



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 & 240 Vac

DC In
48 Vdc

AC Out
120 & 240 Vac

DC Out
48 Vdc

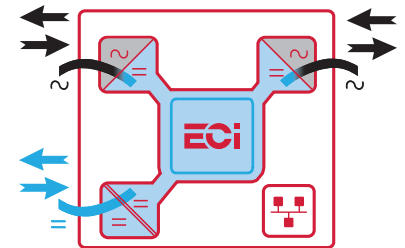
Power
1000 VA
1000 W

up to 32 kVA

Technology

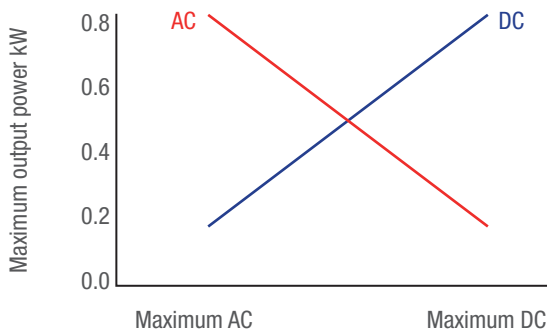
Sierra is the world's first **fully bidirectional** power converter. The three ports (two AC and one DC) built into each module can all function as **input** and **output**. This means that you can use it to **secure AC & DC loads** and charge **batteries** at the same time.

Sierra is also the right choice for **energy management** applications such as 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:

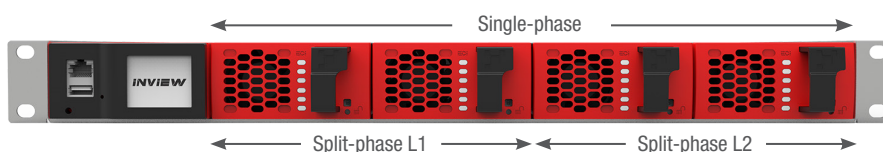
- Secure AC & DC loads
- Modular (1 kW to 32 kW)*
- Highest power density
- Hot-swappable capacity
- Compact, easy to install and operate
- User-friendly monitoring

* The total output power per module is 1000 W, limited to 800 W for each AC or DC port.

Versions

Sierra 10 - 48/120 is also available in a **Subrack System** to provide up to 5 kW in just 1U high or 4 kW with **built-in monitoring**.

The Sierra 10 - 48/120 shelf is featured with a **single** and **split-phase** configuration.



For larger loads, use the Sierra 25 - 48/120.

Illustrations are non-binding and may include customized fittings.

Sierra 10 - 48/120

General	
Part Number: Module / Shelf	T711330201 / T714330000
Cooling / Audible noise	Fan forced cooling / <65db @1meter
MTBF	200 000 hrs (MIL-2171F)
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 >50°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	120 Vac / 9.2 A
Voltage range (AC)	95 - 140 Vac
Brownout	< 108 Vac linear decreasing
Power factor / THD	> 99% / < 3%
Frequency range (selectable) / synchronization range	60 Hz (range 57 – 63 Hz) / 50 Hz (range 47 – 53 Hz)
DC Input Data	
DC voltage: Nominal / range	48 Vdc / (40-60V) ¹
Nominal current (at 48 Vdc and 800 W output)	18.5 A
Maximum input current (for 15 second) / voltage ripple	22.5 A / < 10 mV RMS
AC Output Data	
Efficiency AC to AC (EPC) / DC to AC / AC to DC	95% / >92% / >92%
Nominal voltage AC ² (Adjustable)	120 V (100 - 130 Vac)
Frequency / frequency accuracy	60 or 50 Hz / 0.03%
Nominal Output power (VA) / (W)	1000 VA / 800 W ³ (at 800 W AC load, still 200 W are 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	8.3 A @ 120 Vac
Crest factor at nominal power	3 : 1 for load P.F. ≤ 0.7
Short circuit clear up capacity 0-20 ms	34 A
Short circuit current after 20 ms	16.5 A for 15 sec, 12.5 A from 15 to 60 sec
AC output voltage stability	±1% from 10% to 100% load
DC Output Data	
Nominal voltage (range)	53.5 Vdc (44 - 60 Vdc)
Maximum power	800 W (at 800 W DC load, still 200 W are available for AC load)
Maximum current at 48 Vdc	16.7 A
Reverse polarity protection	YES
Efficiency AC to DC	> 92%
Max. Voltage interruption / total transient voltage duration (max)	0 sec / 0 sec
Signaling & Supervision	
Display	Synoptic LED
Supervision / Part number	Inview Slot - T602004110 and Inview S - T602004100
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 / T602006000
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 1000 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 (800 W), still 200 W is available for DC output.

Sierra 10 - 48/120 - Datasheet - v1.4 Specifications can change without notice. New data will be updated on our website: www.cet-america.com.
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