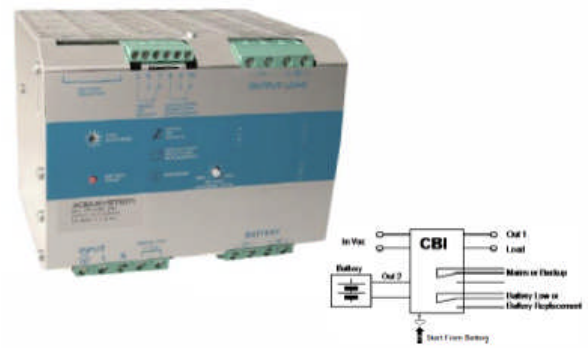
CBI2420A

24 V 20 A Intelligent Battery Charger & Power Supply

CoolPower Solutions

- Universal Input Range 93-264VAC, 47-63 Hz
- Output Load: power supply 24 VDC, 20 A
- Output Battery: charging 24 VDC, 20 A
- Suited for the following battery types: Open Lead Acid, Sealed Lead Acid, lead Gel and Ni-Cd (option)
- Automatic diagnostic of battery status. Charging curve IUoUO, constant voltage and constant current. Battery Life Test function
- 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 mounting



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.

Electrical specifications

Input Data

Voltage Range	93 - 264 VAC
Frequency	47 - 63 Hz
Inrush Current (Vn – In nom. Load)	≤35 A ≤5 ms
Input Current (115 – 230 Vac)	8 – 4.2 A
Internal Fuse, not replaceable	10 A
External Fuse recommended MCB curve B	16 A

Output Data (internal power supply)

Output Voltage (Vn) / Current (In)	24 VDC / 20 A
Efficiency at 50% of rated Current	≥91%
Turn-On delay after applying mainsvoltage	1 s max
Start up with Strong Load (capacitive load)	Yes, unlimited
Dissipation power load max	54 W
Short-circuit Protection	Yes
Over Load Protection	Yes
Over Voltage Output Protection	Yes
Over Heating Thermal Protection	Yes

Battery Output

Boost Charge (25°C at In)	28.8 VDC
Max. time Bust Charge	15 h
Min. time Bust Charge	1 min
Trickle Charge (25°C at In)	27.5 VDC
Jumper Charging Configuration	Yes
Recovery Charge	2 – 16 Vdc
Charging current max Ibatt	20 A ± 5%
Charging current limiting	20 – 100% of Ibatt
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 (AMP type)	Boost / Trickle

Cool Power Solutions Oy
Ilveskuja 8
FI-01900 Nurmijärvi
FINLAND

Tel: +358-9-2906 1990
Fax: +358-9-2906 1991

Email: info@cps.fi
Web: www.cps.fi

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Load Output

Output voltage (at In)	22 - 28.8 Vdc
Nominal current Iload	1.1 x In A ±5%
Continuous current (without battery)	20 A
Continuous current (With battery)	40 A
Max. current Output Load (Main)	60 A max
Max. current Output Load (Back Up)	40 A max
Push Bottom or Remote Input Control	Start From Battery
(AMP type connector)	Without Main
Time Buffering; min (switch output off	0.5;2;5;10;15; 20;
without main input)	30; 45;60;∞
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	Resistive load
Min.1mA at 5 Vdc	Min permissive load

Signal Input / Output (RJ45)

Temp. Comp. Battery (with external probe)	Yes
Remote monitoring display	Yes
Can Bus	Optional

Climatic Data

Ambient temperature (operation)	-25 - +70°C
Derating Ta > 50°C	- 2.5%(In) / °C
Ambient temperature Storage	-40 - +85°C
Humidity at 25 °C no condensation	95%, 25°C
Cooling	Auto convention

General Data

Insulation Voltage (Input/Output)	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	4 mm (30-10 AWG)
Protection class (PE Connected)	I, with PE
Dimensions (w-h-d)	150x115x135 mm
Weight	1.55 kg approx

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Battery Modules

Model	HOLDER1.2	HOLDER3.2	HOLDER7.2	HOLDER12
Output Vn - In	24 V – 1.2 Ah	24 V – 3.2 Ah	24 V – 7.2 Ah	24 V – 12 Ah
Features				
End-of-charge Vdc (trickle)	27.5 (20°C); 27 (30°C); 26.5 (40°C)			
Max. charging current	0.30 A	0.80 A	1.7 A	3.0 A
Short-circuit protection	Yes	Yes	Yes	Yes
Protection Fuse	25 A	25 A	25 A	25 A
Working Temperature	+5…+40°C	+5…+40°C	+5…+40°C	+5…+40°C
Stocking Temperature	-20…+50°C	-20…+50°C	-20…+50°C	-20…+50°C
Self-discharge rate	20 °C 15% per month			
Generic Data				
Dimension (WxHxD)	170x100x80 mm	170x140x90 mm	170x155x120 mm	170x155x120 mm
Weight (approx)	0.55 kg	1.2 kg	2.2 kg	2.2 kg
Protection class	IP20	IP20	IP20	IP20
Assembly using 4 holes	For hanging onto M4 screws			
Buffering Time (min)				
Load : 1.5 A	30	60	180	600
Load : 3 A	10	40	90	260
Load : 5 A	4	20	40	120
Load : 7 A	2	10	30	60
Load : 10 A	-	5	20	45

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