

# EVlink Wi-Fi

Wi-Fi Module



**IMPORTANT**

Read this document carefully before installation and before using the device and take all the prescribed precautions. Keep this document with the device for future consultation. Only use the device in the ways described in this document.

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# 1 INTRODUCTION

## 1.1 Initial information

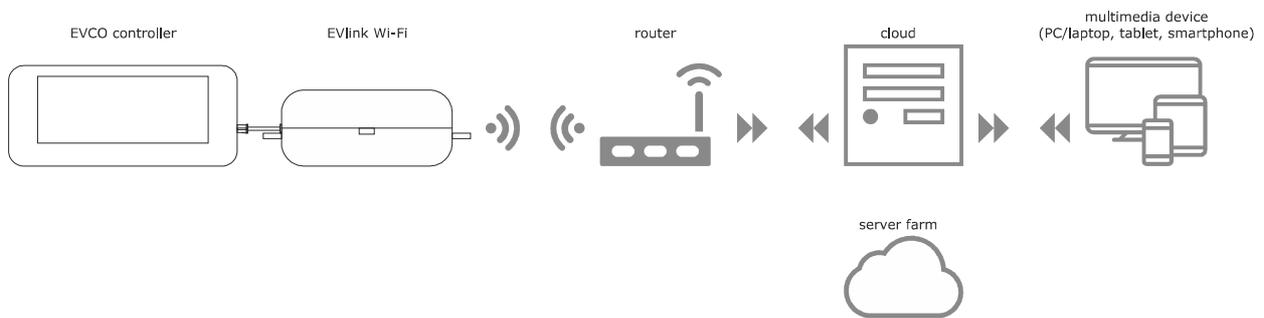
EVlink Wi-Fi is a hardware module with built-in Wi-Fi connectivity that can be connected to EVCO controllers to access the functions of the EPoCA cloud system. It is available with the TTL or RS-485 communications port and can be powered by the controller or the mains, depending on the power of the controller. If powered by the mains, ensure the correct 12 VAC/15 VDC cabling is used.

## 1.2 Main features

Purchasing code	EVIF25TWX	EVIF25SWX
Power supply	controller-powered (depending on the type of controller) or independently powered 12 VAC/15 VDC	controller-powered (depending on the type of controller) or independently powered 12 VAC/15 VDC
Clock	•	•
Communications port	TTL MODBUS	RS-485 MODBUS

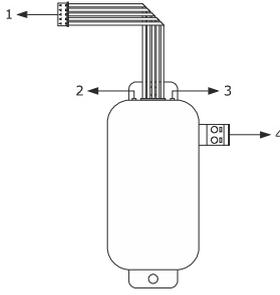
 N.B.  
The compatibility of the controller with the EPoCA remote monitoring system and the possibility of powering EVlink Wi-Fi from the controller depend on the type of controller. See the document "EPoCA - List of compatible controllers" available on the website [www.evco.it](http://www.evco.it) and/or the label on the controller.

## 1.3 Schematic diagram



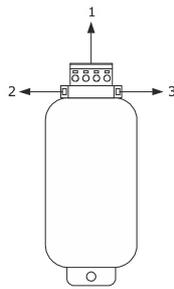
## 2 DESCRIPTION

### 2.1 Description EVIF25TWX



Part	Description
1	Pico-Blade connector (TTL MODBUS port)
2	Red LED (MODBUS communication status)
3	Green LED (Wi-Fi communication status)
4	Plug-in screw terminal block (independent power supply)

### 2.2 Description EVIF25SWX

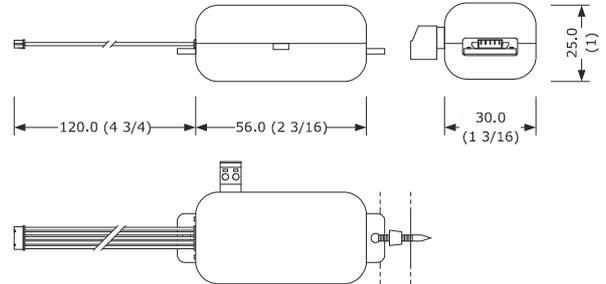


Part	Description
1	Plug-in screw terminal block (RS-485 MODBUS port)
2	Red LED (MODBUS communication status)
3	Green LED (Wi-Fi communication status)

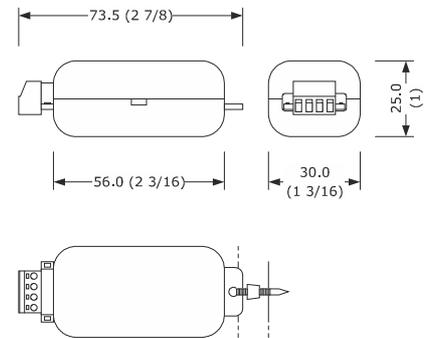
## 3 MEASUREMENTS AND INSTALLATION

Measurements in mm (inches); to be fitted to a hard surface with a cable tie (not provided).

