CET POWER
Leading Conversion Technology for Power Resilience

Sierra 25 - 125/120

Sierra is the world's first multidirectional power converter.
This solution offers many new features within a unique module!

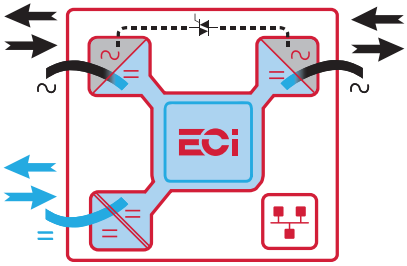
Telecom | Datacom | Mass transport | Industry | Power Utilities | Renewable

AC In 120 Vac
DC In 125 Vdc
AC Out 120 Vac
DC Out 125 Vdc
Power 2.75 kVA / 2.35 kW
up to 1.7 MW

Technology

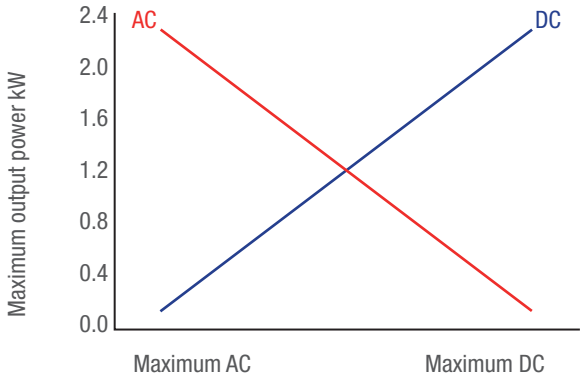
Sierra is the world's first **fully bidirectional** power converter.
The **three ports** (two AC and one DC) built into each module can all function as **input** and **output**.
This means that you can use it to **secure AC & DC loads** and charge batteries at the same time.

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.



Key features:

- Secure AC & DC loads
- Modular (2.35 kW to 1.7 MW)
- Highest power density
- Hot-swappable capacity
- Compact, easy to install and operate
- User-friendly monitoring

The total output power per module is 2.35 kW, limited to 2.25 kW for each AC or DC port.

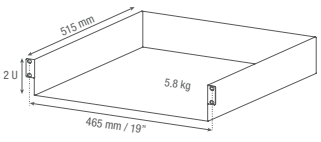
Version

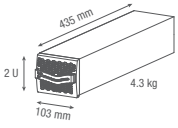
4 modules can be integrated into 2U high shelves to provide up to 9.4 kW (AC + DC):

Illustrations are non-binding and may include customized fittings.

Sierra 25 - 125/120

General	
Part Number: Module / Shelf / Shelf with isolation	T721350201 / T724350000 / T724350010
Cooling / Audible noise	Fan forced cooling / <65db @1meter
MTBF	240 000 hrs (MIL-217-F) at 30°C ambient and 80% load
Dielectric strength DC/AC	2500 Vdc
RoHS / Material (casing)	Compliant / Aluzinc steel
Operating T° / Relative Humidity (RH) non-condensing	Tested according ETS300-019-2-3 Class 3.1 -40°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
Altitude above sea without de-rating of power	< 1500 m / derating > 1500 m – 0.8 % per 100 m / max 4000 m
AC Input Data	
Nominal voltage / Current	120 Vac / 21.7 A
Voltage range	90 – 144 Vac (derating from 108 to 90 Vac)
Brownout	1600 W @90 Vac / 2350 W @108 Vac linear decreasing
Power factor / THD	> 0.99 / < 3%
Frequency (Synchronization range)	50 Hz (47 – 53 Hz) or 60 Hz (57 – 63 Hz)
DC Input Data	
Nominal voltage (range)	125 Vdc (90 – 150 Vdc)
Nominal current	19.5 A
Maximum input current (for 15 seconds) / voltage ripple	24.4 A / < 10 mV RMS
Reverse polarity protection	Yes
AC Output Data	
Efficiency AC to AC (EPC) / DC to AC / AC to DC	> 94.5% / > 92.5% / > 92.5%
Nominal voltage[1] / Current (User selectable)	120 Vac / 22.9 A (100 – 130 Vac)
Frequency / frequency accuracy	50 or 60 Hz / 0.03%
Nominal Output power[2]	2.75 kVA / 2.25 kW (at AC full load, 100 W is still available for the 125 DC output)
Short time overload capacity	125% (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	22.9 A @ 120 Vac
Crest factor at nominal power	3 : 1 for load P.F. ≤ 0.7
Short circuit clear up capacity < 20 ms at AC input / On battery	145 Arms for 20 ms / 58.9 Arms for 20 ms
Short circuit current after > 20 ms	33.4 Arms for 15 seconds
AC output voltage stability	±1% from 10% to 100% load
Static / Dynamic voltage regulation	±1% between 10% and 100% load / <5% from 0 to 100% to 0 load impact (100 ms)
DC Output Data	
Nominal voltage (range)	125 Vdc (90 – 150 Vdc)
Maximum power	2.25 kW (at DC full load, 100 W is still available for the AC Load)
Maximum current at 125 Vdc	18 A
Efficiency AC to DC	> 92.5%
Max. Voltage interruption / total transient voltage duration (max)	0 sec / 0 sec
Signaling & Supervision	
Display	Synoptic LEDs on module and touchscreen with Inview S and Inview X
Supervision / Part number	Inview ranges: Inview X - T602004200 and Inview S - T602004100
Remote ON / OFF	At rear terminal of the shelf
Battery Monitoring / Part number	MBB-500 (Measure Box Battery) - 4 dry contacts and 8 digital Inputs / T602006011
Safety & EMC	
Safety	UL 1778
EMC	FCC (Part15) ClassaA





1 Operation within lower voltage networks leads to de-rating of power performances
2 AC output load is the highest priority. Even if AC output is fully loaded (2.25 kW), still 100 W is available for DC output.

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