



Xtender Series

The Xtender serie provides an unmatched freedom of use thanks to its many functions. In a basic application, it offers together the functions of inverter, battery charger, transfer system and assistance to the source.

These functions can be combined and controlled in a totally automatic way for an exceptional comfort and an optimal management of the energy available. Its programmable auxiliary contacts allow as well the interconnection with existing systems or the implementation of extended functions.

Features and performances

- Parallel and 3 phase configuration up to 9 units.
- Outstanding efficiency and overload capabilities.
- Smart-Boost Function for assistance to the source.
- Automatic reduction of peak loads.
- Automatic allocation of the available power (power sharing).
- Standby level adjustable from a very low load threshold.
- Multi-stage, fully programmable battery charger with PFC.
- Ultra fast high power transfer relay.
- Control by digital signal processor (DSP).
- 2 fully independently programmable auxiliary contacts.
- Real time clock for event record and auxiliary relay programming.

Xtender XTM

- XTM 1500-12
- XTM 2000-12
- XTM 2400-24
- XTM 2600-48
- XTM 3500-24
- XTM 4000-48



Xtender XTH

- XTH 3000-12
- XTH 5000-24
- XTH 6000-48
- XTH 8000-48



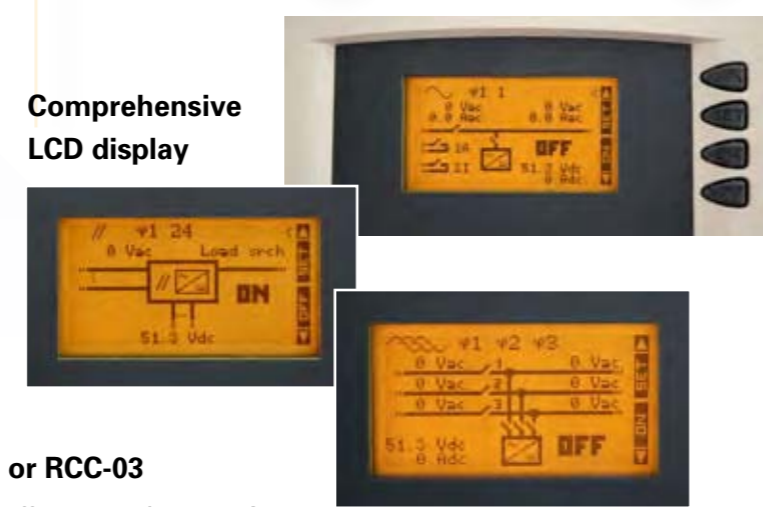
RCC-02



RCC-03



Comprehensive LCD display



Remote control and programming centre RCC-02 or RCC-03

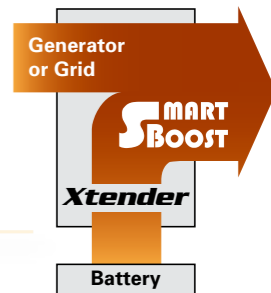
Apart from the enclosure difference, adapted for wall or panel mounting, both units have exactly the same features and allow the user to survey his system and fully customize it to his needs. RCC gives a controlled access to the many adjustable parameters of the Xtender. It enables the setting of the charge curve of the battery, the programming of the auxiliary contacts and gives access to a lot of operation options. Thanks to its graphic display RCC provides clear and comprehensive indications on the state of the system in selectable language. The unit memorizes and displays the events that occurred on an installation and so it does anticipate the problems that might appear. A slot for a SD card is available and it allow the parameters record and download as well as the full software update.

Xtender range	Inverter			Charger	Transfer
	Battery voltage	Version	Power P30/Pnom	Charge current	Maximum current
XTM 1500-12(-01)	12V	230Vac	1500VA / 1500VA	1500VA	0 - 70A / 50A
XTM 2000-12(-01)	12V	230Vac	2000VA / 2000VA	2000VA	0 - 100A / 50A
XTM 2400-24(-01)	24V	230Vac	2400VA / 2000VA	2400VA	0 - 55A / 50A
XTM 2600-48(-01)	48V	230Vac	2600VA / 2000VA	2600VA	0 - 30A / 50A
XTH 3000-12(-01)	12V	230Vac	3000VA / 2500VA	3000VA	0 - 160A / 50A
XTM 3500-24(-01)	24V	230Vac	3500VA / 3000VA	3500VA	0 - 90A / 50A
XTM 4000-48(-01)	48V	230Vac	4000VA / 3500VA	4000VA	0 - 50A / 50A
XTH 5000-24(-01)	24V	230Vac	5000VA / 4500VA	5000VA	0 - 140A / 50A
XTH 6000-48(-01)	48V	230Vac	6000VA / 5000VA	6000VA	0 - 100A / 50A
XTH 8000-48*	48V	230Vac	8000VA / 7000VA	8000VA	0 - 120A / 50A

