Infini hybrid solar Profile
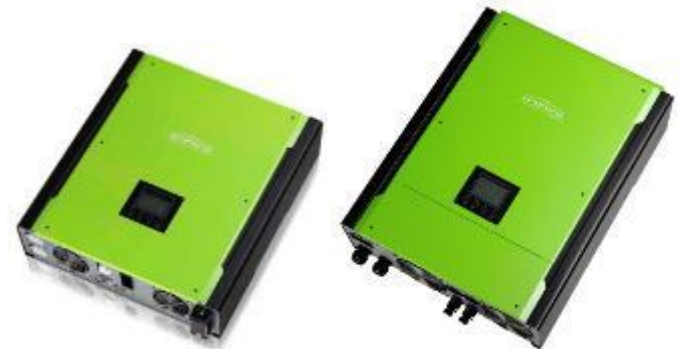
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Voltronic Power Technology Corporation

Infini Products family

2012 →		**InfiiniSolar 3KW**
2013 →		**InfiiniSolar Plus 3KW**
2014 →		**InfiiniSolar 10KW**
2015 →		**InfiiniSolar Plus 5KW**

Infini Products family

2016

InfiiniSolar V 1/2/3/4/5KW
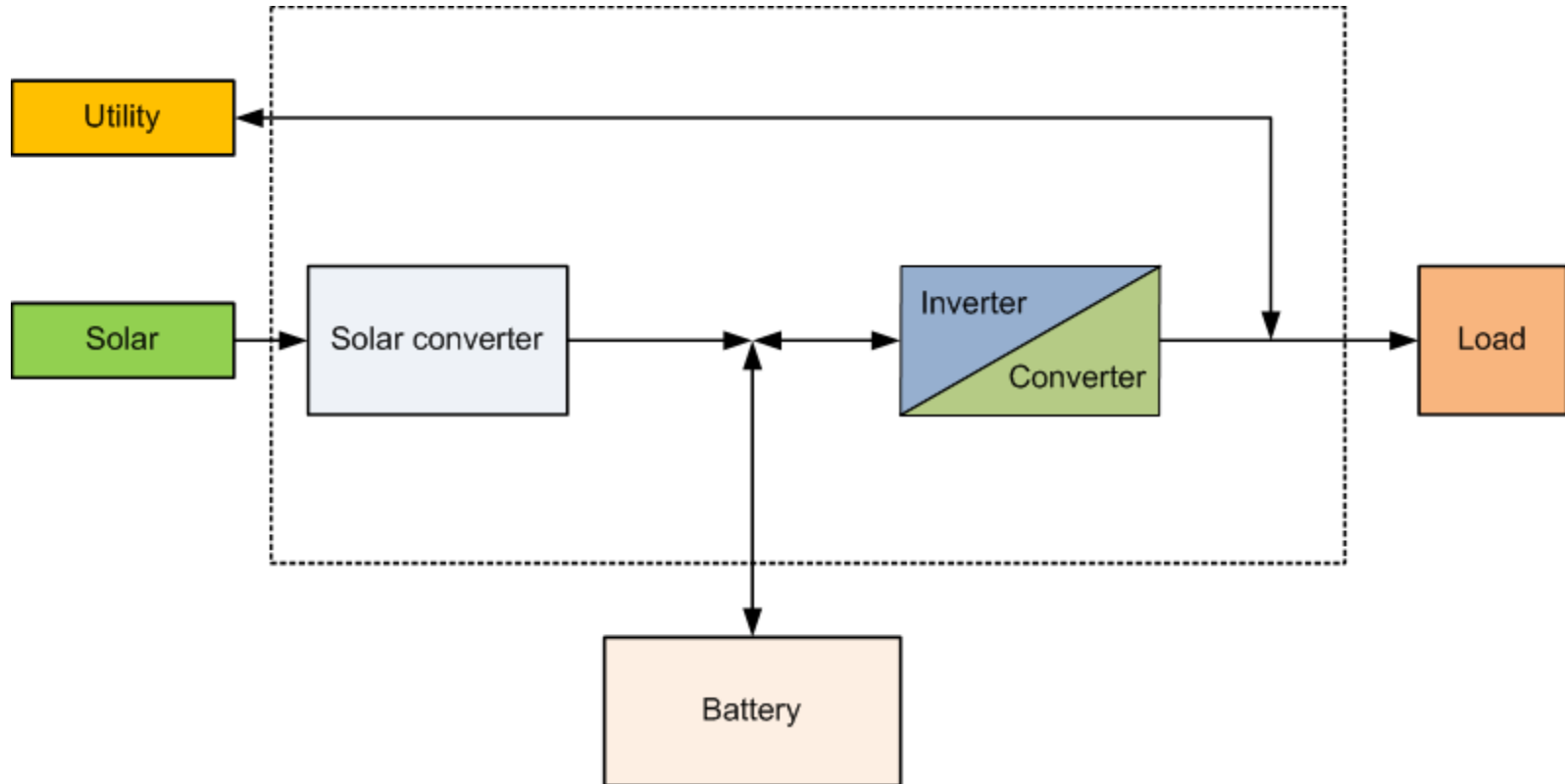
InfiiniSolar Super 4KW

InfiiniSolar E 5.5KW

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Infini Products family

Model	Plus 3KW	S 4KW	E 5.5 KW	10KW	Plus 5KW	V 5KW
Rating power	3KW	4KW	5.5KW	10KW	5KW	5KW
Phase	1 phase	1 phase	1 phase	**3 phases**	1 phase	1 phase
Bypass current	30A	40A	60A	40A per phase	40A	40A
Max PV power	4,500W	5,000W	5500 W	15,000W	10,000W	6,000W
Max PV input voltage	500V	580V	500V	900V	**900V**	**145V**
Battery voltage range	40~60V	**40~66 V**	40~63V	40~62V	40~62V	40~60V
Battery charging	25A	80A	60A	200A	100A	180A
Parallel function	×	√	×	√	√	√

