

Solar inverters

# ABB PV + Storage REACT-3.6/4.6-TL 3.6 to 4.6 kW



**REACT stores and allows you to make the most of the energy produced by your photovoltaic system.**

REACT is an innovative photovoltaic inverter, equipped with a built-in 2 kWh battery that lets you store your unused energy generated during the day for use later when you really need it.

Taking full advantage of the energy generated by your photovoltaic system, REACT allows you to achieve greater energy self-sufficiency.

### The advantages of REACT are:

- Coordination of all the energy flows with the goal of aligning PV energy production and home consumption
- Integrated load manager for control of energy consumption
- Auxiliary AC back-up output
- MyREACT: dedicated mobile app for control and monitoring
- Integrated Li-Ion battery with 2kWh capacity, expandable up to 3x (6kWh)

### Highlights

- Single-phase grid-connected inverter
- Two independent MPPT inputs
- Transformerless topology
- Energy meter for management of energy flows and control of energy production

Power and productivity  
for a better world™



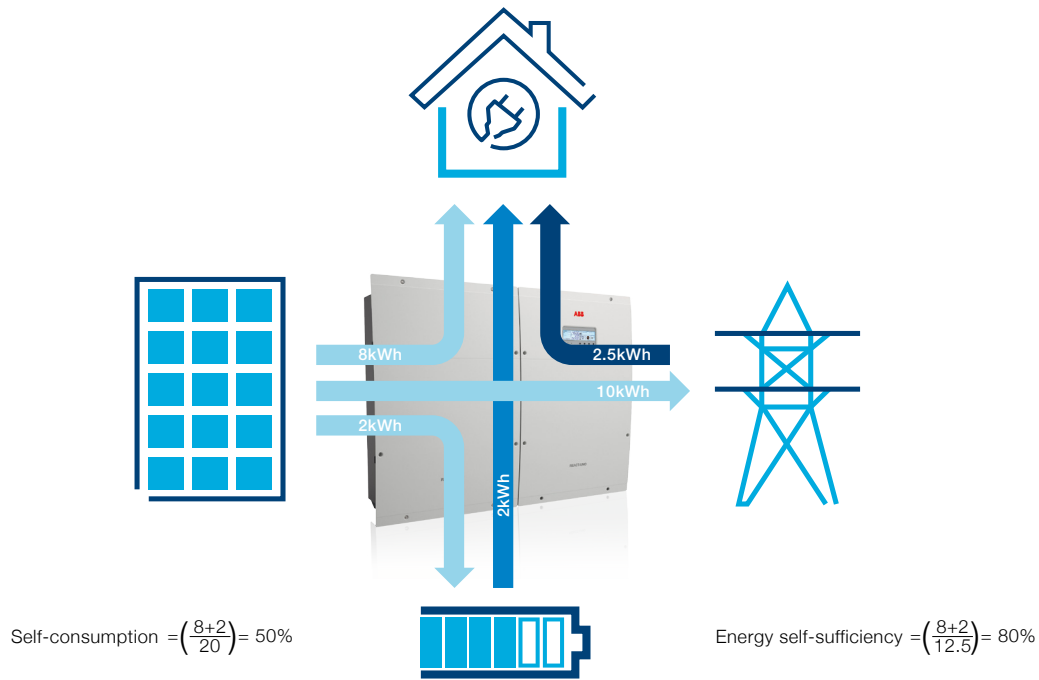
# REACT-3.6/4.6-TL



## Technical data and types

Solar and storage inverter system	REACT-3.6-TL	REACT-4.6-TL
	System components	REACT-UNO-3.6-TL
	REACT-BATT-AP1	
	REACT-MTR-1PH or REACT-MTR-3PH	
<b>Inverter</b>	<b>REACT-UNO-3.6-TL</b>	<b>REACT-UNO-4.6-TL</b>
<b>Input side</b>		
Absolute maximum DC voltage - $V_{dc\ max}$	600 V	
Start-up DC voltage - $V_{start}$	200 V (adj. 120...350 V)	
Operating DC voltage range - $V_{dc\ MPP}$	$0.7 \times V_{start} \dots 580$ V (min 90 V)	
Rated DC voltage - $V_{dcr}$	360 V	
Rated DC power - $P_{dcr}$	5000 W	6000 W
Number of independent MPPT	2	
