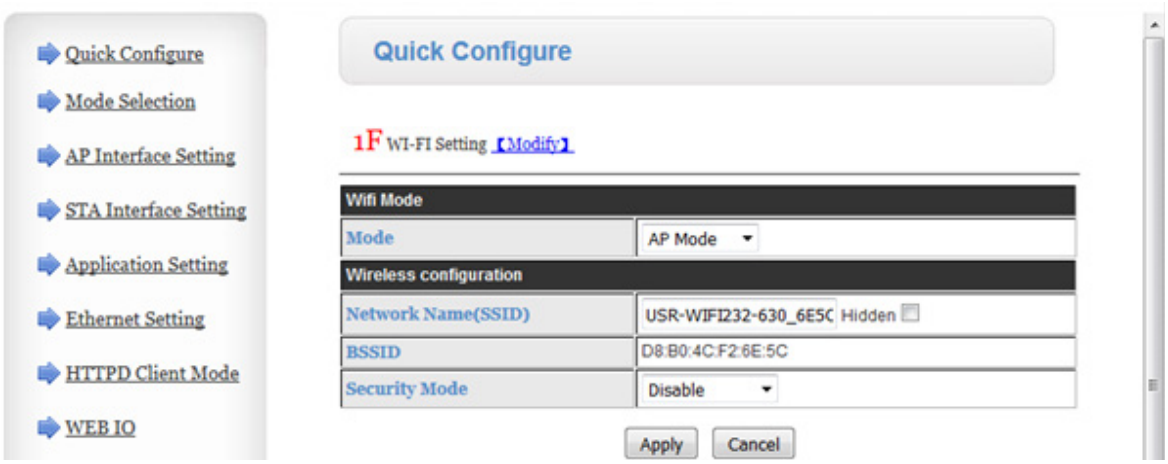
5. Setting of a secured WiFi with met[LOG]

1) The USR-WIFI232-630 WiFi 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 WiFi module as user "admin" with the password "admin".

3) The website of the WiFi 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.

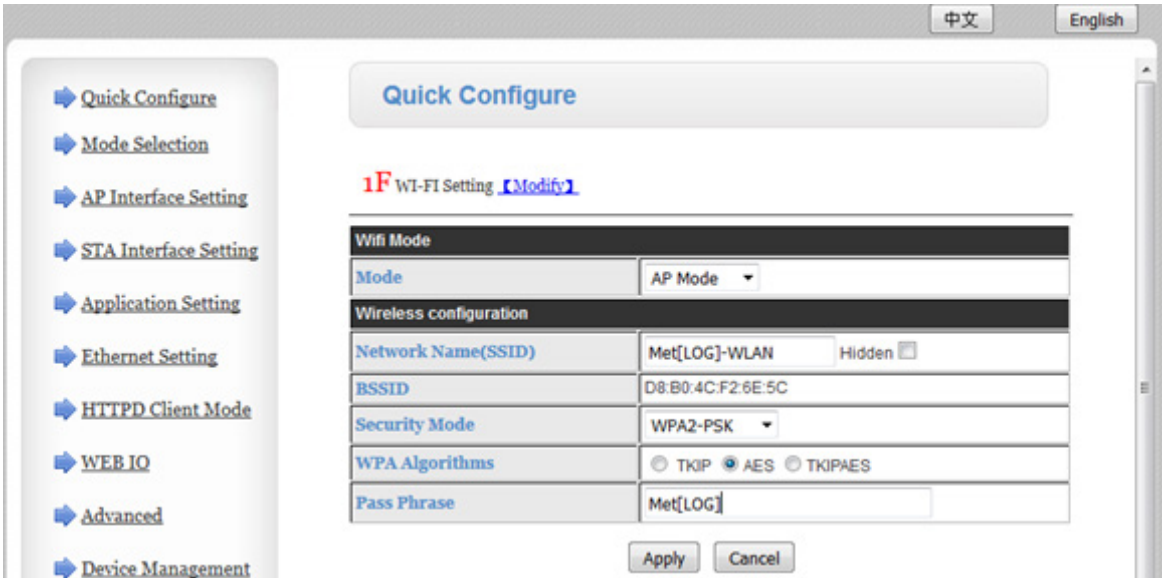


5) You can change the name of the network if you like (Network Name(SSID)), e.g. to "met[LOG]-WiFi". Note the network name here:

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".