Note: for the 120Vac version, -01 is added to the model designation.
* This model is not available in 120Vac version. Complete technical specifications on page 28.

Smart-Boost function

The function Smart-Boost enables to add the inverter power to another source, like for instance a genset or the shorepower, even in case of complex (reactive, crest factor etc.) loads. This offers the possibility to reduce the peak loads and to undersize the genset.



Wide modularity

By the implementation of several units, it is possible to create a 3-phase source or to set them in parallel to increase the power available without extra cost. Up to 9 inverters of the Xtender serie shall therefore be combined together up to 72 kW!

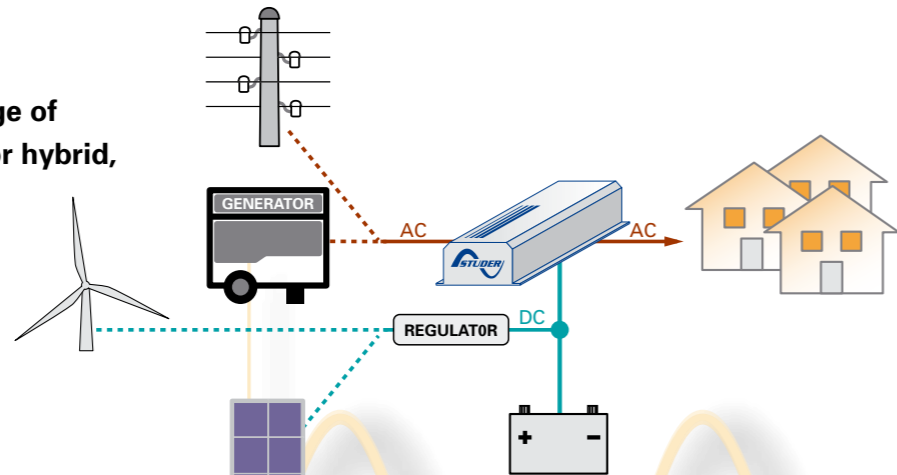
Accessories

	Remote control and programming centre RCC-02 with 2 m cable For display, programming and updates purposes. Wall mounting. Dimensions HxLxl: 170 x 168 x 43.5 mm.
	Remote control and programming centre RCC-03 with 2 m cable For display, programming and updates purposes. Panel mounting. Dimensions: HxLxl: 130 x 120 x 42.2 mm.
	Remote Control Module RCM-10. Only for XTM with 3 m cable (possible up to 5 m) DIN rail remote module for main on/off and programmable function input. Dimensions: HxLxl: 45 x 73 x 45 mm.
	Battery temperature sensor BTS-01 with 3 m cable This sensor enables to accurately adapt the charge thresholds to the battery temperature. Dimensions: HxLxl: 58 x 51.5 x 22 mm.
	Communication cable for 3ph and parallel CAB-RJ45-8-2 (2 m) Allows the setting in parallel or the implementation of a 3-phase system.



The main configurations offered by the Xtender serie

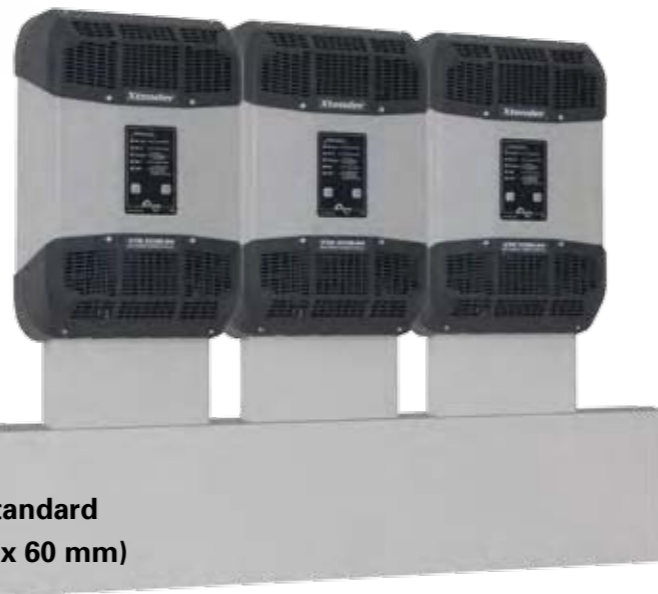
Xtender family is a complete range of inverter-chargers ideally suited for hybrid, mobile and backup systems.



