4neXt s.r.l.s.
Via L. da Vinci, 15
30030 Vigonovo (VE)
Italia

E: info@4next.eu
W: www.4next.eu
P: +39 049 0981450

USER MANUAL
MDB-W

WIFI SERIAL BRIDGE

Index of contents

Summary

1. General description

MDB-W is a bidirectional converter between a WiFi network and RS232 / RS485 serial channels.

It therefore allows all devices equipped with a serial port to communicate with software or cards based on TCP/IP communication of a Wireless LAN.

MDB-W also acts as an RS232 / RS485 converter. The integrated WiFi module allows the device to be configured easily and directly via the integrated web server.

Galvanic isolation of the serial ports guarantees protection for all connected instruments and ensures isolation from the rest of the system.

MDB-W works in a protocol-independent way, connecting all TCP/IP-based protocols with the serial in a completely transparent way. This simplifies the configuration and installation of the bridge.

This WiFi - Serial converter has been specially designed for industrial environments with an extended range power supply of 10-30 VDC.

It does not require any additional software for configuration.

Content of the pack

MDB-W is available in the following versions.

Single product:

P/N: MDB-W

- n. 1 MDB-W
- n. 1 Quick start

2. Technical features

GENERAL	SOFTWARE
WiFi 802.11 b/g/n, WPA, WPA2, WPS	ModBus TCP/ModBus RTU to RS485 conversion
Access point or client mode	ModBus TCP/ModBus RTU to RS232 conversion
RS485 optoisolated	ModBus RTU RS485/RS232 conversion
RS232 optoisolated (Rx, Tx, GND)	Bi-directional protocol conversions on all channels
Serial communication speed up to 115,200 bit/s	Quick and easy configuration via integrated web server
	Default parameters: IP: 192.168.1.101 DHCP disabled 9600 bps

MECHANICAL	ENVIRONMENTAL
IP41 plastic case for DIN rail	Operating temperature: -20°C ÷ 60°C
Size: 18 x 90 x 60 mm, 1 DIN module	Relative humidity: from 0 to 80% without condensation
	Storage temperature: -40°C ÷ 60°C

POWER SUPPLY AND CONSUMPTION
Power supply 10-30 VDC
Average consumption 30mA

SAFETY INFORMATION

- **The use of radio devices may be inappropriate near electronic equipment.**
- **Do not install the MDB-W near medical devices such as pacemakers or hearing aids. MDB-W can interfere with the proper functioning of these devices.**
- **MDB-W must not be used on board aircraft.**
- **Do not install MDB-W near oil station, fuel depots, chemical plants, explosion sites as MDB-W can disturb the operation of technical equipment.**
- **MDB-W can generate interference if used near television, radio or personal computers.**
- **In order to avoid possible damage, we reccomend the use of accessories tested and specified as compatible with MDB-W.**

3. Quick Start

3.1 Power supply

Connect MDB-W to a 10-30 VDC power supply unit (Fig.1).

N.B. MDB-W is reverse polarity protected, but polarity must be observed for correct operation.

Fig. 1 *Power supply connection*

3.2 RS232 & RS485 serials

Fig. 2 *RS232 and RS485 serial connections*

MDB-W can bridge both an RS485 and an RS232 serial port. Terminals for connecting the serial ports are as in Fig.2.

3.3 Ethernet

MDB-W has an Ethernet RJ-45 connector, but at the moment it is not used.

Fig. 3 *Ethernet connector*

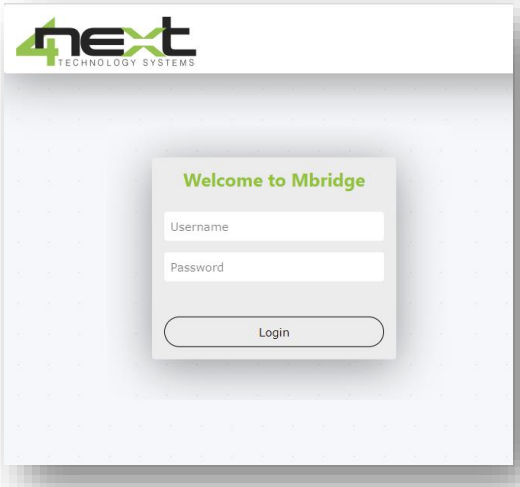


Fig. 4 *Login browser screen*

3.4 Access and configuration

MDB-W has an integrated WEB server, therefore you can configure it through a standard browser. For the configuration you need to access the WiFi network published by MDB-W and modify the settings from the web pages it publishes.

