		Power-One Italy Spa Monitoring & Control		XXX	
Issued by department	Date	Lang.	Revision	Page	
PC.PG.Solar VNO	19-Jan-16	en	A-4	1 (6)	
Doc. kind	Cellular Card – Quick Installation Guide		Status of document	Draft	
Project name	Cellular Card		Phase of project		
Creator name	Davide Tazzari		Distribution		
Contributor names	Approver				
STRICTLY CONFIDENTIAL – COPYRIGHT 2015, 2016 ABB – ALL RIGHT RESERVED					

Quick Installation Guide



1 Product identification

The enclosure of the CELLULAR CARD will be marked with the following information, identifying the product:
 Manufacturer Mark/Trade Mark
 FCC ID

The FCC ID is FCC ID: X6W-3N89E

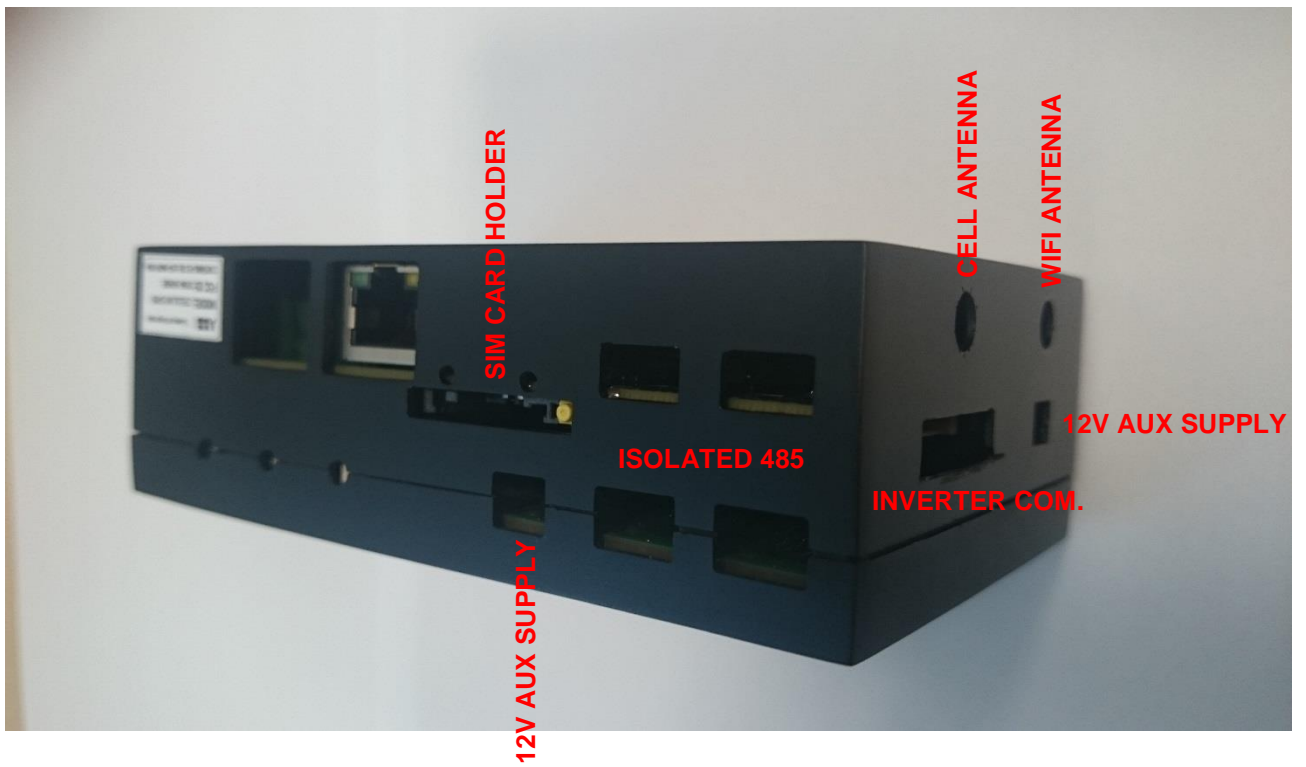
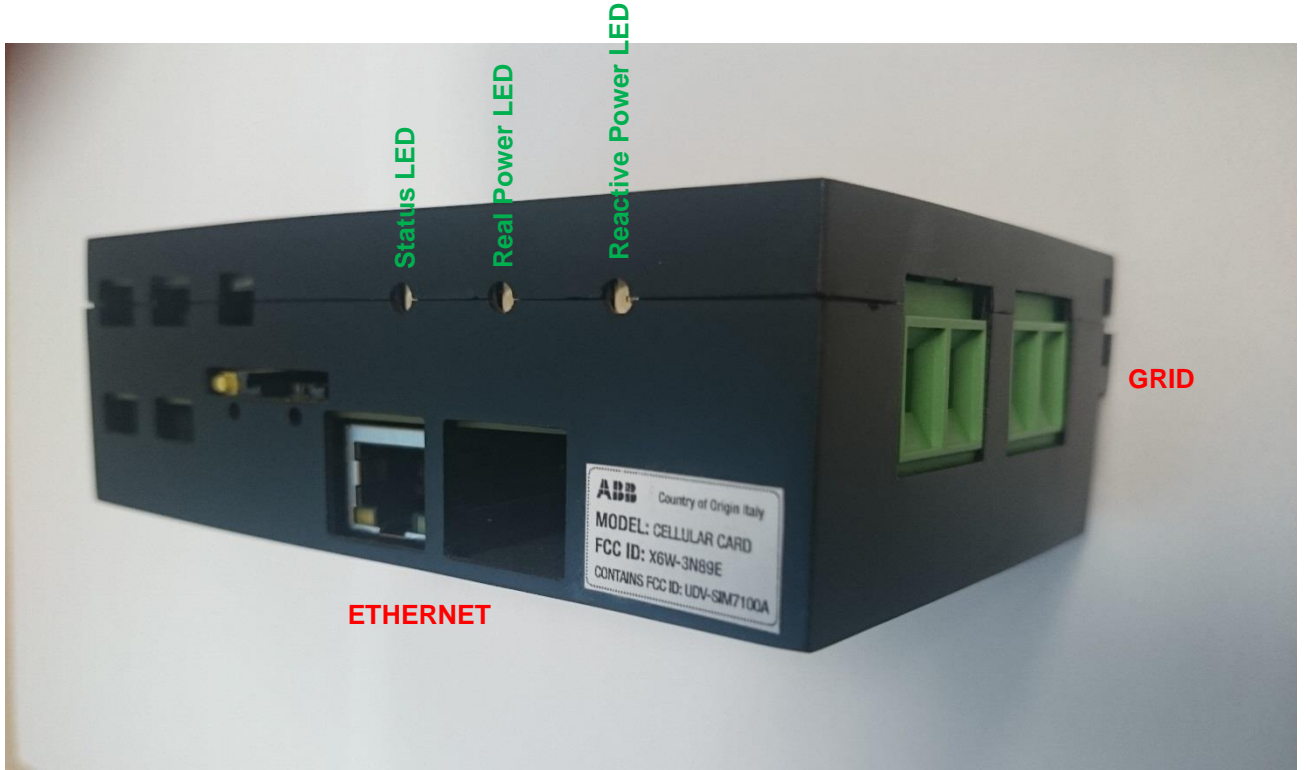
1.1 Information to user.

