

CANADIAN SOLAR INVERTER PORTFOLIO

NOVEMBER 2023

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String Inverters – Portfolio

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Quality and process certifications

References & Conf. Samples

String Inverters – Portfolio

10* years STANDARD WARRANTY extension up to 20 years

Commercial Industrial






CSI-Commercial (15-25 kW)



Nominal Power:
15/17/20/23/25 kW
Three-Phase LV 400V

Key Features:




-  Maximum efficiency up to 98.5%
-  2 MPPTs - 4 Strings-Input (32A) with wide range of 160 - 1,000 V_{DC}
-  Real-time monitoring with the Canadian Solar monitoring portal

CSI-Commercial (40-60 kW)



Nominal Power:
40/50/60 kW
Three-Phase LV 400V

Key Features:




-  Maximum efficiency up to 98.5%
-  3/4/5 MPPTs - 6/8/10 Strings-Input (32A) with wide range of 200 - 1,000 V_{DC}
-  Real-time monitoring with the Canadian Solar monitoring portal

CSI-Commercial (100-120 kW)



Nominal Power:
100/110/120 kW
Three-Phase LV 400V

Key Features:

-  Maximum efficiency up to 98.5%
-  6/9 MPPTs - 12/18 Strings-Input (40A-32A) with wide range of 200 - 1000 V_{DC}
-  Real-time monitoring with the Canadian Solar monitoring portal

String Inverters – Tech Specs



10+ years STANDARD WARRANTY
extension up to 20 years

Commercial Industrial



Design	Nominal AC output Power	15 – 17 – 20 – 23 – 25 kW	40 – 50 – 60 kW	100 – 110 – 120kW
	Grid Connection	3 phase	3 phase	3 phase
	AC output Voltage	380 - 400 VAC	380 - 400 VAC	380 - 400 VAC
	Multiple MPPTs	2	3 / 4 / 5	6 - 9
	Compatible with high current modules	Yes (32 A)	Yes (32A)	Yes (40A - 32A)
	Max efficiency*	98.5 %	98.5 %	98.5 %
	Max DC Voltage	1100 V	1100 V	1100 V
Com.	Standard communication	RS485 / Wi-Fi	RS485 / Wi-Fi	RS485 / Wi-Fi
Protection	Protection degree	IP66	IP66	IP66
	SPD Types AC/DC	II / II	II / II	II/II (I opt. AC)
	Int. DC Switch	Yes	Yes	Yes
	Anti-PID Module	No	optional	optional
	AFCI Function	Yes	Yes	Yes

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Commercial Industrial



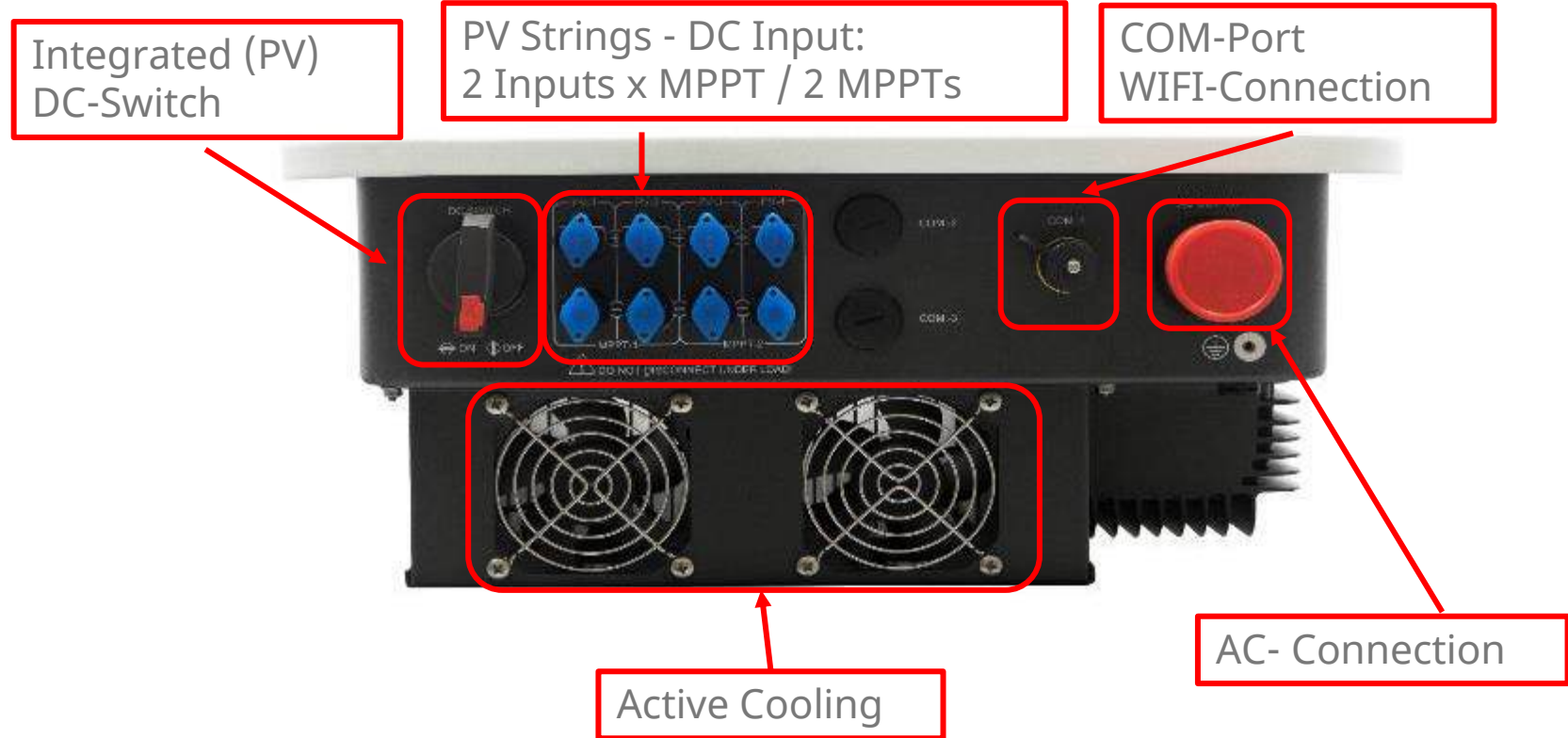
CSI-Commercial (15-25 kW)



Key Features:

Nominal Power:
15 / 17 / 20 / 23 / 25 kW
Three-Phase LV 400V

- Maximum efficiency up to **98.5%**
- 2 MPPTs - 4 Strings-Input (**32A**)
No Fuses
with wide range of **160 - 1000 VDC**
- Real-time monitoring with the Canadian Solar monitoring portal



