



# Solar inverter

## PV + Storage

REACT 2 is FIMER's photovoltaic energy storage system, allowing to store excess energy and optimize the energy use in residential applications.

**From 3.6 to 5.0 kW**

This new line, available in power ratings of 3.6 and 5.0 kW, has one of the industry's highest energy efficiency rates, providing up to 10% more energy than lower voltage battery systems.

**For new and retrofit installations**

Thanks to the possibility of both AC and DC side connection, REACT 2 is the ideal solution for new systems or the retrofitting of existing ones, allowing homeowners to improve their energy self-consumption and save on their energy bills.

**Wide battery capacity**

Providing a totally flexible solution, REACT 2 offers a wide storage capacity, which can be expanded from 4 kWh to 12 kWh, depending on the number of batteries used, and can achieve up to 90 percent energy self-reliance. The addition of further battery units can take place anytime during the lifetime of the system.

**Design flexibility**

The different set-up configurations available allow maximum installation flexibility and optimization of available spaces. Quick and easy to install thanks to the simple plug and play connection, both on inverter and battery side.

**Smart connectivity**

Future proof technology enables a full smart home experience

with advanced communication features and load management capabilities.

The embedded data logger and direct transferring of data to a secure cloud platform allows customers to monitor and keep their system under control through the dedicated mobile app.

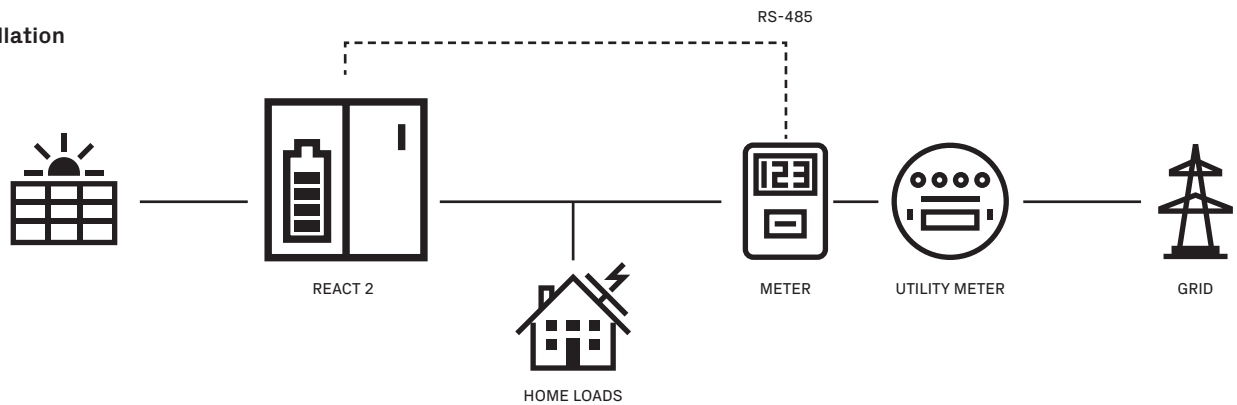
The advanced communication interfaces combined with a standard Modbus communication protocol, Sunspec compliant, allow the inverter to be easily integrated within any smart environment and with third party monitoring and control systems.

