



**B500 | B500 EVO**  
6 - 10kVA & 10 - 20kVA UPS

# BORRI B500 | EVO

Incorporating Borri's On-line Double Conversion Technology, the new B500 6kVA and 10kVA and B500 EVO 10kVA and 20kVA series are extremely low maintenance and have been designed as a true 'easy parallel' UPS solution.

## On-line Double Conversion

The B500 range was developed around the highest level of protection (On-line Double Conversion), this means that the output is VFI (Voltage & Frequency Independent) allowing the critical load power to be constantly maintained by the UPS inverter, this in turn means the load does not see any mains borne interferences and delivers a zero-break transition from utility power to battery.

## More Power / Smaller Footprint

Ideal for all critical IT Environments where space is at a premium. The tower based UPS delivers up to 25% more usable power than other manufacturers thanks to a 0.9 Output Power Factor. The B500 also comes complete with internal batteries as standard, throughout the range, eliminating the need for external battery cabinets on standard run times, minimising the footprint and therefore maximising floor space for other equipment.

## Highest Protection

The B500 includes a static and internal manual bypass switch as standard, with zero transfer time between inverter and bypass. The wide input voltage window reduces the amount of time spent on switching to or running on battery power, thereby increasing battery service life, UPS efficiency and reliability. A powerful internal charger enables backup times of up to 8 hours with a 6 hour recover time.

## Frequency Converter

All of the B500 range can be used as a frequency converter.



External Battery Connector



Input Breaker Switch, with dual input standard on EVO

## B500 EVO | Features

The 10kVA & 20kVA B500 EVO can have either a three phase or single phase input applied to the UPS, the decision doesn't have to be made until the point of installation and can then be changed should, an electrical supply need to be upgraded or electrical loads have to be balanced.

The batteries can also be replaced with only front access meaning other equipment can be located directly adjacent to the UPS.



○ Intelligent Card Slot



○ USB, EPO, RS232 Connectors and Alarm Relay

### Future Expansion or Redundancy

To future proof the investment in a B500 UPS, up to four additional units can be connected in parallel. The B500 is genuinely "easy parallel", all equipment needed for parallel operation is included within the initial purchase of the first unit making it very simple to provide further capacity or redundancy.

### UPS Management

The B500 features an Intelligent Slot for the installation of programmable relay alarm cards, SNMP communication or RS485 MODBUS connection. In addition, the B500 has USB and RS232 communication for connection to a local server, a programmable dry relay contact, an EPO connection facility and a connection for interlocking with an external bypass switch as standard. The product comes complete with a free download of user friendly monitoring and shut-down software suitable for the majority of operating systems.

### Generator Friendly

The rectifier stage of the B500 has been designed to provide a unity input power factor and Input Total Harmonic Distortion (THDi) of 5% maximum. This makes the UPS extremely generator friendly, increases efficiency and negates the need to oversize input cables and switchgear.



## B500 Main Features

- On-Line Double Conversion Topology
- High Efficiency Mode Function up to 98%
- Wide Input Voltage Window
- Selectable Output Voltage
- Frequency Converter Feature
- EPO Connection
- Smart-slot
- Plug n Play Parallel kits Standard
- Internal Manual Bypass
- Intelligent Shutdown and monitoring software

### Smart LCD Display

The LCD display allows users to interrogate the UPS for current status, history logs, load reading and UPS settings.