String Inverters - Tech View

10+ years

STANDARD WARRANTY extension up to 20 years'



Commercial



Industrial



CSI-Commercial (40-60 kW)



Integrated (PV) DC-Switches

PV Strings - DC Input: 2 Inputs x MPPTs 3/4/5MPPTs

COM-Port
WIFI-Connection
RS485-com

Key Features:

Nominal Power:

40 / 50 / 60 kW

Three-Phase LV 400V



Maximum efficiency up to **98.5%**



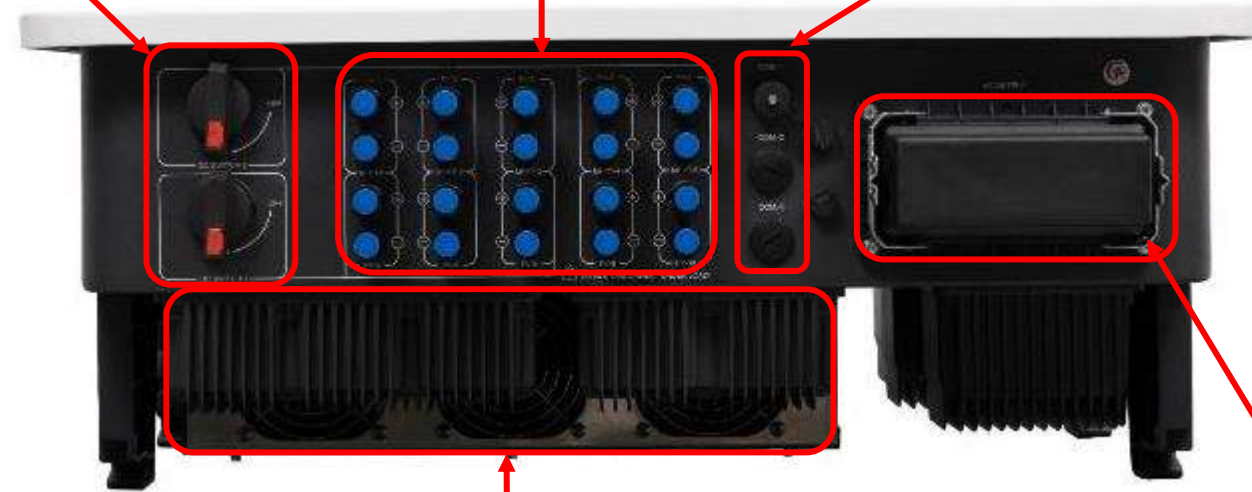
3 / 5 MPPTs - 6/8/10 Strings-Input (**32A**)

NO Fuses

with wide range of **200 - 1000 VDC**



Real-time monitoring with the Canadian Solar monitoring portal



Active Cooling

AC- Connection
(screw terminals)

String Inverters - Tech View

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Commercial Industrial



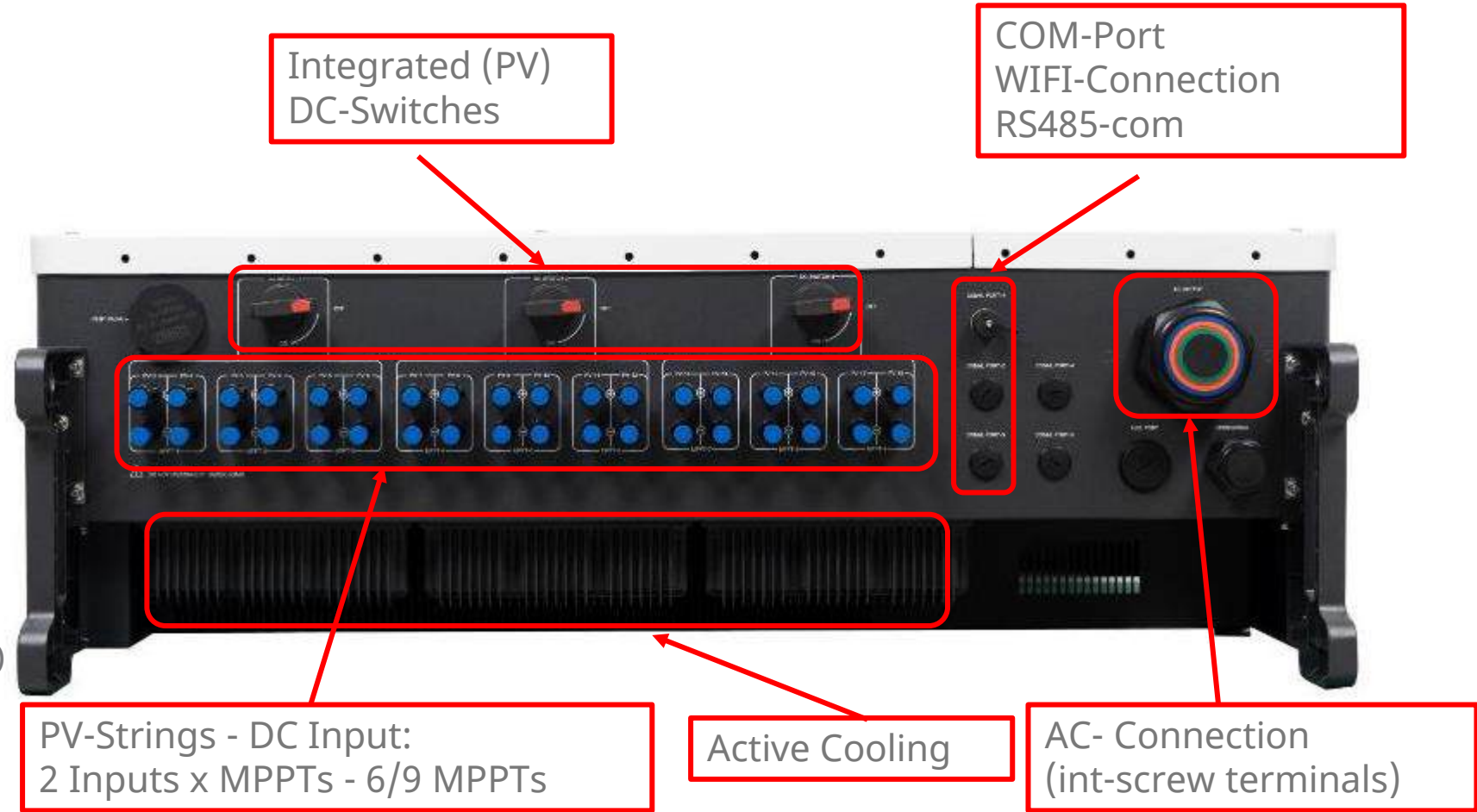
CSI-Commercial (100-120 kW)



