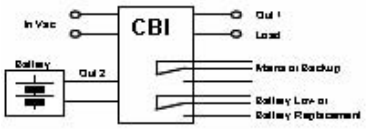
CBI2410A

24 V 10 A Intelligent Battery Charger & Power Supply Unit

CoolPower Solutions

- Single Phase Input 90-135 VAC / 180-305 VAC, 47-63 Hz
- Output 1: Load power supply 24 VDC, 10 A
- Output 2: Battery charging 24 VDC, 10 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 22,0-28,8 VDC 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.

Electrical specifications

Model No.		CBI2410A
Input	Voltage	90 ~ 135 / 180 ~ 305 VAC
	Frequency	47-63 Hz
	Current	3,3 A (115 VAC) / 2,2 A (230 VAC)
	Inrush Current	≤16 A ≤5 ms
	Internal fuse	6,3 A (not replaceable)
	External Fuse	16 A (recommended) MCB curve B
Output (Power Supply)	Voltage (nominal)	24 VDC
	Current (nominal)	10 A
	Efficiency	≥83% (at 50% of rated current)
	Turn-On delay	1,5 s max after applying mains voltage
	Start up with strong load	Yes, unlimited (Capacitive load)
	Dissipation power load	28 W max
	Short-circuit protection	Yes
	Over Load protection	Yes
	Over Voltage protection	Yes (typ. 35 VDC)
	Overheating protection	Yes

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Output (Battery)	Boost charge	28,8 VDC (25 °C) (at In)
	Max. time Boost Charge	15 h
	Min. time Boost Charge	1 min
	Trickle charge	27,5 VDC (25 °C) (at In)
	Jumper Configuration battery type	Lead Acid: 2.23; 2,25; 2,27; 2,30 V/cell Optional NiCd:1,5 V/cell (20 elem.)
	Recovery Charge	2 – 16 VDC
	Charging current	10 A ±5% max
	Charging current limiting	20 - 100 % / Ibat (adjustable)
	Reverse battery protection	Yes
	Sulfated battery check	Yes by Jumper
	Detection of element in short circuit	Yes
	Quiescent Current	≤100 mA max
	Charging Curve	3 stage automatic: IUoUo
	Remote Input Control	Boost /Trickle via RTCONN cable
Output (Load)	Output voltage	22,0 – 28,8 VDC (31 VDC for NiCd)
	Nominal current	1.1 x In A ± 5%
	Continuous current	Without battery 10 A
		With battery 20 A
	Max current output	Main 30 A max Iload (4 sec.)
		Backup 20 A max Iload (4 sec.)
	Remote Input Control	Start from battery without main via RTCONN cable
	Time Buffering	∞: standard, 5 min.: Require SW (switch output off without main input)
	Protections	19 – 20 Vdc batt Against total discharge
	Threshold alarm	20 – 21 Vdc batt Battery almost flat
Signals	Signal Output	Free switch contacts: Main or Backup Power, Low Battery, Fault Battery
	Type of Signal Output	Max. Current can be switched (EN60947.4.1): Resistive load
		Max. DC1: 30 Vdc 1 A; AC1: 60 Vac 1A, Min.1mA at 5 Vdc Min permissive load
	Signal Input / Output	(RJ45) Temp. Comp. Battery (with external probe), Remote monitoring display
Environment	Operating Temperature	-25°C…+70°C (with derating T>50°C -2.5%(In) / °C)
	Storage Temperature	-40°C…+85°C
	Humidity	20 - 95% RH to 25°C
	Cooling	Auto convention
General data	Insulation voltage	3000 VAC (I/O), 1605 VAC (I/Gr), 500 VAC (O/Gr)
	Protection Class	IP20, (EN/IEC 60529)
	Reliability: MTBF	>300 000 h (IEC 61709)
	Pollution Degree	2
	Connections	Terminal Blocks screw Type; 2,5mm (24–14AWG)
	Protection class	I, with PE connected
	Dimension (W x H x D)	100 x 115 x 135 mm
	Weight	850 g
Norms and Certifications	In Conformity to: IEC/EN 60335-2-29 Battery chargers; EN60950 / UL60950-1 and CSA C22.2 No. 60950-1-07 (Information Technology Equipment) – Safety – Part1:General Requirement. Electrical safety; EN54-4 Fire Detection and fire alarm systems; 89/336/EEC EMC Directive; 2014/35/UE (Low Voltage); DIN41773 (Charging cycle); Emission: IEC 61000-6-3; Immunity: IEC 61000-6-2. CE.	

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Battery Modules (without batteries)

Battery Bank for DC-UPS “All In One”. Lead AGM, VRLA technology, maintenance-free lead-acid batteries with serial fuse. Simple connection with screws for Wall mount or DIN rail.

Model	CBI-BTH1.2	CBI-BTH3.4	CBI-BTH7.2	CBI-BTH12
Technical Data				
Nominal Input Voltage	24 V – 1,2 Ah	24 V – 3,4 Ah	24 V – 7,2 Ah	24 V – 12 Ah
Battery Type for Lead AGM	No Battery	No Battery	No Battery	No Battery
Battery Dimension (WxHxD)	42x52x97 mm	67x60x134 mm	65x94x151 mm	98x95x151 mm
Protection Fuse	25 A	25 A	25 A	25 A
Recovery Fuse	25 A	25 A	25 A	25 A
Charging Data				
End-of-charge Vdc (trickle)	27,5 (20°C); 26,8 (30°C); 26,1 (40°C)			
Max. charging current	0,36 A	0,90 A	2,16 A	3,6 A
Discharging Data				
Battery disconnection from CBI	<19 V	<19 V	<19 V	<19 V
Max. permissible discharging	25 A	25 A	25 A	25 A
Self-discharge rate at 20 °C	15% / month	15% / month	15% / month	15% / month
General Data				
Protection degree	IP20	IP20	IP20	IP20
Protection class	III	III	III	III
Connection Terminal Block Screw Type	0,5-16 mm^2 (20-6 AWG)	0,5-16 mm^2 (20-6 AWG)	0,5-16 mm^2 (20-6 AWG)	0,5-16 mm^2 (20-6 AWG)
Dimension (WxHxD)	67x176x122 mm	75x193x164 mm	139x203x129 mm	205x201x107 mm
Weight (approx)	1,1 kg	1,3 kg	1,5 kg	1,5 kg
Assembly	DIN rail or Wall Mount for hanging onto M4 screws			Wall mount
Generic Data				
Operation Temperature	0…+40°C	0…+40°C	0…+40°C	0…+40°C
Storage Temperature	0…+40°C	0…+40°C	0…+40°C	0…+40°C
Humidity	95% at 25 °C, no condensation			
Buffering Time (min)				
Load : 1,5 A	20	60	200	400
Load : 3,0 A	8	30	120	240
Load : 5,0 A	3	15	55	100
Load : 7,5 A	2	10	30	60
Load : 10 A	-	7	20	45
Load : 12 A	-	3	12	30
Load : 15 A	-	-	9	20
Load : 20 A	-	-	7	13

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