Easy set up of multi-units



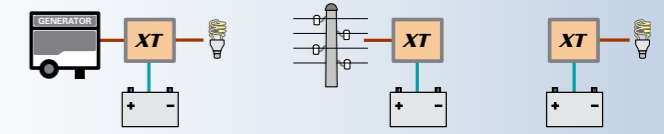
Easy accessible and robust connections



Compatible with standard cable channel (230 x 60 mm)

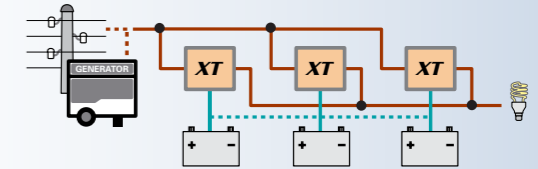
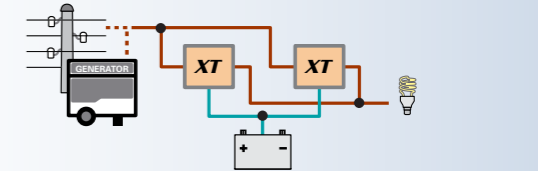
Inverter, charger and transfer relay

The Xtender basically works as an inverter and as a charger, combined with a transfer relay.



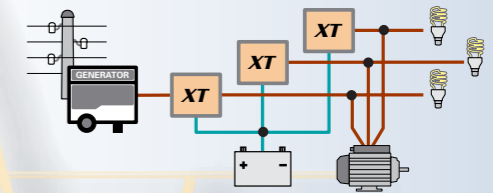
2 or 3 units in parallel on 1 phase

Increase of the power on one phase by setting 2 or 3 Xtender in parallel.



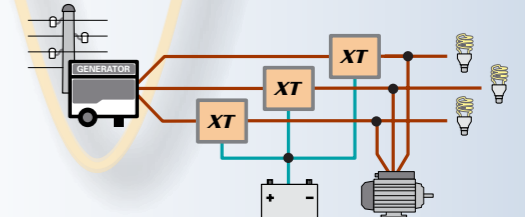
1 phase in and 3 phase out

Three-phase power supply from a single phase source.



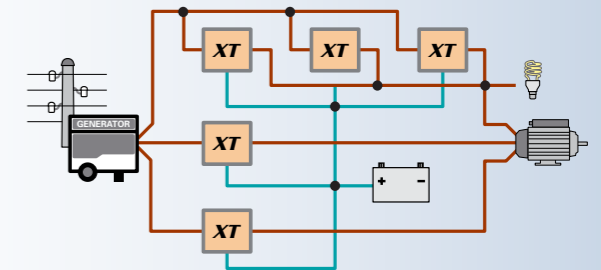
3 phase in and 3 phase out

Three-phase source for a three-phase power supply.



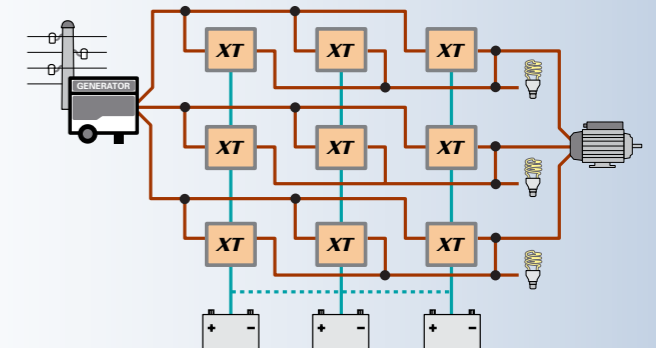
3 phase + with one reinforced phase

Three-phase power supply with increase of the power on one phase by setting 2 or 3 Xtender in parallel on this phase.