Key Features:

Nominal Power:
100/110/120 kW
Three-Phase LV 400V

- Maximum efficiency up to **98.5%**
- 6 / 9 MPPTs - 12/18 Strings-Input (**40A - 32A**)
NO Fuses
with wide range of **200 - 1000 VDC**
- Real-time monitoring with the Canadian Solar monitoring portal



String Inverters – Highlights



Commercial



Industrial



High efficiency, compatible with high power modules

- High DC/AC Ratio up to 1.5
- Efficiency up to 98.5%
- From 2 to 9 MPPTs, PV design flexibility
- Ultra-low start up voltage (from **180V_{DC}**)



Easy installation and O&M

- Reliable and silent
- Easy installation and configuration
- Remote control and upgrade
- Real-time monitoring



Safety performance & reliability

- Up to **IP66**, weatherproof
- **Intelligent fan cooling**
- Anti-islanding protection
- DC reverse polarity protection
- In-built SPD Type II (DC), II (AC)
- Integrated DC Switch
- AFCI Function
(**STANDARD** - in the ALL PORTFOLIO)

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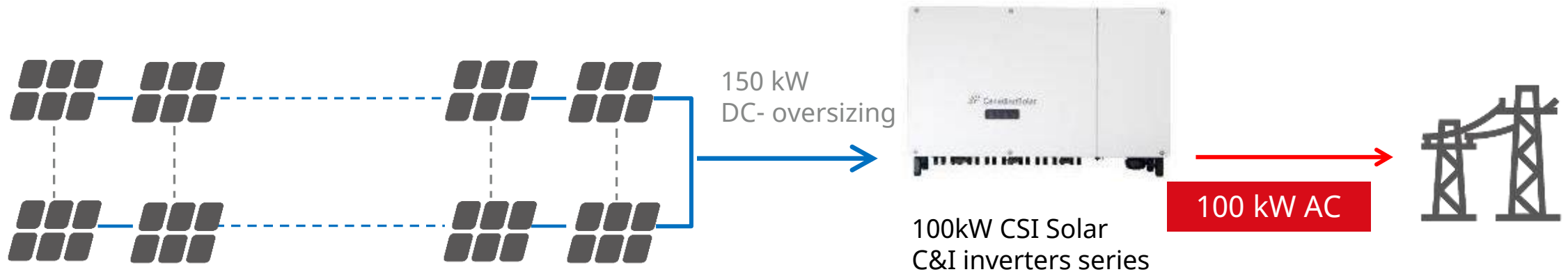
Quality and process certifications

References & Conf. Samples

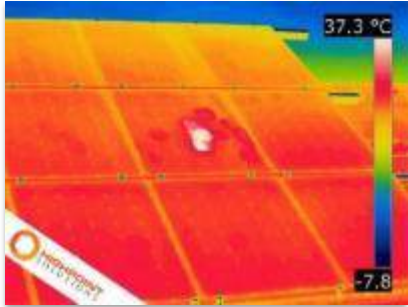
DC/AC Ratio up to 1.5



CSI Inverters can give you the possibility to optimize the power output with a DC/AC ratio of 1.5



Flexible Multi MPPTs



Hot Spot



Different tilt and azimuth



Shattered



Dirt



Shading



Mismatch



2 MPPTs -
4 Strings-Input
(32A)



3/4/5 MPPTs -
6/8/10 Strings-Input
(32A)

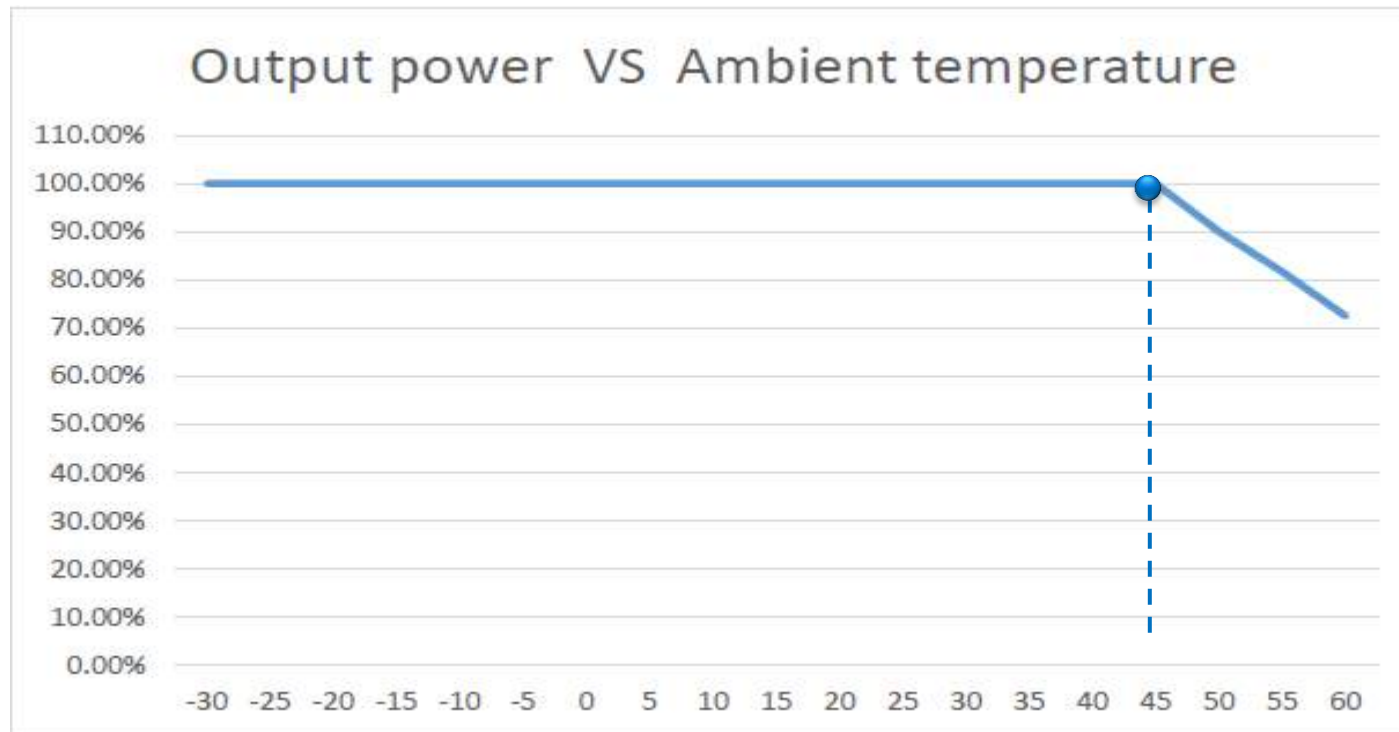


6/9 MPPTs -
12/18 Strings - Input
(40A-32A)

With multi MPPT's up to **9 MPPT**, all series inverters allow significantly reduce PV array losses.