CAUTION!

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

	Power-One Italy SpA Monitoring & Control	XXX
Doc. Title Cellular Card – Block Diagram	Revision A-4	Page 2 (6)
CONFIDENTIAL – COPYRIGHT 2015, 2016 ABB – ALL RIGHT RESERVED		

2 Connectivity and led



LED	LED Behavior	Description
Status LED	Blink 1 kHz	Meter normal functioning
Status LED	Blink 2 kHz	Meter initialization
Real Power LED	Blink	Real Power production: blink proportionally to production
Reactive Power LED	Blink	Reactive Power production: blink proportionally to production



3 Characteristics and technical data

Type Code Cellular Card

Q1-Module characteristics	
CPU	TI Sitara®, ARM Cortex A8, 1GHz
RAM	512 MB, DDR3
Non Volatile Memory	Flash, 4 Gb
Wi-Fi Module	Integrated
HW Communications Interfaces	
Inverter Interface	Hyperlink (CAN@1 Mbps + RS485@115 kBaud), Legacy bus (through USB)
RS485	Isolated 485 daisy chain
Cellular	miniPCIe based cellular unit. Ready for 3G and LTE
Wi-Fi	Wi-Fi Certified™ IEEE 802.11 b/g/n (2.4 GHz)
Ethernet Connection	2 RJ-45 Ethernet 10/100 base-T (LAN/WAN)
SW Communications Interfaces	
Web User Interface (WUI)	Integrated



Local monitoring	Wirelessly allowed via any Wi-Fi® or Eth. device connecting the integrated WUI
Remote monitoring	Plant Portfolio Manager® / Plant Viewer™
Communications Protocol	
LAN/WAN Protocols	HTTPS, DHCP, NTP, SSL, SSH, XML, Modbus TCP (SunSpec)
Meter specification	
Enclosure	Meter integrated in the same box of the cellular. It can be sold as a standalone product
External interface	Isolated 485 (present only when meter is sold as a standalone product)
LED interface	3 LEDs (pulse/kW, pulse/kVar, diagnostic)
Data logging specifications	
Data Sampling rate	High Frequency data sampling (less than 1 minute average)
Local data storage	Log data for 30 days based on 15-minute intervals
Upgradeability	Remotely via Aurora Vision® Plant Management Platform / Locally via WUI
Meter data logging as standalone	None
Advanced functionalities	
Remote O&M operations	Inverter parameters setting / Inverter firmware upgrade
Smart Grid functionalities	Grid Control power-management enabled
Electrical specifications	
DC Power consumption	~ 2W; max 5W during modem activity
Environmental parameters	
Ambient temperature range	[-40; +85] °C; it can be reduced depending on the modem
Environmental protection	IP 20 (IP65 in the inverter switch box)
Relative humidity	< 85% Non-condensing
Mechanical parameters (per unit)	
Dimensions (H x W x D)	86 mm x 128.14 mm x 40 mm
Weight	~ 40g
Advanced functionalities	
Remote O&M operations	Inverter's parameters setting / Inverter's firmware upgrade
Smart Grid functionalities	Grid Control power-management enabled
Compliance	
Marking	FCC/Wi-Fi Certified™
Emissions	FCC CFR47, Part15, Subpart C. 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. CISPR 22; EN 55022 Conducted and radiated emission



Immunity	EN 55024
Accuracy	ANSI 12.20 (test 1, 2, 3, 4, 5, 6, 8, 9, 11, 13, 15, 16, 19, 29, 30, 31) class 0.5
Modem	PTCRB, AT&T

Note: FCC, Ansi 12.20 compliance; WiFi certification, PTCRB and AT&T certifications are pending

4 Revision

Rev. Ind.	Page (P) Chapt. (C)	Description	Date Dept./Init.
A1		First revision	18/12/2015
A2	ALL	Tiny review	21/12/2015
A3	C.3	Correct Compliance/Emission	12/01/2016
A4	C.3	Modified text in "Emission" row	19/01/2016



5 Index

1	Product identification	1
1.1	Information to user.	1
2	Connectivity and led	2
3	Characteristics and technical data	3
4	Revision	5
5	Index	6