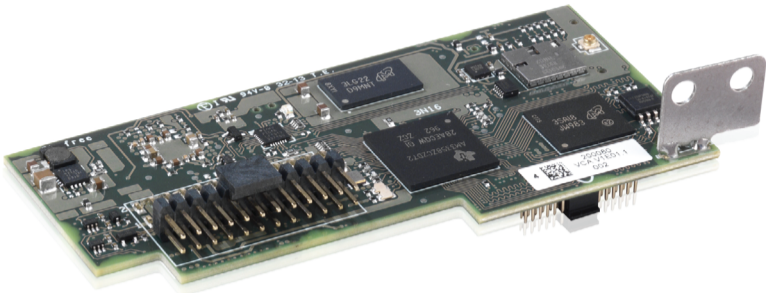


ABB Solar inverters

Quick installation guide

VSN300 WIFI LOGGER CARD

EN

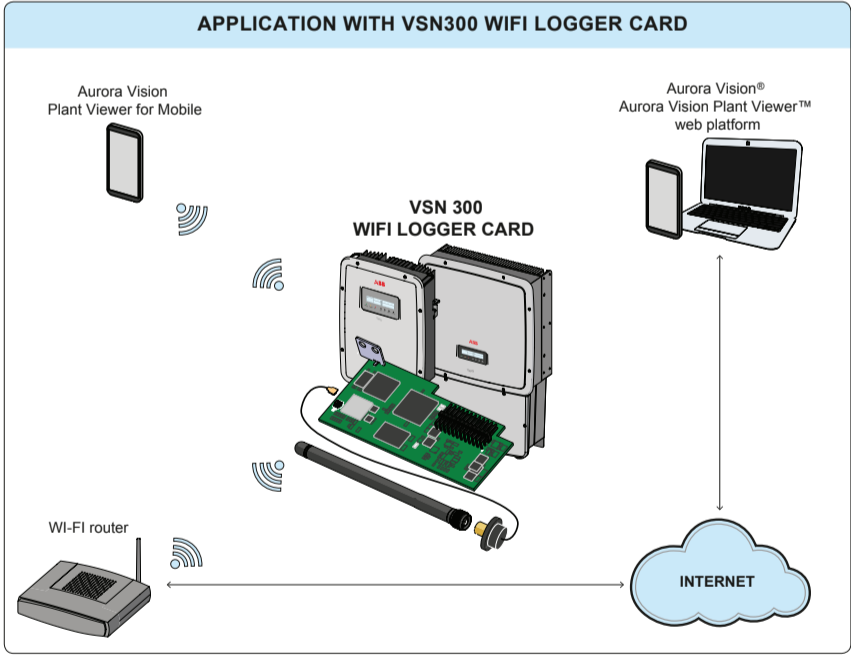


Power and productivity
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The WIFI LOGGER CARD allows to connect the inverter to a local LAN WIFI network via a wireless connection. The WIFI LOGGER CARD features an integrated web server that enables to establish a direct connection to a PC, Smartphone or Tablet, allowing for board configuration and local monitoring of the inverter.

When the inverter is connected to the WLAN network with Internet access, the VSN300 board allows to transfer data to the Aurora Vision Plant Viewer/Aurora Vision® portal for remote monitoring purposes over an Internet browser or Mobile App (Aurora Vision Plant Viewer for Mobile)



The packaging contains all the components required to correctly install and connect the VSN 300 WIFI LOGGER CARD:

Main components		Quantity
	Locking screw	1
	Plastic lock nut	1
	Adaptor kit (gasket and adaptor)	1 + 1
	Antenna connection cable	1
	WIFI antenna	1
	Cable Tie	1
<div>Contains FCC ID: X6W-3N16E</div> <div>OR</div> <div>Contains FCC ID: X6W-3N16M</div>	FCC ID label	1
<div>WIFI LOGGER CARD SN: YYWWSSSSSS  MAC: XX-XX-XX-XX-XX-XX PRODUCT KEY:XXXX-XXXX-XXXX-XXXX</div>	Identification label	1
	Technical documentation	

1. The printed wiring board of the VSN300 WIFI LOGGER CARD will be marked with the following information, identifying the product:
- Manufacturer Mark/Trade Mark
 - CE (European Union) Marking
 - RCM (Australia) Marking
 - FCC ID
- The FCC ID is FCC ID: X6W-3N16E when the WIFI LOGGER CARD is assembled with WiFi radio module supplied by Epcos
- The FCC ID is FCC ID: X6W-3N16M when the WIFI LOGGER CARD is assembled with WiFi radio module supplied by Murata