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INFINI VS INFINI V

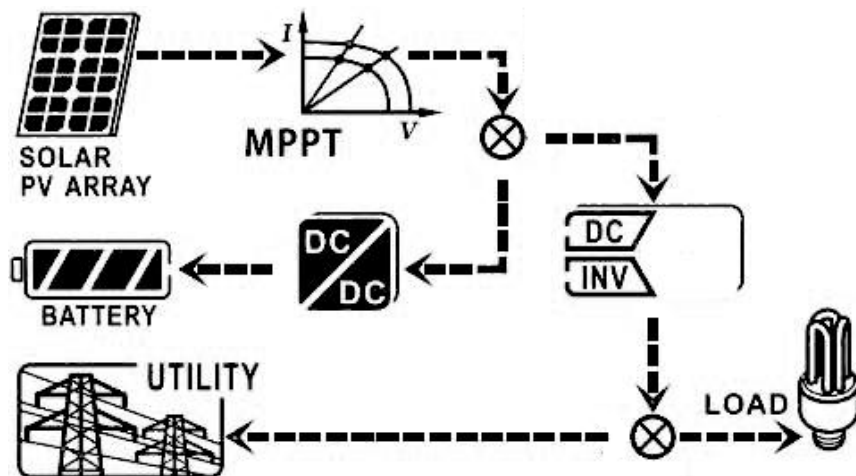| Models	INFINI	INFINI V	E 5.5KW
Rating power	3~10KW	1~5KW	5.5kW
Maximum solar voltage	500~900V	145V	500V
Without battery working	Supported	Not supported	Supported
Solar to load/grid efficiency	96%	91%	96%
Solar to battery efficiency	93%	97%	93%
Isolation between solar and grid	Not isolated	Isolated	Not isolated
Cost	High	Low	High
Certification	VDE, SAA, NRS, G83 EMC IEC 62109-1/2 IEC 62116/61727	EMC IEC 62109-1/2 IEC 62116/61727	VDE, SAA EMC IEC 62109-1/2 IEC 62116/61727

Functional introduction—Energy flow direction

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The topology of Infini E 5.5KW

GRID

LOAD

PV1

PV2

EMI

DC SWITCH

PV EMI

BOOST

BOOST

INVERTER RECTIFIER

EMI

EMI

CONVERTER CHARGER

BATTERY

GRID

PV

BATTERY

Auxiliary Power Supply

CONTROLLER (DSP + MCU)

LCD/LED DISPLAY FUNCTION KEY

INTELLIGENT SLOT

USB/RS232

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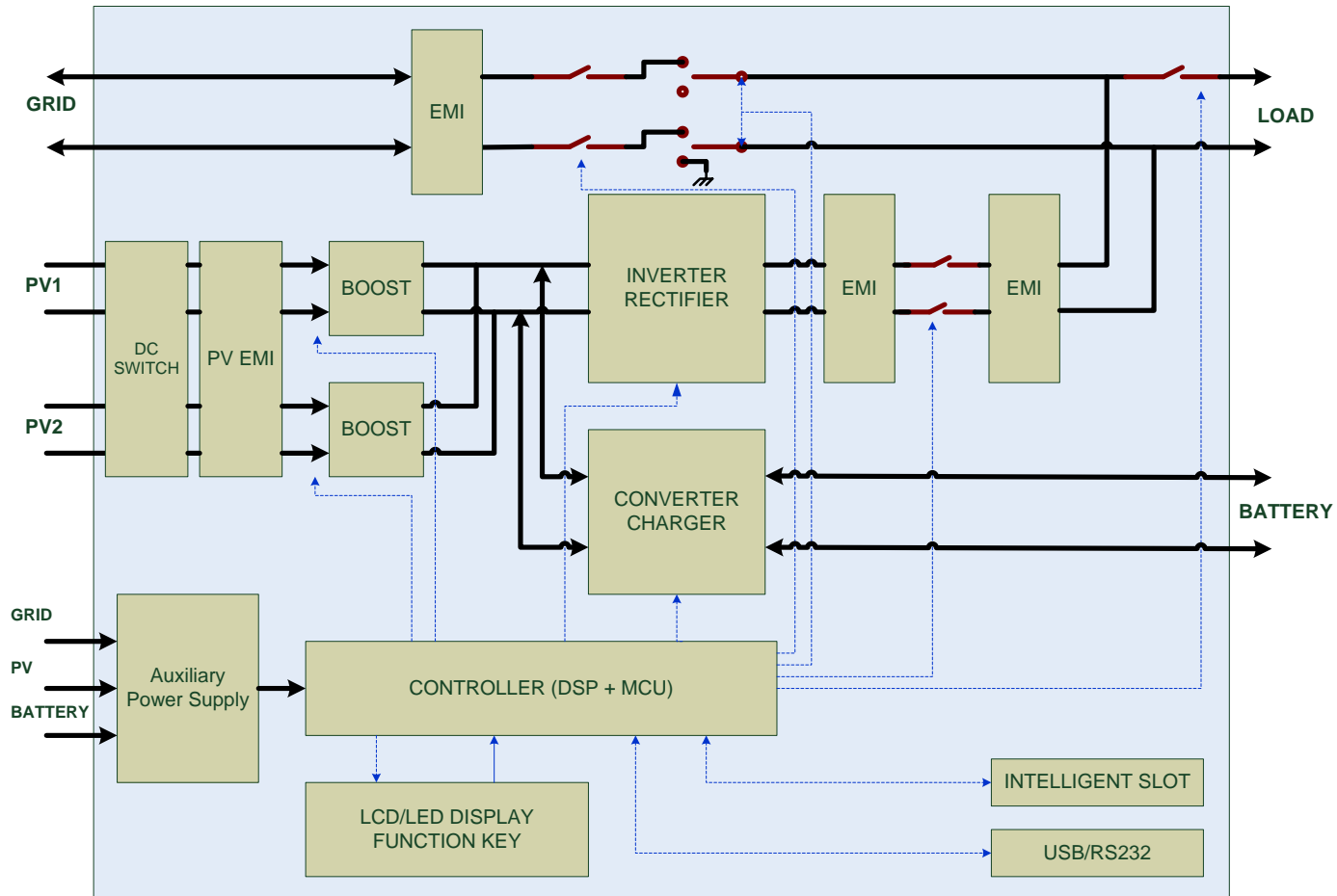
Working mode—Grid tie with backup

