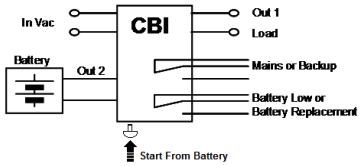
# CBI243A ALL In One




**Input: Single-phase 115 – 277 Vac**
**Output Load: power supply 24 Vdc; 3 A**
**Output Battery: charging 24 Vdc; 3 A**
**Suited for the following battery types: Open Lead Acid, Sealed Lead Acid, lead Gel and Ni-Cd**
**Automatic diagnostic of battery status. Charging curve IUoUO, constant voltage and constant current**
**Battery Life Test function (Battery Care)**
**Switching technology, output voltage 22-28.8Vdc**
**Three charging levels: Boost, Trickle and Recovery**
**Protected against short circuit and inverted polarity**
**Signal output (contact free) for discharged or damaged battery**
**Signal output (contact free) for mains or Back-UP**
**Protection degree IP20 - DIN rail; Space saving**

## Technical features

Thanks to the All In One units (DC-UPS), it will be possible to optimize power management. The available power is automatically allocated between load and battery, supplying power to the load is the first priority of the unit thus it is not necessary to double the power, because also the power going to the battery will go to the load if the load so requires. The maximum available current on the load output is 2 times the value of the device rated current In. We call "Battery Care" the concept base on algorithms that implement rapid and automatic charging, battery charge optimization during time, flat batteries recovery and real time diagnostic during installation and operation. The Real Time Auto-diagnostic system, monitoring battery faults such as, battery Sulfated, elements in short circuit, accidental reverse polarity connection, disconnection of the battery, they can easily be detected and removed by help of Blink Code of Diagnosis Led; during the installation and after sell. The continuous monitoring of battery efficiency, reduces battery damage risk and allows a safe operation in permanent connection. Each device is suited for all battery types, by means of jumpers it is possible setting predefined curves for Open Lead Acid, Sealed Lead Acid, Gel, Ni-Cd(option). They are programmed for two charging levels, boost and charge, but they can be changed to single charging level by the user. A rugged casing with bracket for DIN rail mounting provide IP20 protection degree. They are extremely compact and cost-effective.

### Norms and Certifications

In Conformity to: IEC/EN 60335-2-29 Battery chargers; EN60950 / UL1950 Electrical safety; EN54-4 Fire Detection and fire alarm systems; 89/336/EEC EMC Directive; 2006/95/EC (Low Voltage); DIN41773 (Charging cycle); Emission : IEC 61000-6-4; Immunity: IEC 61000-6-2. CE.

### Climatic Data

| | |
|---|---|
| Ambient temperature (operation) | **-25 ÷ +70°C** |
| De Rating $T^a$ > 50°C | **- 2.5%(In) / °C** |
| Ambient temperature Storage | **-40 ÷ +85°C** |
| Humidity at 25 °C no condensation | **95% to 25°C** |
| Cooling | **Auto convention** |

### General Data

| | |
|---|---|
| Insulation voltage (IN/OUT) | **3000 Vac** |
| Insulation voltage (input / ground) | **1605 Vac** |
| Insulation voltage (Output / ground) | **500 Vac** |
| Protection Class (EN/IEC 60529) | **IP20** |
| Reliability: MTBF IEC 61709 | **> 300.000 h** |
| Pollution Degree Environment | **2** |
| Connection Terminal Blocks screw Type | **2,5mm(24–14AWG)** |
| Protection class (PE Connected) | **I, with PE** |
| Dimensions (w-h-d) | **65x115x135 mm** |
| Weight | **0.6 kg approx.** |

### Input Data

| | |
|---|---|
| Nominal Input Voltage Vac | **115 – 230 – 277** |
| Voltage range Vac | **90 ÷ 305** |
| Inrush Current (Vn – In nom. Load) $I^2t$ | **≤ 11 A ≤ 5 msec.** |
| Frequency | **47 ÷ 63 Hz** |
| Input Current (115 – 230 Vac) | **1.91 – 0.96 A** |
| Internal fuse (not replaceable) | **4 A** |
| External Fuse (recommended) MCB curve B | **10 A** |

### Output Data (internal power supply)

| | |
|---|---|
| Output Voltage (Vn) / Nominal Current ($I_n$) | **24 Vdc / 3A** |
| Output Current $I_n$ | **3 A** |
| Efficiency (at 50% of rated current) | **≥ 90 %** |
| Turn-On delay after applying mains voltage | **1 sec. (max)** |
| Start up with Strong Load (capacitive load) | **Yes, Unlimited** |
| Dissipation power load max (W) | **13** |
| Short-circuit protection) | **Yes** |
| Over Load protection | **Yes** |
| Over Voltage Output protection | **Yes (typ. 35 Vdc)** |
| Overheating Thermal protection | **Yes** |

### Battery Output

| | |
|---|---|
| Boost charge (25 °C) (at $I_n$) | **28.8 Vdc** |
| Max. time Bust Charge | **15 h** |
| Min. time Bust Charge | **1 min.** |
| Trickle charge (25 °C) (at $I_n$) | **27.5 Vdc** |
| Jumper Configuration battery type (V cell) Ni-Cd (optional) | **2.23;2,25;2,27;2,3; NiCd:1,5 (20 elem.)** |
| Recovery Charge | **2 – 16 Vdc** |
| Charging current max $I_{batt}$ | **3 A ± 5%** |
| Charging current limiting $I_{adj}$ | **20 ÷ 100 % / $I_{bat}$** |
| Reverse battery protection | **Yes** |
| Sulfated battery check | **Yes by Jumper** |
| Detection of element in short circuit | **Yes** |
| Quiescent Current | **≤ 5 mA** |
| Charging Curve automatic: IUoUo | **3 stage** |
| Remote Input Control (RTCONN cable) | **Boost /Trickle** |

### Load Output

| | |
|---|---|
| Output voltage (at $I_n$) | **22 - 28.8 Vdc** |
| Nominal current $I_{load}$ | **1.1 x $I_n$ A ± 5%** |
| Continuous current (without battery) $I_{load=}$ $I_n$ | **3 A** |
| Continuous current ( With battery) $I_{load=}$ $I_{n+}$ $I_{batt}$ | **6 A** |
| Max. current Output Load (Main) $I_{load\ (4\ sec.)}$ | **9 A max.** |
| Max. current Output Load (Back Up)$I_{load\ (4\ sec.)}$ | **6 A max.** |
| Push Button or Remote Input Control (RTCONN cable) | **Start From Battery Without Main** |
| Time Buffering; min (switch output off without main input) | **∞: standard 5 min.: Require SW** |
| Protections against total discharge | **19 – 20 Vdc batt** |
| Threshold alarm Battery almost flat | **20 – 21 Vdc batt** |

### Signal Output (free switch contacts)

| | |
|---|---|
| Main or Backup Power | **Yes** |
| Low Battery | **Yes** |
| Fault Battery | **Yes** |

### Type of Signal Output Contact

| | |
|---|---|
| Max. Current can be switched (EN60947.4.1): Max. DC1: 30 Vdc 1 A; AC1: 60 Vac 1A Min.1mA at 5 Vdc | Resistive load Min permissive load |

### Signal Input / Output (RJ45)

| | |
|---|---|
| Temp. Comp. Battery (with external probe) | **Yes** |

[1]Can be adjusted via PC software mode

| | |
|---|---|
| Remote monitoring display | **Yes** |
| Can Bus | **No** |

[1]Can be adjusted via PC software mode