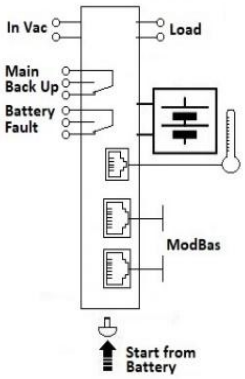
CBI2801224A ALL In One





Input: Single-phase 100 - 240 - 277 Vac
Output Selectable Load: 12 Vdc 15A; 24 Vdc 10A
Output Battery charging: 12 Vdc 15A; 24 Vdc 10A
Suited for the following battery types: Open Lead Acid, Sealed Lead Acid, Lead Gel, Lead Crystal, Ni-Cd, Ni-MH, Li-Ion
Automatic diagnostic of battery status. Charging curve IUoU, constant voltage and constant current Battery Life Test function (Battery Care)
Four charging levels: Boost, Absorption, Float, 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
Modbus RTU for all parameter battery and system
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 provides IP20 protection degree. They are extremely compact and cost-effective.

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**
Altitude: 0 to 2 000m - 0 to 6 560ft	**No restrictions**
Altitude: 2 000 to 6 000m - 6 560 to 20 000ft	**De-rating** **5°C/1000m**
Cooling	**Auto convection**
General Data	
Insulation voltage (IN/OUT)	**3000 Vac**
Insulation voltage (Input / Earth, PE)	**2000 Vac**
Insulation voltage (Out Load & Battery / Earth, PE)	**500 Vac**
Insulation voltage (Out Load & Battery / Fault System & Main or Back Up terminal)	**500 Vac**
Insulation voltage (Out Load & Battery / Aux2 & Aux3 / Fault System & Main or Back Up terminal)	**500 Vac**
Leakage Current	**< 5mA**
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)	**115x116x135 mm**
Weight	**0.98 kg**
Input Data	
CE Input Voltage	**100–277 Vac (±10%)**
UL Input Voltage range	**100–240 Vac (±10%)**
Input Current (100 – 240 – 277 Vac)	**5.5 – 3.0 – 2.0 A**
Power Factor typ. (115 – 230 Vac)	**0.6 – 0.47**
Input Inrush Current Limiter	**NTC**
Inrush Current (Vn – In nom. Load) I^2t	**≤ 16 A ≤ 5 msec.**
Frequency	**50 - 60 Hz (±6%)**
Internal fuse (not replaceable)	**6.3 A**
External Fuse (recommended)	**16 A MCB curve B**
Output Data (internal power supply)	
Select Output Voltage 12 or 24 Vdc. By:	**Jumper Enabling**
Continuous current (without battery)	**Iload=In**
Continuous current (With battery) Iload= In+ Ibatt	**2xIn**
Max. current Output Load (Main + Battery) Iload (4 sec.)	**3 x In max.**
Max. current Output Load (Back Up) Iload (4 sec.)	**2 x In max.**
Start From Battery Without Main (Remote Input Control)	**RTCONN (cable)** **Push Button**
Time Buffering; min (switch output off without main input)	**by MODBUS RTU RS485 or via ADEL View System**
Efficiency 230 Vac 24Vdc (rated current)	**≥ 91 %**
Ripple and Noise (20 MHz Bandwidth)	**80 mV_{pp} (max)**
Turn-On delay after applying mains voltage	**1 sec. (max)**
Start up with Strong Load (capacitive load)	**Yes, Unlimited**
Dissipation power load max (W)	**28**
Short-circuit protection)	**Yes**
Over Load protection	**Yes**
Over Voltage Output protection	**Yes (typ. 35 Vdc)**
Overheating Thermal protection	**Yes**
Load Output 24 Vdc (jumper selection)	
Output voltage (at In)	**22 - 28.8 Vdc**
Nominal current In = Iload	**10 A ± 5% In**
Threshold alarm Battery almost flat	**20 – 21 Vdc batt**
Protections against total discharge	**19 – 20 Vdc batt**

Load Output 12 Vdc (jumper selection)

Output voltage (at In)	**10 - 14.4 Vdc**
Nominal current In = Iload	**15 A ± 5% In**
Threshold alarm Battery almost flat	**10 – 11 Vdc batt**
Protections against total discharge	**9 – 10 Vdc batt**

Battery Output

Output Voltage Battery	**Follow Out Load**
Boost-Fast charge Switch Configuration 25°C (V/cell)	**Lead Acid: 2.4** **Ni-Cd: 1.51** **Ni-Mh:1.5** **Li-ion: 3.65**
Float Charge Switch Configuration 25°C (V/cell):	**Lead Acid: 2.23;2.25;2.27;2.3** **Ni-Cd: 1.4** **Ni-Mh:1.5** **Li-ion: 3.45**
Max.Time Boost–Bulk charge (Typ. at IN)	**15 h**
Min.Time Boost–Bulk charge (Typ. at IN)	**1 min.**
Charging current max Ibatt	**In ± 5%**
Charging current limiting Iadj	**0.2 ÷ 100 % / Ibat**
Recovery Charge 12V / 24Vdc	**2 – 10V / 2 – 20V**
Reverse battery protection	**Yes**
Sulfated battery check	**Yes (by Jumper)**
Short circuit Element Detection	**Yes**
Quiescent Current on the battery	**≤ 5 mA**
Charging Curve automatic: IUoU	**4 stage**
Remote Input Control (RTCONN cable)	**Boost /Float**
Threshold alarm Battery almost flat 12V/24V	**10 – 11 / 20 – 21 Vbatt**
LVD. (Protections against total Batt. discharge) 12V / 24V	**9 – 10 / 19 – 20 Vbatt**