These the steps to follow:

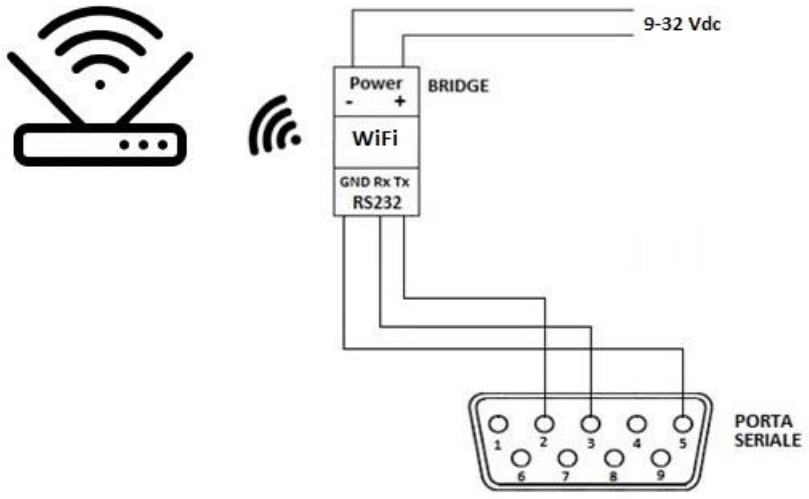
1. Connect from your PC to MDB-W Wi-Fi.
   Each MDB-W provides its own network with the name MDBW<serial number>, e.g. if the serial number is 002100100 the available network will be MDBW002100100
2. To connect to the network, enter the password, which by default is: 123456789.
3. Once connected, open your web browser and type in 192.168.4.1

The first screen (Fig. 4) is the authentication page using username and password.

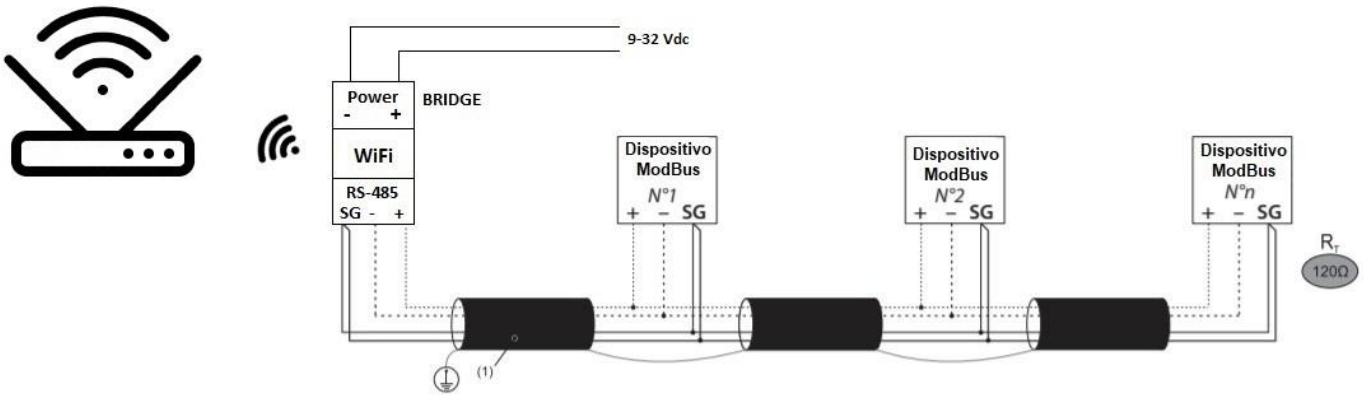
Default values are:
Username: **admin**
Password: **admin**

After logging in, you have access to the configuration web pages described in detail in chapter 4.