### 3.1 Measurements and installation EVIF25TWX



### 3.2 Measurements and installation EVIF25SWX

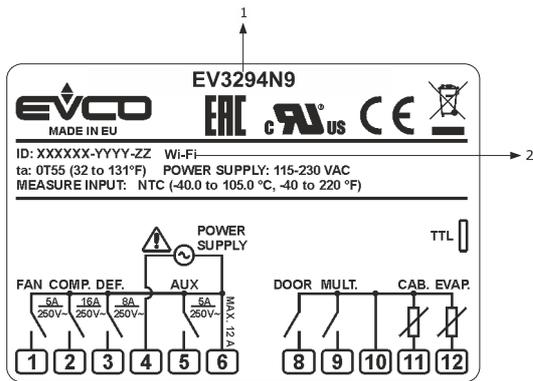


- INSTALLATION PRECAUTIONS**
- Ensure that the working conditions are within the limits stated in the TECHNICAL SPECIFICATIONS section
  - Install the device where the Wi-Fi signal is strong
  - Do not install the device close to metal parts which may impede Wi-Fi communication
  - Do not install the device close to heat sources, equipment with a strong magnetic field, in places subject to direct sunlight, rain, damp, excessive dust, mechanical vibrations or shocks
  - In compliance with safety regulations, the device must be installed properly to ensure adequate protection from contact with electrical parts. All protective parts must be fixed in such a way as to need the aid of a tool to remove them

## 4 ELECTRICAL CONNECTION

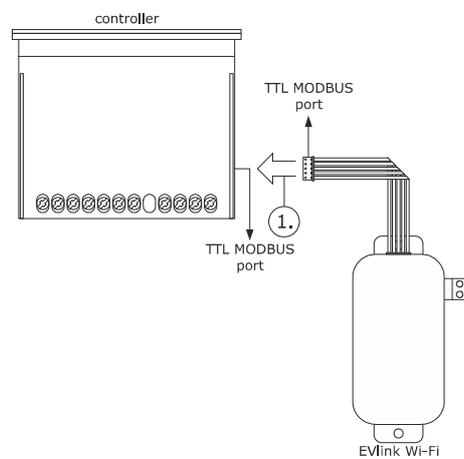
	<p>N.B.</p> <ul style="list-style-type: none"> <li>- The compatibility of the controller with the EPoCA remote monitoring system and the possibility of powering EVlink Wi-Fi from the controller depend on the type of controller. See the document "EPoCA - List of compatible controllers" available on the website <a href="http://www.evco.it">www.evco.it</a> and/or the label on the controller</li> <li>- Do not power more than one EVlink Wi-Fi with the same power supply</li> <li>- If EVlink Wi-Fi is to be independently powered, do not power it with the same power supply as the controller connected to EVlink Wi-Fi</li> <li>- The battery of EVlink Wi-Fi is charged by the power supply of the device or by the independent power supply: for correct operation, the battery must be fully charged at least once a year</li> <li>- To reduce any electromagnetic interference, locate the power cables as far away as possible from the signal cables</li> </ul>
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### 4.1 Example of controller label



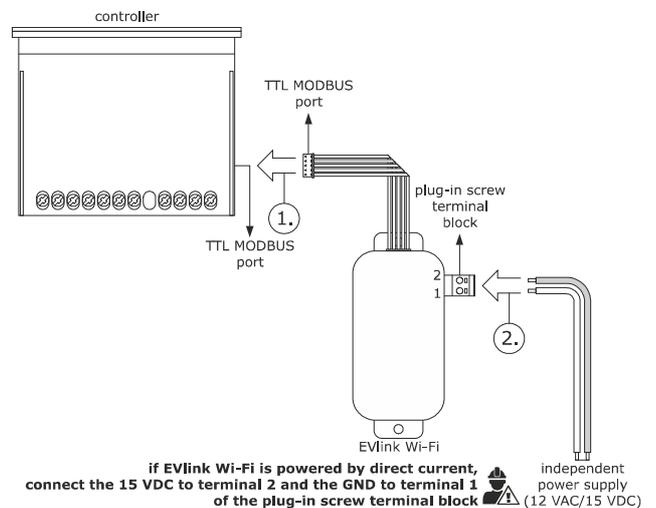
Part	Description						
1	Purchasing code						
2	Additional information						
	<table border="1"> <thead> <tr> <th>Abbreviation</th> <th>Meaning</th> </tr> </thead> <tbody> <tr> <td>Wi-Fi</td> <td>The controller is compatible with the EPoCA system and is able to power EVlink Wi-Fi</td> </tr> <tr> <td>Wi-Fi + PS</td> <td>The controller is compatible with the EPoCA system but the EVlink Wi-Fi module must be independently powered</td> </tr> </tbody> </table>	Abbreviation	Meaning	Wi-Fi	The controller is compatible with the EPoCA system and is able to power EVlink Wi-Fi	Wi-Fi + PS	The controller is compatible with the EPoCA system but the EVlink Wi-Fi module must be independently powered
Abbreviation	Meaning						
Wi-Fi	The controller is compatible with the EPoCA system and is able to power EVlink Wi-Fi						
Wi-Fi + PS	The controller is compatible with the EPoCA system but the EVlink Wi-Fi module must be independently powered						

### 4.2 Electrical connection of EVIF25TWX to a controller able to power EVlink Wi-Fi



1. Connect the TTL MODBUS port on the EVlink Wi-Fi to the TTL MODBUS port on the controller.  
Before powering up the controller, see the section FIRST-TIME USE.