High Temperature Adaptability

Innovative design with intelligent cooling technology



CSI 100-120K inverter series

INTELIGENT ACTIVE
FAN COLLING

Derating threshold value of $45^{\circ}\text{C } T_{\text{amb}}$ contribute to high performance in extreme conditions.

Product highlights resume

Increased compatibility with high-power PV modules for more productivity and efficiency

- Multi MPPTs up to 40A current inputs
- Optimally designed to PV modules with 182- and 210mm-based cells

Innovative design with intelligent cooling technology: enhanced performance and reliability

- With lower working temperature,
- Higher generation
 - Longer life of components and systems, better reliability in time

Performance and cost-optimized inverters



Quality components for greater reliability

- IGBT modules - Infineon wafer and Vincotech packaging
- Capacitors - EPCOS from Germany and Nichicon from Japan
- Sensors - LEM from Switzerland
- Cooling fan - NMB from Japan

CSI as unique solution provider

- Global sales and after-services networks
- One-stop services, covering product selection, system configuration, delivery and after-sales

As a global leader in PV module and project development, we understand your needs of inverters

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CSI – Monitoring Accessories for the C&I inverters' series all EMEA



- WI-FI- Stick (IP65)
CSCU-ST-WF01
- Included as standard accessory in all CSI-Inverters (01/24)
- Commissioning – Monitoring and remote update

- WI-FI Stick (IP65-Datalogger)
CSCU-ST-WFP01
- up to max ≤ 10 Inverters (RS485) to WI-FI
- Monitoring and remote update

- WI-FI/LAN- Stick (IP65)
CSCU-ST-WL01
- LAN & WIFI Communication to Internet
- Commissioning – Monitoring and remote update

- WI-FI/LAN- Stick (IP65-Datalogger)
CSCU-ST-WLP01
- up to max ≤ 10 Inverters (RS485) to LAN
- LAN & WIFI Communication to Internet
- Monitoring and remote update

Datalogger



Reference

Key Features

- Support up to 32 inverter connections ;
- Support multiple communication protocols;
- Support third-party Modbus device access;

Planning launched time:2023/12

		CSCU-DL01
Basic Parameters	Max. number of devices	≤32
	Support device types	CanadianSolar Inverter
Electrical Parameters	Input voltage	9-36VDC
	Power consumption	5W@12VDC
Communication Parameters	RS485	COM × 4, 1200~19200 bps, Communication distance≤1000 m
	Display	LED × 2, Power, Run
	Ethernet	LAN × 1, 10/100Mbps (self-adaptation) , Communication distance≤100 m
	Wireless communication	4G(optional)
	Operation Temperature	-40°C~+80°C
Environmental Parameters	Operation Humidity	≤85%, Relative humidity No condensation
	Storage temperature	-40°C~+80°C
	Operating Altitude	<4000m
	Protection Grade	IP20
	Dimension(L*W*H)	89*121*27 mm
Physical Parameters	Installation	Desktop mounting, rail mounting

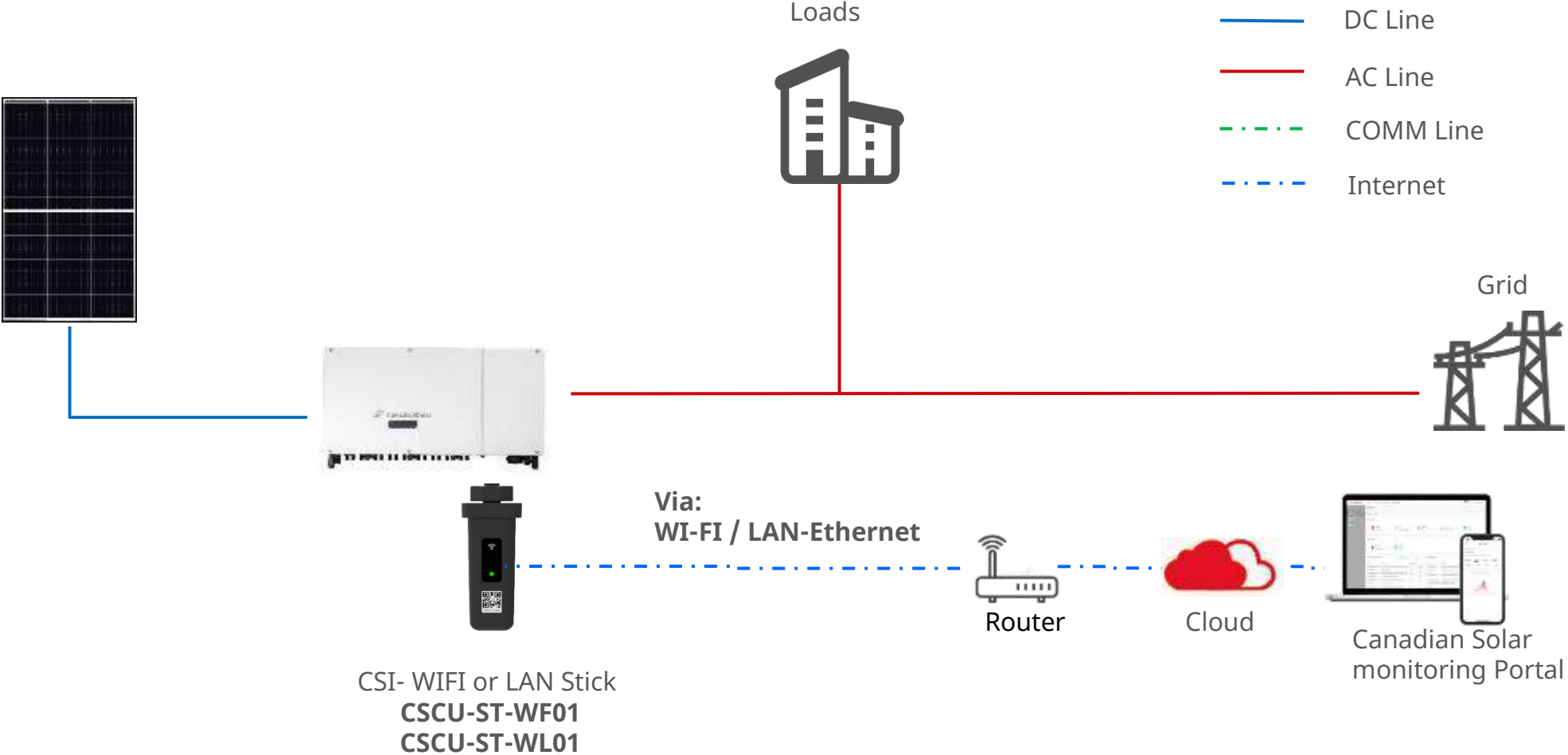
CSI –Energy Power Management



- 3 phase SMART Meter
CHINT **DTSU666**
- Export power limit –
Zero-Feed-In function –
Load monitoring for Single 3
Phase inverters
RS484 com.
- CSCU-EPM
Power Management System
- up to max. ≤ 10 Inverters units
(RS485) to WI-FI or Ethernet
- Monitoring +
Power and Energy Management
- Export power limit –
Zero-Feed-In function – Load monitoring
for Multi 3 Phase inverters