**Highlights**

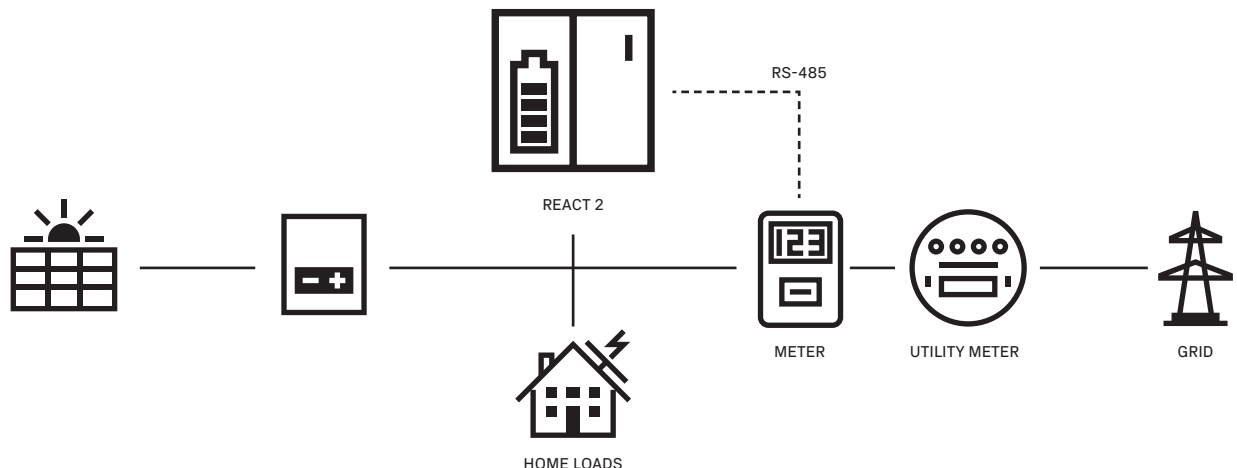
- Li-Ion battery unit for energy storage (from min 4 kWh to 12 kWh)
- Industry leading energy efficiency
- Suitable for new and existing applications
- Battery units can be upgraded anytime during lifetime of system
- Flexible and modular design, optimizes installation space
- Simple and safe installation with plug and play connection
- System monitoring through dedicated mobile app
- Modbus TCP/RTU Sunspec compliant

**REACT 2 - DC and AC coupled connection**

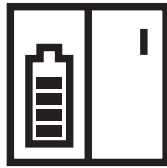
**New installation**



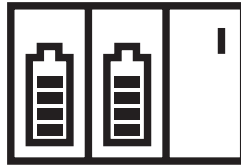
**Retrofit**



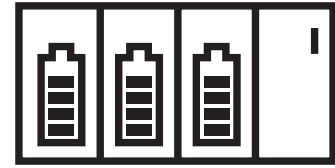
## Possible configurations

HYBRID INVERTER  
(BATTERY READY)