Working logical 1
Solar → Battery
Solar → Load
Solar → Grid
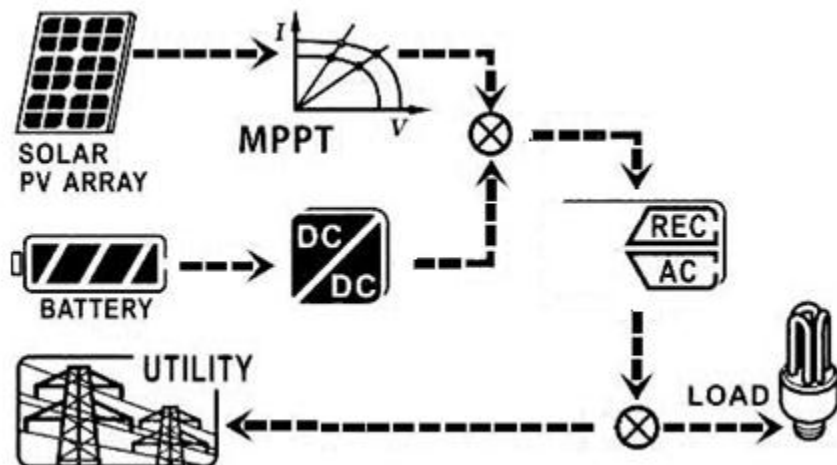
Working logical 2
Solar + Battery → Load
Solar + Battery → Grid

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Working mode—Grid tie with backup
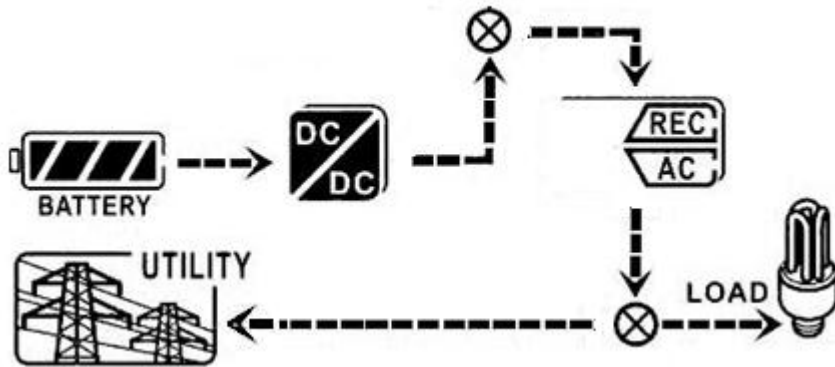
Working logical 3 *
Battery → Load
Battery → Grid
*: This is not available for Infini V.

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Working mode—Grid tie with backup and Off grid (1 and 2)
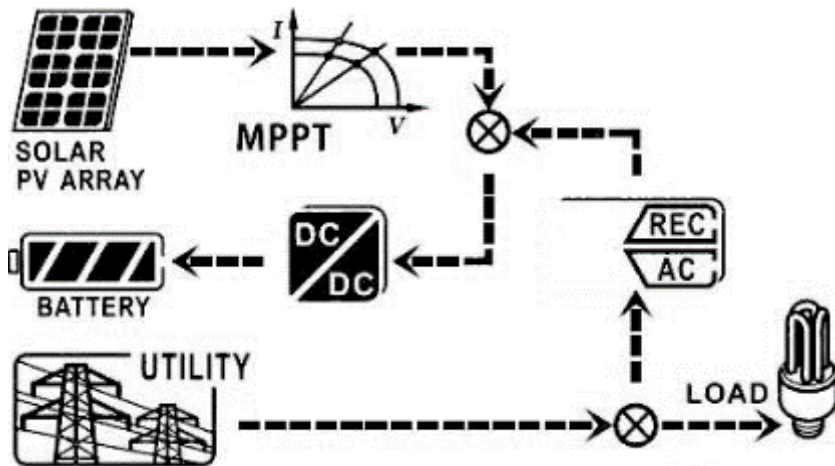
Working logical 1
Solar + Grid → Battery
Grid → Load
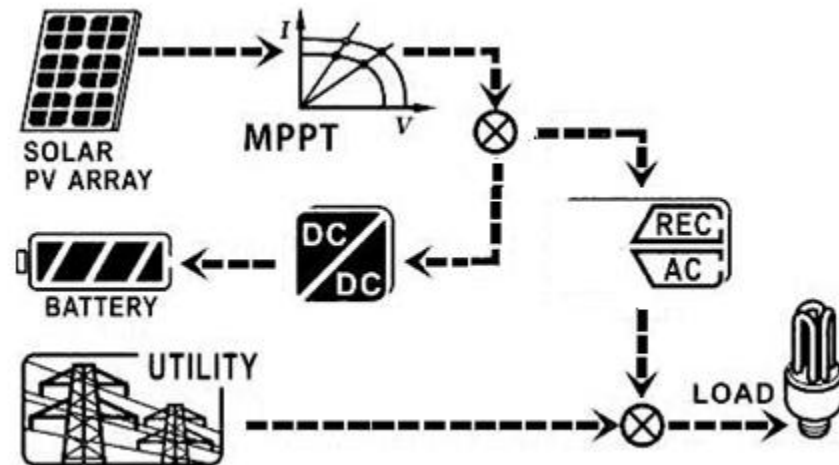
Working logical 2
Solar → Battery
Solar + Grid → Load