### 4.3 Electrical connection of EVIF25TWX to a controller unable to power EVlink Wi-Fi

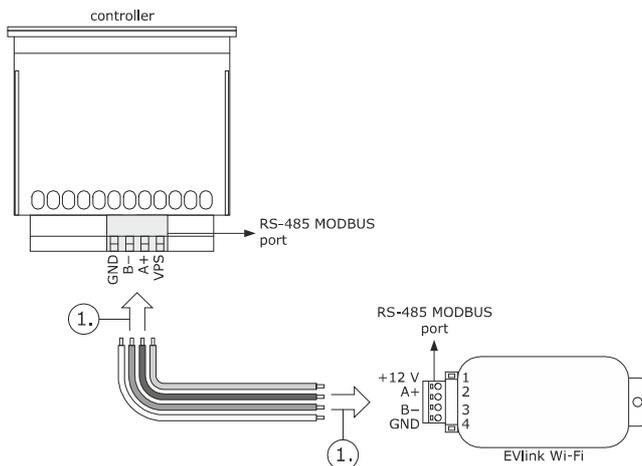


1. Connect the TTL MODBUS port on the EVlink Wi-Fi to the TTL MODBUS port on the controller.
2. 2.1 Connect the end of an independent power supply cable to terminal 1 of the plug-in screw terminal block on EVlink Wi-Fi.
- 2.2 Connect the end of the other independent power supply cable to terminal 2 of the plug-in screw terminal block on EVlink Wi-Fi.

Before powering up the controller and EVlink Wi-Fi, see the section FIRST-TIME USE.

### 4.4 Electrical connection of EVIF25SWX to a controller able to power EVlink Wi-Fi

	N.B.
	<ul style="list-style-type: none"> <li>- Connect the RS-485 using a twisted pair</li> <li>- The maximum permitted length of the RS-485 connection cables is 1000 m (3280 ft) and enables EVlink Wi-Fi to be installed in the most convenient place. Make sure that the voltage supplied to EVlink Wi-Fi is within the limits set in the section TECHNICAL SPECIFICATIONS</li> </ul>

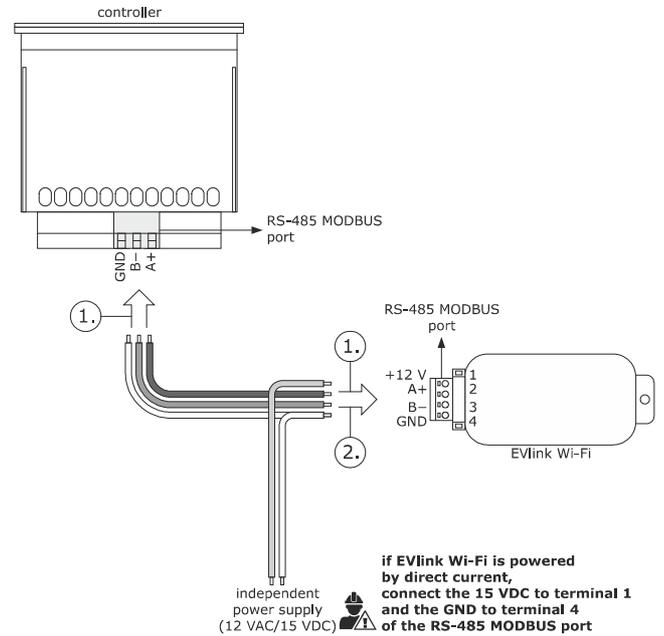


1. 1.1 Connect terminal 4 of the EVlink Wi-Fi RS-485 MODBUS (GND) port to the GND terminal of the RS-485 MODBUS port of the controller.
- 1.2 Connect terminal 3 of the EVlink Wi-Fi RS-485 MODBUS (B-) port to the B- terminal of the RS-485 MODBUS port of the controller.
- 1.3 Connect terminal 2 of the EVlink Wi-Fi RS-485 MODBUS (A+) port to the A+ terminal of the RS-485 MODBUS port of the controller.
- 1.4 Connect terminal 1 of the EVlink Wi-Fi RS-485 MODBUS (+12 V) port to a terminal on the controller that is able to supply 12 VAC/15 VDC (VPS).

Before powering up the controller and EVlink Wi-Fi, see the section FIRST-TIME USE.

