

MS12 User Manual



1	Introduce	3
2	Configure the device via GUI.....	4
2.1	Access the GUI.....	4
2.2	Configure Wifi parameters	4
2.3	Network setting.....	5
2.4	System Status:.....	6
3	Securing the MS12	6
4	Attaching the current clamp.....	7
5	Connecting the clamp sensor cable	7
6	Powering Up	7

1 Introduce

This Article

This article is the user manual for the MS12 wireless sensor node. This article describes how to configure the MS12 to use in different wireless mode and how to use MS12 as a wireless power meter.

2 Configure the device via GUI

2.1 Access the GUI

The MS12 GUI is a modified GUI version from LUCI, you can access its GUI very easy from your PC. Connect your PC to its LAN port and set your PC to DHCP. It will automatically get the ip address which should be in the 192.168.255.1/24 network.

Then in your PC, use your browser to access the IP 192.168.255.1 and you will be redirected to the GUI of MS12

2.2 Configure Wifi parameters

The screenshot shows the FLUKSO GUI interface. At the top left is the logo 'FLUKSO'. Below it are three icons: a green Wi-Fi signal icon labeled 'Wifi', a globe icon labeled 'Network', and a lifebuoy icon labeled 'System'. The 'Wifi' section is active, displaying a configuration form. The form includes a text input for 'Network Name (ESSID)' containing 'zwaluw', a dropdown menu for 'Encryption' set to 'WEP', and a text input for 'WEP-key or WPA-passphrase' containing 'Hae56b7820f6b6b3cba78da46b'. A blue information icon and a note are present below the key field, stating: '40bit/104bit WEP keys are autodetected based on key length. Use either 5/13 ASCII or 10/26 HEX characters as WEP key. A valid ASCII-based key will be translated into a HEX-based one. For WPA(2)-PSK encrypted networks, please enter your 8-to-63-character passphrase.' At the bottom right of the form are 'Reset' and 'Save' buttons.

In the wifi setting page, you can configure the device to connect to your AP via Wifi.

The setting includes:

ESSID: The SSID refers to a wireless network name and is contained in a field in certain wireless management frames. SSID is sometime called ESSID (Extend Service Set IDentifier). Put your ESSID here. You can get the ESSID info from your AP.

Encryption: choose the encryption method of your AP. Option include: no encryption, WEP, WPA-PSK, WPA2-PSK, WPA-PSK/WPA2-PSK mixed mode.

Web-key or WPA passphrase: the encryption key of your AP.

Input the correct ESSID and encryption detail then your MS12 should be able to connect to your AP.

2.3 Network setting

Wifi **Network** **System**

Network

These default settings should work just fine for most wifi networks.

Local Network

IPv4-Address: 192.168.255.1

IPv4-Netmask: 255.255.255.0

IPv4-Gateway (optional):

DNS-Server (optional):

Internet Connection

Protocol: DHCP

Clamp Segment Size: Fixes problems with unreachable websites, submitting forms or other unexpected behaviour for some ISPs.

Reset Save

The network page include the network setting for the LAN interface and wifi interface.

Local Network setting:

IPv4-Address: ip address of the LAN port

IPv4-Address: Netmask of the LAN port

IPv4-Gateway (optional): configure the default gateway of LAN port

DNS-Server (optional): Configure DNS server of LAN port

Internet Connection:

Protocol: for the wifi interface, you can choose DHCP, PPPoE, manual(static IP), or PPTP

2.4 System Status:

The screenshot displays the FLUKSO system status page. At the top, there are icons for Wifi, Network, and System. Below these, the 'System' section is divided into two parts. The first part shows general system information:

General	
Chipset	Atheros AR2317
Processor	MIPS 4KEc V6.4
Load	0.00, 0.00, 0.00
Memory	13.25 MB (24% cached, 7% buffered, 8% free)
System Time [UTC]	Thu Jan 8 00:53:53 1970

The second part of the 'System' section includes additional details:

Chipset	Atheros AR2317
Processor	MIPS 4KEc V6.4
Load	0.00, 0.00, 0.00
Memory	13.25 MB (24% cached, 7% buffered, 8% free)
System Time [UTC]	Thu Jan 8 00:53:53 1970
Uptime	7d 00h 53min 54s
Hostname	flukso

Below the system information is the 'Wifi' section, which contains a table of network links:

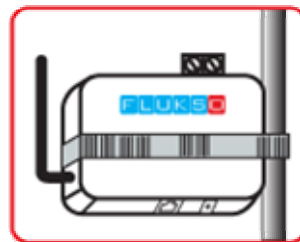
Link	ESSID	BSSID	Protocol	Mode	Enchr.	Power	Scan
0/70	zwaluw	Not-Associated	802.11bg	sta	wep	19 dBm	<input type="button" value="Scan"/>

At the bottom, the 'Interfaces' section shows a table of network interfaces:

Interface	MAC-Address	IPv4-Address	IPv4-Netmask	Traffic	Errors
	Hardware Address			transmitted / received	TX / RX
wan	7c:dd:90:01:2b:c0			0.00 B / 0.00 B	0 / 0
lan	7c:dd:90:01:2b:c1	192.168.255.1	255.255.255.0	291.95 KB / 803.49 KB	0 / 0

The system status page shows the system status of MS12.

3 Securing the MS12



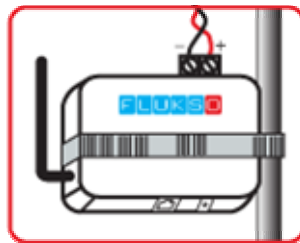
Disconnect all cables from the Fluksometer. Find a suitable location near the fuse box to install the Fluksometer. Secure the Fluksometer with the plastic cable tie.

4 Attaching the current clamp



For safety reasons, switch off the main electricity supply. For a single phase supply, attach the current clamp to one of the two cables running from the electricity meter to the fuse box. Close the clamp firmly.

5 Connecting the clamp sensor cable



Connect the cable from the current clamp to the MS12's input port. Take care of connecting the black and red cable as shown in the drawing on the left. Only apply gentle force when fastening the two screws.

6 Powering Up

Switch the main electricity supply back on. Activate the MS12 by connecting the power plug.

Welcome, you are now part of Flukso community; you should be able to check your power status in Flukso website: www.flukso.net.

NOTE:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These

limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Warning: According to ERC RECOMMENDATION 70-03, Frequency 2400-2483.5 MHz can be used in EU member states and EFTA countries except France.