WiFi - RS232 connection scheme



WiFi - RS485 connection scheme



By reading the QR code below you will access the MDB-W WEB page:

MDB-W WEB page

4. Programming

Main menu

4.1 Communications

The communications menu allows you to set all communication parameters for all channels. In detail, there are the following sections:

- **RS485**: for RS485 serial channel parameters (Communication speed, number of bits, stop bits and parity)
- **RS232**: for RS232 serial channel parameters (Communication speed, number of bits, stop bits and parity)
- **ModBus Server**: the port used by the ModBus server (MDB-W) which, together with the IP address, forms the socket on which MDB-W listens to receive ModBus TCP packets.
- **ModBus Client**: an additional ModBus TCP client that can be updated with transferred data

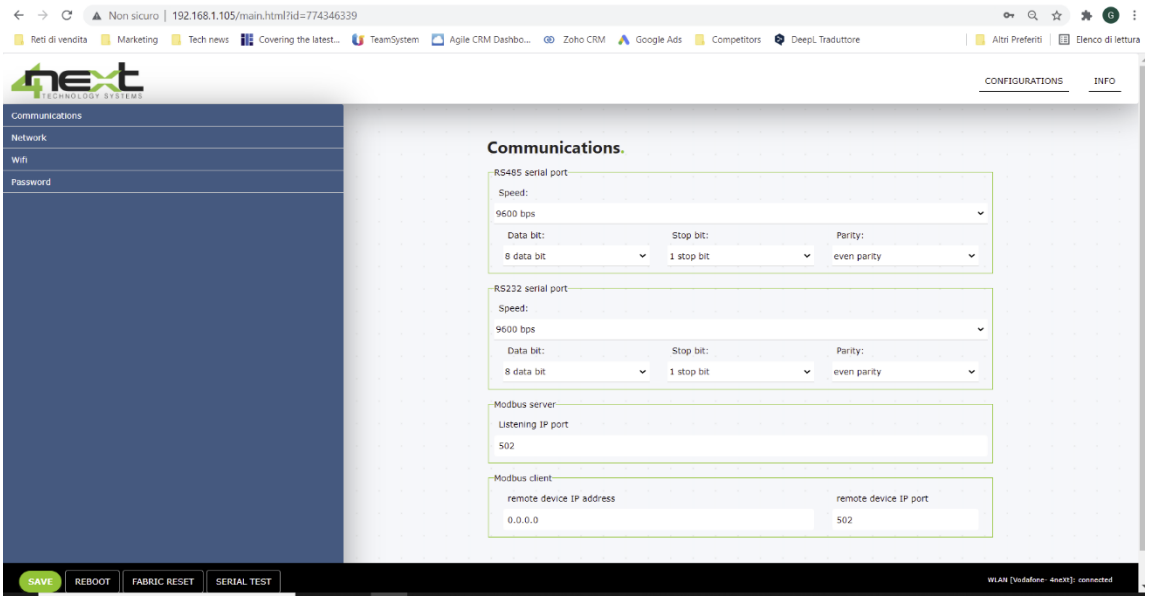


Fig.4.1 *Communications mode selection screen*

4.2 Network

This allows parameters of the LAN network to which MDB-W is connected to be entered, in order to make it communicate with servers for sending data. In detail, these are the parameters to be configured:

- DHCP: allows you to determine whether the network DHCP server should be used to assign the IP address or not

- IP address: the static IP address assigned to MDB-W

- IP network mask: the subnet mask or netmask is used to determine the range of IP addresses within a subnet

