



CBI2801224A DC UPS



Features:

- Input: Single-phase 115 - 277 VAC
- Output Load: power supply 12 VDC; 15 A / 234VDC; 10A
- Output: Battery charging 12 VDC; 15 A / 24VDC; 10A
- Suited for the following battery types:
Open Lead Acid, Sealed Lead Acid, lead Gel and Ni-Cd (option)
- Automatic diagnostic of battery status.
- Switching technology, output voltage 10-14.4 VDC / 22-28.8VDC
- Three charging levels: Boost, trickle and recovery
- Protection degree IP20 - DIN rail mountable

INPUT

OUTPUT

PROTECTION

LOAD OUTPUT

BATTERY OUTPUT

OTHERS

Cat. No.

CBI2801224A

Nominal Input Voltage	115 ~ 230 ~ 277 VAC
Voltage range	90 ~ 305 VAC
Inrush Current ($V_n - I_n$ nom. Load). I^2t	$\leq 16 A \leq 5$ msec
Frequency	47 ~ 63 Hz
Input Current (115 ~ 230 VAC)	3.3 ~ 2.2 A
Internal fuse (factory replaceable)	6.3 A
External Fuse (recommended) MCB curve B	16 A
Output Voltage (V_n) / Nominal Power (W)	12 / 24 VDC / 270W (jumper selection)
Output Current I_n	15 A @ 12VDC / 10A @ 24VDC
Efficiency (at 50% of rated current)	≥ 91 %
Turn-On delay after applying input voltage	1 sec. (max)
Start up with Strong Load (capacitive load)	Yes, Unlimited
Dissipation power load max	28 W
Short-circuit protection	Yes
Over Load protection	Yes
Over Voltage Output protection	Yes (typ. 35 VDC)
Over Temperature protection	Yes
Output voltage (at I_n)	10-14.4 / 22-28.8 VDC
Nominal current I_{load}	$1.1 \times I_n \pm 5\%$
Continuous current (without battery) $I_{load} = I_n$	15 A @ 12VDC / 10A @ 24VDC
Continuous current (with battery) $I_{load} = I_n + I_{batt}$	30 A @ 12VDC / 20A @ 24VDC max.
Max. Current Output Load (Main) I_{load} (4 sec.)	45 A @ 12VDC / 30A @ 24VDC max.
Max. Current Output Load (Back Up) I_{load} (4 sec.)	30 A @ 12VDC / 20A @ 24VDC max.
Push Button or Remote Input Control (RTCONN cable)	Start From Battery Without Main
Time Buffering; min (switch output off without main input)	0.5,2,5,10,15,20,30,45,60, ∞
Protection alarm against total discharge	10-11 / 20-21V DC battery
Threshold alarm for battery almost flat	9-10 / 19-20V DC battery
Boost charge (25 °C) (at I_n)	14.4 @ 12VDC / 28.8 @ 24VDC
Max. time Bust Charge	15 h
Min. time Bust Charge	1 min.
Trickle charge (25 °C) (at I_n)	13.8 @ 12VDC / 27.6 @ 24VDC
Jumper Configuration battery type (V cell) Ni-Cd (optional)	2.23; 2.25; 2.27; 2.30; NiCd: 1.50V / element
Recovery Charge	2 ~ 18 / 2 ~ 24VDC
Charging current max I_{batt}	15 A @ 12VDC / 10A @ 24VDC $\pm 5\%$
Charging current limiting I_{adj}	10 ~ 100 % / I_{batt}
Reverse battery protection	Yes
Sulfated battery check	Yes by Jumper
Detection of element in short circuit	Yes
Quiescent Current	≤ 100 mA
Charging Curve automatic: I_{UoUo}	4 stage
Remote Input Control (RTCONN cable)	Boost / Trickle
Ambient temperature (operation)	-25 ~ +70°C
De Rating $T_a > 50^\circ C$	- 2.5%(In) / °C
Ambient temperature Storage	-40 ~ +85°C
Humidity at 25°C no condensation	95%
Cooling	Auto convection
MTBF (IEC 61709)	> 300.000 h

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DC UPS

The Altech DC-UPS system is built to optimize power management. The available power is automatically allocated between load and battery, supplying power to the load is the first priority. For high inrush applications the charging power will reroute automatically to the load. In this case the maximum available current on the load output is two times the value of the device rated current.

The Battery Care concept based on algorithms that achieve rapid and automatic charging, battery optimization during charging time, flat batteries recovery and real time diagnostic. The Real Time Auto-diagnostic system, monitors battery faults, sulfated battery, short circuit battery elements, reverse polarity connection, battery disconnect. This conditions are detected and identified by the number of blinks of the diagnosis Led.