Maximum DC power for each MPPT - $P_{MPPT\ max}$	2500 W Linear derating [ $520\ V \leq V_{MPPT} \leq 580\ V$ ]	3000 W Linear derating [ $520\ V \leq V_{MPPT} \leq 580\ V$ ]
DC voltage range with parallel configuration of MPPT at $P_{acr}$ , not operative battery - $V_{dc\ FULL\ POWER}$	160...520 V	180...520 V
Maximum DC current - $I_{dc\ max}$ / for each MPPT	24 A / 12 A	27 A / 13.5 A
Maximum short circuit current for each MPPT - $I_{sc\ max}$	15 A	
Number of DC inputs pairs for each MPPT	2	
DC connection type	PV quick fit connector <sup>3)</sup>	
<b>Input protection</b>		
Reverse polarity protection	Yes, from limited current source	
Over voltage protection for each MPPT - varistor	Yes	
Photovoltaic array isolation control	According to local standard	
DC switch rating for each MPPT	25 A / 660 V	
<b>Battery charger</b>		
Maximum charging power (with at least 3 x battery unit)	3000 W	3000 W
Maximum discharging power (with at least 2 x battery unit)	3000 W	3000 W
<b>Output side</b>		
AC Grid connection type	Single phase	
Rated AC power - $P_{acr}$ ( $\cos\phi = 0.9 - 1$ , over/under excited)	3600 W	4600 W
Maximum AC power - $P_{ac\ max}$	3600 W	4600 W
Maximum apparent power - $S_{max}$	4000 VA	5100 VA
Rated AC grid voltage - $V_{acr}$	230 V	
AC voltage range	$180 \dots 264\ V$ <sup>1)</sup>	
Maximum AC current - $I_{ac\ max}$	19 A	24 A
Contributory fault current	23 A	29 A
Rated frequency - $f_r$	50 Hz	
Frequency range	$47 \dots 53\ Hz$ <sup>2)</sup>	
Adjustable $\cos\phi$	0.1 - 1 (over/under excited)	
Total current harmonic distortion	< 2%	
AC connection type	Screw terminal block, cable gland M25	
<b>Output protections</b>		
Anti-islanding protection	According to local standard	
Maximum external AC overcurrent protection	25 A	32 A
Output overvoltage protection - varistor	2 (L - N / L - PE)	