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Working mode—Grid tie
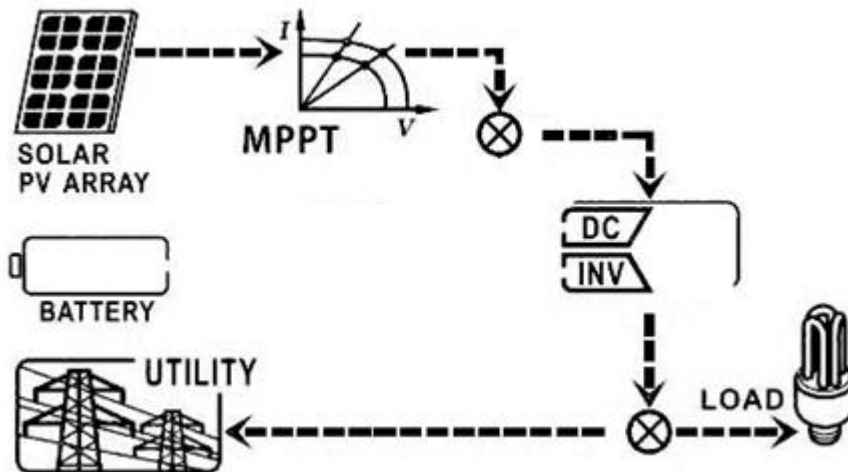
Working logical 1 *
Solar → Load
Solar → Grid
*: This is not available for Infini V.
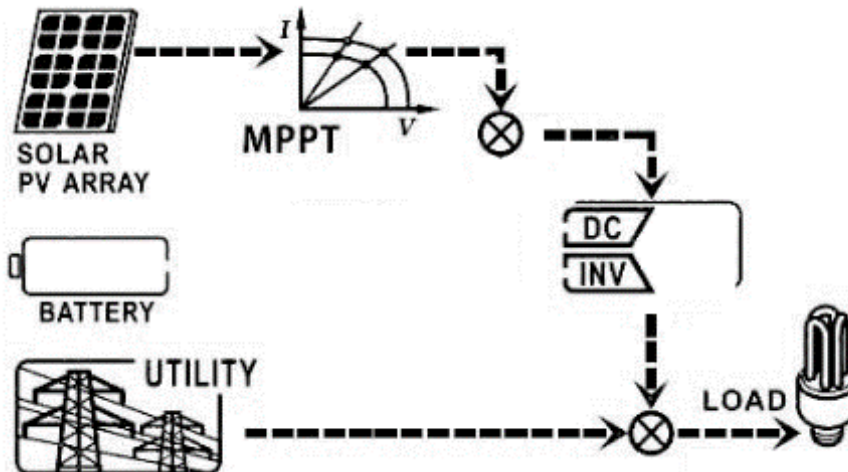
Working logical 2 *
Solar + Grid → Load
*: This is not available for Infini V.

Working mode—Off-Grid 3 or when grid is not available
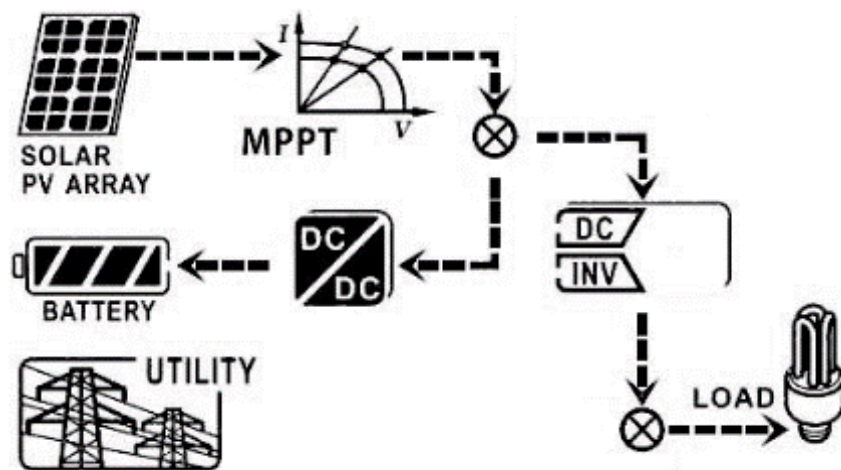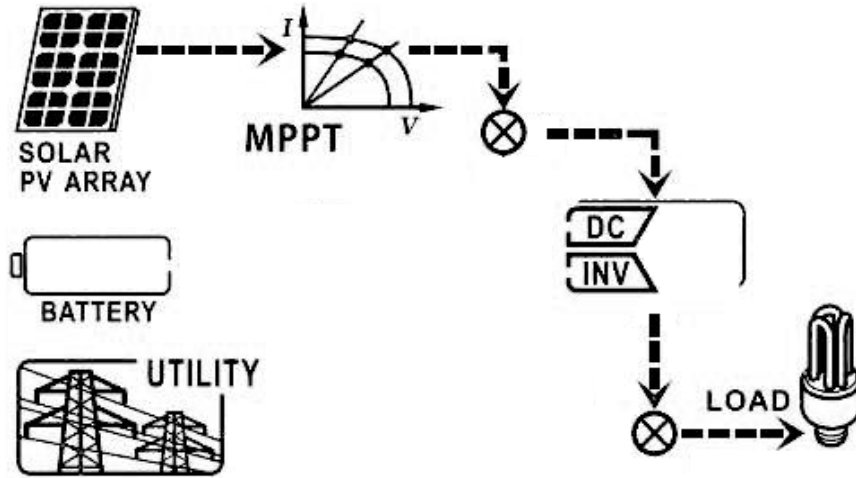