3 Xtender in parallel on 3 phases

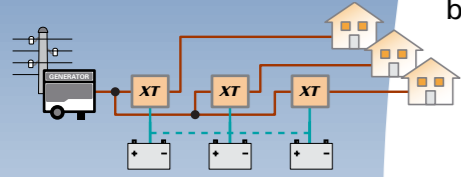
Three-phase power supply with 3 Xtender on each phase, for power up to 72kW.



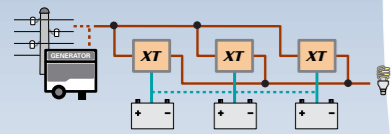
X-Connect system

Pre-wired mounting frame for Xtender multi-system

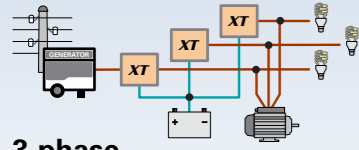
Offers a flexible and cost effective solution for high power systems based on XTH inverter



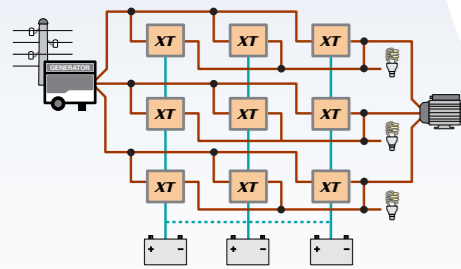
Centralized



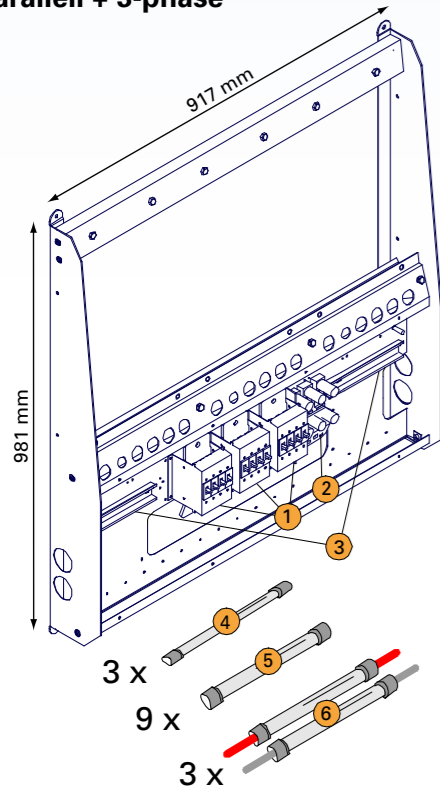
Parallell



3-phase



Parallell + 3-phase



Up to 72kW multi-unit system

Frame is supplied with:

- 1 Pre-installed DC circuit breakers
- 2 Pre-installed DC fuses
- 3 Pre-installed DIN rails
- 4 Interconnection pipes and gland for auxiliary contact wiring
- 5 Interconnection pipes and gland for AC wiring
- 6 Interconnection pipes and gland + 90 mm² wire terminated with appropriate ring tongues for DC wiring from Xtender to breakers and fuses

Screws set for frame assembly

Applications



Solsafe S-Box



S-Box: a genuine cabling solution to implement the Solsafe

- Hassle free cabling
- Quick installation
- Easy commissioning

Solsafe: the anti-blackout system for grid connected solar installations

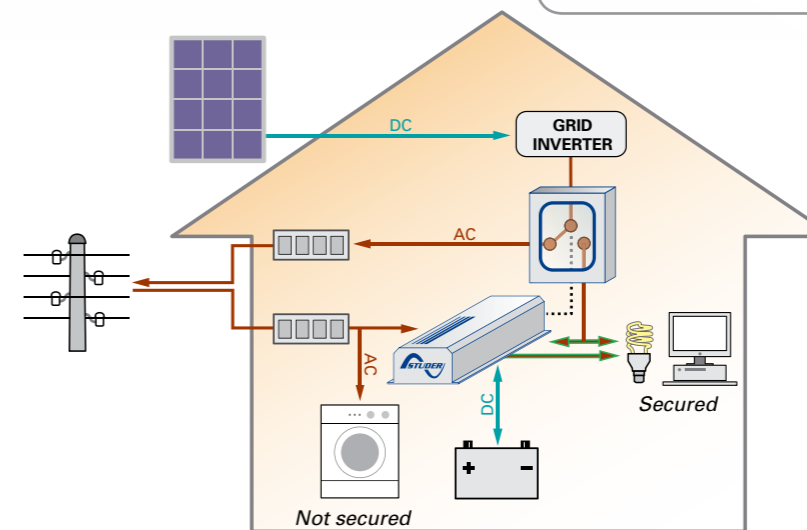
Despite a solar system on your house, in case of power outage, the grid inverters will shut off and the solar generator, whatever its size, will be useless. Studer Innotec has developed, already in 2004, a concept in which its inverter-chargers allow to keep energy available from the solar generator, even in case of a power cut.