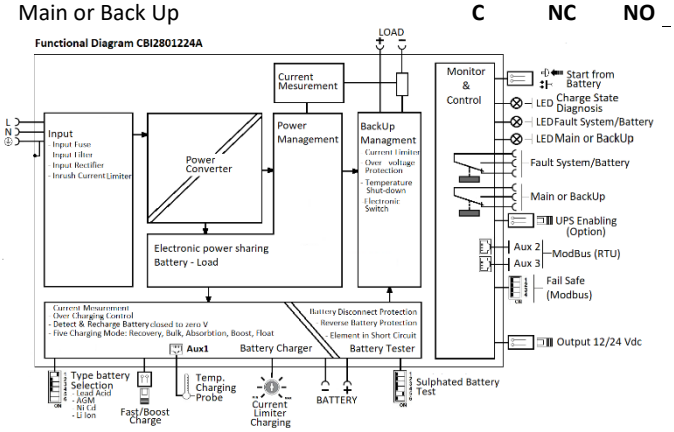
Signal Output (free switch contacts)

Main or Backup Input Power	**Yes**
Low Battery	**Yes**
Fault Battery or system	**Yes**

Type of Signal Output Contact

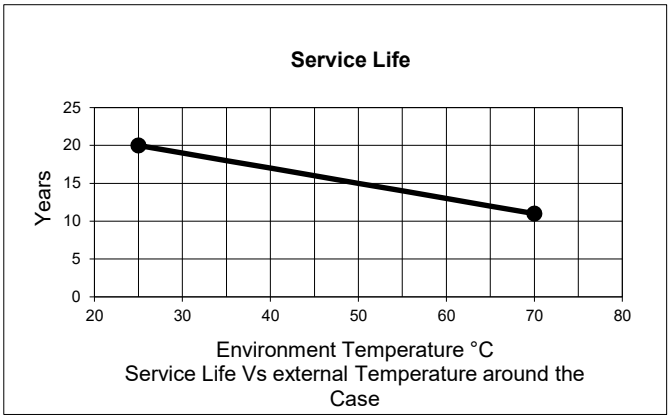
Dry Contact. Current can be switched (EN60947.4.1): Max: DC1: 30 Vdc 1 A; AC1: 60 Vac 1A (Resistive load) Min: 1mA at 5 Vdc (Min permissive load)

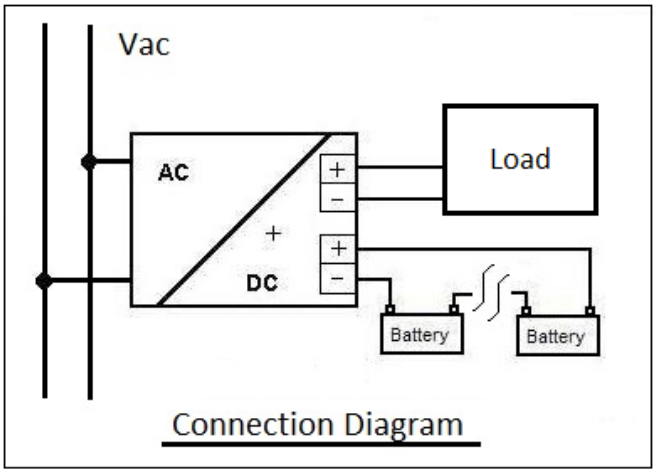
Fault System / Low Battery	**C**	**NC**	**NO**
Main or Back Up	**C**	**NC**	**NO**



Signal Input / Output (RJ45)

Temp. Comp. Battery (with external probe)	**RJ Temp (cable): Aux 1**
Remote monitoring data: Protocol:	**RJ45: Aux 2 – Aux 3 Modbus RTU (RS485)**
UPS Disabling	**Yes (RTCONN cable)**





Accuracy Measurement through ModBus (RTU)

Accuracy on the Input side

Measure of the Main Input voltage at 47- 63Hz; ±25°C; 90 – 135:180 – 305	**± 1 % of Full Scale Vac**

Accuracy on the output side

Measure of the Output voltage Load Side Range: 10 - 31Vdc	**± 1.5% of Full Scale Vdc Out**
Measure of the Output current Load Side Range: 0-15A	**± 1.5% of Full Scale I Out**
Measure of the Output voltage Battery Side Range: 0-15A	**± 1.5% of Full Scale Vdc Out**
Measure of the Output current Battery Side Range: 0-15A	**± 1.5% of Full Scale I Out**
Temperature Probe Range:-20 – 60°C	**± 2 °C**

Norms and Certifications

- Conformity to European Directives: 2014/30/UE (EMC), 2014/35/UE (LVD), 2011/65/EU (RoHS).
- Conformity to UK Regulations: S.I. 2016/1091 (EMC), S.I. 2016/1101 (Safety), S.I. 2012/3032 (RoHS).
- Safety standards: EN IEC 62368-1.
- EMC Standards: EN IEC 61000-6-2 (Immunity), EN IEC 61000-6-4 (Emission).
- UL62368-1 3rd Edition and CAN/CSA C22.2 No. 62368-1:19 3rd Edition (file E353188).
- Charging cycle DIN41773.
- EN54-4 Fire Detection and fire alarm systems and EN12101-10.