## Daily energy flows example of REACT-4.6



## Technical data and types

Inverter	REACT-UNO-3.6-TL	REACT-UNO-4.6-TL
<b>Backup output</b>		
AC connection type	Single phase	
Rated apparent power - $S_{acr}$	3000 VA	
Rated AC Voltage - $V_{acr}$	230 V	
Maximum AC current - $I_{ac\ max}$	13 A	
Contributory fault current	27 A rms (60 ms)	
Maximum external AC overcurrent protection	16 A	
Rated frequency - $f_r$	50 Hz	
AC connection type	Screw terminal block, cable gland M25	
<b>Operating performance</b>		
Maximum efficiency - $\eta_{max}$	97.1 %	
Weighted efficiency (EURO/CEC)	96.6 % / -	
Typical battery efficiency (full cycle)	94.0 %	
<b>Communication</b>		
Remote monitoring	Integrated WiFi datalogger	
Wireless local monitoring	WiFi with webserver, mobile APP	
User interface	Mobile APP, Webserver UI, Graphic display	
Wired local monitoring	PVI-USB-RS232_485 (opt.)	
<b>Environmental</b>		
Ambient temperature range	-20...+55°C with derating above 50°C	-20...+55°C with derating above 45°C
Relative humidity	4...100 % condensing (5...95 % no condensing; with at least 1 battery unit)	
