

PORTFOLIO OVERVIEW



AGENDA

01

PORTFOLIO

02

SCENARIOS

03

POWERSTACK

AC SYSTEM - 225kWh/110kW

04

TOOLS & SERVICE



A photograph of a sunset or sunrise over a landscape with several high-voltage power lines and transmission towers. The sky is a mix of blue, orange, and pink, with some clouds. The sun is low on the horizon, creating a bright glow. The power lines stretch across the frame from the foreground into the distance.

PORTFOLIO

SUNGROW
Clean power for all

RESIDENTIAL HYBRID INVERTERS

HYBRIDS



• SH3.0-6.0RS



• SH5.0-10RT-20

- 1-phase & 3-phase portfolio
- Quick & easy installation
- Integrated back-up solution
- Live Data in iSolarCloud
- High DC/AC ratio ≥ 1.5
- For 3-phase hybrids: 2 inverters in parallel
- Max input current: 1-phase 16 A, 3-phase 13.5
- Dongle Winet-S/S2 in the scope of delivery
- Meter in the scope of delivery



RESIDENTIAL BATTERY



SBR096 – SBR256

- Available with 1- & 3-phase Hybrid inverter
- Scalable from 9.6 up to 25.6 kWh for the 3-phase solution
- Scalable from 9.6 up to 19.2 kWh for the 1-phase solution
- Modular system
- 33 kg per module – easy installation



SH15-25T

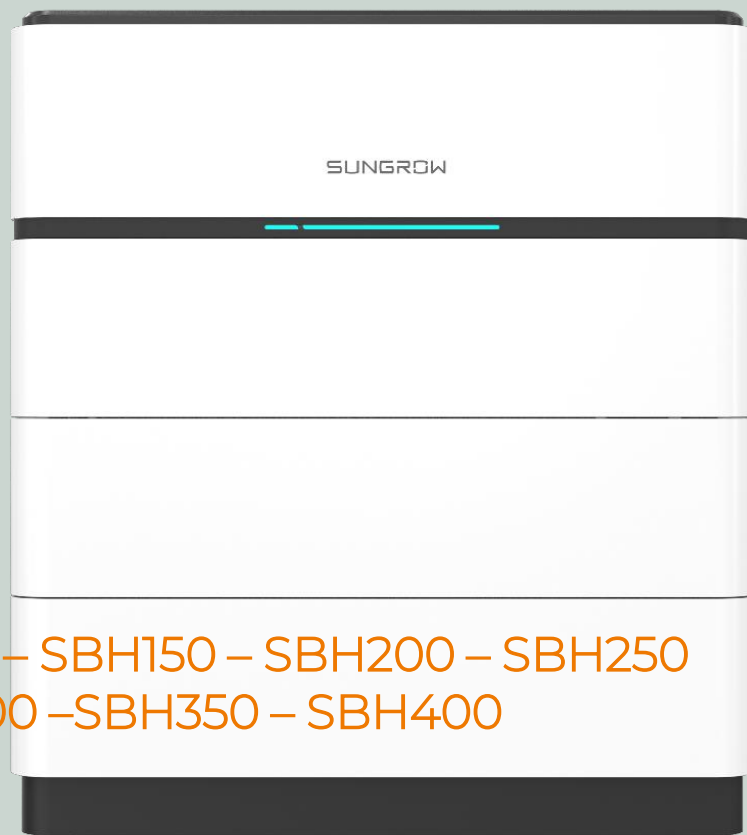


SH15T – SH20T – SH25T

- 3 MPPT (2/2/1), Input Current (32A/16A)
- Phase by Phase Feed-in limitation
- Back up: Full house load can be connected to the backup (up to 43kVA)
- Low Start up input voltage (180V)
- Wide MPPT voltage range (150V – 950V)
- High ratio DC/AC (200%)
- AFCI 2.0, protection DC Type II / AC Type II
- Dongle Winet-S2 in the scope of delivery
- Meter in the scope of delivery



SBH100-400



- 2-8 Modules 10kWh to 40kWh (5kWh per module)
- Plug and Play
- LFP Chemistry
- Integrated breaker
- High max charge/discharge current (50A)



Y CONNECTOR FOR SHT

DOUBLE THE BATTERY CAPACITY

- For customers who want more battery capacity for each inverter
- 2x SBH (same model and size) for max 80kWh DC

SBH batteries must be:

- Same nominal capacity
- Same SOC (+/- 5%)
- Same production date (+/- 6 months)
- Same battery module type



iHomeManager



KEY USP FOR INSTALLER AND END-USER

Installer

- ❑ Easy configuration with **one-click quick setting for all devices** and self-test verification
- ❑ **Build-in meter** within iHomeManager
- ❑ Supported for both **wired and wireless** solution

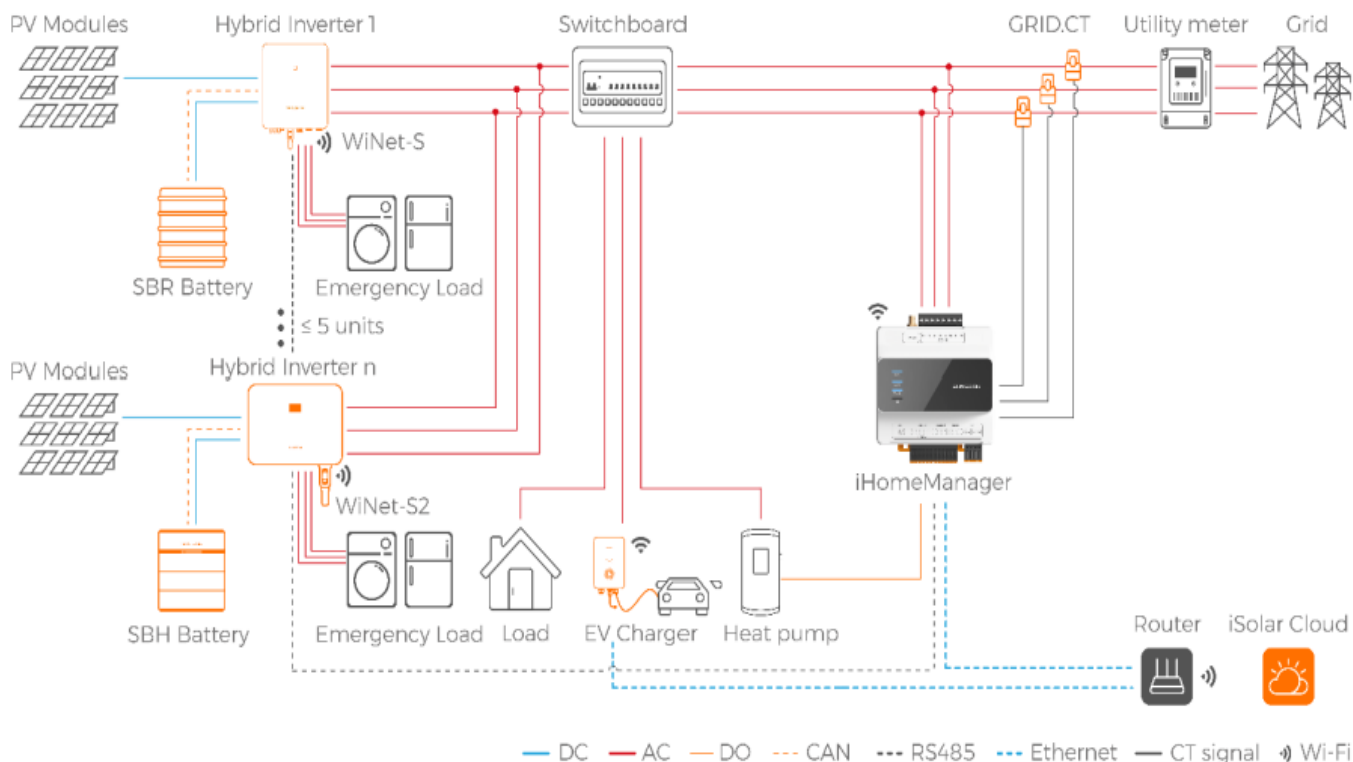
End User

- ❑ **System integration** of multiple inverters, battery, EV charger and heat pump
- ❑ Centralized **Energy Management Setting** to optimize self-consumption and reduce cost



3-PHASE PV-ESS-EV SYSTEM

SUPPORTED VIA RS485/WINET CONNECTION



- Supported for RS485 and Winet
- Maximum system power: 50kw
- No. of inverters ≤ 5 units of different inverter models
- X1 Heatpump, x1 EV charger
- Heatpump is connected with iHM via DO port, 1 supported
- Standard 3CT – 100A /333mV

Inverter
SG5.0-20RT-V115
SH5.0-10RT-20-V11
SH5.0-25T-V11



THE NEW SBS050 BATTERY

30A

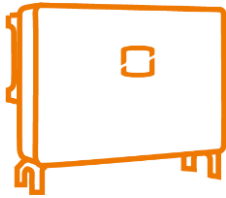
Max. Charging/Discharging Current with **SHRS**