4 KWH KIT



8 KWH KIT

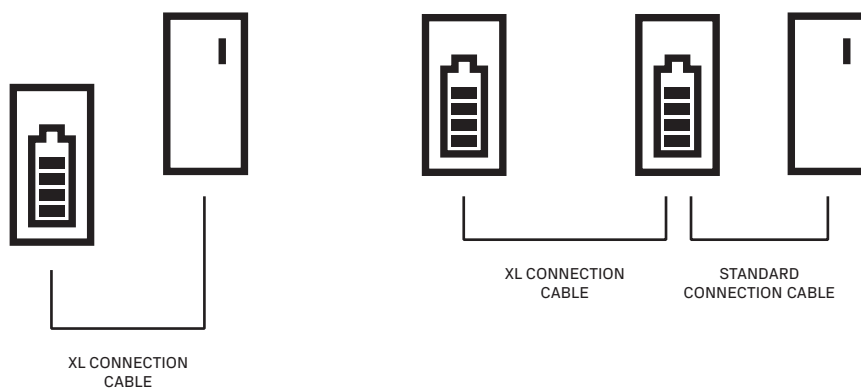


12 KWH KIT

## Technical data and types

Inverter	REACT2-UNO-3.6-TL	REACT2-UNO-5.0-TL
<b>Input side</b>		
Absolute maximum DC input voltage ( $V_{max,abs}$ )		575 V
Start-up DC input voltage ( $V_{start}$ )		200 V (adj. 120...350 V)
Operating DC input voltage range ( $V_{dcmin}...V_{dcmax}$ )		$0.7 \times V_{start}...575$ V (min 90 V)
Rated DC input voltage ( $V_{dc,r}$ )		390 V
Rated DC input power ( $P_{dc,r}$ )	5000 W	6000 W
Suggested maximum DC input power	6666 W	8000 W
Number of independent MPPT		2
Maximum DC input power for each MPPT ( $P_{MPPT,max}$ )	2500 W Linear derating [ $480 V \leq V_{MPPT} \leq 575 V$ ]	3000 W Linear derating [ $480 V \leq V_{MPPT} \leq 575 V$ ]
DC input voltage range with parallel configuration of MPPT at $P_{dc,r}$ , not operative battery	160 V...480 V	195 V...480 V
Maximum DC input current ( $I_{dc,max}$ ) / for each MPPT ( $I_{MPPT,max}$ )	24 A / 12 A	27 A / 13.5 A
Maximum input short circuit current for each MPPT		15.0 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
Input over voltage protection for each MPPT - varistor		Yes
Photovoltaic array isolation control		According to local standard
DC switch rating for each MPPT		25 A / 575 V
<b>Battery port</b>		
Operating DC voltage range		170-575 V
N° of battery units	1, 2, 3	1, 2, 3
Charge power	1.6 kW, 3.2 kW, 4.8 kW	1.6 kW, 3.2 kW, 4.8 kW
Discharge power	2 kW, 3.6 kW, 3.6 kW	2 kW, 4 kW, 5 kW
<b>Grid connected output side</b>		
AC Grid connection type		Single-phase
Rated AC power ( $P_{acr} @ \cos\phi=1$ )	3600 W	5000 W <sup>2)</sup>
Maximum AC output power ( $P_{ac,max} @ \cos\phi=1$ )	3600 W	5000 W <sup>2)</sup>
Maximum apparent power ( $S_{max}$ )	3600 VA	5000 VA <sup>2)</sup>
Rated AC grid voltage ( $V_{ac,r}$ )		230 V
AC voltage range		180...264 V <sup>3)</sup>
Maximum AC output current ( $I_{ac,max}$ )	16 A	22 A
Contributory fault current	16 A	22 A
Rated output frequency ( $f_i$ )		50 Hz / 60 Hz
Output frequency range ( $f_{min}...f_{max}$ )		45...55 Hz / 55...65 Hz <sup>4)</sup>
Nominal power factor and adjustable range	> 0.995, adj. $\pm 0.1 - 1$ (over/under excited)	> 0.995, adj. $\pm 0.1 - 1$ (over/under excited)
Total current harmonic distortion		< 3%
AC connection type		AC circular connector
<b>Grid connected output protection</b>		
Anti-islanding protection		According to local standard
Maximum external AC overcurrent protection	20 A	25 A
Output overvoltage protection - varistor		2 (L - N / L - PE)