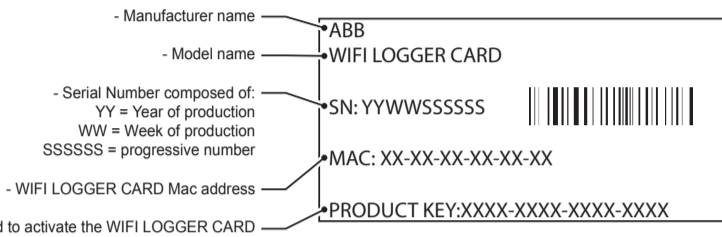
A dedicated label including the FCC ID must be placed in a visible position on the exterior of the Inverter host equipment











FCC (Federal Communications Commission) WARNING

1. 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
2. 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.
3. RF Exposure. This device complies with Part 2.1091 of the FCC Rules for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the antenna and the user.
- Refer to the specific section describing procedures how to integrate and use this device into the host fixed mount inverter.
- Changes or modifications made to this equipment not expressly approved by the Manufacturer may void the FCC authorization to operate this equipment.









The identification label contained on the WIFI LOGGER CARD box have the information of the device and manufacturer.

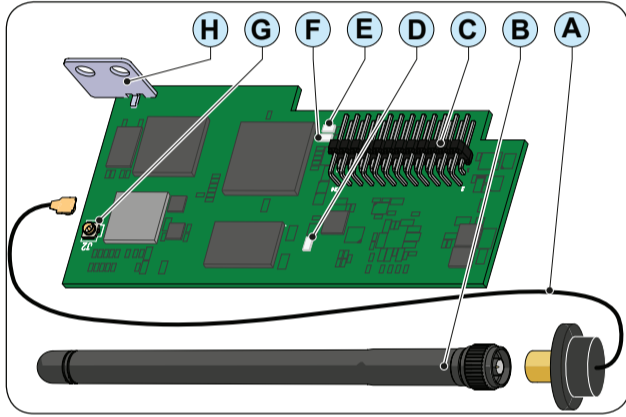






In the manual and/or in some cases on the equipment, the danger or hazard zones are indicated with signs, labels, symbols or icons.

Symbols and icons							
	Always refer to instruction manual		General warning - Important safety information		Hazardous voltage		Hot surfaces
	Protection rating of equipment		Temperature range		Always use safety clothing and/or personal safety devices		Time need to discharge stored energy


2. The main components of the VSN 300 WIFI LOGGER CARD are shown in the figure and described in the following table:

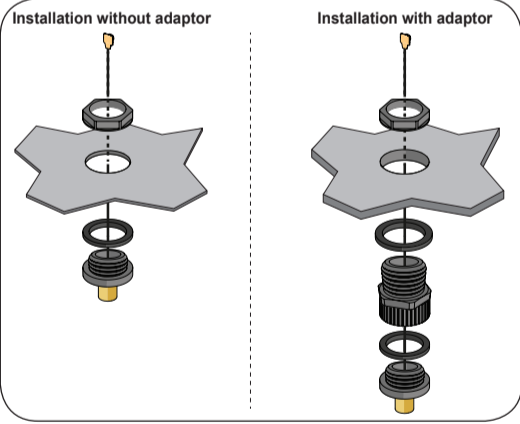
Main components	
	Antenna connection cable
	Antenna (RF Technology Corp. Model EA-79 F RP SMA)
	Connection terminals
	Power LED
	Status LED 2
	Status LED 1
	Coaxial connector
	Mechanical mounting bracket




5. Preliminary operation
-  The inside of the inverter may only be accessed after the equipment has been disconnected from the grid and from the photovoltaic generator.
 -  Turn off the inverter by physically disconnecting the AC and DC voltages, as well as any voltage connected to the multi-function relay.
 -  Wait the time need to discharge stored energy on the inverter and use safety clothing and/or personal safety devices
 -  Open the inverter front cover.