Compared to other similar solutions, it offers:

- A great system flexibility by choosing independently the grid inverter power (matching the solar generator) and the stand-alone power (matching the needs for autonomous energy), so long the stand-alone inverter is as big or bigger than the grid inverter
- The choice of the grid inverter allowing to work with standard well known products
- To choose the grid inverter with any voltage input range, independently from the battery voltage
- A possible and easy upgrade of existing grid-connected solar installations

The S-Box can be supplied in 4 versions:

- For single phase application:
- Solsafe box 25A for Compact.....S-Box-25C
 - Solsafe box 25A for Xtender.....S-Box-25X
 - Solsafe box 25A for Compact with ENS-26.....S-Box-25C-E
 - Solsafe box 25A for Xtender with ENS-26.....S-Box-25X-E
- For Solsafe implementation in 3ph systems, a schematic is at disposal on simple request.



Solsafe – a backup system for grid connected solar installations

The installation of our solution Solsafe in a grid connected solar system enables to secured totally or partially the power supply in case of a power cut, and so to keep on using the solar energy being produced.

Xtender series



Model	XTM 1500-12	XTM 2000-12	XTM 2400-24	XTM 2600-48	XTH 3000-12	XTM 3500-24	XTM 4000-48	XTH 5000-24	XTH 6000-48	XTH 8000-48
Inverter (factory setting/range adjustable with RCC-02 or RCC-03)										
Nominal battery voltage	12V		24V	48V	12V	24V	48V	24V	48V	
Input voltage range	9.5 - 17V		19 - 34V	38 - 68V	9.5 - 17V	19 - 34V	38 - 68V	19 - 34V	38 - 68V	
Continuous power @ 25°C	1500VA		2000VA		2500VA	3000VA	3500VA	4500VA	5000VA	7000VA
Power 30 min. @ 25°C	1500VA	2000VA	2400VA	2600VA	3000VA	3500VA	4000VA	5000VA	6000VA	8000VA
Power 5 sec. @ 25°C	3.4kVA	4.8kVA	6kVA	6.5kVA	7.5kVA	9kVA	10.5kVA	12kVA	15kVA	21kVA
Power Smart-Boost 30 min. @ 25°C	1500VA	2000VA	2400VA	2600VA	3000VA	3500VA	4000VA	5000VA	6000VA	8000VA
Maximum load	Up to short-circuit									
Maximum asymmetric load	Up to Pcont.									
Load detection (stand-by)	2 to 25 W									
Cos φ	0.1-1									
Maximum efficiency	93%		94%	96%	93%	94%	96%	94%	96%	
Consumption OFF/Stand-by/ON	1.2W/1.4W/8W	1.2W/1.4W/10W	1.4W/1.6W/9W	1.8W/2W/10W	1.2W/1.4W/14W	1.4W/1.6W/12W	1.8W/2.1W/14W	1.4W/1.8W/18W	1.8W/2.2W/22W	1.8W/2.4W/30W
Output voltage	Sine wave 230Vac (+/- 2%) / 190-245Vac (also available in 120Vac except for the XTH 8000-48)									
Output frequency	50 Hz adjustable 45-65Hz +/- 0.05% (crystal controlled)									
Harmonic distortion	<2%									
Dynamic behaviour	0.5 ms (on load change 0 to 100%)									
Overload and short-circuit protection	Automatic disconnection with 3 time restart attempt									
Overheat protection	Warning before shut-off - with automatic restart									