Sound pressure level, typical	50 dBA @ 1 m	
Maximum operating altitude without derating	2000 m / 6560 ft	
<b>Physical</b>		
Environmental protection rating	IP65 (inverter), IP21 (battery unit)	
Cooling	Natural	
Dimension (H x W x D)	740 mm x 490 mm x 229 mm	
Dimension (H x W x D), equipped with 1 battery unit	740 mm x 983 mm x 229 mm	
Weight	< 30 kg	
Weight, equipped with 1 battery unit	< 67 kg	
Mounting system	Wall bracket	
<b>Safety</b>		
Isolation level	Transformerless	
Marking	CE	
Safety and EMC standard	IEC/EN 62109-1, IEC/EN 62109-2, EN 61000-6-2, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3, EN61000-3-11, EN61000-3-12	
Grid standard (check your sales channel for availability)	CEI 0-21 (V1; 2014-12), DIN V VDE V 0126-1-1, VDE-AR-N 4105, G83/2, G59/3, VFR 2014, 4777.2:2015	
<b>Other features</b>		
Load manager	Yes, with load manager box	
AC backup output, off grid	Yes, automatic or manual restart in case of power outage	
Grid support	Yes, where it is required	

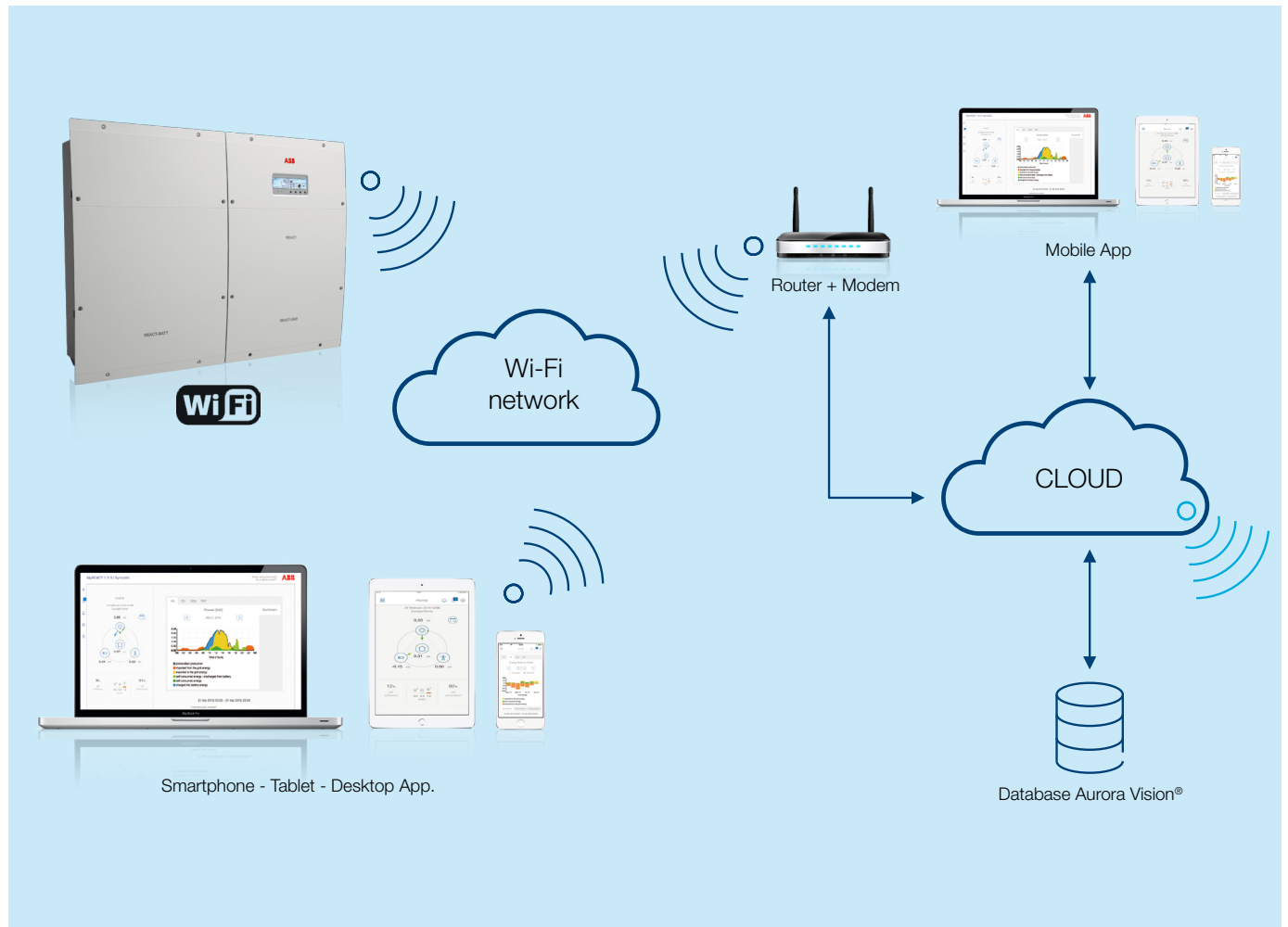
<sup>1)</sup> The AC voltage range may vary depending on specific country grid standard