- IP gateway: IP address of the reference gateway

- HTTP server port: http server port when different from standard 80 or 8080

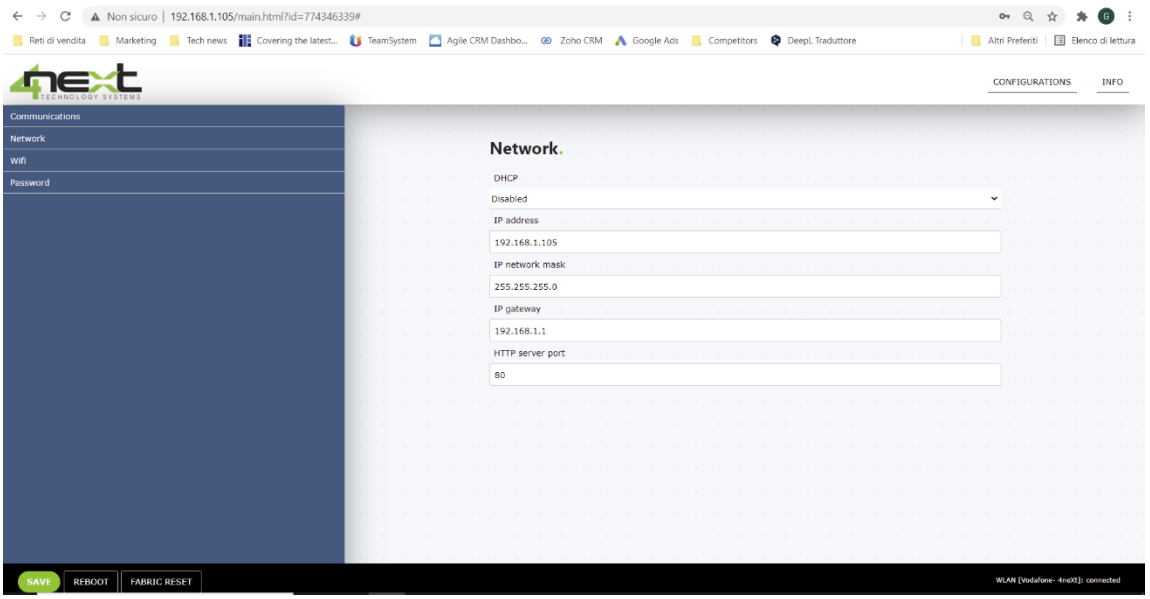


Fig. 4.2 *Network settings*

4.3 WiFi

This screen defines the Wi-Fi network to which MDB-W will connect as a client.

The exact name of the network must be entered in the "SSID Name" field. A button is available to scan and choose the exact network from a list.

"Password" is the password for accessing the network.

Always remember to press the Save button before exiting the screen.

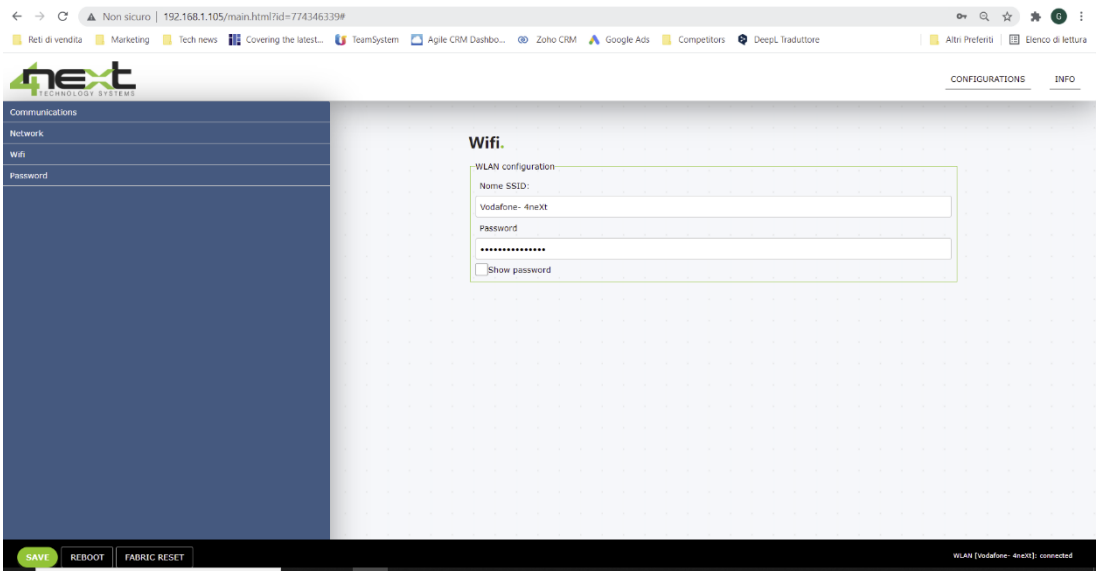


Fig. 4.3 *WiFi settings*

4.4 Password

Set the password to access to the MDB-W configuration page.