Battery charger 6 step adjustable : I-U-Uo-Equalize-Uo(low)-U(periodic)										
Charging current adjustable	0 - 70A	0 - 100A	0 - 55A	0 - 30A	0 - 160A	0 - 90A	0 - 50A	0 - 140A	0 - 100A	0 - 120A
Input current balance adjustment	1 - 50A									
Maximum input voltage	265Vac									
Input AC voltage range	Adjustable threshold from 150 to 230Vac (also available in 120Vac except for the XTH 8000-48)									
Input frequency	45 - 65Hz									
Power Factor Correction (PFC)	EN 61000-3-2									
Battery control (factory setting/range adjustable with RCC-02 or RCC-03)										
Absorption end	By duration 2 / 0.25 - 10 h or by current - / 4 - 30A									
Absorption voltage	14.4 / 9.5 - 17V	28.8 / 19 - 34V	57.6 / 38 - 68V	14.4 / 9.5 - 17V	28.8 / 19 - 34V	57.6 / 38 - 68V	28.8 / 19 - 34V	57.6 / 38 - 68V		
Periodic absorption voltage	- / 9.5 - 17V	- / 19 - 34V	- / 38 - 68V	- / 9.5 - 17V	- / 19 - 34V	- / 38 - 68V	- / 19 - 34V	- / 38 - 68V		
Floating voltage	13.6 / 9.5 - 17V	27.2 / 19 - 34V	54.4 / 38 - 68V	13.6 / 9.5 - 17V	27.2 / 19 - 34V	54.4 / 38 - 68V	27.2 / 19 - 34V	54.4 / 38 - 68V		
Reduced floating voltage	- / 9.5 - 17V	- / 19 - 34V	- / 38 - 68V	- / 9.5 - 17V	- / 19 - 34V	- / 38 - 68V	- / 19 - 34V	- / 38 - 68V		
Equalization	By number of cycles (- / 1 - 100) or at set interval (- / 52 weeks)									
Equalization end	By duration 4 / 0.25 - 10 h or by current - / 4 - 30A									
Equalization voltage	- / 9.5 - 17V	- / 19 - 34V	- / 38 - 68V	- / 9.5 - 17V	- / 19 - 34V	- / 38 - 68V	- / 19 - 34V	- / 38 - 68V		
Deep-discharge protection	10.8 / 9.5 - 17V	21.6 / 19 - 34V	43.2 / 38 - 68V	10.8 / 9.5 - 17V	21.6 / 19 - 34V	43.2 / 38 - 68V	21.6 / 19 - 34V	43.2 / 38 - 68V		
Reduced floating time	- / 0 - 32 days									
Periodic absorption time	- / 0 - 10 hours									
Temp. compensation (option BTS-01)	-5 / 0 to -8mV/°C/Cell (only with option BTS-01)									
General data										
Multifunction contact adjustable	2 independent contacts 16A 250Vac (potential free 3 points)									
Max. current on transfer relay	50A									
Transfer time	<15ms									
Weight	15 kg	18.5 kg	16.2 kg	34 kg	21.2 kg	22.9 kg	40 kg	42 kg	46 kg	
Dimension h x l x L [mm]	133x322x466			230x300x500		133x322x466		230x300x500		230x300x500
Protection index	IP23									
Conformity	EN 61000-6-1, EN 61000-6-3, EN 55014, EN 55022, EN 61000-3-2, Dir. 89/336/EEC, LVD 73/23/EEC									
Operating temperature range	-20 to 55°C									
Ventilation	Forced from 55°C									
Acoustic level	<40dB / <45dB (without/with ventilation)									
Warranty	2 years									
Options										
Remote control RCC-02 or RCC-03	•	•	•	•	•	•	•	•	•	•
Communication cable for 3ph and // CAB-RJ45-8-2	•	•	•	•	•	•	•	•	•	•
Battery temp. sensor BTS-01 (3 m)	•	•	•	•	•	•	•	•	•	•
Battery temp. sensor BTS-01 (3 m)	•	•	•	•	•	•	•	•	•	•

Data may change without any notice.



