CET POWER
Leading Conversion Technology for Power Resilience

# Bravo 10 - 48/230

ECI technology inside

## Modular inverter to efficiently secure critical applications from 1.25 kVA!

Telecom | Datacom | Mass transport | Industry | Power Utilities | Renewable

**AC In** 230 Vac

**DC In** 48 Vdc

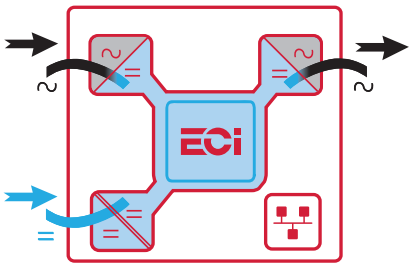
**AC Out** 230 Vac

**Power** 1.25 kVA 1 kW

up to 40 kVA

## Description

Bravo 10 is a **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 Bravo 10 modular inverter is also **hot-swappable** meaning a very easy and cheap maintenance. The modules are delivered with our new monitoring solution.

Bravo 10 can be used with the **Inview S** (DIN or panel mounting), **Inview Slot** and **Inview GW** monitoring. One shelf can accommodate 5 modules (6.25 kVA) or 4 modules (5 kVA) with Inview S Slot monitoring included.


## Applications

An ideal solution for securing small but critical AC loads, from 1.25 kVA 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 (6.25 kVA, single-phase), 4 modules (5 kVA, single-phase) and 9 modules (11.25 kVA, single-phase).

### 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

Illustrations are non-binding and may include customized fittings.

# Bravo 10 - 48/230

| | |
|---|---|
| **General** | |
| Part Number: Module / Shelf | T611730201 / T614730000 |
| Cooling / Audible noise | Fan forced cooling / < 65 dBA at 1 meter |
| 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<br>-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<br>-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<br>-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) |
| 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)* |
| Nominal current (at 48 Vdc and 1000 W output) | 22.3 A |
| Maximum input current (at 48 Vdc for 15 second) / voltage ripple | 34 A / < 10 mV RMS |
| **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 | 1250 VA / 1000 W |
| 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 | 22.7 A (peak) and 18.8 A (rms) |
| Short circuit current after >20 ms -15 s / after 15 s | 11.3 A (peak) and 9.5 A (rms) / 8.5 A (peak) and 7.1 A (rms) |
| AC output voltage stability | ±1% from 10% to 100% load |
| **In Transfer Performance** | |
| Max. voltage interruption / total transient voltage duration (max) | 0 s / 0 s |
| **Signaling & Supervision** | |
| Display | Synoptic LED |
| Supervision | Inview ranges: Inview S - T302004100, Inview 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<br>ETSI EN 300386 v1.9.1 |

* Permanent 1000 W / derating apply based on internal heatsink T°.

** Operation within lower voltage networks leads to de-rating of power performances.