### 4.5 Electrical connection of EVIF25SWX to a controller unable to power EVlink Wi-Fi

	N.B.
	Connect the RS-485 using a twisted pair



1. 1.1 Connect terminal 4 of the EVlink Wi-Fi RS-485 MODBUS (GND) port to the GND terminal of the RS-485 MODBUS port of the controller.
- 1.2 Connect terminal 3 of the EVlink Wi-Fi RS-485 MODBUS (B-) port to the B- terminal of the RS-485 MODBUS port of the controller.
- 1.3 Connect terminal 2 of the EVlink Wi-Fi RS-485 MODBUS (A+) port to the A+ terminal of the RS-485 MODBUS port of the controller.
2. 2.1 Connect terminal 4 of the EVlink Wi-Fi RS-485 MODBUS (GND) port to the end of an independent power supply cable.
- 2.2 Connect terminal 1 of the EVlink Wi-Fi RS-485 MODBUS (+12 V) port to the end of the other independent power supply cable.

Before powering up the controller and EVlink Wi-Fi, see the section FIRST-TIME USE.

#### PRECAUTIONS FOR ELECTRICAL CONNECTION

- If the device is moved from a cold to a warm place, humidity may cause condensation to form inside. Wait for about an hour before connecting it to the controller or the independent power supply
- Disconnect the device from the controller or the independent power supply before carrying out any type of maintenance
- For repairs and for further information, contact the EVCO sales network

## 5 FIRST-TIME USE

	<p>N.B.</p> <ul style="list-style-type: none"> <li>- EVlink Wi-Fi uses an encrypted connection with TLS technology and occupies the TCP 8883 port. Make sure this firewall port (both the port of the user's local network and the one managed by the Internet service provider) is open for outgoing communications (contact the IT manager)</li> <li>- Ensure the user has a multimedia device (PC/laptop, tablet, smartphone) with a web browser installed and that the device is able to upload and download files. If the device has an iOS operating system, files can only be uploaded and downloaded if the user has an iCloud account and if access to this service has previously been made with the device</li> <li>- Ensure the Wi-Fi on the device is on</li> </ul>
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In the **Security key** field enter the password found on the label of the EVlink Wi-Fi (typically **epocawifi**).

8. Open the web browser on the multimedia device.  
Enter the address found on the label of the EVlink Wi-Fi (typically **192.168.4.1**) in the address bar.



### 5.1 First-time use of EVlink Wi-Fi

1. Power up the controller and make sure the bLE parameter (enable EVlink) is set to 1; see the controller instructions.
2. Disconnect the controller.
3. Carry out the installation of EVlink Wi-Fi as shown in the section MEASUREMENTS AND INSTALLATION.
4. Connect EVlink Wi-Fi as shown in the section ELECTRICAL CONNECTION.
5. Power up the controller and connect the independent EVlink Wi-Fi power supply, if used, to the power source.

EVlink Wi-Fi will go into *temporary set-up mode*. During this mode:

- EVlink Wi-Fi acts as both an access point (identifying a Wi-Fi network called **Epoca** followed by 6 alphanumeric characters, for example **Epoca279A8E**) and a data logger for the connected controller
- there is no connection with the cloud server.

After 120 s (240 for the first-time use) in *set-up mode*, EVlink Wi-Fi will automatically go into *run mode* if the control panel has not been accessed (point 9 of this paragraph). During this mode:

- EVlink Wi-Fi acts as a data logger for the connected controller
- there is no connection with the cloud server.

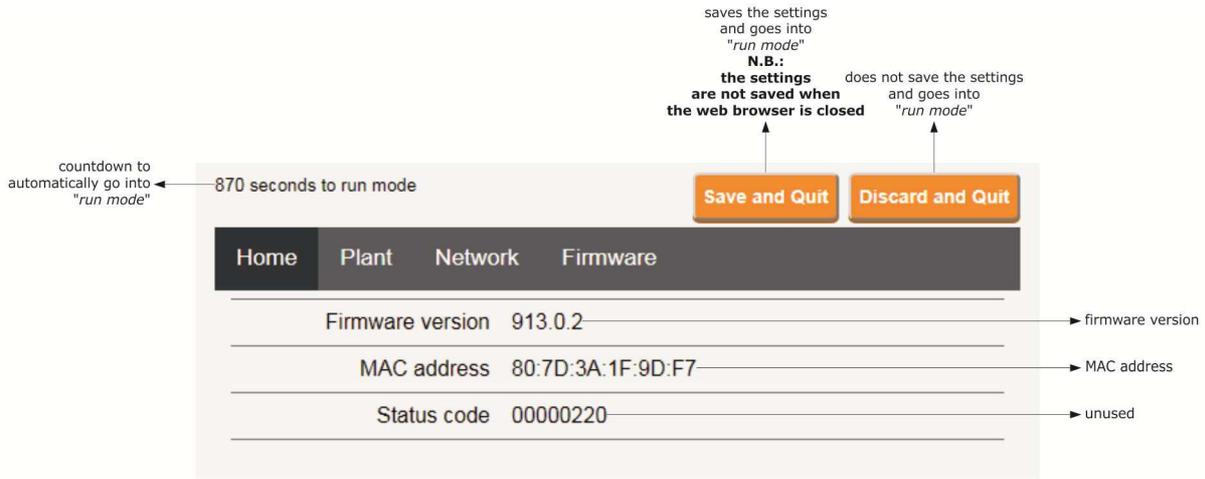
6. Scan the Wi-Fi networks using the multimedia device and identify a network called **Epoca** followed by 6 alphanumeric characters.



