



Telecommunications



Data centers



Industries



Renewable

MODULAR INVERTER BRAVO 48/230

INVCETBRAVO SERIES



ECi
technology inside

DESCRIPTION

The Bravo series is small modular inverter offering many opportunities to design a solution that perfectly fits your needs. The ECI technology offers both AC and DC inputs to provide a perfect AC power while reducing the number of power conversion (the module operates under normal condition with the AC input delivering a 96% efficiency)! In conjunction with the DC input, it provides an excellent AC backup solution.



From 1 to 32 modules, with several options available (manual external by-pass and AC distribution), the modular inverter Bravo series is also hot-swappable meaning a very easy and cheap maintenance. The modules are delivered with our new monitoring solution. Bravo can be used with the Inview S (DIN or panel mounting) and Inview S or GW Slot monitoring. One shelf can accommodate 5 modules or 4 modules with Inview S Slot monitoring included.

HOW IT WORKS?

An ideal solution for securing small but critical AC loads, from 500VA to 40 kVA, such as telecom small cells (4G and 5G), access control, traffic lights, security, etc. The module can be integrated into shelves for single-phase (230 Vac) or three-phase (3x400 Vac) installation with different output powers. We have already designed 3 shelves configurations: 5 modules, 4 modules and 9 modules.



KEY FEATURES

- AC and DC input sources (highest efficiency topology)
- 1 to 32 modules and 1 or 3 phases configuration
- Customization (manual by-pass and AC distribution)
- Transfer time reduced to 0 ms
- Compact design

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INVCETBRAVO SERIES

SPECIFICATIONS

	BRAVO 4 48/230	BRAVO 6 48/230	BRAVO 10 48/230
General			
Cooling / Audible noise	Fan forced cooling / < 65 dBA at 1 meter		
MTBF	240 000 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 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			
AC voltage: Nominal / range	230 V (150 - 265 V)		
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)*		
Nominal current (at 48 Vdc and full load output)	9.3A	14A	23A
Maximum input current (at 48 Vdc for 15 second) / voltage ripple / 10m VRMs	14A	20.3A	34A
AC Output Data			
Efficiency (Typical): Enhanced power conversion / on line	96% / >92.5%		
Nominal voltage AC** Adjustable	230 V (200 - 240 VAC)		
Frequency / frequency accuracy	50 or 60 Hz / 0.03%		
Nominal Output power	500VA / 400W	750VA / 600W	1250VA / 1000W
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 @230 VAC	2.2A	3.26A	5.4A
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		
AC output voltage stability	±1% from 10% to 100% load		
In Transfer Performance			
Max. voltage interruption / total transient voltage duration (max)	0s / 0 s		
Signaling & Supervision			
Display	Synoptic LED		
Supervision	Inview ranges / Inview S - T302004100, Inview S Slot T602004110, Inview GW - T602004000		
Remote on / off	On rear terminal of the shelf		
Alarms output	2 dry contacts and 2 digital inputs		
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		