Working logical 1
Solar → Battery
Solar → Load

Working logical 2
Solar + Battery → Load

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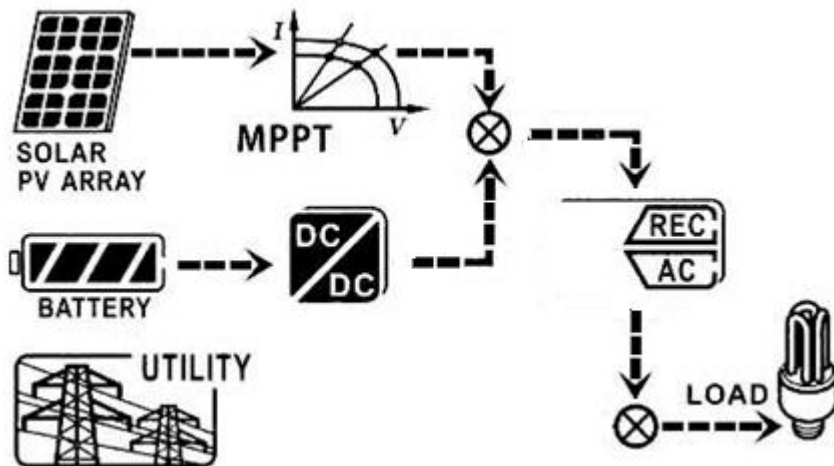
Working mode— Only solar

Working logical 1 *
Solar → Load
*: This is only available in Plus 3KW and Super 4KW

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Functional introduction—Parallel working
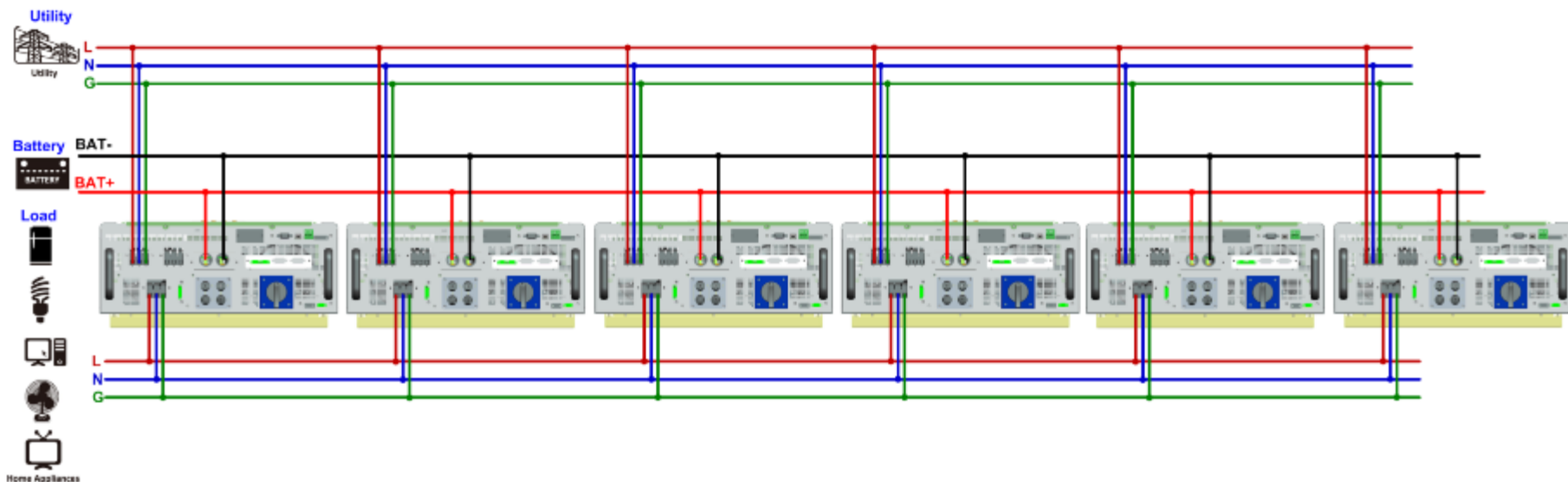
Model	Plus 3KW	S 4KW	10KW	Plus 5KW	V models
Phase	1 phase	1 phase	**3 phases**	1 phase	1 phase
Parallel function	×	√	√	√	√
Max. parallel numbers	×	6	6	6	6