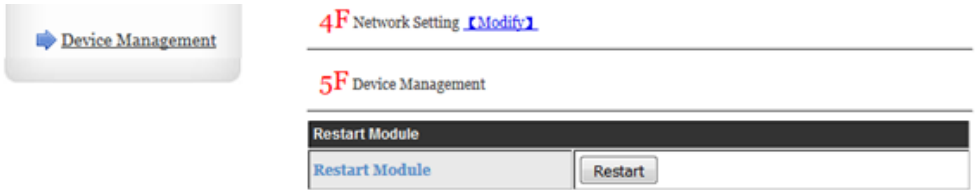
Note the password here:

Password:

Keep the password safe from unauthorized access!

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 WiFi module by pressing "Restart". By doing the restart the changed configuration will work.

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

Network name: Met[LOG]-WiFi
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.)

6. Integration in an existing network with an own DHCP server via WiFi

Following the previous chapter the network in the following configuration example has the WiFi 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]-WiFi is integrated.

Needed information:

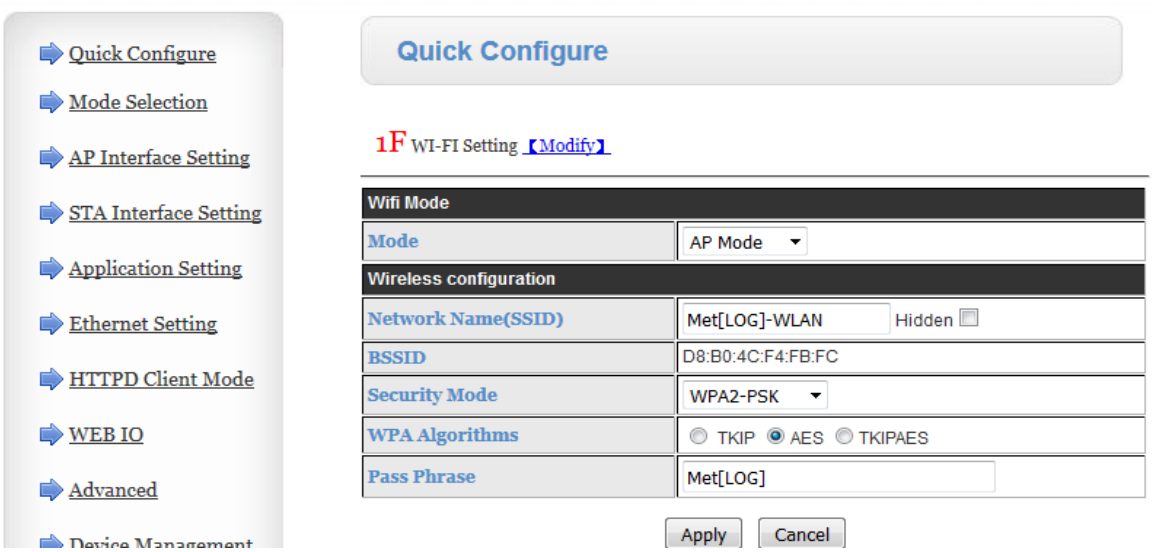
MAC address WiFi module	
Destination WiFi name:	
Password destination WiFi:	
Free IP address (fix) in destination WiFi for WiFi module	
Subnet mask of destination network (e.g. 255.255.255.0)	
Security mode of destination network (e.g. WPA2PSK)	
Encryption type of destination network (e.g. AES)	

1) Connect with WiFi "met[LOG]-WiFi"; Password: "met[LOG]" (See example in previous chapter)

2) The USR-WIFI232-630 WiFi module in power[cube] is reachable under the IP address 10.10.100.254 via a browser.

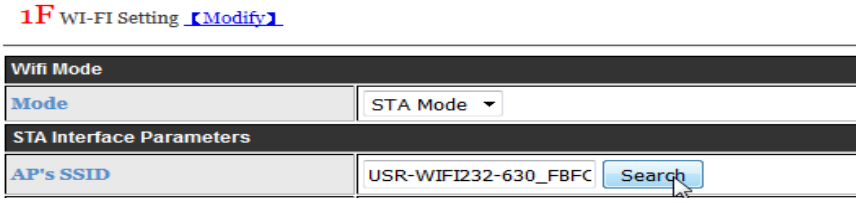
3) Log in at the website of the WiFi module as user "admin" with the password "admin".

4) Open the page "Quick Configure" via the correspondent link.