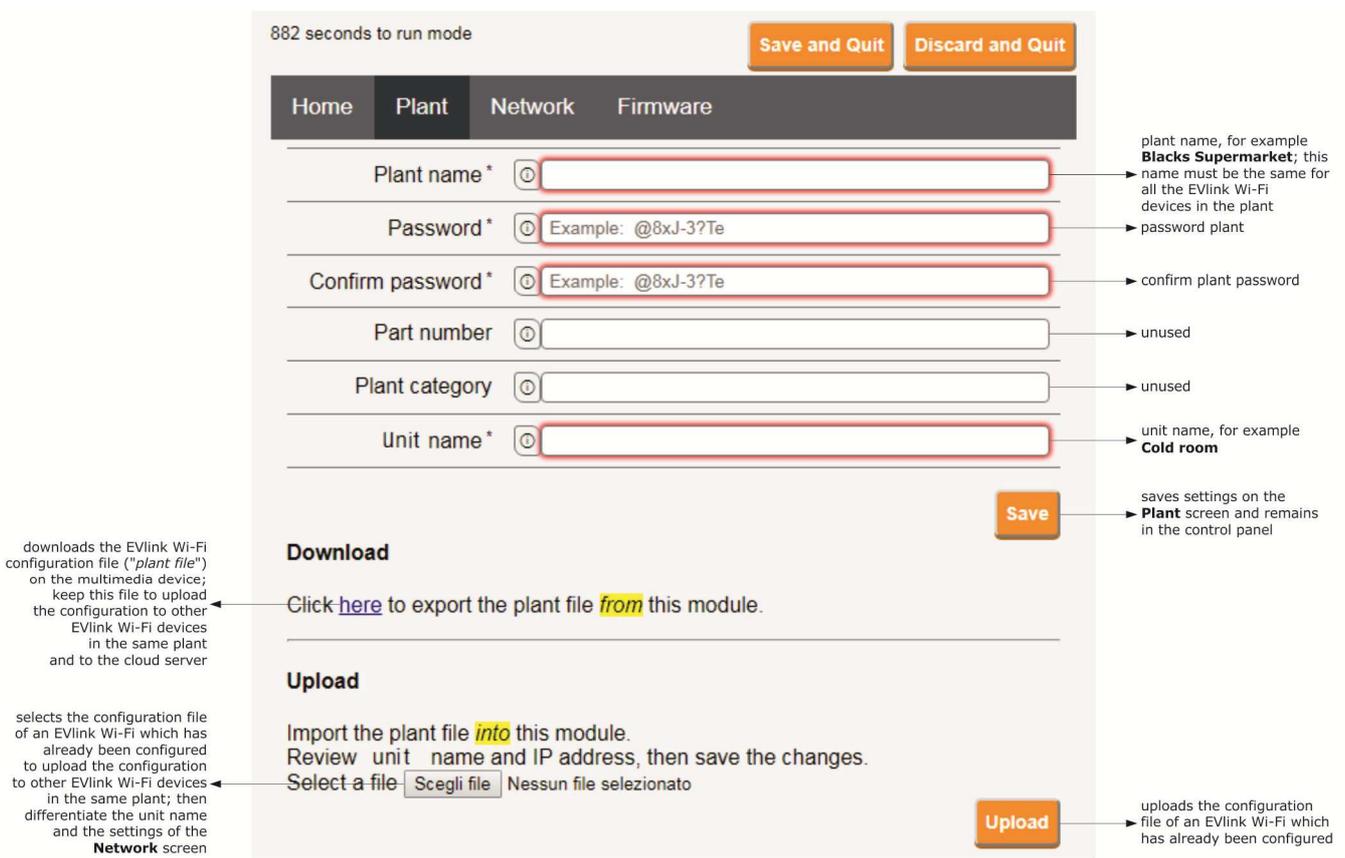
If the scan detects more than one network called **Epoca**, make sure only one EVlink Wi-Fi is being powered.

7. Connect to the **Epoca** network.

9. The **Home** screen of the EVlink Wi-Fi control panel will be displayed.  
 EVlink Wi-Fi will go into *temporary set-up mode*. During this mode:
  - EVlink Wi-Fi acts as an access point but it cannot be accessed with another multimedia device
  - there is no connection with the cloud server.
 After 5 min in *set-up mode*, EVlink Wi-Fi will automatically go into *run mode* if the control panel has not been accessed.



10. Select the **Plant** screen on the EVlink Wi-Fi control panel. The fields in red are mandatory.



11. Select the **Network** screen on the EVlink Wi-Fi control panel.

897 seconds to run mode

Save and Quit Discard and Quit

Home Plant **Network** Firmware

IP assignment  Static  Dynamic

Detected networks \* (scan every 20 sec) Scanning... please wait

Security key

Connect to cloud  Yes  No

Broker location  Default  Custom

Test DNS

Reset Connect

assigns a static IP address (**Static**, typical of large local networks and assigned manually by an IT manager) or a dynamic IP address (**Dynamic**, typical of medium/small local networks and assigned automatically by a router)

sends (**Yes**)/does not send (**No**) the controller data to the cloud server

unused (do not change)

deletes the setting of the **Plant** and **Network** screens

Wi-Fi networks detected

security key of the Wi-Fi network selected from those detected

carries out a DNS test; used for diagnostic purposes after configuring the **Network** screen

connects the Wi-Fi network selected from those detected and saves the settings

If the IP addresses are statically assigned, select the **Static** button.