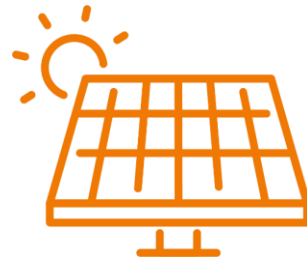
SH3.0-6.0RS
Both versions

THE NEW SBS050 BATTERY

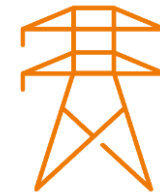
UNIQUE SELLING POINTS



Compact wall
mounted depth
only 180mm



Continuous 3kW
charging / 5kW
discharging also
off-grid



Up to 4 in parallel
without combiner
box



OPTIMIZERS

TECHNICAL SPECIFICATIONS

Parameter Type	SP600S
RATED INPUT POWER	600 W
MAX INPUT VOLTAGE (VOC)	80 V
MPPT VOLTAGE RANGE	8 V- 80 V
MAX. DC SHORT-CIRCUIT CURRENT	20 A
MAX. INPUT/OUTPUT CURRENT	16 A
MAX. OUTPUT VOLTAGE	80 V
SAFE OUTPUT VOLTAGE	1V
MOUNTING METHOD	PV MODULE BRACKET MOUNTING & PV MODULE FRAME MOUNTING



OPTMIZERS - PRODUCT COMPATIBILITY

FOR MONITORING: WINET-S2 – COM100D-EU



SHRS V13
(with winet-S2)



SG125CX-P2 V21
(with COM100D-EU)



C&I PV PRODUCTS



- Up to 12 MPPTs
- High Current Module Compatibility
- Max input current per string (CX-P2): 15 A
- PID Recovery
- Fuse-Free Design
- IP66
- AFCI
- DC SPD Tipo I+II
- High DC/AC ratio = 1.4
- 33kW inverter: SG33CX (no P2)



THE ACCESSORY DEVICES

Monitoring & Power Control



WiNET-S/S2



COM100E/D-EU

Energy Meter



S100
1-phase meter



DTSD1352-C/1 (6)A⁵
3-phase meter



DTSU666 +CT
3-phase meter



DTSU666 5 (80A)

Winet-S: In the scope of delivery of all the inverter ≤ 25 kW
Meter: included for the hybrid inverters



HX PV PRODUCTS



- 352kVA@30°C / 320kVA@40°C / 295kVA@50°C
- Up to 16 MPPT, max 30A per MPPT
- 2 inputs per MPPT design – no need to install fuses
- 1500V DC , 800V AC
- Only IT grid
- Up to 10mm² in DC
- MPLC or RS485 communication is possible
- IP66, C5 protection
- 5 years of warranty (extendable)



SCENARIOS

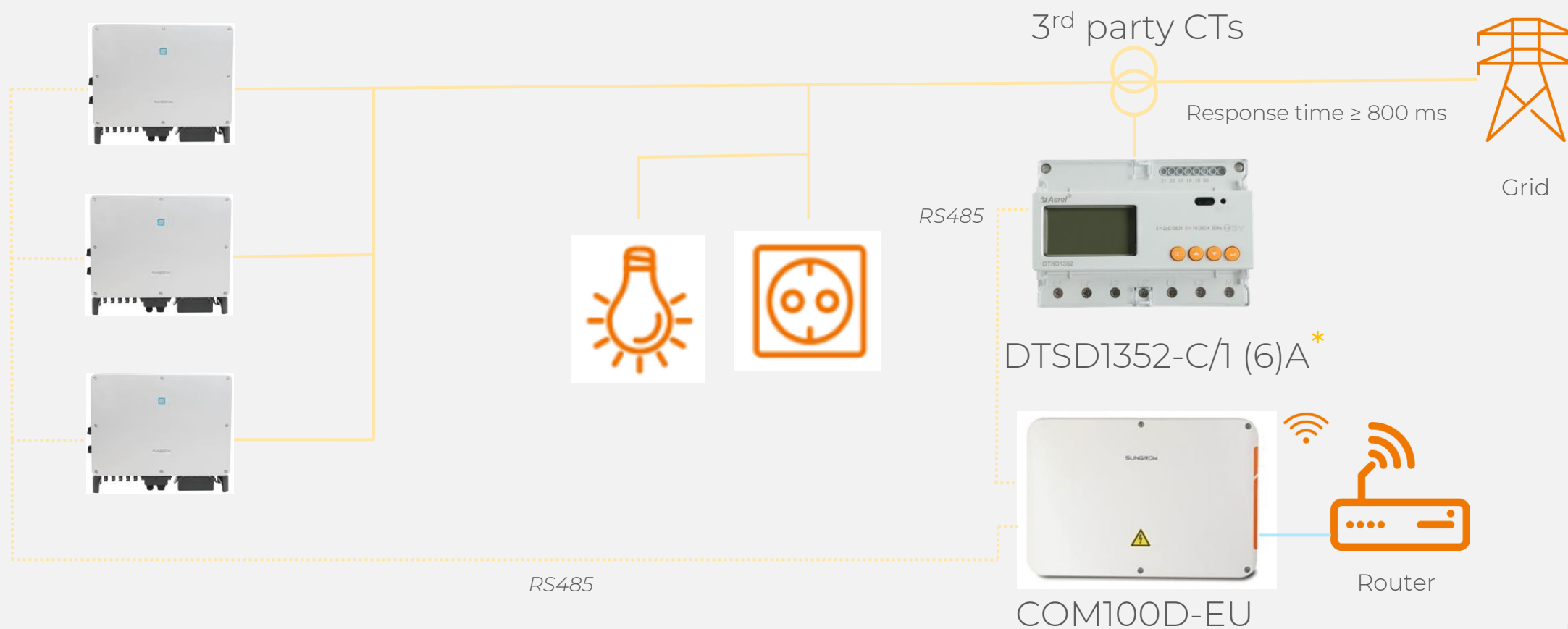
MULTIPLE C&I INVERTERS

MONITORING + CONSUMPTION VISUALIZATION + FEED-IN LIMITATION

N.<29 SGxxCX or SGxxCX-P2

ACCESSORIES

N.1 DTSD1352-C/1 (6)A
N.1 COM100E
N.1 3rd PARTY CTs



* Selected third-party energy meters can also be used.
Please check table on slide 20 or the compatibility list



HYBRID INVERTERS

Configurations

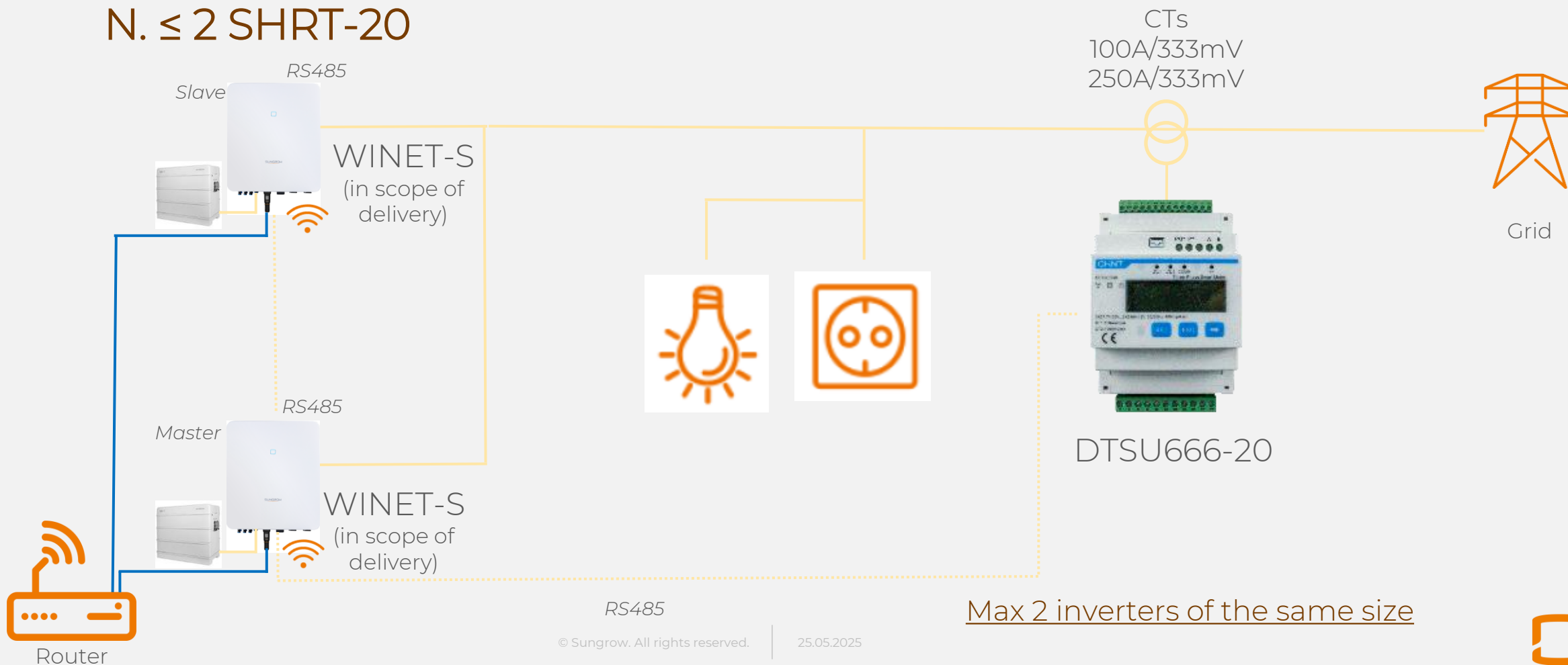
INVERTER MODEL	MAX QUANTITY OF INVERTERS	BACKUP	RETROFIT	MONITORING	BATTERY MODEL	CAPACITY OF EACH MODULE	MODULES QUANTITY PER TOUR	MAX N. TOURS PER INVERTER	MAX CAPACITY PER INVERTER
SHRS	1	Sì	Sì	Winet S/S2	SBR	3.2 kWh	3-6 (9.6-19.2 kWh)	1	1 x 19.2 kWh
					SBS	5.0 kWh	1-4 (5-20 kWh)	4 systems	20 kWh
SHRT-20	2	Sì	Sì (max 1 inv)	Winet S2 (for eachi inv)	SBR	3.2 kWh	3-8 (9.6-25.6 kWh)	1	1 x 25.6 kWh
SHT	4	Sì	Sì	Winet S2 (for eachi inv)	SBR	3.2 kWh	3-8 (9.6-25.6 kWh)	1	1 x 25.6 kWh
					SBH	5.0 kWh	2-8 (10-40 kWh)	2 (Y connector)	2 x 40 kWh
	8		-	COM100D-EU (max 8 SHT + 5 SGCX/CX-P2)	SBR	3.2 kWh	3-8 (9.6-25.6 kWh)	1	1 x 25.6 kWh
					SBH	5.0 kWh	2-8 (10-40 kWh)	2 (Y connector)	2 x 40 kWh