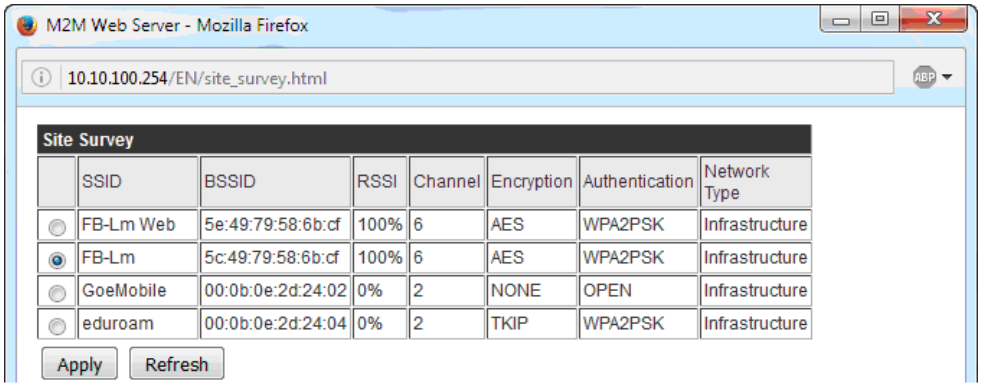
5) Change the WiFi mode in "STA Mode" (Station Mode). According the choice further fields will be shown.

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



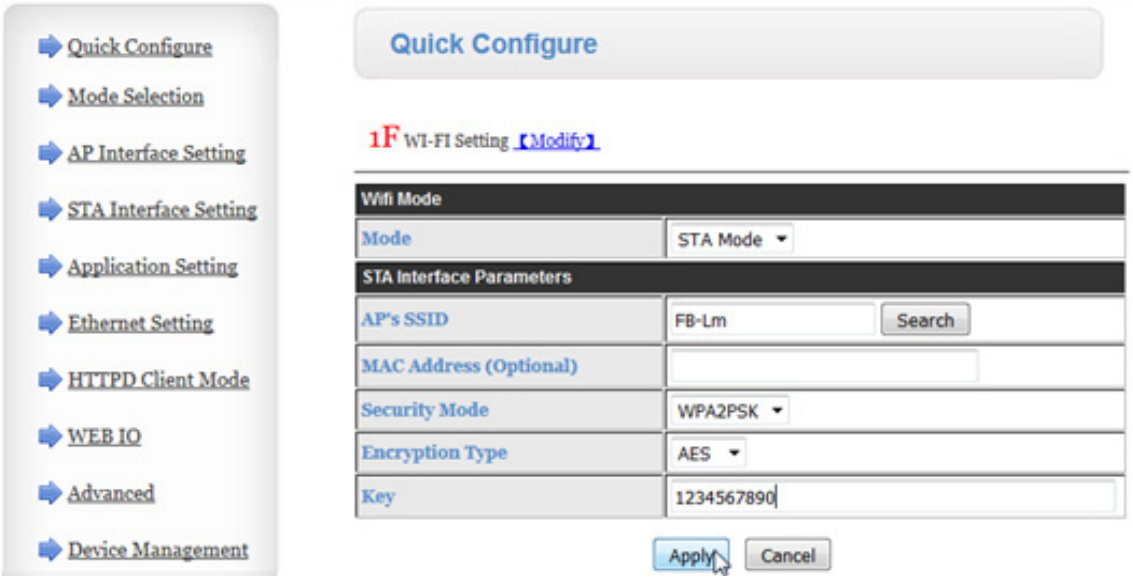
7) Choose the WiFi network in which the power[cube] WiFi shall be integrated. In the present example it is the network with SSID (Name) "FB-Lm".

8) To save press the button "Apply".