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Functional introduction—Energy Meter
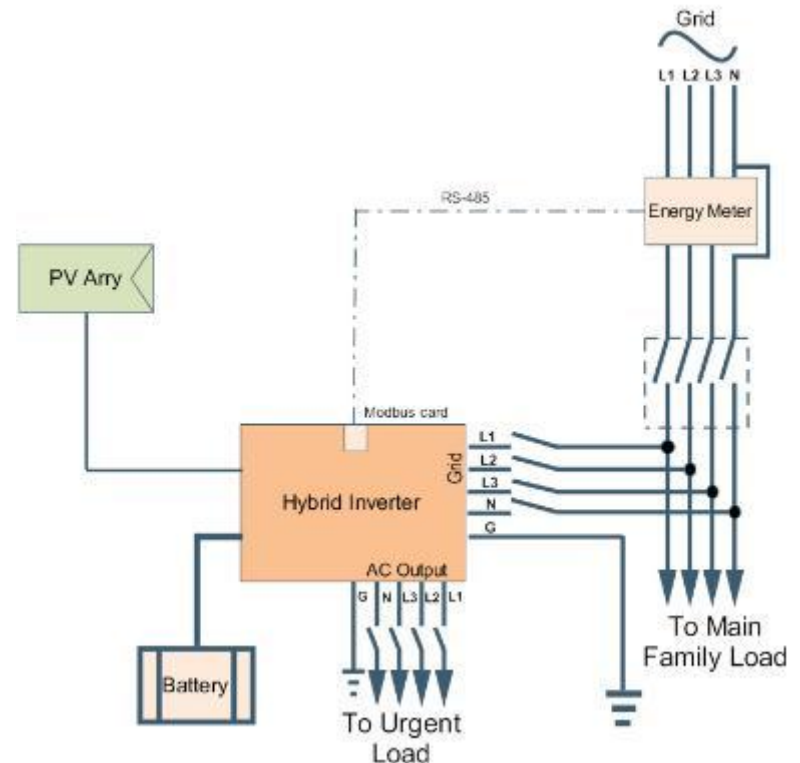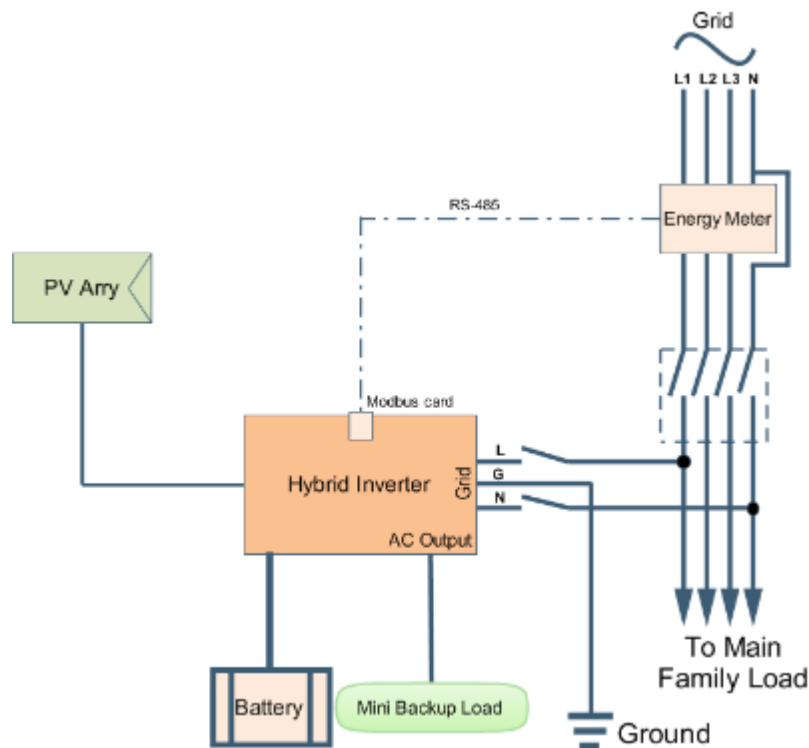
Model	Plus 3KW	S 4KW	10KW	Plus 5KW	V models
Energy meter	√	√	√	√	×