865 seconds to run mode

Save and Quit Discard and Quit

Home Plant **Network** Firmware

IP assignment  Static  Dynamic

IP address

Subnet mask

Gateway

Primary DNS

Secondary DNS

Detected networks \* (scan every 20 sec) Scanning... please wait

Security key

Connect to cloud  Yes  No

Broker location  Default  Custom

Test DNS

Reset Connect

assigns a static IP address (**Static**, typical of large local networks and assigned manually by an IT manager) or a dynamic IP address (**Dynamic**, typical of medium/small local networks and assigned automatically by a router)

sends (**Yes**)/does not send (**No**) the controller data to the cloud server

unused (do not change)

deletes the setting of the **Plant** and **Network** screens

IP address

subnet mask

gateway

primary DNS

secondary DNS

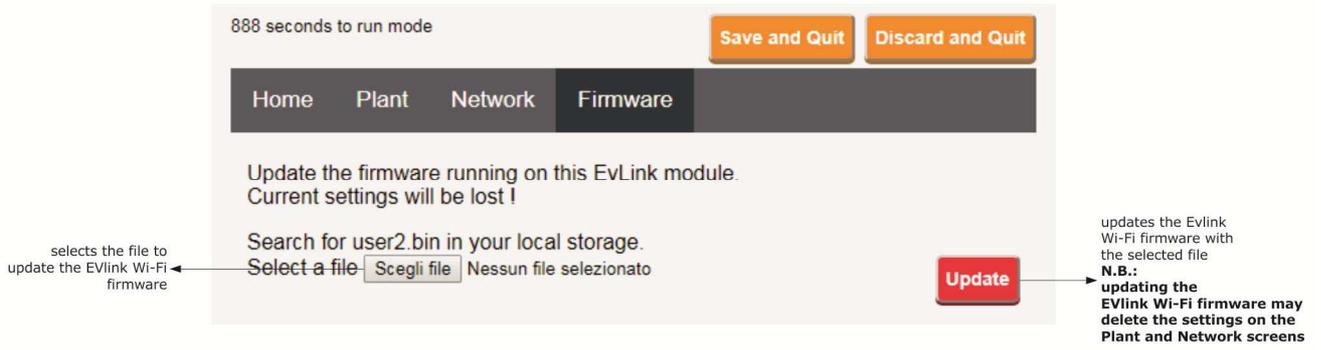
Wi-Fi networks detected

security key of the Wi-Fi network selected from those detected

carries out a DNS test; used for diagnostic purposes after configuring the **Network** screen

connects the Wi-Fi network selected from those detected and saves the settings

12. Select the **Firmware** screen on the EVlink Wi-Fi control panel.



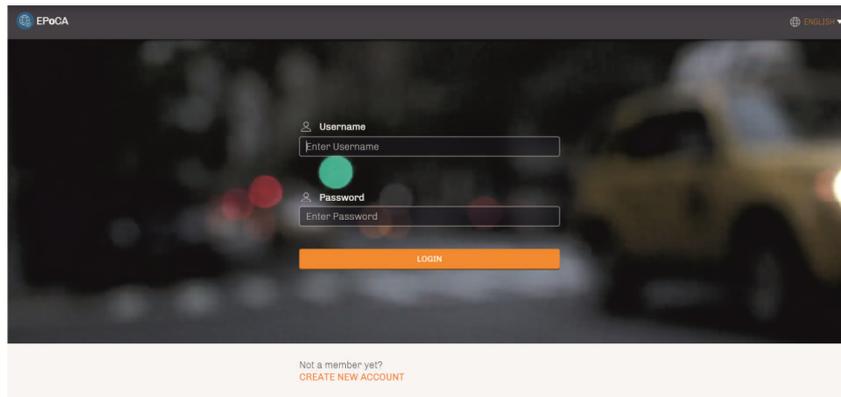
13. Disconnect the controller and disconnect the independent EVlink Wi-Fi power supply, if used, from the power source.
14. Power up the controller.
15. Connect the independent EVlink Wi-Fi power supply, if used, to the power source.