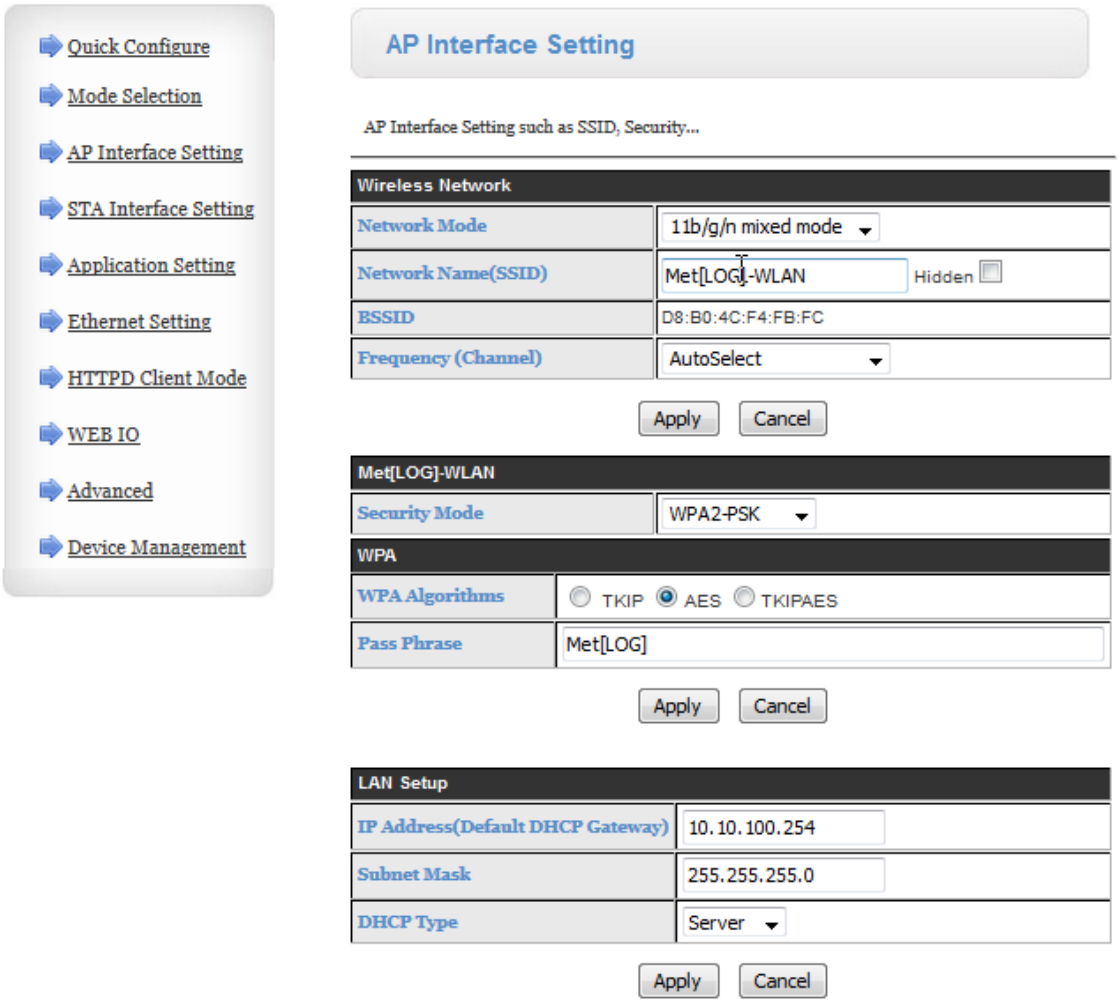
9) Please make the following settings for the chosen network in "Quick Configure":

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**"



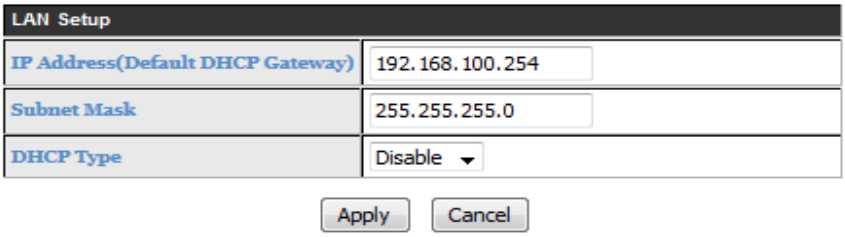
10) To save the configuration press the button "Apply".

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



12) Change the LAN settings (LAN Setup) of the WiFi module:

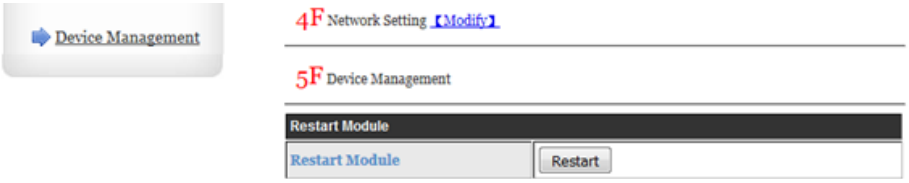
IP Address (Default DHCP Gateway)	Free IP address (fix) in destination WiFi for WiFi module
Subnet Mask	Subnet mask of destination network (e.g. 255.255.255.0)
DHCP Type	**Disable** – Deactivate the DHCP server of the WiFi module.
(Rest)	(Unchanged)



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 WiFi module by pressing "Restart". By doing the restart the changed configuration will work.



