



Telecommunications



Data centers



Industries



Renewable

MULTIDIRECTIONAL POWER CONVERTER SIERRA 10 48/230

CNVCETSIERRA10

TECHNOLOGY

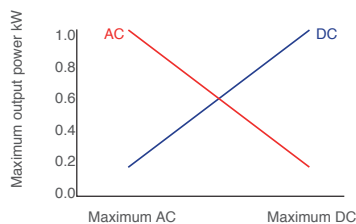
Sierra is the world's first fully bidirectional power converter. The three ports (two AC and one DC) built into each module can all function as input and output. This means that you can use it to secure AC & DC loads and charge batteries at the same time.

Sierra is also the right choice for energy management applications such as grid reinjection, peak shavings, phase balancing or innovative solutions based on energy sharing via a DC distribution.



HOW IT WORKS?

At the heart of each module, there is a DC energy buffer. It uses the energy that comes, whatever its source, to feed what needs it. The total output power is shared live between the loads and the batteries. It's that simple! No configuration is required, you are totally autonomous



The total output power per module is 1.2 kW, limited to 1 kW for each AC or DC port.



ECI
technology inside

VERSIONS

Sierra 10 - 48/230 is also available in a Subrack System to provide up to 6 kW in just 1U high or 4.8 kW with built-in monitoring.



For larger loads, use the Sierra 25 - 48/230.

KEY FEATURES

- Secure AC & DC loads
- Modular (1.2 kW to 38 kW)
- Highest power density
- Hot-swappable capacity
- Compact, easy to install and operate
- User-friendly monitoring

MULTIDIRECTIONAL POWER CONVERTER SIERRA 10 48/230



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SPECIFICATIONS		160 kVA/kW
General		
Cooling / Audible noise	Fan forced cooling / <65db @1meter	
MTBF	200 000 hrs (MIL-217IF)	
Dielectric strength DC/AC	4300 Vdc	
RoHS	Compliant	
Operating T° / Relative Humidity (RH) non-condensing	Tested according ETS300-019-2-3 Class 3.1 -20°C to 65°C, power de-rating from 40°C to 65°C / Max RH 95% for 96 hours per year	
Storage T° / Relative Humidity (RH) non-condensing	Tested according ETS300-019-2-1 Class 1.2 -40°C to 70°C / Max RH 95% for 96 hours per year	
Public transport T°/Relative Humidity (RH) non-condensing	Tested according ETS300-019-2-2 Class 3.1 -40°C to 70°C / Max RH 95% for 96 hours per year	
Material (casing)	Zinc coated steel	
Power		
AC Input Data		
Nominal voltage (AC) / Current	230 Vac / 4.6 A	
Voltage range (AC)	150 - 265 Vac	
Brownout	800 W @ 150 Vac / 1200 W @ 190 Vac linear decreasing	
Power factor / THD	> 99% / < 3%	
Frequency range (selectable) / synchronization range	50 Hz (range 47 – 53 Hz) / 60 Hz (range 57 – 63 Hz)	
DC Input Data		
DC voltage: Nominal / range	48 Vdc / (40-60V) ¹	
Nominal current (at 48 Vdc and 1000 W output)	22.4 A	
Maximum input current (for 15 second) / voltage ripple	34 A / < 10 mV RMS	
AC Output Data		
Efficiency AC to AC (EPC) / DC to AC / AC to DC	96% / >93% / >93%	
Nominal voltage AC ² (Adjustable)	230 V (200 - 240 Vac)	
Frequency / frequency accuracy	50 or 60 Hz / 0.03%	
Nominal Output power (VA) / (W)	1.25 kVA / 1 kW (at 1000 W AC load, still 200 W are available for 48V DC output)	
Short time overload capacity	150% (15 seconds)	
Admissible load power factor	Full power rating from 0 inductive to 0 capacitive	
Total harmonic distortion (resistive load)	< 3%	
Load impact recovery time (10% - 90%)	≤0.4 ms	
Nominal current	5.4 A @ 230 Vac	
Crest factor at nominal power	3 : 1 for load P.F. ≤0.7	
Short circuit clear up capacity 0-20 ms	20.3 A	
Short circuit current after 20 ms	9.9 A (20 ms to 15 s), 7.4 A (15 s to 60 s), > 60 s - manual reset is required	
AC output voltage stability	±1% from 10% to 100% load	
DC Output Data		
Nominal voltage (range)	53.5 Vdc (44 - 60 Vdc)	
Maximum power	1.2 kW ³	
Maximum current at 48 Vdc	20.8 A	
Reverse polarity protection	YES	
Efficiency AC to DC	> 93%	
Max. Voltage interruption / total transient voltage duration (max)	0 sec / 0 sec	

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SPECIFICATIONS

160 kVA/kW

Signaling & Supervision

Display	Synoptic LED
Supervision / Part number	Inview ranges: Inview S - T302004100, Inview S Slot - T602004110, Inview GW - T602004000
Remote on / off	On rear terminal of the shelf through Inview
Battery Monitoring / Part number	MBB (Measure Box Battery) - 6 dry contacts and 8 digital Inputs / T302006000

Safety & EMC

Safety	EN62040-1
EMC	EN 61000-4-2 / EN 61000-4-3 / EN 61000-4-4 / EN 61000-4-5 / EN 61000-4-6 / EN 61000-4-8 ETSI EN 300386 v1.9.1