## 5.2 Description of the EVlink Wi-Fi LEDs

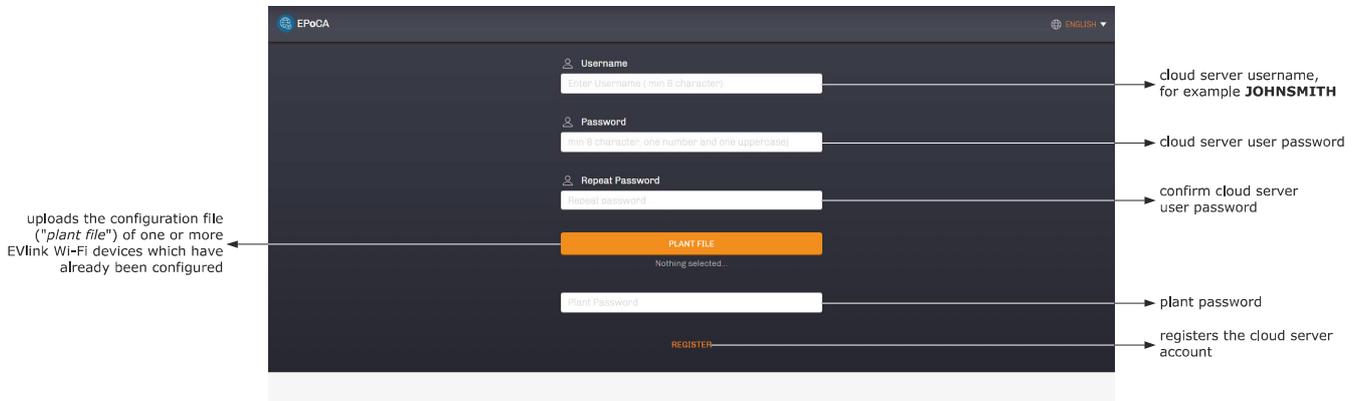
LED	ON	OFF	SLOW FLASH	RAPID FLASH
red (MODBUS communication status)	-	no MODBUS activity	MODBUS activity	-
green (Wi-Fi communication status)	connection with both the Wi-Fi network and the cloud server		no connection with the Wi-Fi network	connection with the Wi-Fi network, no connection with the cloud server

### 5.3 First access to the cloud server

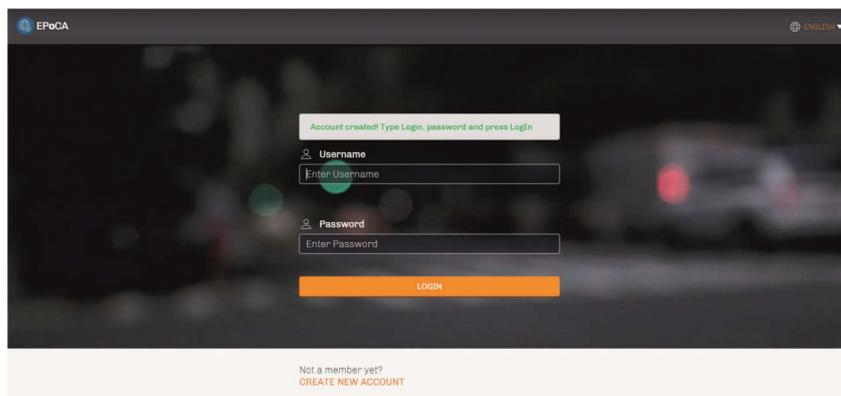
1. Open the web browser on the multimedia device and open the web page **epoca.cloud**. The **Login** screen will be displayed.



2. Select **CREATE NEW ACCOUNT**. The **New account** screen will be displayed.



3. Select **REGISTER**. The **Account created OK** screen will be displayed.



## 6 SUBSEQUENT USES

	N.B. Any modifications to the configuration of EVlink Wi-Fi must be made on site on all the EVlink Wi-Fi devices in the same plant
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### 6.1 Subsequent uses of EVlink Wi-Fi

- Scan the Wi-Fi networks using the multimedia device and identify a network called **Epoca** followed by 6 alphanumeric characters and the name of the device, for example **Epoca279A8E Cold room**.



- Connect to the **Epoca** network.  
In the **Security key** field enter the password found on the label of the EVlink Wi-Fi (typically **epocawifi**).
- Open the web browser on the multimedia device.  
Enter the address found on the label of the EVlink Wi-Fi (typically **192.168.4.1**) in the address bar.

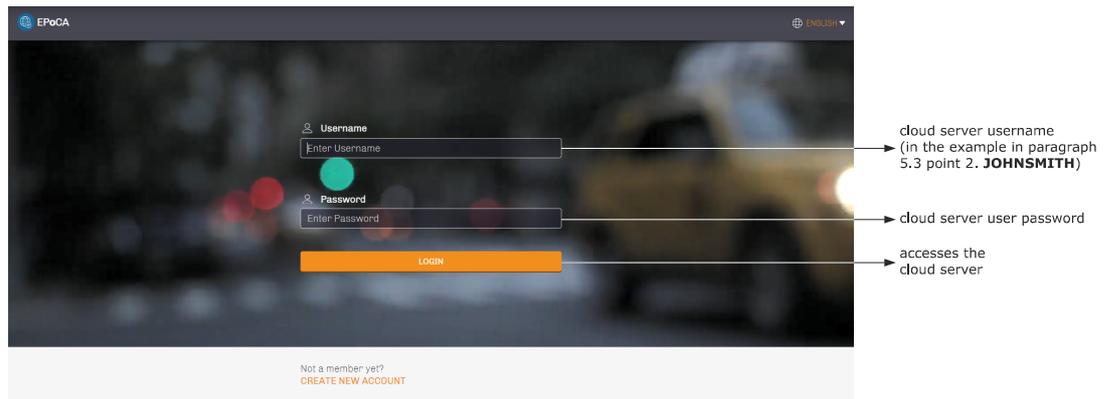


- The **Login** screen will be displayed.