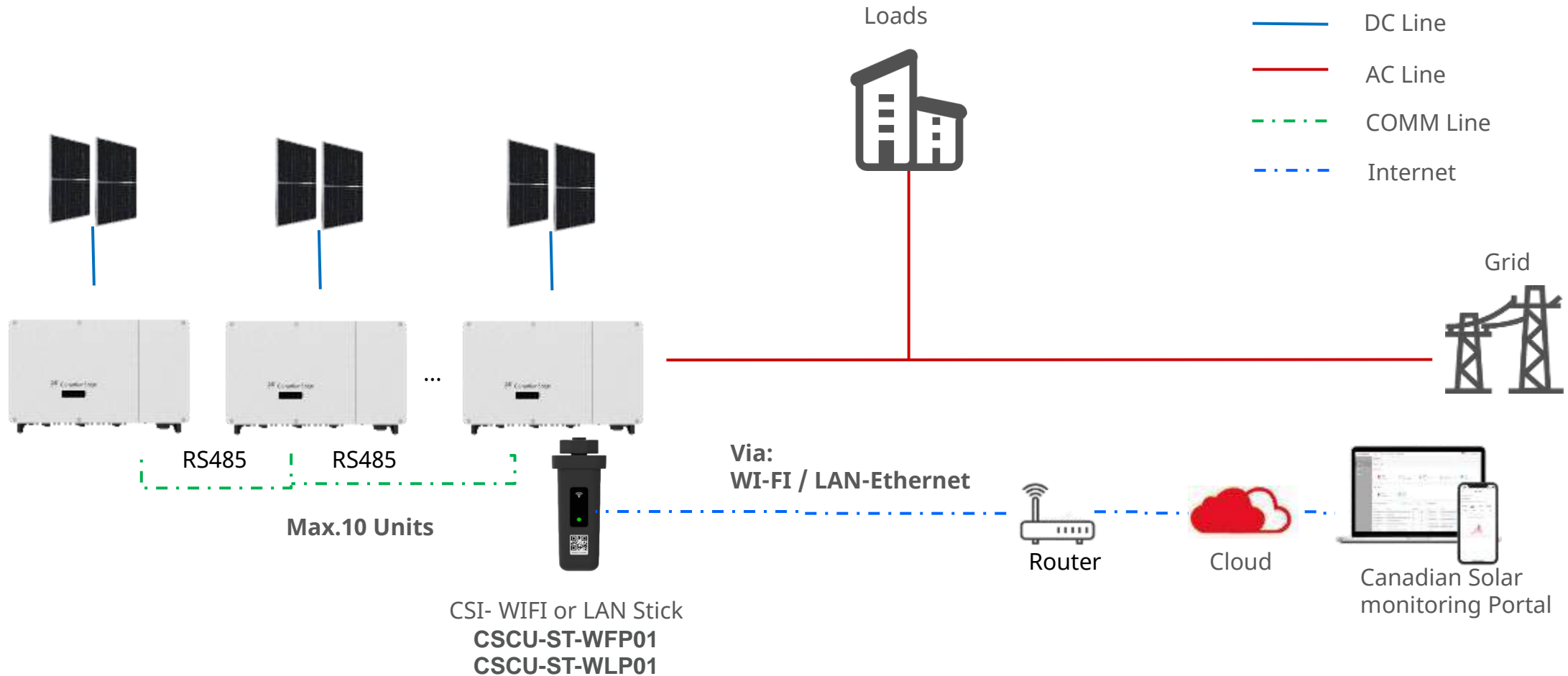
String Inverters - A Simplified PV Monitoring Setup

1 Inverter Unit



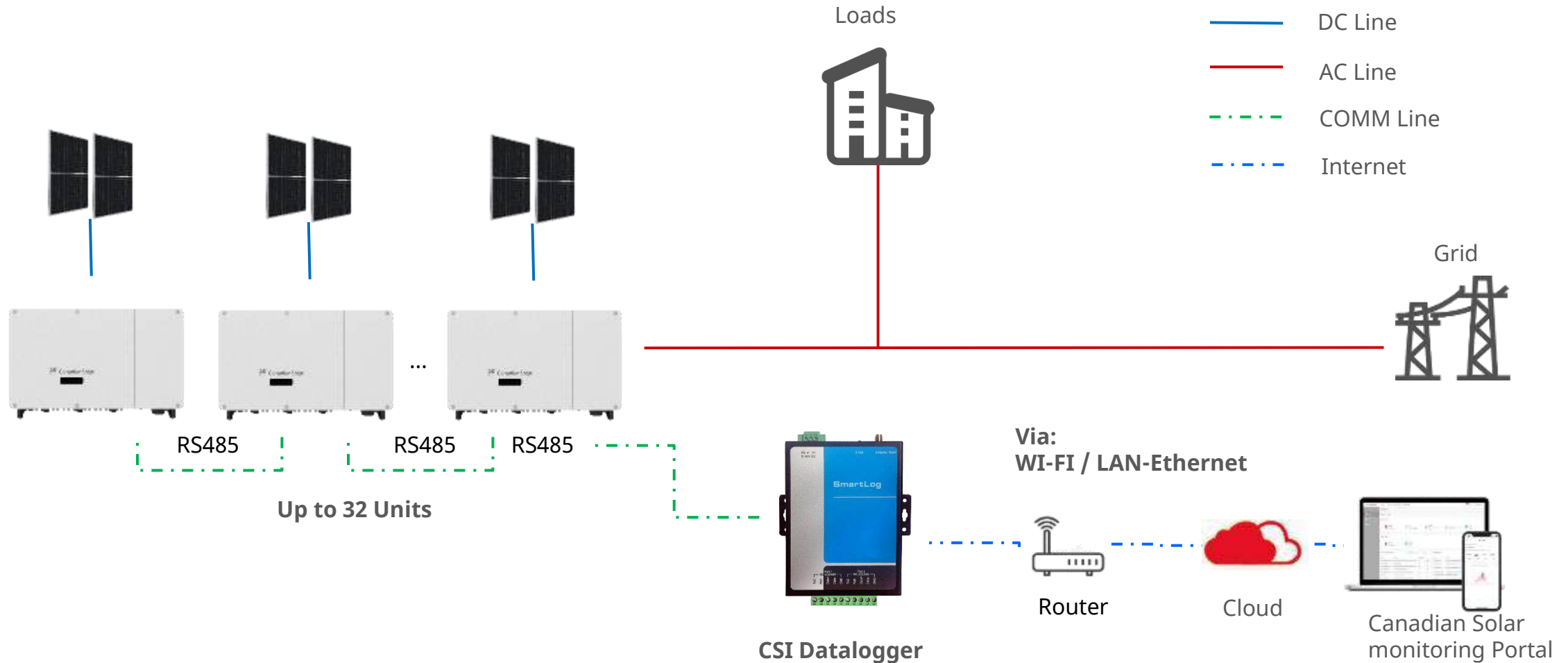
String Inverters – A Simplified PV Monitoring Setup