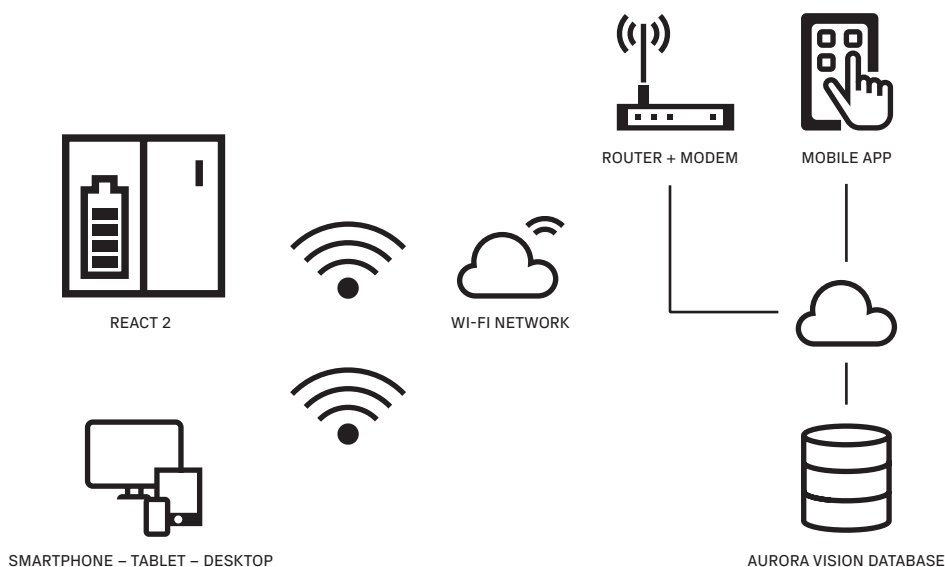
REACT 2 - Installation flexibility



**Technical data and types**

Inverter	REACT2-UNO-3.6-TL	REACT2-UNO-5.0-TL
<b>Backup output side</b>		
AC grid connection type		Single-phase
Maximum apparent power ( $S_{max}$ )		3000 VA
Rated AC grid Voltage ( $V_{acri}$ )		230 V
AC Voltage range		180...264 V <sup>4)</sup>
Maximum AC output current ( $I_{ac,max}$ )		13 A
Rated output frequency ( $f_r$ )		50 Hz / 60 Hz
Output frequency range ( $f_{min}...f_{max}$ )		45...55 Hz / 55...65 Hz <sup>5)</sup>
AC connection type		Screw terminal block
<b>Backup output protection</b>		
Maximum external AC overcurrent protection		16 A
Output overvoltage protection - varistor		2 (L-N/L-PE)
<b>Embedded communication</b>		
Embedded physical interface		Wireless <sup>6)</sup> , 2 x Ethernet, RS485
Embedded communication protocols		Modbus TCP (SunSpec), Modbus RTU (SunSpec), ABB-free@home <sup>®</sup>
Datalogger data retention		30 days
Remote monitoring		Mobile app
Local monitoring		Web server user interface
<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
Acoustic noise emission level		< 50 dB (A) @ 1 m
Maximum operating altitude without derating		2000 m
<b>Physical</b>		
Environmental protection rating		IP65
Cooling		Natural
Dimension (H x W x D)		740 mm x 490 mm x 229 mm
Weight		< 22 kg
Mounting system		Wall bracket
<b>Safety</b>		
Isolation level		Transformerless
Marking		CE (50 Hz only)
Safety and EMC standard	IEC/EN 62109-1, IEC/EN 62109-2, IEC 62477-1, 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, DIN V VDE V 0126-1-1, VDE-AR-N 4105, G83/2, G59/3, RD 413, AS/NZS 4777.2, C10/11, IEC 61727, IEC 62116	
<b>Other features</b>		
Load manager	Yes, with two integrated relays	
AC backup output, off grid	Yes	
Battery charge from AC	Yes, it can be enabled	
AC-coupled feature	Yes, settable during commissioning	

REACT 2 - Communication diagram



**Technical data and types**

Battery unit	REACT2-BATT
Modules manufacturer	Samsung
Battery type	Li-Ion
Total energy	4 kWh
Operating DC voltage range	170-575 V
Absolute maximum DC voltage	575 V
Module voltage	200 V
Deep of discharge (DoD)	95%
Charge power	1.6 kW
Discharge power	2 kW
<b>Environmental</b>	
Environmental protection rating	IP 54 (suggested indoor installation for preserving battery life time)
Ambient temperature range	-20...+55°C (power derating occurs out of suggested ambient temperature range)
Suggested ambient temperature	+0 to +40 °C
Relative humidity	4...100 % condensing
<b>Physical</b>	
Cooling	Natural
Dimension (H x W x D)	740 mm x 490 mm x 229 mm
Weight	< 50 kg
Mounting system	Wall bracket
<b>Safety</b>	
Marking	CE
Safety	IEC 62619, UN38.3, UN3480
<b>Compatible meters</b>	
REACT-MTR-1PH	Single-phase, 20 A
ABB B21x12 -100 <sup>5)</sup>	Single-phase, 65 A
ABB B23x12 -100 <sup>5)</sup>	Three-phase, 65 A
ABB B24x12 -100 <sup>6)</sup>	Three-phase, External CT (opt.)
ABB B43x12 -100 <sup>6)</sup>	Three-phase, 80 A
ABB B44x12 -100 <sup>6)</sup>	Three-phase, External CT (opt.)

1) Refer to the document "String inverter – Product Manual appendix" available at [www.fimer.com/solarinverters](http://www.fimer.com/solarinverters) to know the brand and the model of the quick fit connector"  
 2) For VDE-AR-N 4105 setting, maximum active power of 4600 W and maximum apparent power of 4600 VA  
 3) The AC voltage range may vary depending on specific country grid standard

4) The Frequency range may vary depending on specific country grid standard  
 5) As per IEEE 802.11 b/g/n standard  
 6) Where x can be 1,2,3,4,5  
**Remark. Features not specifically listed in the present data sheet are not included in the product**



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