MULTIPLE HYBRID INVERTERS (THREE-PHASE)

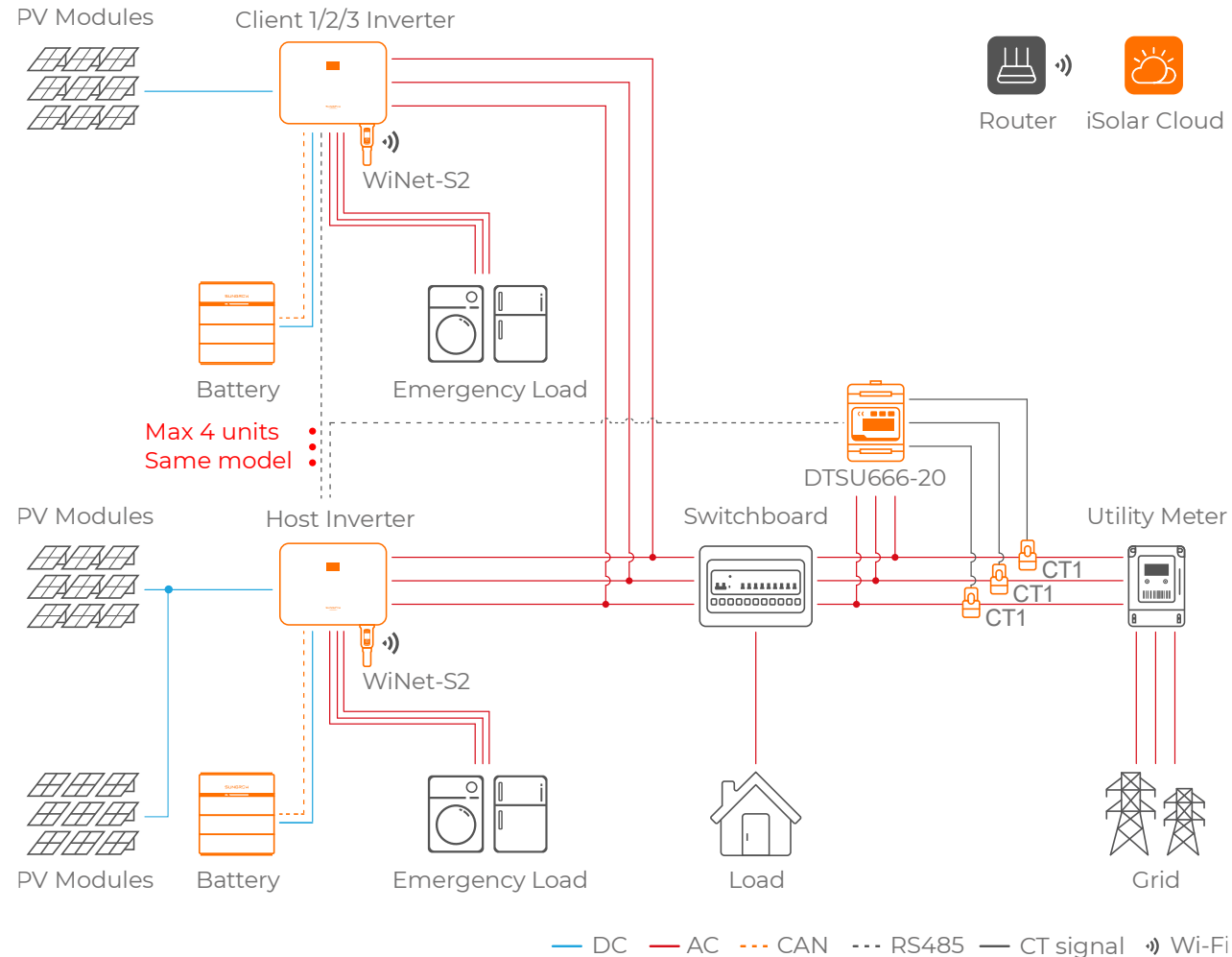
MONITORING + CONSUMPTION VISUALIZATION + FEED-IN LIMITATION

$N. \leq 2$ SHRT-20



4X SHT IN PARALLEL

SEPARATE BACKUP



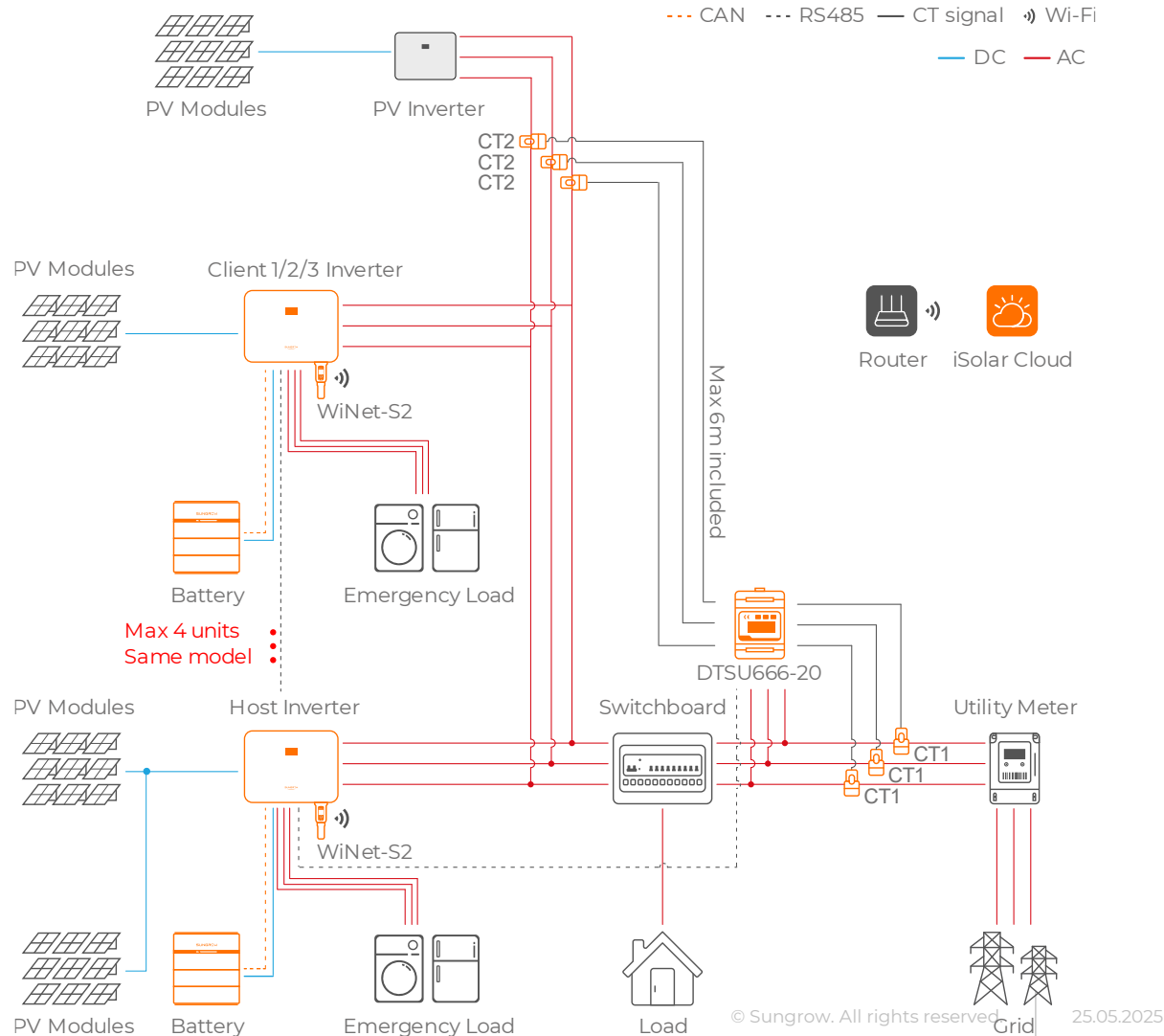
SHT must be the same model for all 4 inverters

Max 10m RS485 cable between inverters



4X SHT IN PARALLEL

RETROFIT INVERTER



PV inverter can be CX or SGRT or other brand inverter.

Possible scenarios:

- **Scenario 1:**
Host and Client1 with Battery but no PV
Client2 and Client3 with PV but no battery
- **Scenario 2:**
All with PV and battery
CX inverter in the same plant with WiNet



DTSU666-20 BIGGER CT

FOR MONITORING BIGGER RETROFIT INSTALLATIONS

- DTSU666-20 is compatible with all CT on the market with following ratios
- Sungrow supplies 100A and 250A CT – others should be purchased separately
- Settings should only be done on iSolarCloud, do not change it on DTSU LCD

Z:\Shared\EMEA\Sales Suitcase\4_Products\7_Accessories\3-Phase_Meter-_DTSU666-20\Quick_Installation_Guides\EN_QG_DTSU666-20_Quick_Installation_Guide_V15_202311.pdf

Programming function

The parameters of the meter equipped only with 100A/0.333VCT have been set before delivery, and can be installed directly after acceptance, without setting the parameters again, and the meters equipped with the rest of the CT and Rogowski coils need to set their parameters before installation.

