



The new range of standard systems comes with a lower price and better lead time, but always with the same quality!

 Telecom
  Datacom
  Mass transport
  Industry
  Power Utilities
  Renewable

AC In
230 Vac or
3x400 Vac

DC In
48 Vdc

AC Out
230 Vac or
3x400 Vac

Power
3 kVA
2.4 kW


up to 90
kVA

Description

Based on the Bravo ECI, this system is a **compact** and **modular** power conversion solution providing a **pure sine wave AC supply**. In conjunction with a DC Power system, it provides an **excellent AC backup solution**. It uses the latest inverter technology, providing a conversion efficiency of up to 96% in AC to AC and above 93.5% in DC to AC. The ECI technology eliminates all single points of failure and is hot swappable (meaning a very easy and cheap maintenance).

Standard with options

These systems have been optimized to offer you the best quality at a lower price. Since they are standard system, we can also reduce the lead time to deliver even faster. And to meet as many customers' needs as possible; we offer you options to customize our standard Bravo ECI systems. If you do not find the right solution, we can always offer customized solutions.

Main Features

- Reduced **price** and **lead time**
- **Reliability**: truly redundant solution (in terms of modules and power sources);
- **By-pass included**: natively integrated by-pass function;
- **Permanent AC to AC double conversion**: great disturbance rejection and 96% efficiency;
- **Compact** and **easy to install** and **maintain**

Systems range and available configurations with options



System Model	36 kVA – 230 Vac	36 kVA – 3x400 Vac + N	72 kVA - 3x400 Vac + N	90 kVA - 3x400 Vac + N
Dimension (L x W x H) mm	600 x 600 x 1100		600 x 600 x 1800	600 x 600 x 2100
Power Range (AC OUT)	3 to 36 kVA	9 to 36 kVA	9 to 72 kVA	9 to 90 kVA
AC Out Distribution	AC distribution line (MCB breaker excluded) max 24 MCB for 1 pole, 12 MCB for 2 poles, and 5 MCB for 4 poles Options: Bulk terminal or breaker (160A 2p for 36 kVA 1phase, 63A 4 poles for 36 kVA 3phase, 125 A 4 poles for 72 kVA 3 phase and 160 A 4 poles for 90 kVA 3 phases)			
DC In Connection	Single DC feed per cabinet Option: individual per module		Single or 3 DC feed per cabinet	
Manual By Pass	Included - Option: No Manual By-pass			
Earthing System	TT / TN-S - Option: TNC / TN-C-S / IT			
Surge Arrestor	Not included - Option: 8/20 μS class II			
Door	Not included - Option: vented front door with key lock			
Base Plinth	Not included - Option: 100 mm height			

Illustrations are non-binding and may include customized fittings.

Bravo ECI Systems 48VDC / 230VAC or 3x400Vac + N

	36 kVA - 230Vac	36 kVA - 3x400Vac + N	72 kVA - 3x400Vac + N	90 kVA - 3x400Vac + N
General				
Part number (module excluded)	F52A73E001211100H001	F52A83E001211100H001	F52A83E002431100H001	F52A83E003051100H001
Typical efficiency: AC/AC – DC/AC	96% - 93.5%			
Operating T° and relative humidity / Storage T°	-20 to 40°C and 95% non-condensing / -40 to 70 °C			
Cooling / Audible noise	Forced air (required 200 mm clearance from rear to wall) / < 65 dBA at one meter			
Altitude above sea without de-rating	Max. 1500 m / de-rating – 0.8 % per 100 m			
Cable entrance	Top cable entrance			
Cabinet	RAL7024 powder coated steel / door and base frame available as option			
Modules				
Model	ECI BRAVO 48 Vdc / 230 Vac – 3 kVA			
Power converter type	Modular inverter (with AC and DC input)			
Nominal power	3 kVA / 2.4 kW			
Power				
AC output data				
Modules number	Max. 12	Max. 12	Max. 24	Max. 30
Nominal voltage (selectable)	230 Vac (220 – 240 Vac)		3x400 Vac + N (3x380 Vac – 3x415 Vac)	
Nominal power	36 kVA / 28.8 kW	36 kVA / 28.8 kW	72 kVA / 57.6 kW	90 kVA / 72 kW
Nominal current at 230VAC / 3x400VAC	156 A	52 A per phase	104 A per phase	130 A per phase
Overload capacity	125% for 15 seconds			
Admissible load power factor	0.8 from 0 lagging to 0 leading			
Frequency / frequency accuracy	50 / ± 0.03 %			
Total harmonic distortion (resistive load)	< 1.5 %			
Turn on delay	20 s to 40 s depending on the number of modules installed			
Crest factor at nominal power @ 0,7 Load PF (with short circuit management and protection)	3 : 1			
Short circuit capacity	10 x In during 20 ms. while mains is available at AC input port 2.1 x In during 15 s and 1.5 x In after 15 s while mains is not available.			
Distribution (standard configuration / option)	Ready-to-install MCB's (MCB not included) / Bulk AC out on breaker or terminals			
DC Input Specifications				
Nominal voltage (range)	48 Vdc (40 – 60 Vdc*)			
Nominal current at 48Vdc	668.4 A	668.4 A	1337 A	1671 A
Maximum current (for 15 seconds)	814 A	814 A	1630 A	2037 A
DC input connection (standard configuration / option)	Single DC feed per cabinet / (Option: individual per module)		Single DC feed per cabinet / 3 DC feed per cabinet	
AC Input Specifications				
Nominal voltage (range)	230 Vac (150 – 265 Vac**)	3 x 400Vac + N (3 x 260 – 453 Vac***)		
Frequency (synchronization range)	50 Hz (47 – 53 Hz)			
Nominal current at 230Vac (MBP not engaged)	134.4 A	44.8 A per phase	89.6 A per phase	112 A per phase
Power factor	>0.99 (above 50% load)			
Surge arrester	Not included (available as option)			
Source Transfer Performance				
Voltage deviation and duration	0 V, 0 s (no interruption)			
Performance (EN62040-3)	VFI-SS-111			
Monitoring				
Monitoring	Candis Display, T2S Ethernet Monitoring and LED on modules			
Alarms output	3 Dry contacts (Major, Minor, Auxiliary)			
Safety & EMC				
Safety	EN62040-1			
Vibration	GR63 office vibration: 0 to 100 Hz - 0.1 g / transport vibration: 5 to 100 Hz - 0.5 g, 100 to 500 Hz -1.5 g			
EMC immunity	EN 61000-4-2 / EN 61000-4-3 / EN 61000-4-4 / EN 61000-4-5 / EN 61000-4-6 / EN 61000-4-8			
EMC emission (class)	EN 55022 (A)			
Electrical isolation	Doubled isolation DC/AC 4,3 kV			
RoHS	Compliant RoHS 6 / REACH			

* Reduced performances from 40 to 45 Vdc

** De-rating below 190 Vac Input

*** De-rating below 329 Vac Input

Other configurations or customizations available on demand.
Systems based on other ECI modular inverters also available.
Contact your CE+T Representative for more information.

Bravo ECI system – Datasheet v1.4 Specifications can change without notice. New data will be updated on our website: www.cet-power.com. The present equipment is protected by several international patents, trademarks and copyrights.