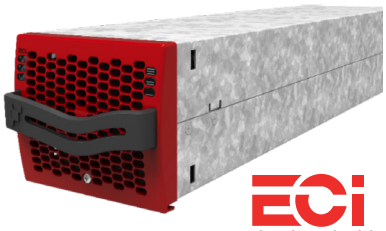
CE+T POWER
Leading Conversion Technology for Power Resilience

Sierra 25 - 48/120



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

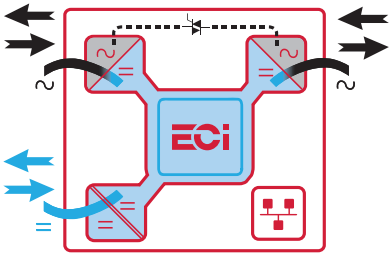
Telecom | Datacom | Mass transport | Industry | Power Utilities | Renewable

AC In 120 Vac | **DC In** 48 Vdc | **AC Out** 120 Vac | **DC Out** 48 Vdc | **Power** 2.75 kVA 2.55 kW | up to 1.85 MW

Technology

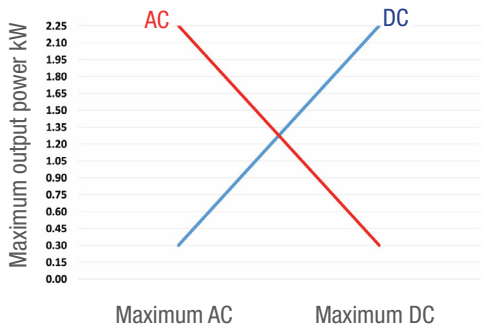
Sierra is the world's first **fully bidirectional** power converter.
The **three ports** (two AC and one DC) built into each module can all function as **input** and **output**.
This means that you can use it to **secure AC & DC loads** and charge batteries at the same time.

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 (2.55 kW to 1.85 MW)
- Highest power density
- Hot-swappable capacity
- Compact, easy to install and operate
- User-friendly monitoring

The total output power per module is 2.55 kW, limited to 2.25 kW for each AC or DC port.

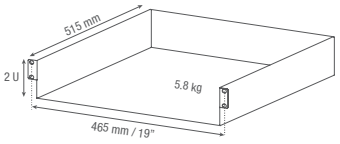
Versions

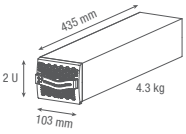
4 modules can be integrated into 2U high shelves to provide up to 10.2 kW:

Illustrations are non-binding and may include customized fittings.

Sierra 25 - 48/120

General	
Part Number	T721330201
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	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)	120 Vac
Voltage range (AC)	90 - 140 Vac
Brownout	1600 W @ 90 Vac / 2550 W @ 100 Vac linear decreasing
Power factor	> 99%
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 2250 W output)	52.3 A
Maximum input current (for 15 second) / voltage ripple	63 A / < 10 mV RMS
AC Output Data	
Efficiency AC to AC (EPC) / DC to AC / AC to DC	94.5% / >92.5% / >92.5%
Nominal voltage AC** [2](Adjustable)	120 V (100 - 130 Vac)
Frequency / frequency accuracy	50 or 60 Hz / 0.03%
Nominal Output power (VA) / (W)	2.75 kVA / 2.25 kW (at 2.25 kW AC load, still 300 W available for 48V DC load)
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 0 - 20 ms	167.7 A (peak) and 116.4 A (rms) on AC / 88.8 A (peak) and 58.9 A (rms) on DC
Short circuit current after >20 ms -15 sec / 15 sec - 1 min	45.5 A (peak) and 36 A (rms) / 38.6 A (peak) and 30 A (rms)
AC output voltage stability	±1% from 10% to 100% load
DC Output Data	
Nominal voltage (range)	53.5 Vdc (44 - 60 Vdc)
Maximum power	2.25 kW[3] (at 2.25 kW DC load, still 300 W available for AC output)
Maximum current at 48 Vdc	46.8 A
Reverse polarity protection	YES
Efficiency AC to DC	> 92.5%
Max. Voltage interruption / total transient voltage duration (max)	0 s / 0 s
Signaling & Supervision	
Display	Synoptic LED
Supervision	Inview ranges: Inview X - T602004200, Inview S - T602004100 & Inview GW - T602004000
Remote on / off	On rear terminal of the shelf through Inview
Battery Monitoring through dry contact	MBB (Measure Box Battery)
Safety & EMC	
Safety	cUL recognized according UL1778
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 / FCCpart 15 class A





1 Permanent 2550 W / de-rating apply based on internal heatsink T°
2 Operation within lower voltage networks leads to de-rating of power performances.
3 AC output load is the highest priority. Even if AC output is fully loaded (2.25 kW), still 300 W is available for DC output.