Functional introduction—Dual AC input for grid and generator
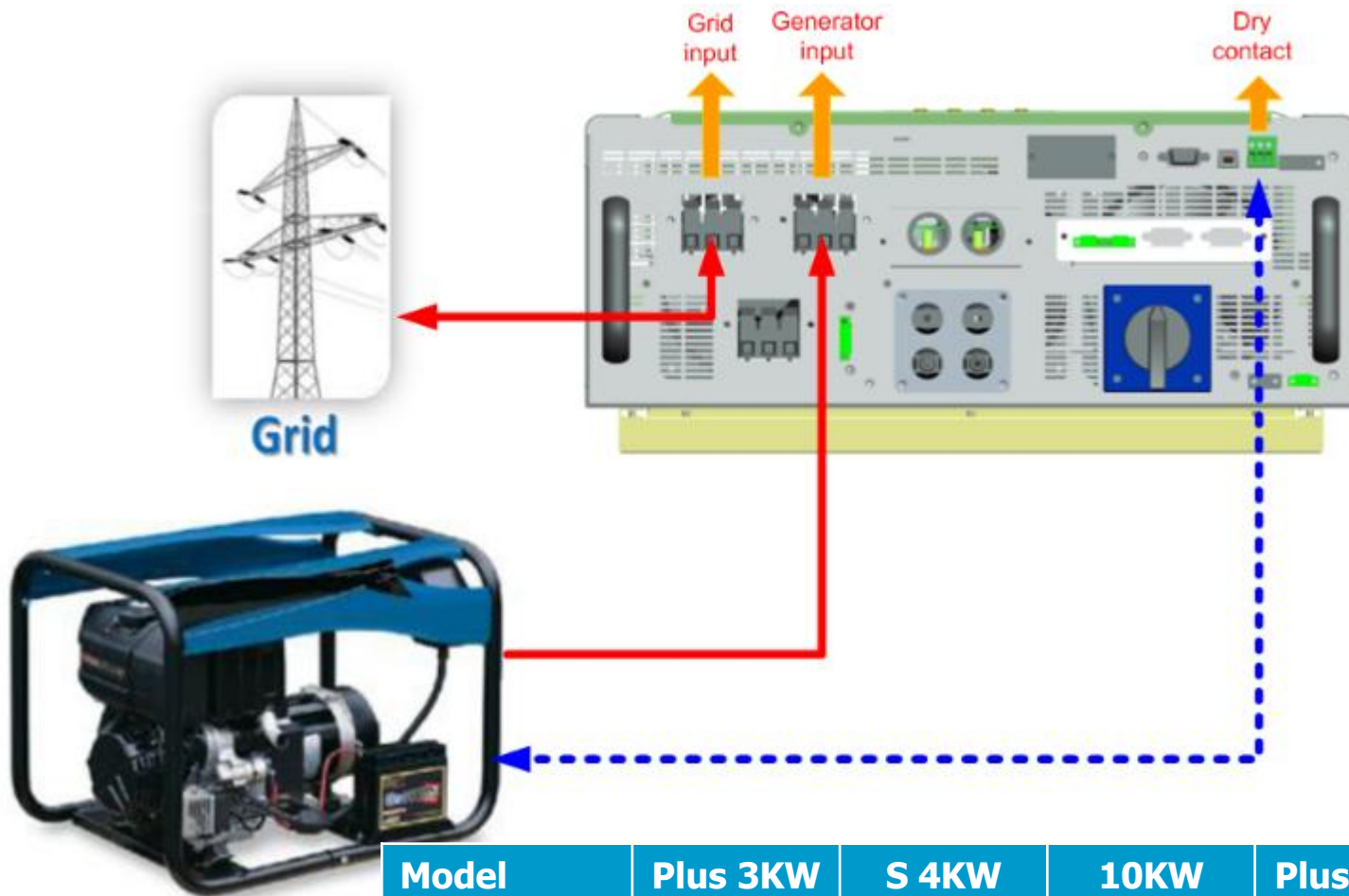
Model	Plus 3KW	S 4KW	10KW	Plus 5KW	V models
Dual AC input	✕	√	✕	√	✕
Dry contact	✕	√	√	√	√

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Functional introduction—Dual output

Battery	48V<	48→42V	>42V
Main output	230V	0V	0V
EMS output	230V	230V	0V

<500W
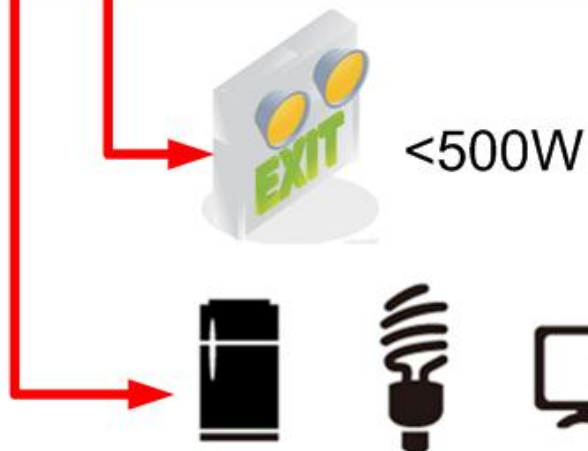
Rated power

Model	Plus 3KW	S 4KW	10KW	Plus 5KW	V models
Dual output	×	√	×	√	×

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Functional introduction—Battery temperature sensor

Compensation temperature range	0~50°C
Default compensation coefficient	5mV @2V/cell

Model	Plus 3KW	S 4KW	10KW	Plus 5KW	V models
Thermal sensor	×	×	√	√	×

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Functional introduction—External relay control

Single phase inverter

AC grid

AC OUTPUT

Relay Control port

MODBUS

External relay

Communication
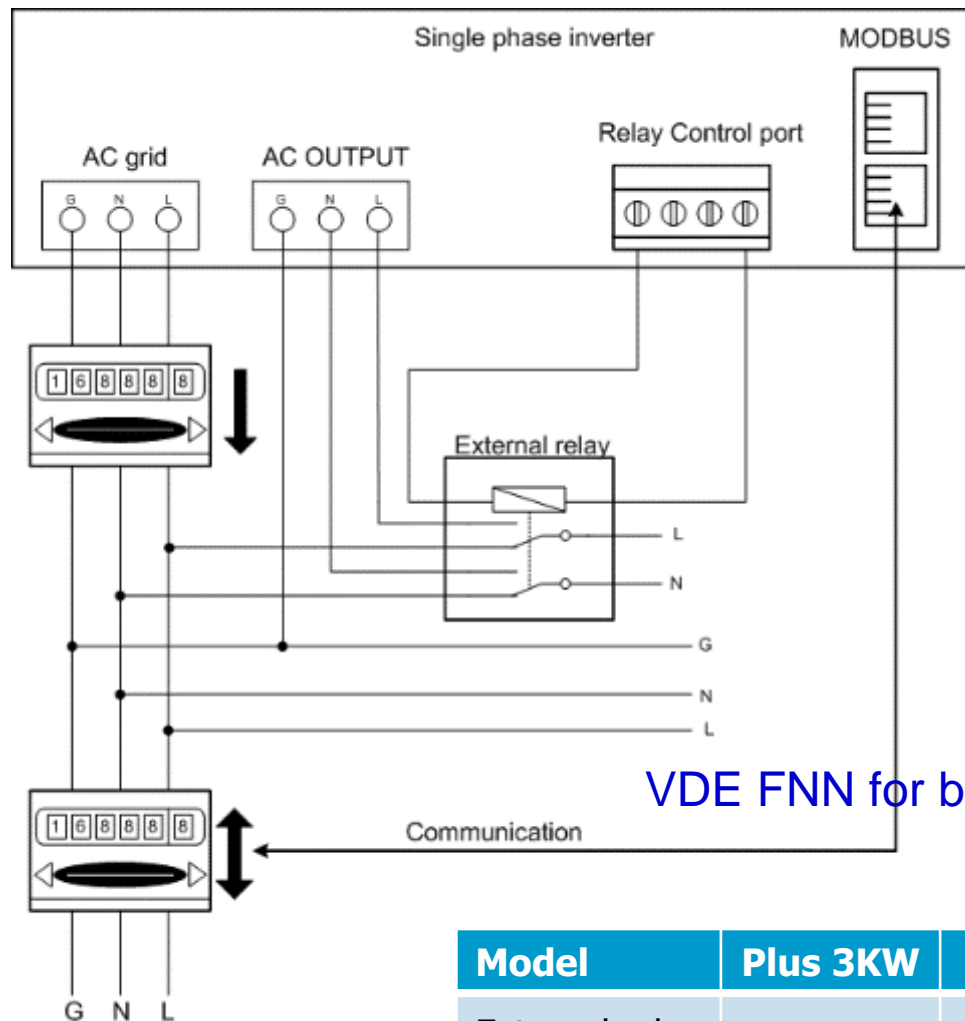
VDE FNN for battery storage systems in German market