COMPACT series



Model	XPC 1400-12	XPC 2200-24	XPC 2200-48	C 1600-12	C 2600-24	C 4000-48	HPC 2800-12	HPC 4400-24	HPC 6000-48	HPC 8000-48	
Inverter											
Nominal battery voltage	12V	24V	48V	12V	24V	48V	12V	24V	48V		
Input voltage range	9.5 - 16V	19 - 32V	38 - 64V	9.5 - 16V	19 - 32V	38 - 64V	9.5 - 17V	19 - 34V	38 - 68V		
Continuous power @ 25°C	1100VA	1600VA	1600VA	1300VA	2300VA	3500VA	2500VA	4000VA	5000VA	7000VA	
Power 30 min. @ 25°C	1400VA	2200VA	2200VA	1600VA	2600VA	4000VA	2800VA	4400VA	6000VA	8000VA	
Power 5 sec. @ 25°C	3 x Pnom										
Maximum power	Up to short-circuit										
Maximum asymmetric load	Up to Pcont.										
Stand-by adjustment	1 to 25W										
Cos φ	0.1 - 1										
Maximum efficiency	94%	95%		94%	95%		93%	94%	96%		
Consumption OFF/Stand-by/ON	0.5/0.6/4W	0.8/0.9/7W	1.2/1.3/7W	0.5/0.6/6W	0.8/0.9/9W	1.2/1.4/12W	1.4/1.8/10W	1.7/2/16W	2/2.5/18W	2/3/30W	
Output voltage	Sine wave 230Vac (+0/- 10%) (XPC also available in 120Vac)										
Output frequency	50Hz +/- 0.05% (crystal controlled)										
Total harmonic distortion	< 4%		< 2%								
Dynamic behaviour	0.5 ms (on load change 0 to 100%)										
Overload and short-circuit protection	Automatic disconnection with 3 time restart attempt										
Overheat protection	Acoustic warning before shut-off - with automatic restart										
Battery charger (4 STEP) I-U-Uo-Equalize (every 25 cycles)											
Charging current adjustable	0 - 45A	0 - 37A	0 - 20A	0 - 55A	0 - 50A	0 - 110A	0 - 100A	0 - 70A	0 - 90A		
Input current balance adjustment	Not available			1 - 16A			1 - 30A			1 - 50A	
Maximum input voltage	265Vac										
Input AC voltage range	Adjustable threshold from 150 to 230Vac (XPC also available in 120Vac)										
Input frequency	45 - 65Hz										
Power Factor Correction (PFC)	EN 61000-3-2										
Optional solar charger (4 stages) I-U-Uo-Equalize (every 25 cycles)											
Maximum PV open circuit voltage (V)	25V	45V	90V	25V	45V	90V	Not available				
Maximum charge current (A)	30A	30A	20A	30A	30A	20A	Not available				
Charging curve	I-U-Uo-Equalize (every 25 cycles) / Not available						Not available				
Battery control (thresholds and times adjustable by the user)											
Absorption time	0-4 h										
End charge cycle voltage*	14.4V	28.8V	57.6V	14.4V	28.8V	57.6V	14.4V	28.8V	57.6V		
Floating voltage	13.6V	27.2V	54.4V	13.6V	27.2V	54.4V	13.6V	27.2V	54.4V		
Equalization time	0-4 h										
Equalization voltage	15.6V	31.2V	62.4V	15.6V	31.2V	62.4V	15.6V	31.2V	62.4V		
Deep-discharge protection	10.8V	21.6V	43.2V	10.8V	21.6V	43.2V	10.8V	21.6V	43.2V		
Temperature compensation (optional CT-35)	-3mV / °C / Cell										
General data											
Multifunction contact programmable	16A - 250Vac (potential free 3 points)										
Max. current on transfer relay	16A						30A		50A		
Transfer time	< 40 ms										
Weight	11.7 kg	12.6 kg		16 kg	17.1 kg	29.4 kg	33 kg	39 kg	41 kg	45 kg	
Dimension h x l x L [mm]	124x215x410			124x215x480		124x215x670		242x288x480		242x288x500	
Protection index	IP20 (IP23 with top cover C-IP23)										
Certification ECE-R 10 (E24)	•	•	Not available	•	•	Not available					
EC conformity	EN 61000-6-1, EN 61000-6-3, EN 55014, EN 55022, EN 61000-3-2, Dir. 89/336/EEC, LVD 73/23/EEC										
Operating temperature range	-20°C up to +55°C										
Ventilation	From 45°C										
Acoustic level	<40dB / <45dB (without/with ventilation)										
Warranty	2 years										
Options											
Solar charge controller	30A	30A	20A	30A	30A	20A					

* Factory settings

Data may change without any notice.