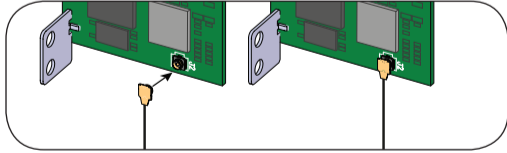
Antenna installation


- The antenna must be installed outside the inverter in place of a service cable gland (size M20)
- Remove one of the M20 service cable gland of the inverter (using a 25mm wrench).
 - Pass the antenna connection cable into the inverter by passing it through the M20 cable gland opening, the plastic lock nut and the adaptor (if used).
 - Affix the antenna bulk head connector to the inverter using the supplied plastic lock nut (tightening torque 5Nm). In some inverter models it is necessary to use the adaptor kit (see annex A) due to the greater thickness of the inverter enclosure. In this case, proceed as follows:
 - Install the gasket on the adaptor
 - Affix the adaptor to the inverter using the supplied plastic lock nut (tightening torque 5Nm).
 - Pass the antenna connection cable into the inverter by passing it through the M20 cable gland opening, the adaptor, the gasket and the nut.
 - Affix the antenna bulk head connector to the adaptor (tightening torque 5Nm).
 - Screw the antenna on the support
 -  Use only antenna type RF Technology Corp. Model EA-79 F RP SMA, or a similar type having equal or lesser gain

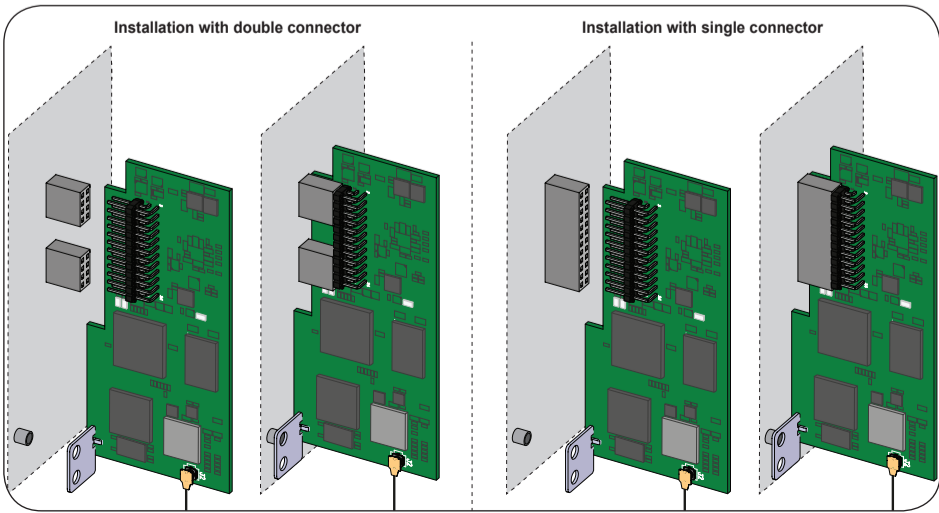


WIFI card installation

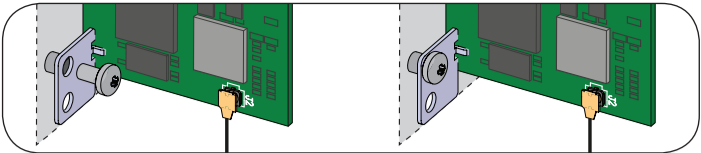
- Take the antenna cable and connect this to the coaxial counterpart present on the WIFI card.
-  During this step, pay special attention that the terminal of the antenna cable is correctly aligned with the counterpart. Do not make pressure on the terminal if it is crooked.



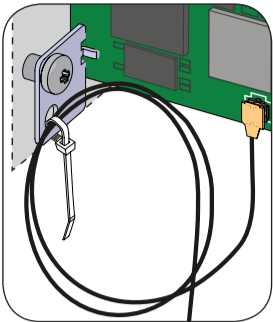
- Install the card by fitting the connection terminals in the dedicated connector located on the inverter board. The connection on the inverter board can be composed of one or two different connectors (see the table on the "Annex A" paragraph) depending on the inverter model.
-  During this step, check that all the terminals are correctly aligned. Any terminal misalignment may result in damage to the WIFI board and/or to the inverter.



- Tighten the locking screw to fix the WIFI board to the inverter. The screw secures the mounting bracket to the anchor point on the inverter.

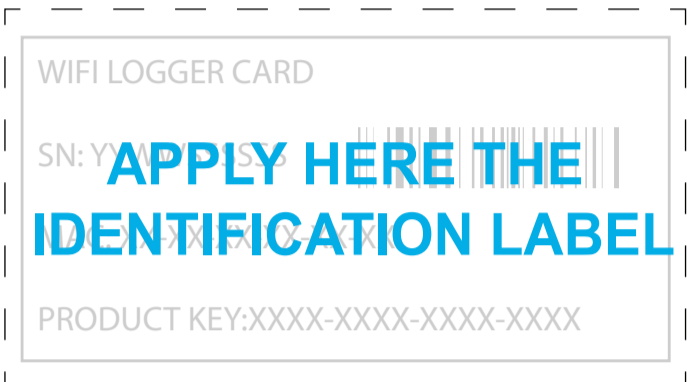


- Fix the antenna connection cable to the hole on the mounting bracket using the supplied cable tie:



- At the end of installation phase, apply the following labels:

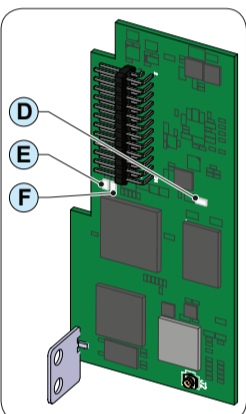
- FCC Label. This label is supplied with the VSN 300 WIFI LOGGER CARD and must be applied near the Regulatory label of the inverter. The FCC label contains the FCC ID of the WIFI LOGGER CARD.
- Identification label. This label is necessary to remember all the identification data of WIFI LOGGER CARD and is recommended to apply it in the dedicated area below.



Save these instructions! The information reported in the above label could be used by the technical Service in case of problems.

The WIFI LOGGER CARD is equipped with 3 status led that can assume the following behavior:

LED	LED Behavior	Description
D	Blinking	WIFI CARD powered
E F	Alternating green and yellow flashing	Start-up phase
E F	Flashing green and yellow together	Initializing Data Partition
E	Solid green	Attached to WLAN
F	Solid yellow	Provisioning Access Point Enabled
E F	Both green and yellow flash 3 times together	Inverter Serial Number Acquired



7.Fill the site information

Site Name

Address

City

Country

State

Zip Code

Next Back

8. Create the User Name and Password of the **guest** user

Users who log in as a "guest" can open and view the contents of your site. However, they will not be able to make any changes

Take note about the credentials you decide to use for the guest user login.

You will now create a guest user. Users who log in as a guest can open and view the contents of your site. However, they will not be able to make any changes.

Next Back

9. Create the User Name and Password of the **admin** user

Users who log in as an "admin" can open and view the contents of your site. Additionally, they can make changes to your settings.

Take note about the credentials you decide to use for the admin user login.

You will now create a admin user. Users who log in as an admin can open and view the contents of your site. Additionally, they can make changes to your settings.

Next Back

10. End of the procedure. The system is now setup.

If you already have an Aurora Vision Plant Viewer/Aurora Vision® account click "done" and go to next step.

If you have not an Aurora Vision Plant Viewer/Aurora Vision® account put the check in the box "Yes, I want to register" and click on "done". You will be redirect to the Aurora Vision Plant Viewer registration procedure

Congratulations

Your system is now setup. Please register your device(s) with Aurora Vision.

Some of the benefits of registering:

- Safeguard Your Investment and Maximize Your Return
- Improved Efficiency
- Lower Life Cycle Costs
- Real-time and Historic Data Presented Using Web-based Devices
- Alarm Functions Notify of a Decrease in Production and Device Communication Failure
- Remote Access to all Data Using Internet Technology

☐ Yes, I want to register.

Done

11. Insert the Aurora Vision Plant Viewer/Aurora Vision® access credentials.

Please sign in to continue

Please select an account

Password

Sign In

Forgot your password?

Provisioning of the WIFI LOGGER CARD with a Web Browser of a PC

1.Turn on the inverter by physically connecting the AC and DC voltages. The VSN300 WIFI LOGGER CARD will be automatically power up and after 60 seconds acts like an access point where it is detectable by a tablet, smartphone or PC.

2.Activate the WIFI connection on the tablet/smartphone/PC and connect it to the WLAN network established by the WIFI LOGGER CARD denominated ABB_SSSSS_PPPP_WWYY, where:
SSSSS = Inverter serial number
PPPP = Inverter part number
WW=Week of production of the inverter
YY=Year of production of the inverter



3.Digit the default IP address 192.168.1.1 on an internet browser



4.Insert all the information required by the configuration wizard:

4a. Select the language

Please select your language

English (US)

Next

4b. Verify that the Time Zone, Longitude and Latitude of the installation site are correct or insert it if are missing.

These values are the same for all WIFI cards on the site and are shared with Aurora Vision from where it is possible to update these values at a later date and time.

If the data are not in the correct format an instruction message will be displayed

Longitude is not in a correct format, must be between -180.0 and 180.0.
Latitude is not in a correct format, must be between -90.0 and 90.0.