Programming Parameter

Parameter	Value range	Description
[E]	1 ~ 8	1: CT01:100A/333mV
		2: CT02:250A/333mV
		3: CT03:400A/333mV
		4: CT04:500A/333mV
		5: RS01:1000A/333mV
		6: RS02:2000A/333mV
		7: RS03:3000A/333mV
		8: RS04:4000A/333mV

Advanced Settings							
Protection Parameters		Power Control		Energy Management Parameters		Battery Parameters	
No.	Parameter Name	Latest Value Update Time:2024-06-06 13:46:03	Numerical Term	Degree of accuracy	Unit	Illustrate	Remarks
43	Import Power Limit	43.47	Please Enter	0.01	kW	Set the ...	0.01~50
44	CT Ratio	1	Please Enter	1	--	Set the ...	1~8
45	Offgrid Emergency Charging	Enable	Please Sel...	--			--
46	Target SOC of Offgrid Emergency Charging	20	Please Enter	1			1~100

CT Ratio
Set the current transformer ratio for the meter.
In the scenario of multiple inverters, only the host needs to be configured.



Multi Parallel SHT and CX series

8 SHT

5 CX



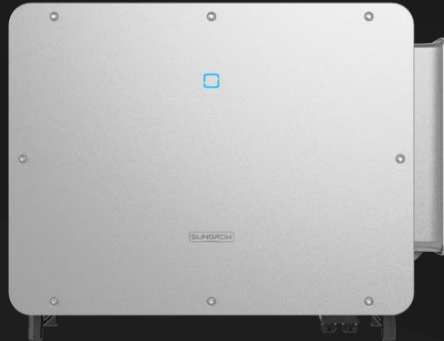
Sungrow C&I Energy Storage Solution

The key components from SUNGROW

Inverter

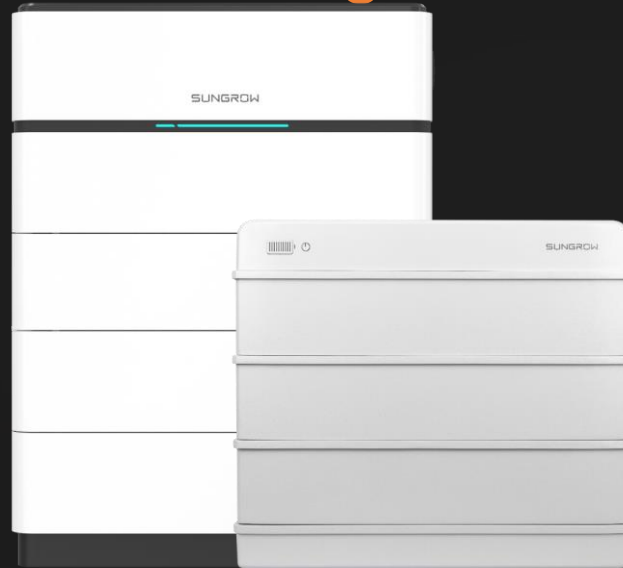


SH15/20/25T



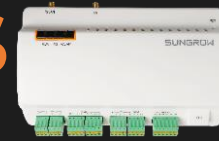
CX Series
CX-P2 Series

Battery



SBH 200/250/300/350/400
SBR 096/128/160/192/224/256

EMS



Logger 1000B
Logger 1000A-EU

Smart meter



DTSU666-20
+ 3CT

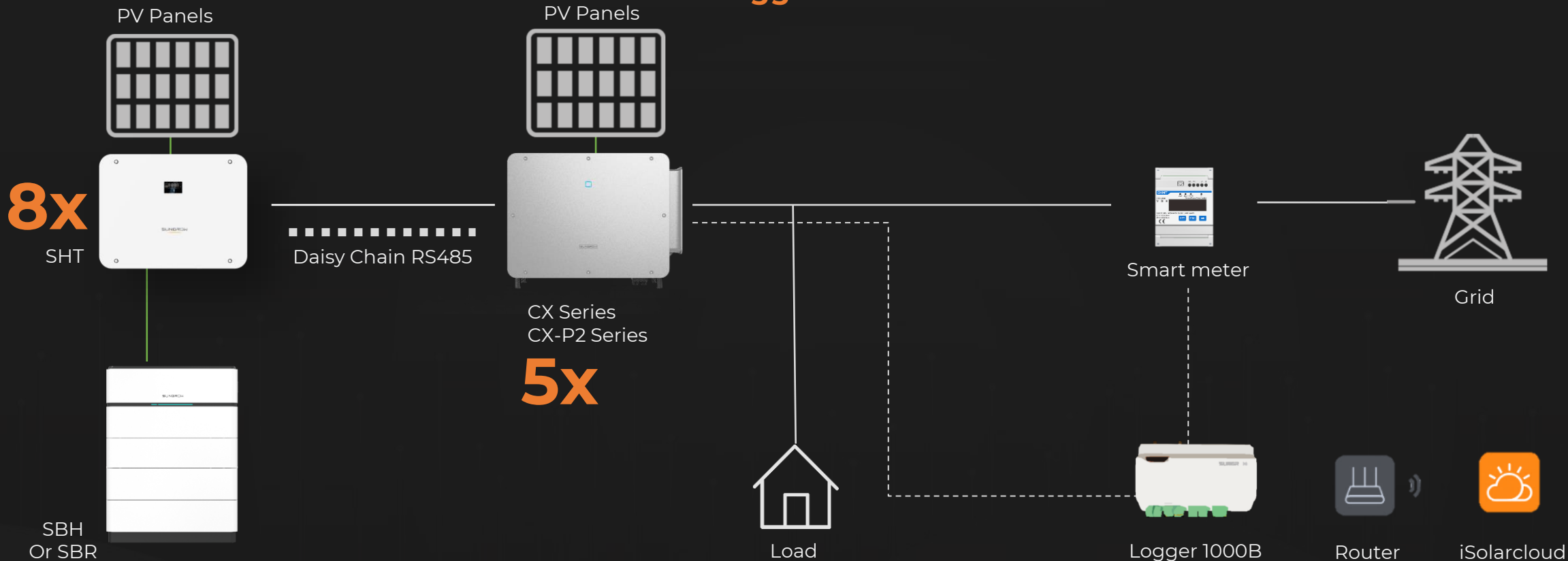
Monitoring



iSolarCloud

Sungrow C&I Energy Storage Solution

Flexible system
with **Logger1000B**
with **Logger 1000A-EU**



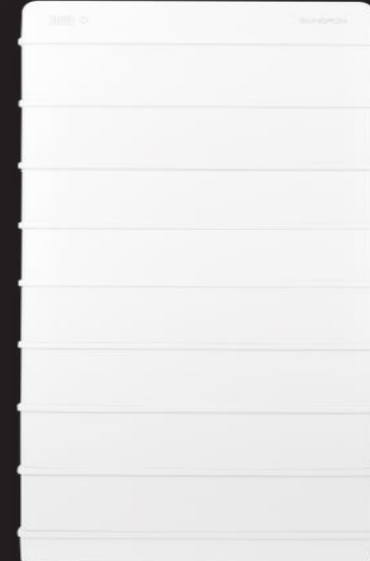
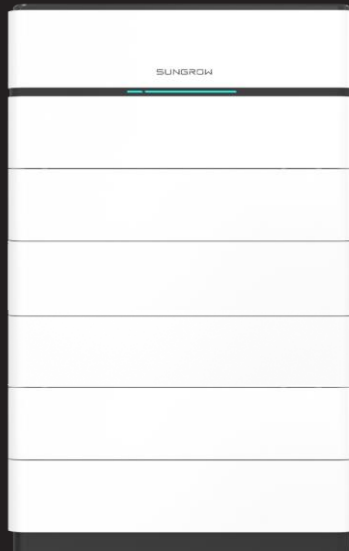
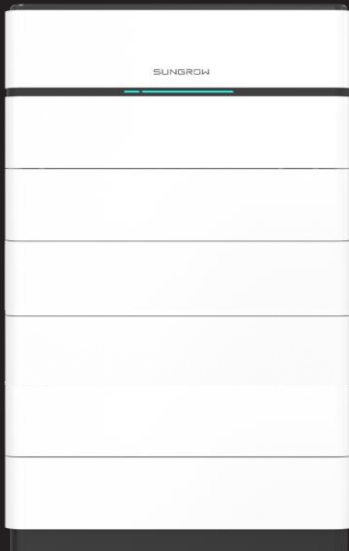
Same inverter power class – Do not mix SHT models