Signal Output Contacts

Main or Backup Power	Yes
Battery Power Low	Yes
Battery Fault	Yes
Max. Current Rating (Resistive Load)	1A 30 VDC/60 VAC
Minimum Permissible Current Rating	1mA @ 5 VDC

RJ45 Connection Input/Output

Temp. Comp. Battery (with ext. probe)	Yes – (Aux 1)
ModBus / Can Bus	Yes – (Aux 2)
ModBus / Can Bus	Yes – (Aux 3)

Environment

Insulation voltage (IN/OUT)	3000 VAC
Insulation voltage (input / ground)	1605 VAC
Insulation voltage (Output / ground)	500 VAC
Protection Class (EN/IEC 60529)	IP20
Pollution Degree Environment	2
Connection TB, Screw Terminal	2.5 mm ² (24-14 AWG)
Protection class (Ground Connected)	Class I
Dimensions (WxHxD)	115x115x135 mm
2.95x4.53x5.32 in	
Weight (approx.)	0.85 kg (1.9 Lbs)

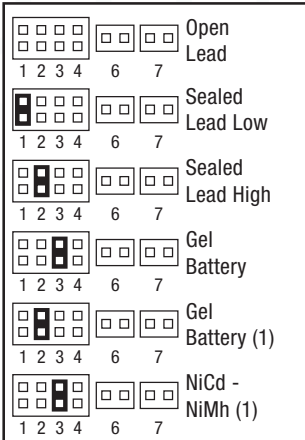
Safety and EMC

Battery charger standard compliance	IEC/EN 60335-2-29
Safety standards compliance:	EN60950 / UL1950 / CE
Fire Detection and alarm compliance	EN54-4
EMC Directive	89/336/EEC
Charging cycle	DIN41773
Emission	IEC 61000-6-4
Immunity	IEC 61000-6-2

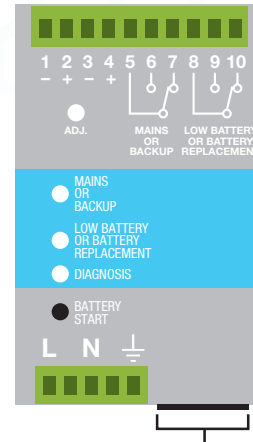
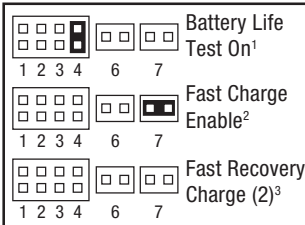
The Altech DC-UPS system is designed to charge and monitor all battery types, by selecting the battery type via jumpers. The predefined curves include Open Lead Acid, Sealed Lead Acid, Gel, Ni-Cd (optional) battery types. The charging curve are programmed to automatically switch between Recovery Charge, Boost charge and Trickle charge. The continuous battery efficiency monitoring, reduces battery damage risk and allows a safe operation in permanent connection.

A compact and rugged metal case with DIN rail mounting bracket provide an easy installation and an IP20 protection.

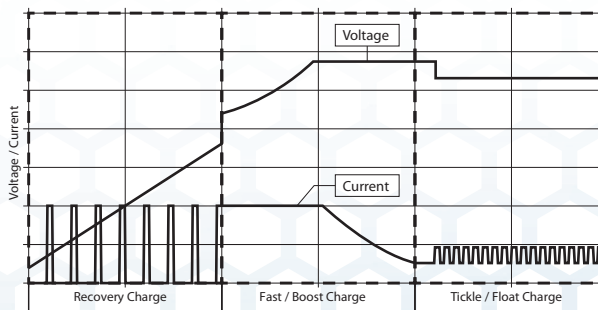
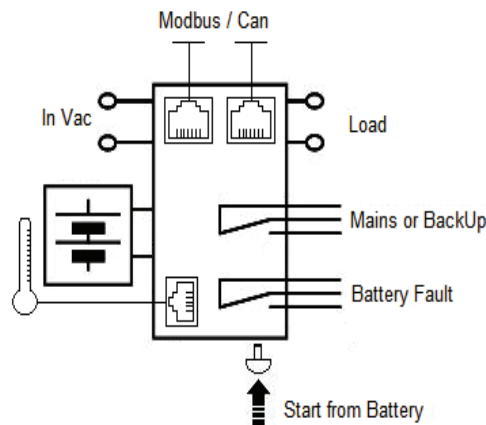
Jumper for Battery Type Selection



Jumper for Functional Setting



- 1 Jumper present: life test enabled.
- 2 Jumper present: fast test enabled.
- 3 Jumper present: fast recovery charge enabled only for size 3. Possibility to recharge the battery also when the voltage is close to zero with the maximum power of the device.



PSC Class 2 Series Compact Housing

PSA Flex Series 1 Phase

PSB Flex Series 2 & 3 Phase

PS-S Slim Series Plastic Housing

PS Low Profile Series Plastic Housing

PS Industrial Series 1, 2 & 3 Phase

PS C & W Series 1 and 2 Phase

CBI Type DC UPS Systems

CB Type Battery Chargers

Accessories

Appendix