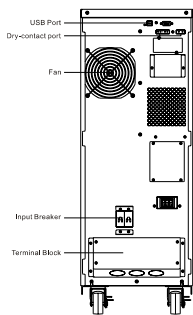
**B500**

# BORRI B500|EVO

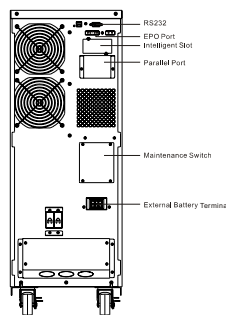
## Technical Specification

| MODELS  | B500-060-B  | B500-060-C          | B500-100-B                       | B500-100-C          | B500 EVO-100  | B500 EVO-200                                   |
|---|---|---------------------|----------------------------------|---------------------|---|--|
| <b>INPUT</b>  |   |                     |                                  |                     |   |  |
| Input Voltage Window  | 110VAC-276VAC   |                     |                                  |                     | 110VAC-276VAC-1 Ph                                      | 190VAC-478VAC-3 Ph                             |
| THDi  | <5% with full load  |                     |                                  |                     |   |  |
| Input Power Factor  | ≥0.99with Full Load   |                     |                                  |                     |   |  |
| Input Frequency Range   | 45-55Hz / 54-66Hz   |                     |                                  |                     |   |  |
| Generator Set Sizing  | 1.5 x UPS Rating Power  |                     |                                  |                     |   |  |
| <b>OUTPUT</b>   |   |                     |                                  |                     |   |  |
| <b>Power</b>  |   |                     |                                  |                     |   |  |
| Power(kVA) max  | 6.0   |                     | 10.0                             |                     | 10.0  | 20.0   |
| Power(kW) max   | 5.4   |                     | 9.0                              |                     | 9.0   | 18.0   |
| Power Factor  | 0.9 (Default) 0.6 - 1 (Flexible)                              |                     | 0.9 (Default) 0.6 - 1 (Flexible) |                     | 0.9 (Default) 0.6 - 1 (Flexible)                        |  |
| <b>Output Voltage</b>   |   |                     |                                  |                     |   |  |
| Waveform  | Pure Sine Wave  |                     |                                  |                     |   |  |
| Nominal voltage   | 208VAC*/220VAC/230VAC/240VAC                                  |                     |                                  |                     |   |  |
| Voltage regulation  | ± 1 %   |                     |                                  |                     |   |  |
| Transient recovery  | 100ms (IEC 62040-3 Non-linear load)                           |                     |                                  |                     | 60ms (IEC 62040-3 Non-linear load)                      |  |
| Voltage distortion  | < 2% THD, linear load < 5% THD, non-linear load               |                     |                                  |                     |   |  |
| <b>Output Frequency</b>   |   |                     |                                  |                     |   |  |
| Synchronization range   | 45-55Hz / 54-66Hz**   |                     |                                  |                     |   |  |
| Slew rate   | 1 Hz/s  |                     |                                  |                     |   |  |
| Battery mode  | (50/60±0.1) Hz**  |                     |                                  |                     |   |  |
| <b>Transfer Time</b>  |   |                     |                                  |                     |   |  |
| Inverter Mode to Battery Mode.  | 0ms   |                     |                                  |                     |   |  |
| Inverter Mode to ECO Mode.  | 0ms   |                     |                                  |                     |   |  |
| <b>Full Load Efficiency</b>   |   |                     |                                  |                     |   |  |
| ECO mode  | >96%  |                     |                                  |                     | 98%   |  |
| <b>Overload Capability (Normal &amp; Battery mode)</b>  | 125% for 2 minutes; 150% for 30 seconds; >150% for 1 second   |                     |                                  |                     | 110% for 5 minutes; 130% for 1 minute; 150% for 10 Secs |  |
| <b>Crest Ratio</b>  | 3:1   |                     |                                  |                     |   |  |
| <b>Parallel</b>   | UP to 4 units for capacity or redundancy                      |                     |                                  |                     |   |  |
| <b>BATTERY</b>  |   |                     |                                  |                     |   |  |
| DC Voltage  | 240VDC  |                     |                                  |                     | 288VDC  |  |
| Rating/Type   | 12VDC/7Ah   | Charger Only:<br>4A | 12VDC/9Ah                        | Charger Only:<br>4A | 12VDC/9Ah   |  |
| Back-up Time (full load)  | > 7 minutes   |                     | > 5 minutes                      |                     | Int Batt: Up to 18 mins<br>Ext Batt: Up to 8 hours      | Int Batt: 5 minutes<br>Ext Batt: Up to 8 hours |
| Charging current (max)  | 1.2A  | 4.0A                | 1.2A                             | 4.0A                | 4.0A / 8.0A(Optional)                                   |  |
| Charging time   | 5h charge to 90% Depend on the capacity of external batteries |                     |                                  |                     | Internal battery 3h charge to 90%                       | Internal battery: 5h charge to 90%             |
| <b>FEATURES</b>   |   |                     |                                  |                     |   |  |
| ECO Mode; EPO Connection; Dual Communication; Auto De-rating; Battery Capacity Calculation; Maintenance Bypass Switch; Fan Speed Control; Frequency Converter Mode**<br>USB Connectivity; Electronic Bypass Interlock; Programmable Relay; Cold Start; Intelligent Smart slot for optional SNMP / Relay Card / MODBUS |   |                     |                                  |                     |   |  |
| <b>MECHANICAL</b>   |   |                     |                                  |                     |   |  |
| WxDxH (mm)  | 260 x 550 x 708   |                     |                                  |                     | 350 x 650 x 890   | 350 x 650 x 890                                |
| Net Weight  | 86Kg  | 34Kg                | 92Kg                             | 37Kg                | 175Kg   | 183Kg  |
| Operating Temperature Range   | 0°C ~ 40 °C   |                     |                                  |                     | 0°C ~ 45 °C   |  |
| Relative Humidity   | 0 ~ 95% (No condensing)                                       |                     |                                  |                     |   |  |
| Audible Noise   | <50dB at front 1m   |                     |                                  |                     | <55dB at front 1m                                       |  |
| <b>REGULATIONS</b>  |   |                     |                                  |                     |   |  |
| ESD   | IEC 61000-4-2 Level 4   |                     |                                  |                     |   |  |
| RS  | IEC 61000-4-3 Level 3   |                     |                                  |                     |   |  |
| EFT   | IEC 61000-4-4 Level 4   |                     |                                  |                     |   |  |
| Surge   | IEC 61000-4-5 Level 4   |                     |                                  |                     |   |  |
| Conduction / Radiation  | IEC 62040-2 Category C3                                       |                     |                                  |                     |   |  |
| Safety  | IEC 62040-1-1   |                     |                                  |                     |   |  |
| Transportation  | ETS 300019-2-2 Class 2.3                                      |                     |                                  |                     | TC-RDW-22   |  |
| Protection  | IP20  |                     |                                  |                     | IP21  |  |

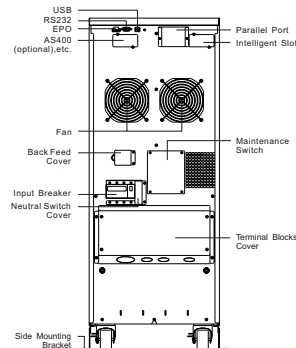
\*Derate to 90% with 208VAC output voltage.  
\*\*Derate to 60% during Frequency Converter Mode automatically.



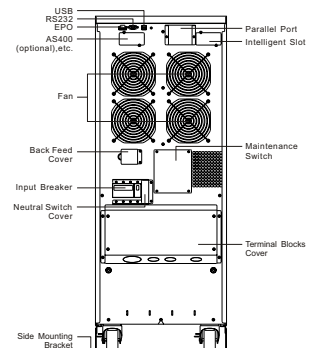
Rear view of B500-060-B (C)



Rear view of B500-100-B (C)



Rear view of B500 EVO 100-B



Rear view of B500 EVO 200-B