Time Zone

Europe/Berlin

Longitude

44.55

Latitude

11.57

Next Back

4c. Select the "Home" WLAN network to which the WIFI LOGGER CARD must be connected for monitoring purpose and insert the relative password

Network

PS_WiFi_Network

Password

Your Password

Show password

Connect Back

4d. When the WIFI LOGGER CARD is connected to the "Home" network, the IP address associated to the WIFI card will be displayed by the wizard. Take note of this IP address that will be used in the below steps of the commissioning procedure.

Network

PS_WiFi_Network

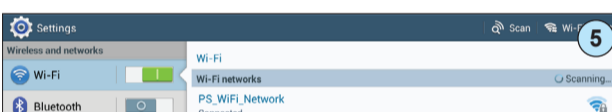
Password

Show password

1. Please reconnect to the network: PS_WiFi_Network
2. After you've reconnected, please click the link below.
Click here to go to http://192.168.0.100

OK

5.Switch the WIFI connection of the tablet/smartphone/PC to the "Home" WLAN network to which the WIFI LOGGER CARD is connected.



6.Digit the IP address associated to the WIFI card previously obtained at the step 4d. of the configuration wizard (in this example 192.168.0.100) on an internet browser.



Inverter connectors name for WIFI LOGGER CARD connection and adaptor kit necessity

Inverter model	Connector(s) number and name	Adaptor Kit
UNO-2.0/2.5-I-OUTD	2 connectors J6 and J15	Yes
PVI-3.0/3.6/4.2-TL-OUTD	2 connectors J14 and J23	No
PVI-3.8/4.6-I-OUTD	2 connectors J14 and J23	No
PVI-5000/6000-TL-OUTD	2 connectors J11 and J20	No
PVI-6.0/8.0/10.0/12.5-TL-OUTD	2 connectors J18 and J27	No
TRIO-5.8/7.5/8.5-TL-OUTD	1 connector J9 (SLOT 1)	Yes
TRIO-20.0/27.6-TL-OUTD	2 connectors J14 and J11	No

Inverter compatibility table

Inverter model	Monitoring	Advanced features*
UNO-2.0/2.5-I-OUTD	Yes	No
PVI-3.0/3.6/4.2-TL-OUTD	Yes	No
PVI-3.8/4.6-I-OUTD	Yes	No
PVI-5000/6000-TL-OUTD	Yes	No
PVI-6.0/8.0/10.0/12.5-TL-OUTD	Yes	No
TRIO-5.8/7.5/8.5-TL-OUTD	Yes	Yes
TRIO-20.0/27.6-TL-OUTD	Yes	No

* Remote inverters FW upgrade, Remote inverters parameters setting...

WIFI LOGGER CARD	
Communication	
Inverter Interface	Hyperlink (CAN@1 Mbps + RS485@115 kBaud) / Legacy (RS232 TTL @ 19.2 KBaud)
User Interface	Wi-Fi® IEEE 802.11 b/g/n
Communication Protocols	
LAN/WAN Protocols	HTTPS, DHCP, NTP, SSL, SSH, XML, Modbus TCP (SunSpec)
Data Logging	
Web User Interface	Integrated
Local Monitoring	wirelessly allowed via any Wi-Fi® device connecting the integrated WUI or running Plant Viewer for mobile
Remote Monitoring	Plant Portfolio Manager® / Plant Viewer™ / Plant Viewer for mobile
Data Logging Specifications	
Data Sampling Rate	High frequency data sampling (less than 1 minute average)
Local Storage	Log data for 30 days based on 15-minute intervals
Upgradeability	Remotely via Aurora Vision® Plant Management Platform / locally via Web User Interface
Advanced functionalities	
Remote O&M operations	Inverter's parameters changing / inverter's firmware upgrade
Smart grid functionalities	Grid control power-management enabled
Power Supply	
DC Power Consumption	~ 2W
Environmental Parameters	
Ambient Temperature Range	-20°C...+85°C
Environmental Protection	IP 20
Relative Humidity	<85% Non-condensing
Mechanical Parameters (per unit)	
Dimensions (H x W x D)	97mm x 46mm x 16mm (3.81" x 1.81" x 0.63")
Weight	0.06 lbs (26g)
Mounting System	inverter's expansion slot
Compliance	
Marking	CE / FCC / RCM / Wi-Fi Certified™
Emissions	FCC Part 15 Class B, CISPR 22, EN 55022 Conducted and radiated emission
Immunity	EN55024

Remark. Features not specifically listed in the present datasheet are not included in the product

Contact us

www.abb.com/solarinverters

VSN300 WIFI LOGGER CARD-Quick Installation Guide EN RevA
EFFECTIVE 2014-05-06
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