<sup>2)</sup> The Frequency range may vary depending on specific country grid standard

<sup>3)</sup> Please refer to the document "String inverters – Product manual appendix" available at [www.abb.com/solarinverters](http://www.abb.com/solarinverters) for information on the quick-fit connector brand and model used in the inverter

**Remark.** Features not specifically listed in the present data sheet are not included in the product

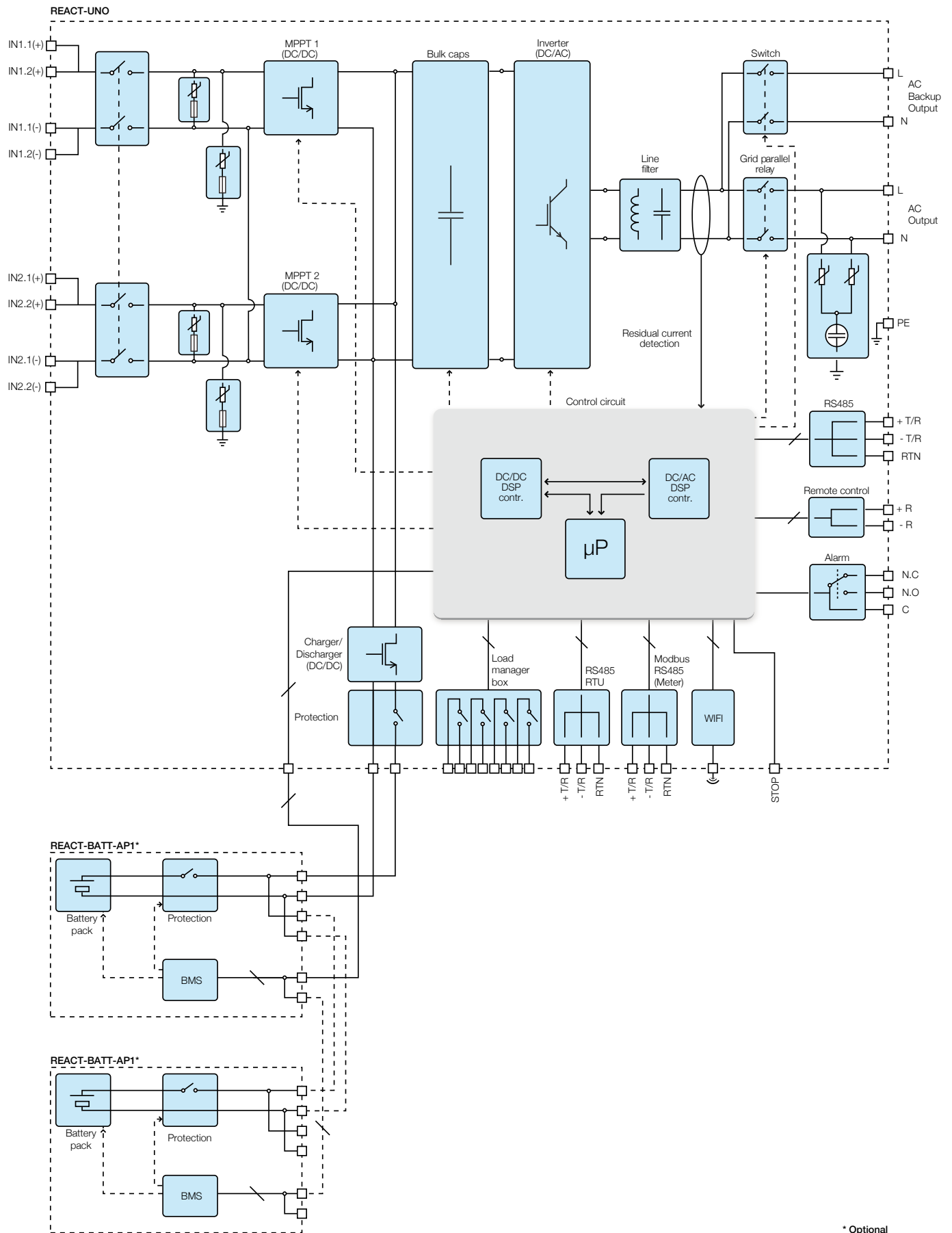
## Block diagram of REACT-4.6



## Technical data and types

Battery unit	REACT-BATT-AP1	
Manufacturer	Panasonic	
Battery type	Li-Ion	
Typical/Max power discharge	1.5 kW / 1.8 kW	
Max power charge	1.1 kW	
Nominal capacity	2 kWh (6 kWh, with 3x battery unit)	
Battery lifetime	> 4500 cycles	
Battery calendar lifetime, typical	10 years (Max 9 MWh discharged)	
Depth of Discharge (DOD)	100%	
Dimension (H x W x D)	740 mm x 490 mm x 229 mm	
Weight	< 37 kg	
Environmental protection rating	IP21	
Optimal battery operational temperature range	+5...+35°C	
Full battery function operational temperature range charge	0...+40°C	
Full battery function operational temperature range discharge	-10...+45°C	
Relative humidity	5...95 % without condensing	
Safety and EMC	EN62109-1, EN62109-2, compliance to applicable requirements of EN60950-1, EN61000-6-2, EN61000-6-3, UN38.3, UN3480	
Meter	REACT-MTR-1PH	REACT-MTR-3PH
Measures	P/ Q/ A/ V/ I	
Measures accuracy and resolution	<1%, 1%	
Current capability	30 A	65 A
AC phases	1	3
Rated grid voltage / voltage range	230 V / 85...265 V	400 V / 380 V...415 V
Rated grid frequency	50 Hz	
Communication	RS485	
Power supply and consumption	Integrated, <1 W	
Protection class	IP20	
Installation	DIN rail	
Operational temperature range	-20...+55°C	
Safety and EMC	IEC 61010-1, IEC 61326-1	
Marking	CE	

## Block diagram of REACT-4.6



\* Optional

## Support and service

ABB supports its customers with dedicated, global service organization in more than 60 countries and strong regional and national technical partner networks providing complete range of life cycle services.

For more information please contact your local ABB representative or visit:

[www.abb.com/solarinverters](http://www.abb.com/solarinverters)

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