16) Disconnect the met[LOG] or the complete power[cube] WiFi 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] WiFi 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 WiFi module. For this scan the address area of the destination network for the MAC address of the **WiFi 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 WiFi module now it is shown by the command "arp –a" in a generated list with the IP address of the WiFi module. Search in the listed IP addresses for the IP address of the WiFi 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 WiFi 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]-WiFi 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)

Note the MAC address of the WiFi module and the IP address of the met[LOG] here:

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)

7. Reset WiFi module to factory settings

There are 2 ways to reset the WiFi module to factory settings:

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

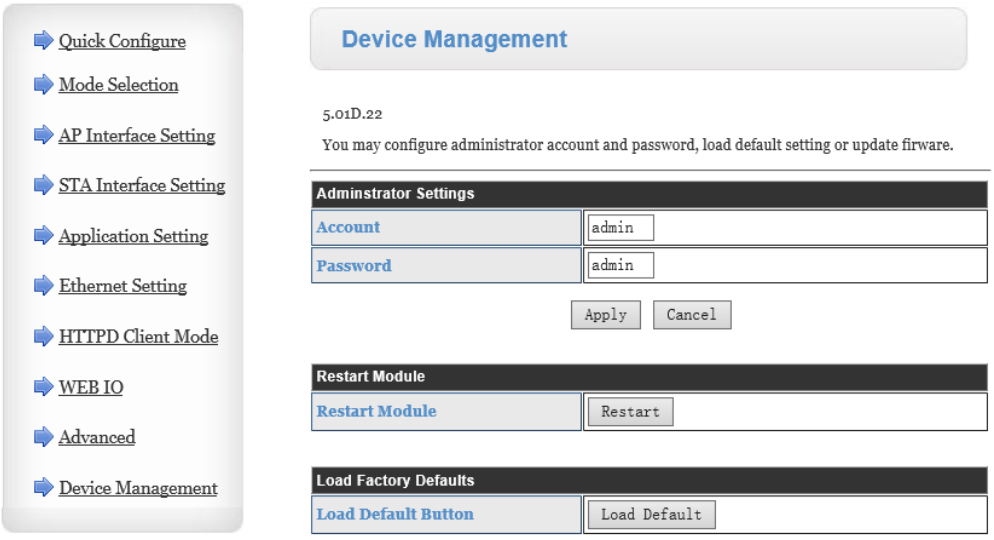
7.1. Factory setting via configuration webpage

If the WiFi 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 WiFi module.

The WiFi module has following default settings:

IP address:	10.10.100.254
User:	admin
Password:	admin
WiFi name WiFi 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.

7.2. Factory settings via hardware button at the outside of the housing

There is a small embedded hardware button on the side of the housing below the green 3-way connection terminal. By pushing the same in activated mode (Power LED and Ready LED ON) for at least 3 seconds the WiFi module returns to factory settings.

1) Dismantle the WiFi 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) Release the hardware button again and wait 10 seconds while the WiFi module reinitializes. The Ready LED switches Off shortly and the LEDs "net1" and "net2" flash very shortly. When the Ready LED flashes again the WiFi module is returned to factory settings and be reached again via the Default-IP.

8. Disposal

LAMBRECHT meteo GmbH is listed and registered at the Stiftung Elektro-Altgeräte Register ear under:

WEEE-Reg.-Nr. DE 45445814

In the category of monitoring and control instruments, device type: "Monitoring and control instruments for exclusively commercial use".

Within the EU

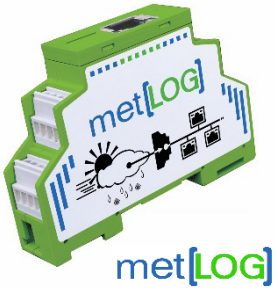
The device has to be disposed according to the European Directives 2002/96/EC and 2003/108/EC (Waste Electrical and Electronic Equipment). Do not dispose the old device in the household waste! For an environmentally friendly recycling and disposal of your old device, contact a certified disposal company for electronic waste.

Outside the EU

Please follow the regulations in your country regarding the appropriate disposal of waste electronic equipment.

9. Technical data

power[cube]	
ID No.	**00.14966.715000**
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
Rated power	156 W
Operating temperature	-20...+60 °C
Storage temperature	-40...+85 °C
Dimensions	approx. 190 x 190 x 190 mm
Accessory (please order separately)	
ID No.	**32.14966.030000** Mast holder for power[cube]
Versions	
ID No.	**30.95800.115000** power[cube]WiFi including Data logger met[LOG] and WiFi router
ID No.	**30.95800.015000** power[cube] including Data logger met[LOG]



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