Multiples Inverter Units with



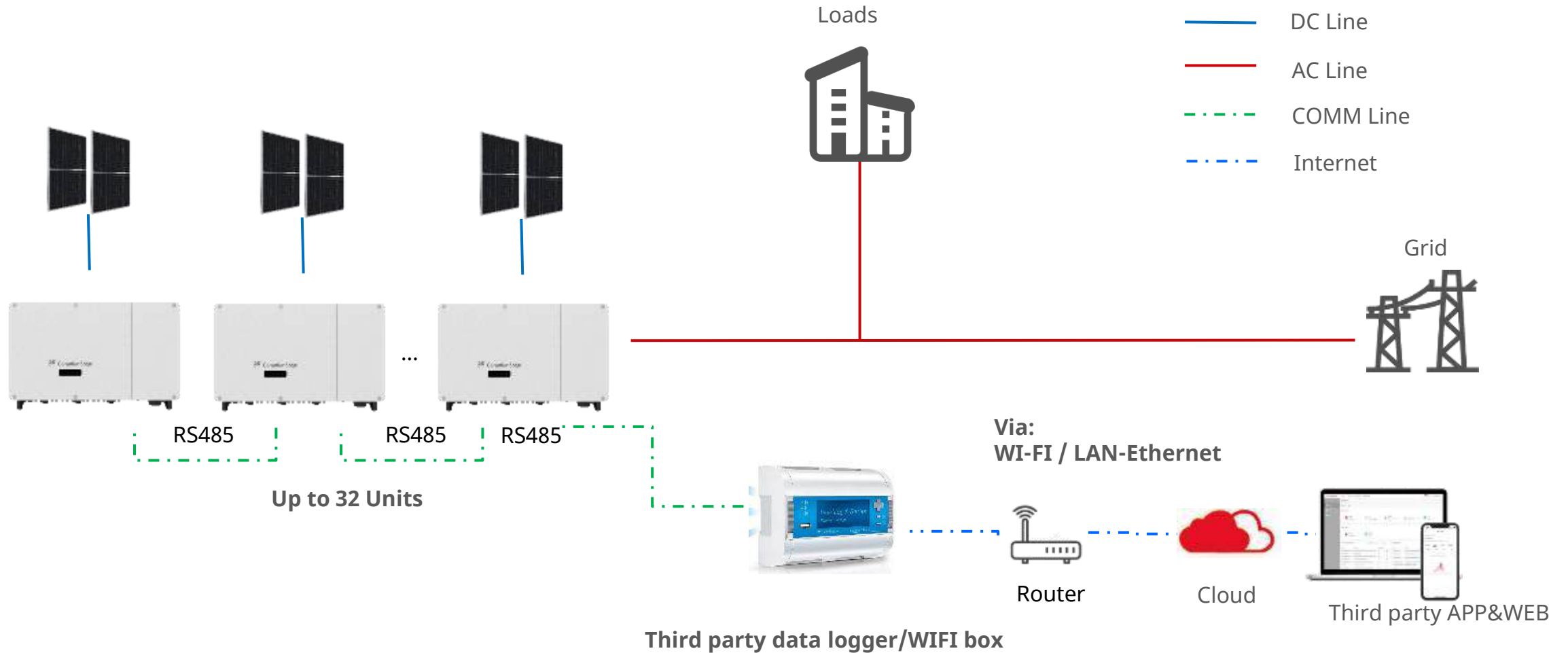
String Inverters – A Simplified PV Monitoring Setup