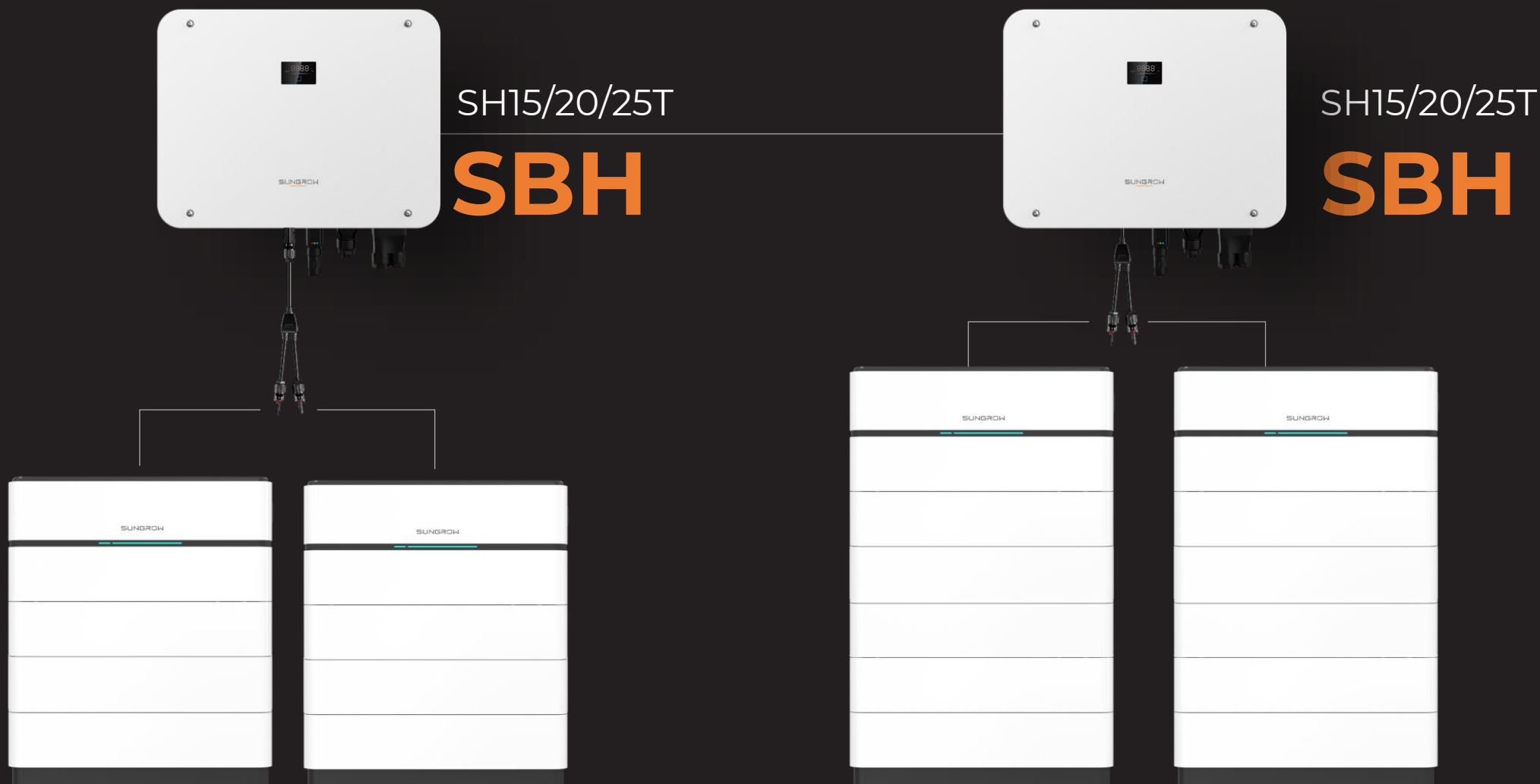
**SH25T
SBH**



**SH25T
SBR**



Each inverter can have **different battery** capacity/type



ACCESSORY COMPATIBILITY

The following meters are compatible with the Logger1000

DEVICE	COMMENT
DTSU666-20	Energy meter UT-000138
250A/333mV CT	For DTSU666-20 meter, sold by Sungrow U-E-000013
500/1000/2000/4000A to 333mV CT/Rogowski	For DTSU666-20 meter purchased separately

DTSD1352-C/1(6)A	Energy meter
Any CT with 5A secondary current	For DTSD1352-C/1(6)A meter – to be purchased separately

Janitza and Weidmüller meters also compatible as previous CX+Logger systems





POWERSTACK

SUNGROW
Clean power for all

PowerStack 200CS Series

C & I Liquid-Cooled ESS

225 kWh
Capacity

110kW
Power

2 h
System

Up to 25x in parallel in on-grid mode



Powerstack Article Number Overview

Configurations for Distribution

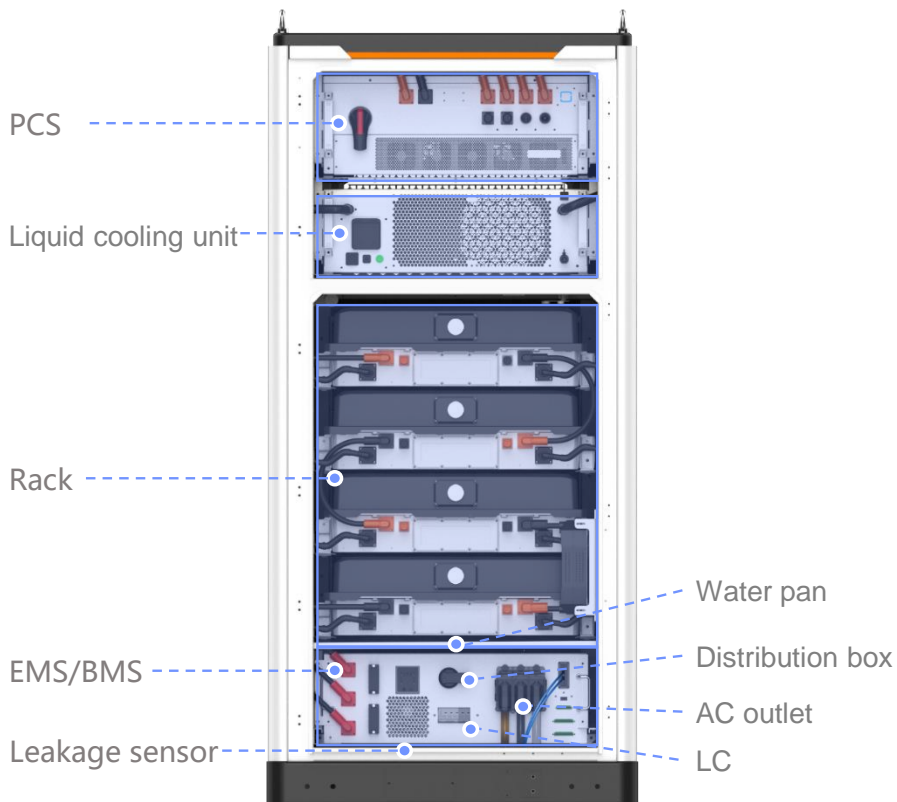


Feature	
Anti-corrosion paint	C5-L
Fire resistance rating	1h
Fire resistance system	Aerosol
Explosion venting panel	Not included
Auxiliary Power Supply	Internal
Transformer cabinet (off-grid)	Not included
EMS300CP	Not included
Battery cell type	EVE 280Ah



PowerStack AC System Solution

EMS300CP is not included



ST225kWh-110kW-2h
3.1 tons weight



It is mandatory to have one EMS300CP per plant.

The commissioning must be done by Sungrow or someone indicated by Sungrow.

Local Controller (incl.)

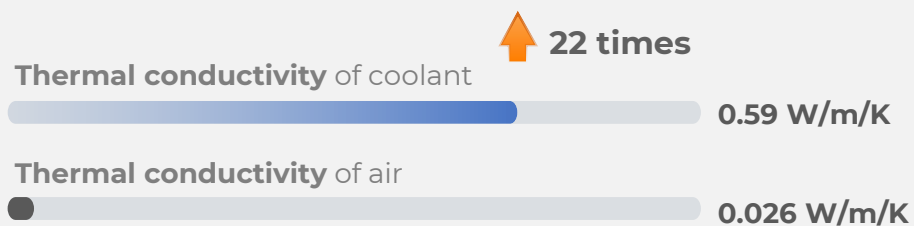
EMS300CP (to be purchased separately)



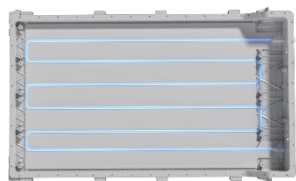
THE NEW POWERSTACK AC 200CS SERIES

THE ADVANTAGES OF LIQUID COOLING

Liquid cooling is **more efficient**



Liquid-cooling Balanced Heat Dissipation



Pack-level channel:

Balanced heat dissipation for each cell

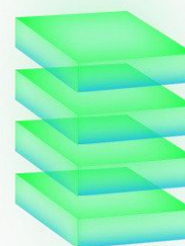


System-level channel:

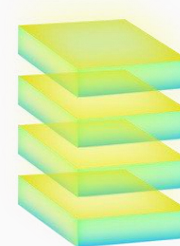
Balanced heat dissipation of each pack

The lower temperature difference, **the longer** cell lifetime

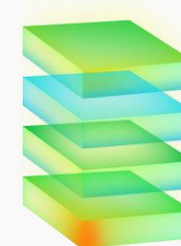
2.5 °C
PowerStack



3 °C
Other Liquid Cooling



10 °C
Air Cooling



* 0.5C, 1 cycle/day

THE NEW POWERSTACK AC 200CS SERIES

FLEXIBLE CONFIGURATION



All in one

Integrated system design of EMS\PCS\BMS



Flexible layouts

Seamless side-by-side parallel connection supported



More convenient application

Support 1~25 200CS in parallel



Side by Side



Face to Face



Back to Back

THE NEW POWERSTACK AC 200CS SERIES

BEST IN CLASS FIRE SAFETY

3-level fire safety design, accurate early warning, deflagration prevention and in-time fire protection.