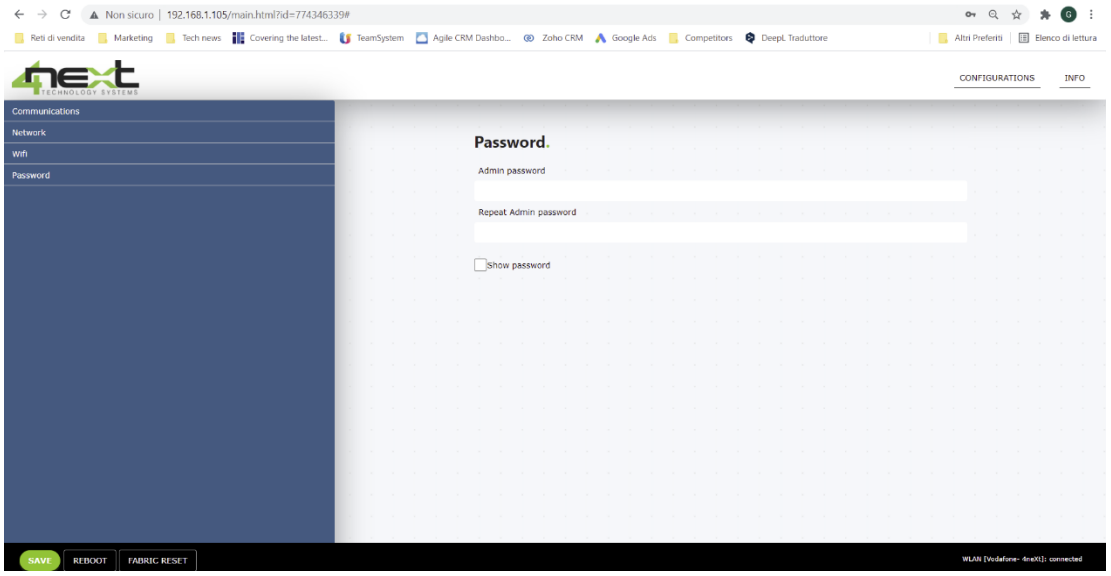


Fig. 4.4 *Changing access password screen*

4.5 Info

The info menu displays hardware and software information about the device.

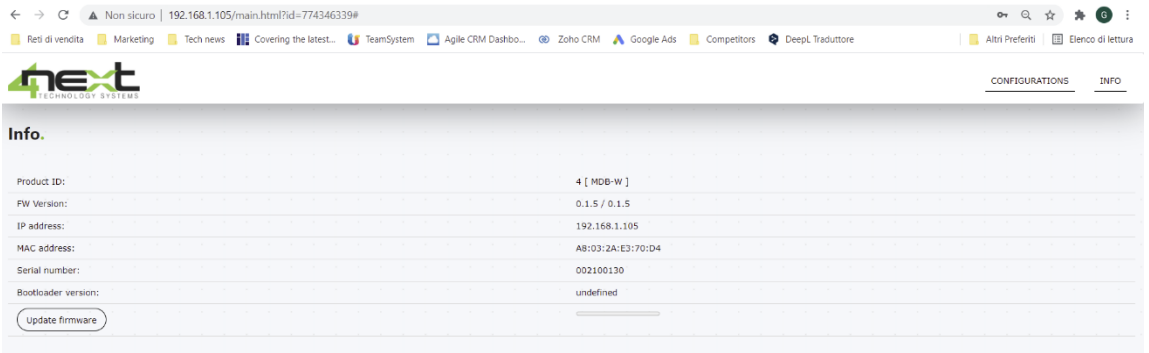


Fig. 4.5 *General information screen*

The Update firmware button allows you to update the firmware on your device. We recommend that you always check at https://www.4next.eu/prodotto/convertitore-wifi-seriale/ to see if the firmware is up to date.

5. Return and repair

Return for repair or replacement must be authorised in advance by requesting an RMA number.

Then send by e-mail to support@4next.eu or to your dealer/reseller a form containing the following information:

- Company name and customer data (address, telephone, fax, e-mail)
- Contact person
- Point of purchase
- Product data P/N and S/N located on the back of each product or on the original box
- Detailed description of the fault or anomaly detected

4neXt will send the RMA number with which the customer can send the material for repair. The products must be sent carriage paid.

If the material arrives without factory seals it will automatically be considered "out of warranty".

Technology systems
FOR YOUR BUSINESS

WWW.4NEXT.EU

4neXt s.r.l.s.

Via L. da Vinci, 15

30030 Vigonovo (VE)

Italia

E: info@4next.eu

W: www.4next.eu

P: +39 049 0981450