Multiples Inverter Units CSI Datalogger

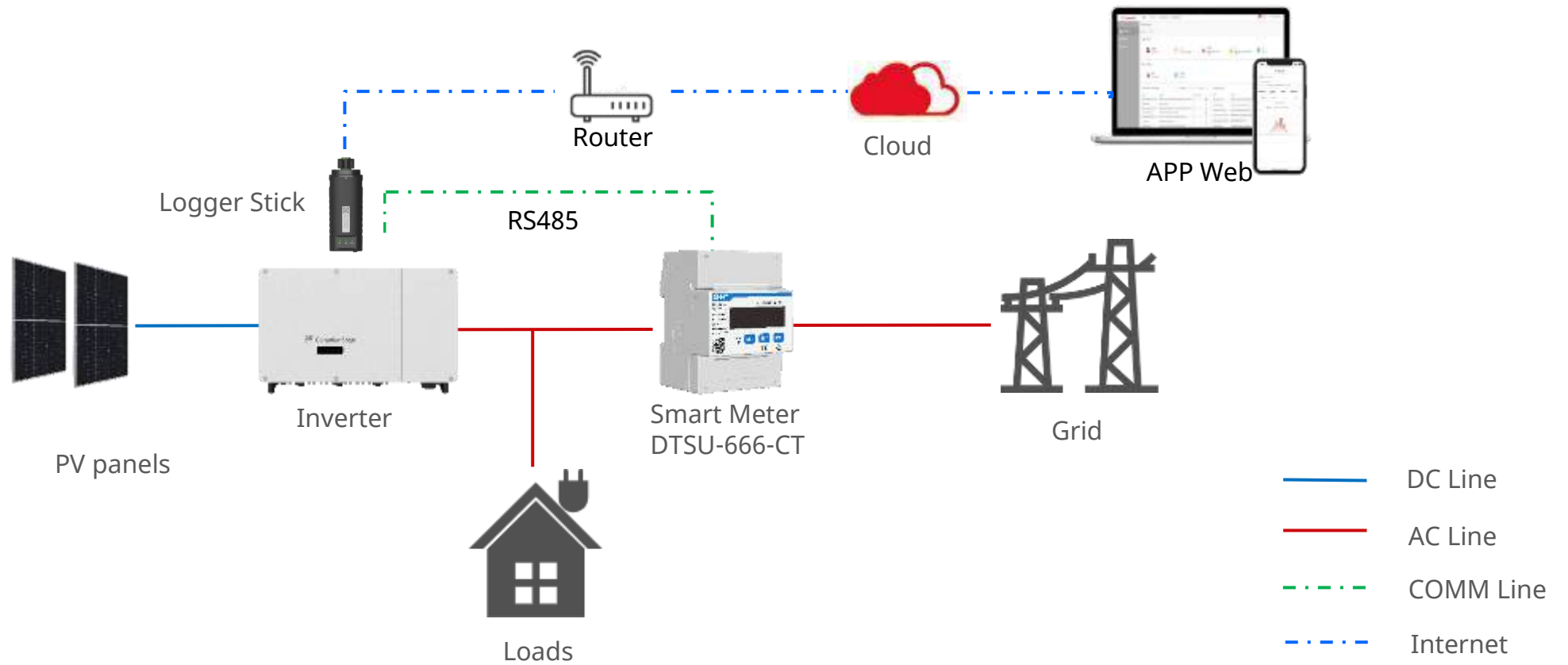


String Inverters – A Simplified PV Monitoring Setup

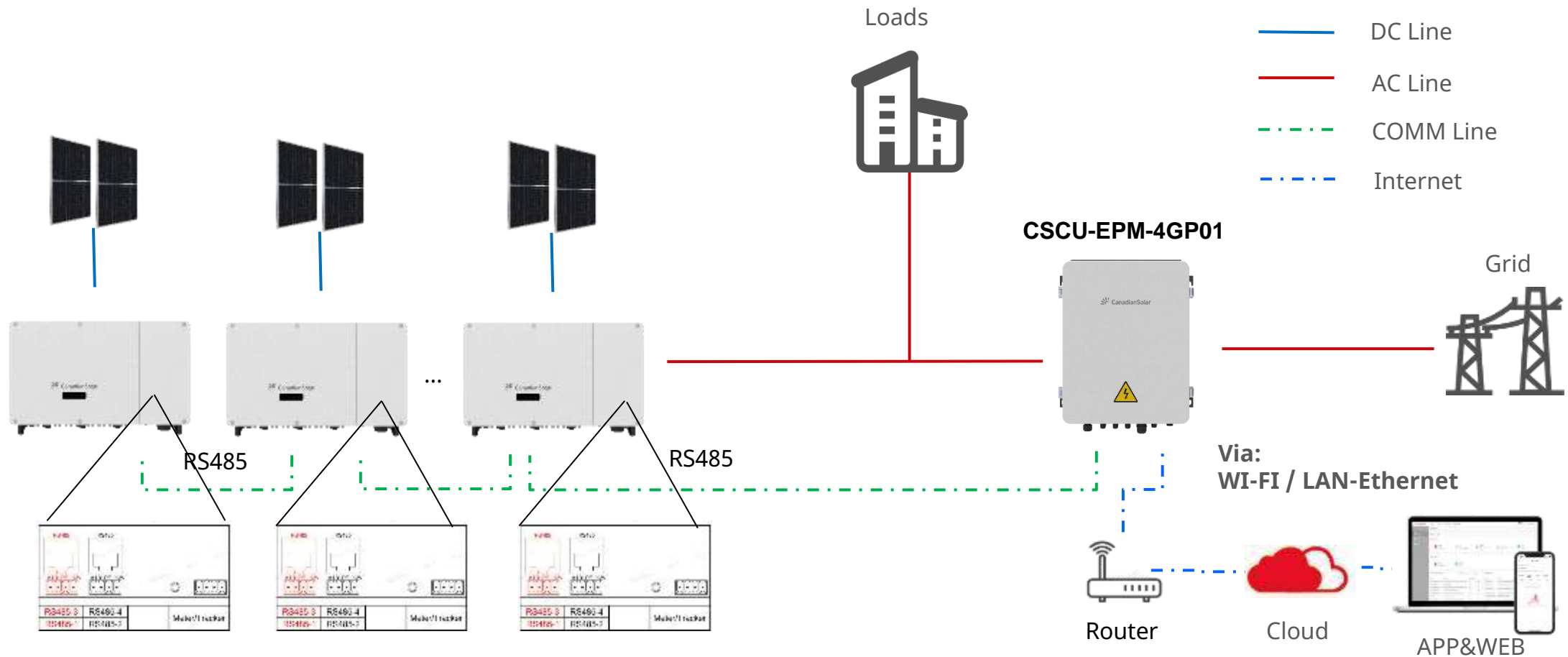
Multiples Inverter Units Third party data logger



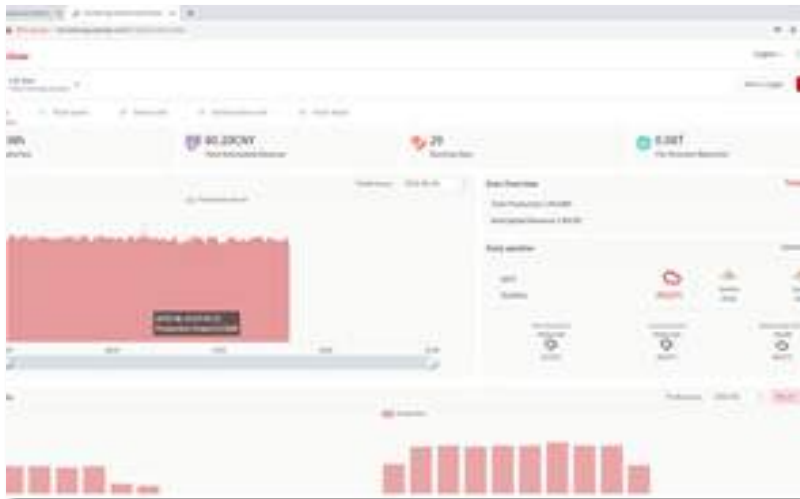
3-Phase Single Inverter – Power Limitation



3-Phase Multiple Inverters – Power Limitation With EPM (Energy Power Management)