Warning

Flammable gas/Heat/
Smoke detector



Warning

Accurate detection and timely warning



Fire Protection

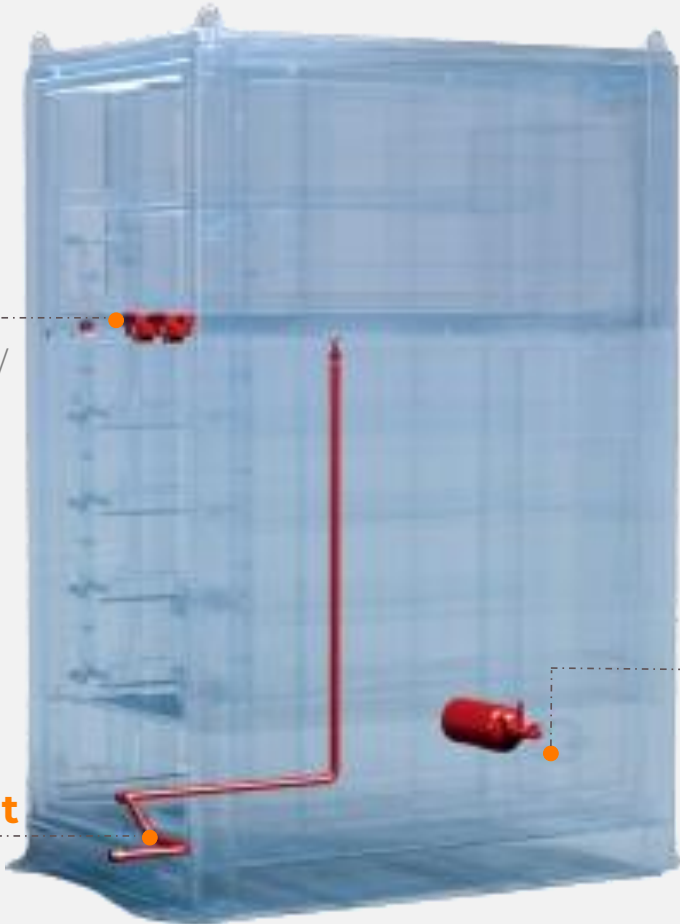
Extinguish fire immediately to reduce damage

Extinguishment

Sprinkler

Extinguishment

Aerosol

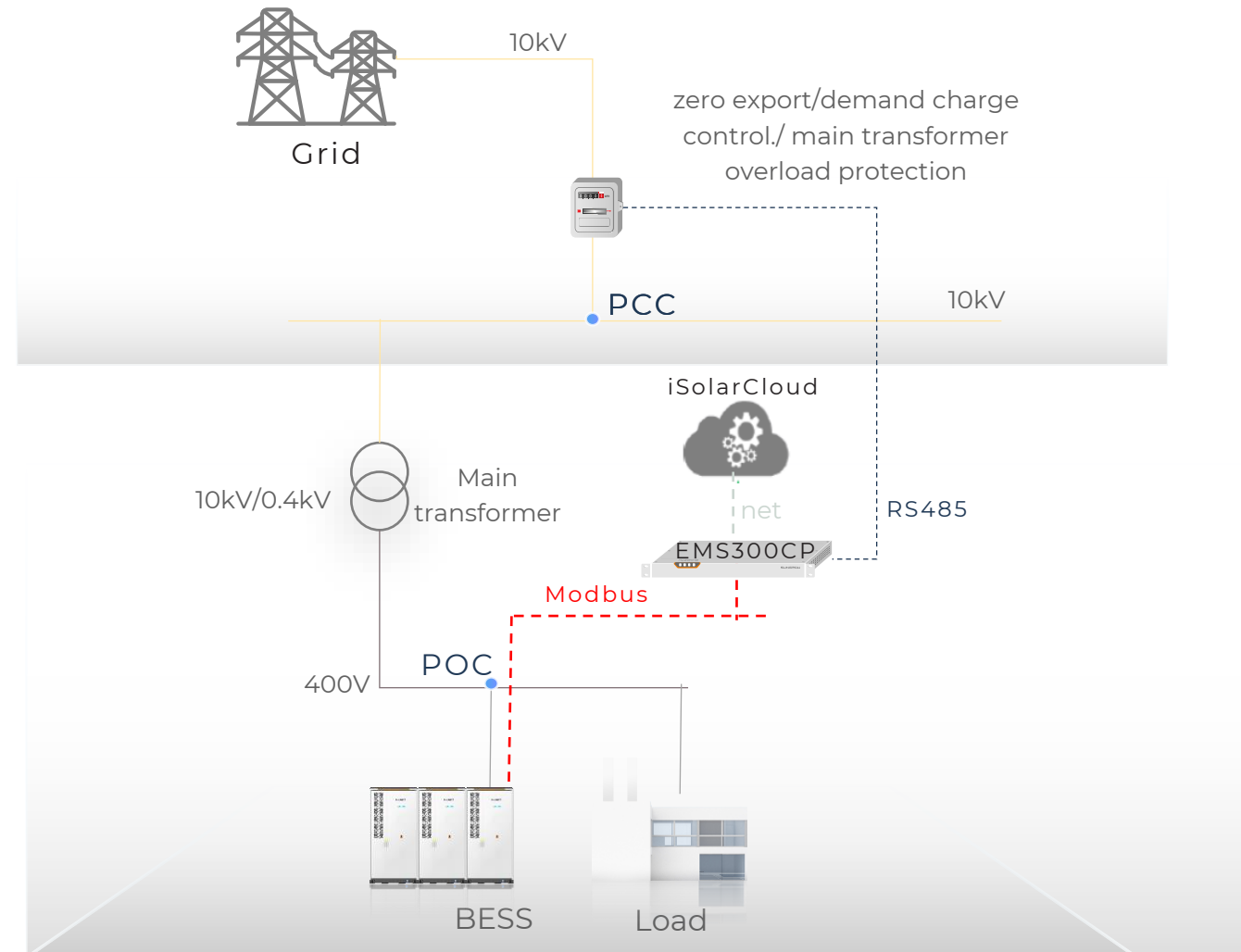


PowerStack + EMS300CP

Scenarios applicable

- On-grid without backup
- Less than 25 PowerStacks
- One PCC, One MV/LV transformer, One Energy Meter
- Self-consumption – Also with third party PV inverters
- Peak Shaving – Also with third party PV inverters
- Zero Export / Feed-in limitation – Only with Sungrow PV inverters

Please reach us for scenarios not part of this list



- *PCC: point of common coupling*
- *PoC: point of connection*



PowerStack + EMS300CP

Possible combinations – All Sungrow equipment



ESS Standalone	<ul style="list-style-type: none">• ≤25 units PowerStack 2h
PV + ESS	<ul style="list-style-type: none">• PV: ≤6MWp installed PV power <p>With PV inverters: SGCX, SGCX-P2 and logger COM100D-EU</p> <ul style="list-style-type: none">• ESS ≤25 units PowerStack
PV + ESS + EV	<ul style="list-style-type: none">• PV: ≤6MWp installed PV power• ESS: ≤25 units PowerStack• EV charging pile: ≤20 units IDC30E, IDC180E, IDC480E

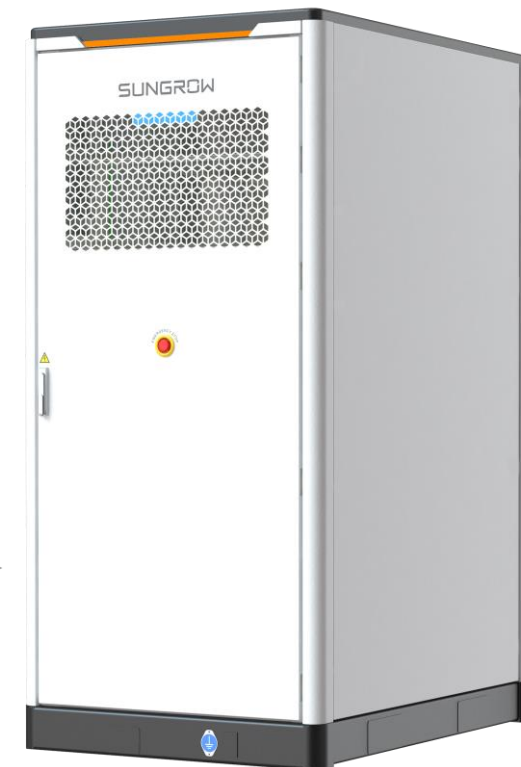
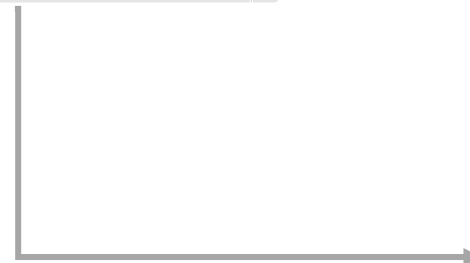
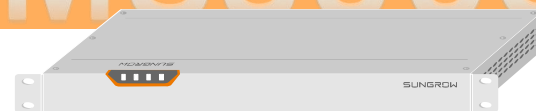


