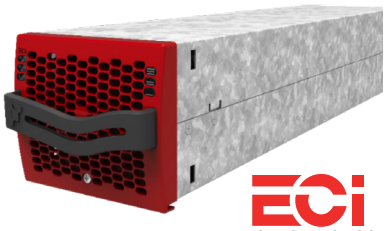
CE+T POWER
Leading Conversion Technology for Power Resilience

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

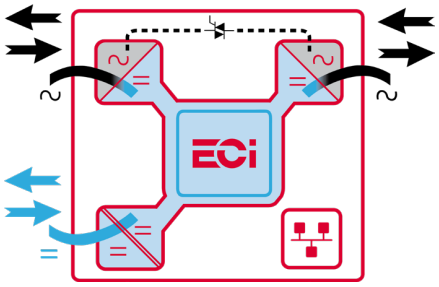
Power 2.55 kW 2.75 kVA

up to 1.85 MW

Technology

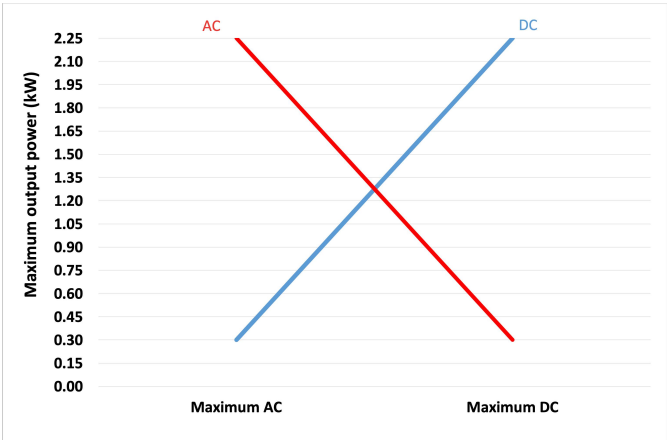
Sierra is the world's first **fully bidirectional** power converter.
The **three ports** (two AC and one DC) built into each module can all function as **input and output**.
This means that you can use it to **secure AC & DC loads** and charge **batteries** at the same time.

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	Fan forced cooling
MTBF	240 000 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 40°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 / 2250 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
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	200 A for 20 ms - Available while Mains is available at AC input port / 34A RMS in DC/AC
Short circuit current after >20 ms -15 s	42 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]
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 S / Slot / GW
Remote on / off	On rear terminal of the shelf through Inview
Battery Monitoring through dry contact	MBB (Measure Box Battery)
Safety & EMC	
Safety	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 2250 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 (2.55kW), still 300 W is available for DC output.