Model	Plus 3KW	S 4KW	10KW	Plus 5KW	V models
External relay	×	×	√	√	×

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Monitoring Software

SolarPower for RS-232 & USB interfaces
SolarPower Pro for MODBUS and SNMP interfaces

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Monitoring Software--MyPower Management

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Monitoring Software--Parameters setting

Parameters setting

Min. grid-connected voltage:	184 V	Apply
Max. grid-connected voltage:	264.5 V	Apply
Min. grid-connected frequency:	59.3 Hz	Apply
Max. grid-connected frequency:	60.5 Hz	Apply

The waiting time before grid-connection:	60 Sec.	Apply
Max. grid-connected average voltage:	253 V	Apply
Max. feed-in grid power:	10,000 W	Apply

Min. PV input voltage:	300 V	Apply
Max. PV input voltage:	895 V	Apply
Min. MPP voltage:	350 V	Apply
Max. MPP voltage:	800 V	Apply
Max. charging current:	60 A	Apply
Max. AC charging current:	60 A	Apply
Start LCD screen-saver after:	60 Sec.	Apply

Bulk charging voltage(C.V. voltage):	56 V	Apply
Floating charging voltage:	54 V	Apply
Battery cut-off discharging voltage when Grid is available:	48 V	Apply
Battery re-discharging voltage when Grid is available:	54 V	Apply
Battery cut-off discharging voltage when Grid is unavailable:	42 V	Apply
Battery re-discharging voltage when Grid is unavailable:	48 V	Apply
Battery temperature compensation:	0.1 mV	Apply

Mute Buzzer alarm:	● Enable ○ Disable	Apply
Mute the buzzer in the Standby mode:	○ Enable ● Disable	Apply
Mute alarm in battery mode:	○ Enable ● Disable	Apply

Generator as AC source:	○ Enable ● Disable	Apply
Activate Li-Fe battery while commissioning:	● Yes ○ No	Apply
Wide AC input range:	○ Enable ● Disable	Apply

When float charging current is less than X (A) and continued T (Min),then charger off; when battery voltage is less than Y (V),then charger on again.

X: 0 A   T: 60 Min.   Y: 53 V   Apply

🔴 Any schedule change will affect the power generated and shall be conservatively made.

System time: 2014-09-23 📅
13:55:39   Apply

Close

Remote Monitoring & Management

SNMP Web Card

Modbus Card

GPRS Card

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Application Tips

- **Installation environment.**

The IP degree of the inverter is only IP20, please make sure indoor use.

The recommended environment is indoor with natural ventilation, low dust and humidity is less than 90%.

- **Motor loads: Air condition, pump, wash machine**

When motor loads starts up, the inrush current is about 6~10 times the rated current.

The recommended rating of the motor loads is less than **1/3** rating of the inverter.

E.g. Please use no more than 1KVA motor load on the 3KVA inverter.

- ## Using Generator as the AC source

1. Please use the generator which its power rating is 2 times the inverter.

2. Enable generator mode and wide AC input range.

3. The quantified parameters is compatible for inverter.

- Generator waveform THD: < 10%.

- Generator Vrms range: 180 ~ 270Vac

- Generator voltage crest factor(Vpeak/Vrms): < 1.6

- Generator peak voltage: <380V

- Frequency range: 45Hz ~ 63Hz

- Frequency slew rate: <0.3Hz/sec

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Application Tips

- ## Lithium battery

1. Please enable the function as below

Activate Li-Fe battery while commissioning: ○ Yes ● No [Apply]

2. Set the charging voltage by following the spec of the battery.

Bulk charging voltage(C.V. voltage): 56 ▲▼ V [Apply]

Floating charging voltage: 54 ▲▼ V [Apply]

Note: Usually the lithium battery is two-stage charging. Please set the bulk and floating voltage the same.

3. Set the charging current by following the spec of the battery.

Max. charging current: 24.8 ▲▼ A [Apply]

Max. AC charging current: 21.6 ▲▼ A [Apply]

For InfiniSolar Plus 3KW, max discharging current should be more than 100Amp.
For InfiniSolar Plus 5KW, max discharging current should be more than 150Amp.
For InfiniSolar 10KW, max discharging current should be more than 300Amp.

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