PowerStack AC System Solution

Use cases supported

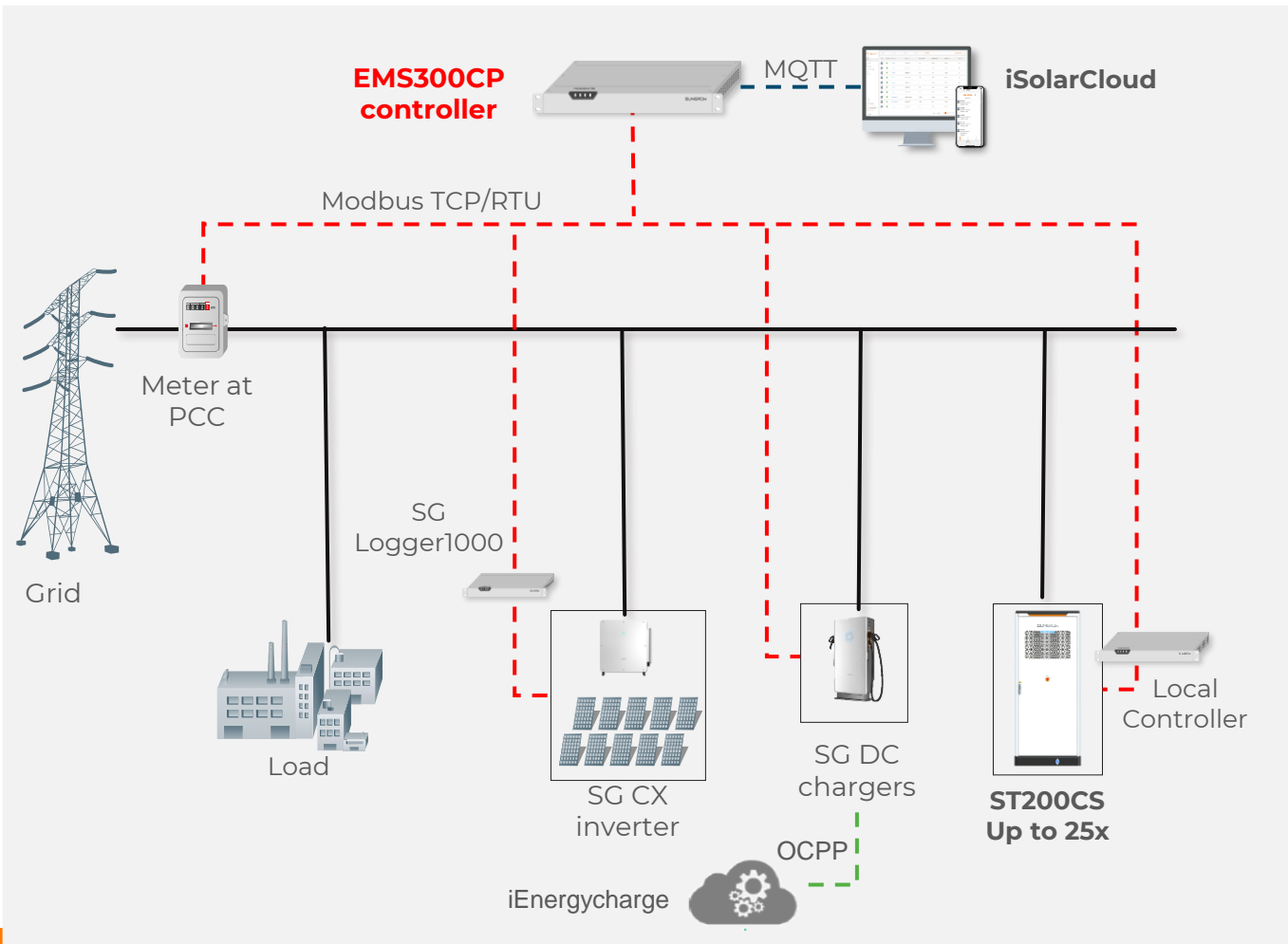
- PowerStack AC is controlled by EMS300CP (at least one per site required)
- If customer wants full control of PV+ESS+EV Chargers of different brands, then an external EMS should be used
 - In this case, EMS300CP is only used for site monitoring and Remote O&M via iSolarCloud

EMS300CP



EMS300CP as Master Controller

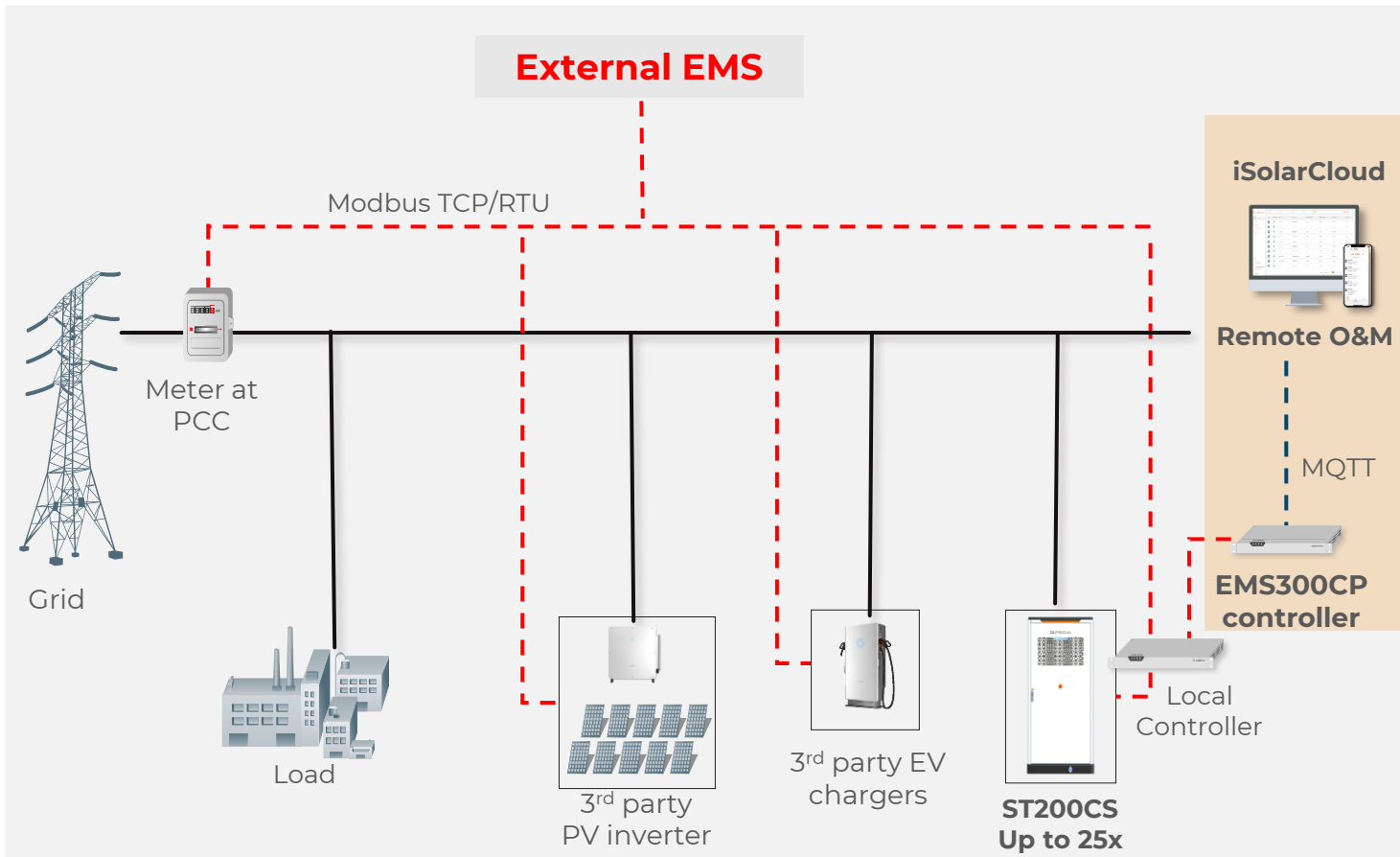
SLD and conditions



- Operating conditions for EMS300CP as master controller:
 - Only with compatible Sungrow PV inverters and EV chargers. Logger1000 needs to be used.
 - EMS300CP cannot connect directly to Nordpool or other Dynamic Tariff providers
 - Third party PV system cannot be controlled by EMS300CP
 - EMS300CP can be controlled by External EMS via Modbus TCP protocol



External EMS connection SLD and conditions



- Operation modes that require External EMS:
 - Energy trading from market APIs
 - Frequency regulations or ancillary services
 - Control of third-party PV inverters, batteries and third-party EV chargers
 - Control based on dynamic tariff from external API
 - Control based on AI prediction of PV and load forecasts
- In this case, EMS300CP is only used to be connected to iSolarCloud for remote FW update and O&M





TOOLS & SERVICE

ISOLARCLOUD

MONITORING

SITO WEB:

<https://www.isolarcloud.com/>

- Monitoring of the Sungrow systems: inverters, batteries and ac-chargers
- Web-browser and mobile versions
- App in the App Store
- New web-browser/mobile version from February 2024