## 6.2 Subsequent accesses to the cloud server

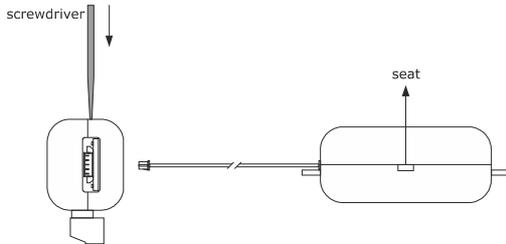
1. Open the web browser on the multimedia device and open the web page **epoca.cloud**. The **Login** screen will be displayed.



## 7 RESETTING THE FACTORY SETTINGS

 **N.B.**  
Resetting the factory settings deletes the settings on the **Plant** and **Network** screens but does not cancel the data recorded by the EVlink Wi-Fi data logger.

1. Disconnect the controller and any independent power supply to EVlink Wi-Fi from the power source.
2. Remove the top cover of EVlink Wi-Fi by gently applying pressure with a screwdriver in the slot.



3. Make a note of the password on the label inside the top cover of EVlink Wi-Fi.



4. Click the top cover of EVlink Wi-Fi back into place.
5. Power up the controller and connect the independent EVlink Wi-Fi power supply, if used, to the power source.

6. Scan the Wi-Fi networks using the multimedia device and identify a network called **Epoca** followed by 6 alphanumeric characters and the name of the device, for example **Epoca279A8E Cold room**.



7. Connect to the **Epoca** network.  
In the **Security key** field enter the password found on the label of the EVlink Wi-Fi (typically **epocawifi**).
8. Open the web browser on the multimedia device.  
Enter the address found on the label of the EVlink Wi-Fi (typically **192.168.4.1**) in the address bar.



9. The **Login** screen will be displayed.  
Type in **resetPlant** in the **Plant name** field. Enter the password found on the label inside the top cover of EVlink Wi-Fi in the **Plant password** field.



## 8 TECHNICAL SPECIFICATIONS

Housing	black, self-extinguishing
Category of heat and fire resistance	D
Measurements	
for EVIF25TWX	176.0 x 30.0 x 25.0 mm (6 15/16 x 1 3/16 x 1 in)
for EVIF25SWX	56.0 x 30.0 x 25.0 mm (2 3/16 x 1 3/16 x 1 in)
Mounting method for the device	on a hard surface with a cable tie (provided)
Degree of protection provided by the casing	IP00
Connection method	
for EVIF25TWX	plug-in screw terminal block for wires up to 1.5 mm <sup>2</sup> , Pico-Blade connector
for EVIF25SWX	plug-in screw terminal block for wires up to 1.5 mm <sup>2</sup>
Maximum permitted length for connection cables	
power supply: 10 m (32.8 ft)	RS-485 MODBUS port: 1000 m (3280 ft)
Operating temperature	from 0 to 55 °C (from 32 to 131 °F).
Storage temperature	from -25 to 70 °C (from -13 to 158 °F)
Operating humidity	relative humidity without condensate from 10 to 90 %
Compliance	
RoHS 2011/65/EC	WEEE 2012/19/EU
REACH (EC) Regulation no. 1907/2006	RED 2014/53/EU
Power supply	powered by the controller (depending on the type of controller) or independently powered 12 VAC ±15% or 15 VDC ±15%, 50/60 Hz (±3 Hz), max. 3.2 VA/2W
Software class and structure	A
Clock	secondary lithium battery
Clock drift	≤ 60 s/month at 25 °C (77 °F)
Clock battery autonomy in the absence of a power supply	> 6 months at 25 °C (77 °F)
Clock battery charging time	24 h (the battery is charged by the power supply of the device or by the independent power supply) for correct operation, the battery must be fully charged at least once a year
Displays	
MODBUS communication status LED	Wi-Fi communication status LED
Communications ports	
for EVIF25TWX	TTL MODBUS
for EVIF25SWX	RS-485 MODBUS
Connectivity	Wi-Fi
Wi-Fi output power (EIRP)	11b: 67.5 mW and 11g: 71.1 mW, 11n (HT20) 56.5 mW
Wi-Fi frequency range	2,412... 2,472 MHz
Security protocols	open, WEP, WPA/WPA2 Personal aka PSK
Encryption methods	TKIP, CCMP
Unsupported modes	mixed WPA/WPA2 PSK using TKIP + CCMP WPA/WPA2 Enterprise aka EAP

EVlink Wi-Fi  
Installer manual ver. 1.1 rev. A  
PT - 11/19  
Code 144IF25TWXE114



N.B.

The device must be disposed of according to local regulations governing the collection of electrical and electronic equipment.

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