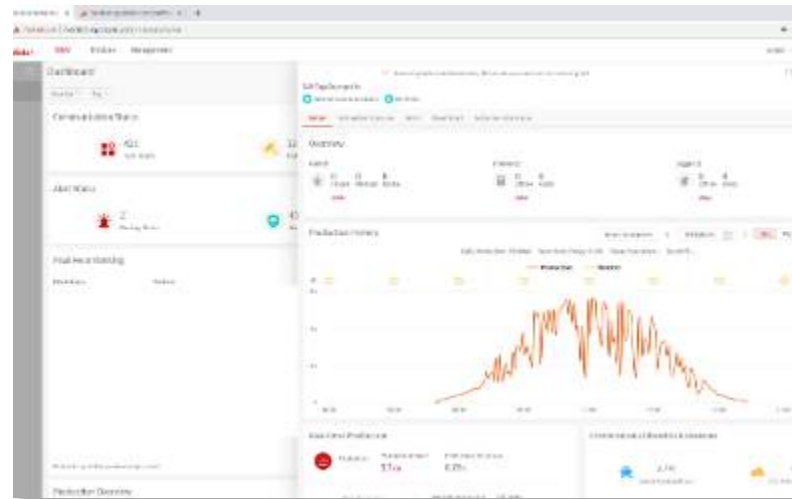
Cloud monitoring



CSI Cloud

- For end-users

CSI Cloud website
webmonitoring.csisolar.com



CSI CloudPro

- For distributors & installers
- Covering all the operation data
- For system commissioning
- Access on authorized base



Mobile Client

- Available for Apple IOS & Android



CSI Cloud



CSI CloudPro

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We make our own inverters

Automatic production

Automatic soldering / SMT

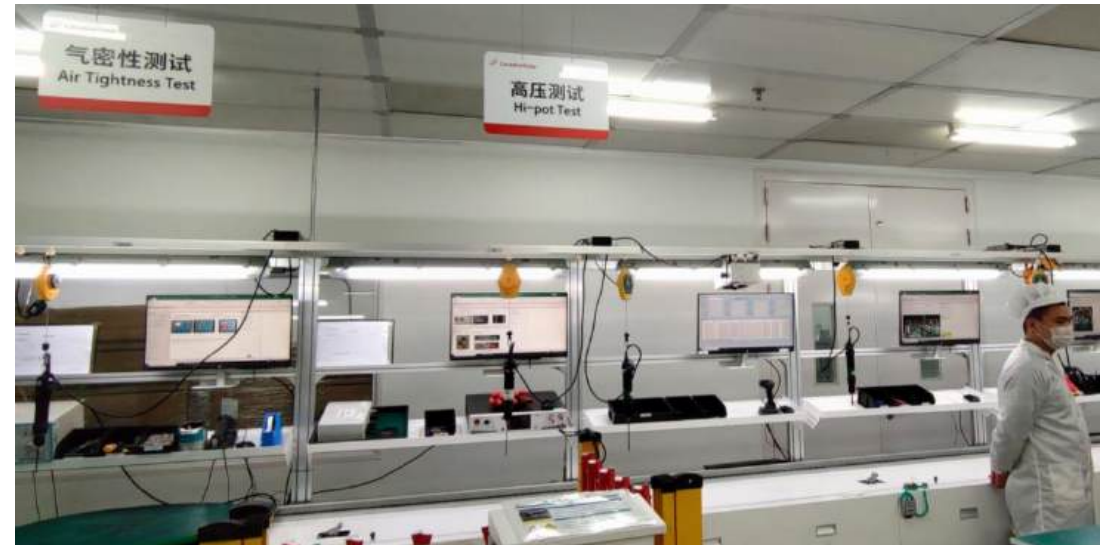
Intelligent Aging

Full Functioning Test



Current manufacturing capacity: 200.000 units ca. 5GW+ inverters per year

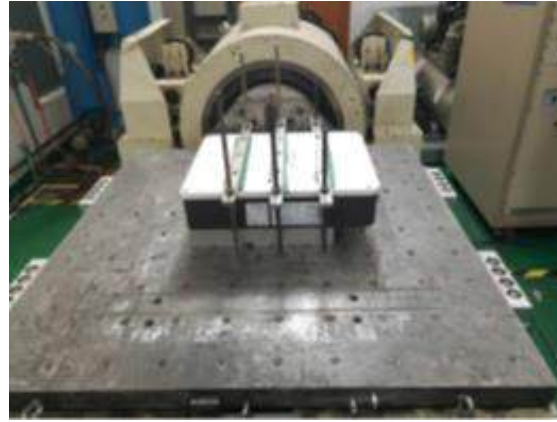
In-house Production and Testing



In-house Production and Testing



Shock Test



Vibration Test



HALT (Highly Accelerated Life Testing)



Temperature Test



IP 65 Test



Showering test @ Powering

Quality and process certifications

Quality & EHS

- ISO 9001:2015

Product Safety and EMC

- IEC 62109-1/2
- IEC 61000-6-1, IEC 61000-6-3

Grid Codes

- AS 4777, EN50549, IEEE1547
- ABNT NBR 16149/16150:2013
- IEC 61727



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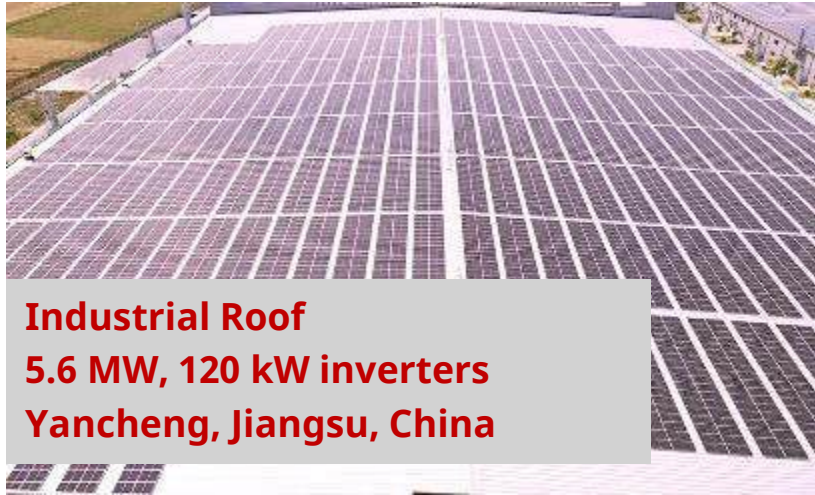
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References



Industrial Roof
5.6 MW, 120 kW inverters
Yancheng, Jiangsu, China



Ground Mounted
8 MW, 80/100/110/120kW inverters
Suichuan, Jian, Jiangxi, China



References



**Distributed Generation(Utility Scale)
4.02 MW, 120 kW Inverters
Washington, USA**