



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**  
230 Vac

**DC In**  
48 Vdc

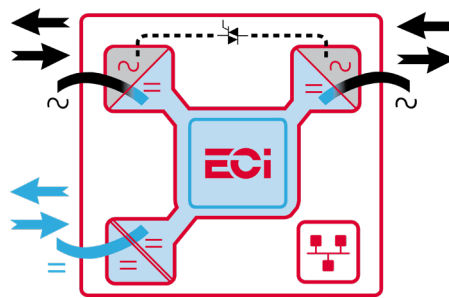
**AC Out**  
230 Vac

**DC Out**  
48 Vdc

**Power**  
1.25 kVA  
1 kW

up to 40  
kVA

**Power Routing** is our new **product range** including multi directional power converters. This range has been designed to offer our customers the most compact (only one module), flexible (do what you want) and modular solution for **critical power backup** applications and **energy management**.



This new technology allows you to **route power as you like**; we manage the power conversion for you. Only the sky is the limit!

Just some of the new possibilities include: **feeding** and **securing** both **AC & DC loads**, **charging batteries**, **shaving peak** consumption, **balancing phase consumption** (for three-phase infrastructures), performing constant power battery tests, re-injecting power into the (micro) **grid** and many more!

This new CE+T Power solution increases **your power resilience** (robust power backup and protection against grid disturbances) while **saving you money** (energy bills and infrastructure design) and space.

Grid re-injection

AC & DC

Charge & Test

Peak shaving

3P balancing

**Sierra** is the first building block available in the new range. This new power converter has three ports, all offering bidirectionality. The module can provide **1.25 kVA / 1 kW** on any port or aggregate power to multiple ports at the same time. This Sierra version is designed for **48 Vdc** and **230 Vac** voltage levels.

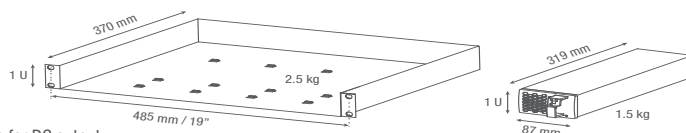
The Sierra module comes with a communication port, a power boost and Inview, our new intelligent controller. Beyond being IoT ready, this outstanding human machine interface integrates a Battery Management System that can manage various chemistries. Systems can be designed for **single** or **three-phases** infrastructures providing power from **1** to **30 kW** in AC and/or DC.

Illustrations are non-binding and may include customized fittings.

# Sierra 10 - 48/230

General	
Part Number	T711730201
Cooling	Fan forced cooling
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 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) / Current	230 Vac / 4.6 A
Voltage range (AC)	150 - 265 Vac
Brownout	800 W @ 150 Vac / 1000 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) <sup>1</sup>
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 <sup>2</sup> (Adjustable)	230 V (200 - 240 Vac)
Frequency / frequency accuracy	50 or 60 Hz / 0.03%
Nominal Output power (VA) / (W)	1250 VA / 1000 W (at 1000 W AC load, still 200 W 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	21.7 A for 20 ms
Short circuit current after >20 ms	8.1 A for 1 minute
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 kW <sup>3</sup>
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
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

- 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 (1000 W), still 200 W is available for DC output.



The present equipment is protected by several international patents, trademarks and copyrights.

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