Overview for the
Total Power and
Production

Ranking of
Equivalent Hours

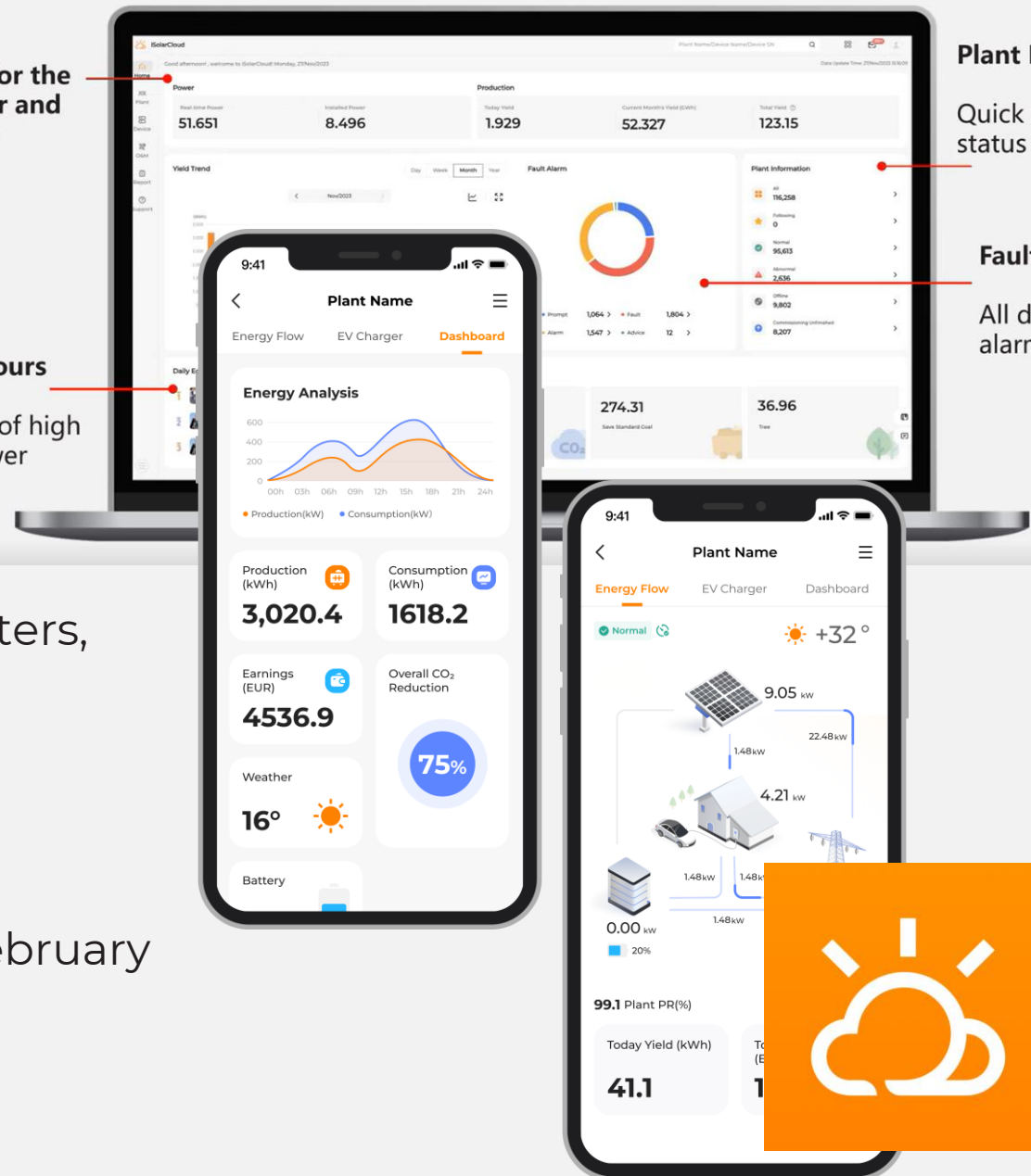
Daily ranking of high
efficiency power
generation

Plant Information

Quick access to Plants
status

Fault Alarm

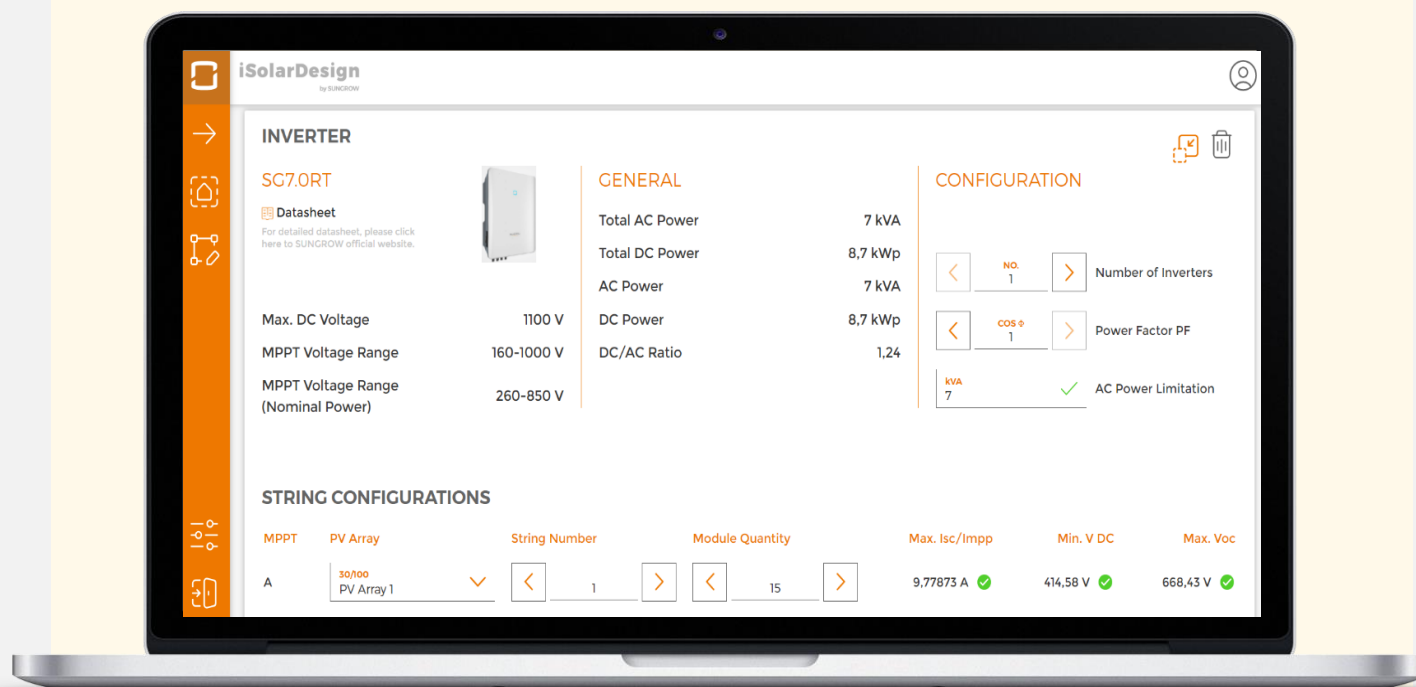
All device faults,
alarms, advice, etc.,



ISOLARDESIGN

CONFIGURATOR

iSolarDesign



SITO WEB:

<https://design.isolarcloud.com>

Configurator to the design of plants with the Sungrow inverters.



SERVICE

Pre-sales:

distribution@sungrow-emea.com

After-sales:

1) +39 02 8126 0305

2) Tickets: <https://gsp.sungrow.cn/user/login>



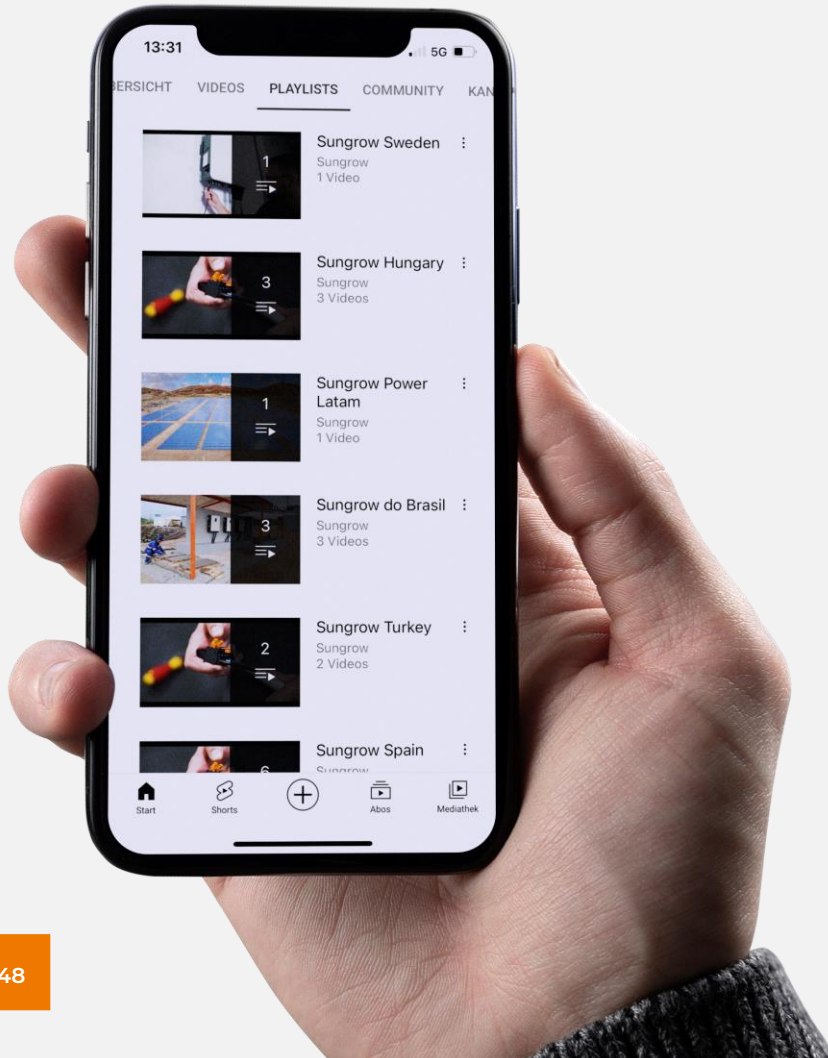
YOU TUBE

PLAYLIST



YOU TUBE (PLAYLIST):

<https://www.youtube.com/@Sungrow/playlists>



Check out our Playlists

- Local Playlists
- Installation Videos
- Commissioning Videos
- Webinar Recordings



COMMISSIONING

WINET-S2 - WATCH THE WHOLE COMMISSIONING PROCESS ONLINE

Video 1:

[The whole commissioning process on-site](#)

Video 2:

[Start on-site and finish remotely](#)



SUNGROW

Clean power for all

TIME IS NOW