

Everything and more!

- More efficiency of the battery thanks to continuous control over time.
- More monitoring in main connection nodes: input, output load, battery.
- Event logging: number of battery charging cycles, charge cycles completed, aborted charge cycles, Ah charged, charging time, total number of transitions stand-by /back-up etc.
- Event Management: checking the load output, shutdown management of PCs (UPS function), RESET management of a generic equipment.
- Flexibility of use: customization of the entire charging curve of the battery, battery type setting, setting of the various time-out algorithms of charge, setting boost voltage, absorption, float, etc... configuration as DC-UPS or batteries charger, enabling power supply function.

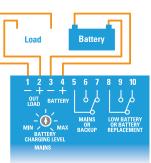
Power Continuity

DC-UPS = Power Supply + Battery Charger + Back Up Module

Double Output, Optimized Power Management. Thanks to the DC-UPS units, it will be possible to smart-manage available power. It will be 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, and also the power available for the battery will go to the load if the load requires so.

Output Load: Power Boost:





In Power Boost mode the maximum current on the load output is the 2 times the rated current (2 x In) in continuous operation and 3 times the rated current (3 x In) for max. 4 seconds.

I batt

4 min

max. 4 sec.

I batt I batt



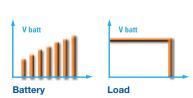
Time buffering is enabled when in back-up mode. Buffering time setting is possible by operating the rotary switch on the front panel.



Smart Battery Management

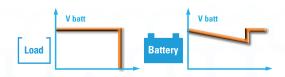
Load output will not be affected by battery conditions. The DC-UPS insures continuous power supply to the load even in conditions of completely discharged batteries. The automatic multi-stage operation optimizes and adapts to the battery status. DC-UPS can recharge deeply discharged batteries even when their voltage is close to zero, thus allowing recharge and complete recovery of flat batteries.

3 Ir



Avoid Deep Battery Discharge

In case of mains failure, the battery will supply the load until battery voltage reaches 1.5 Vpc (Volt per cell). Below this level the device automatically switches off to prevent deep discharge and battery damage.



Adjustable Maximum Battery Charging Current

The maximum battery charging current can be set from 10% to 100% of the device rated value.

MIN MAX BATTERY CHARGING LEVEL MAINS

Power Continuity

Start from Battery without Main

If you want to restart the system while the mains is off, a battery restart function is available, via RTCONN cable connections, or via pushbutton in the front panel.



Wide input voltage range

Flexibility is given also by the wide range input voltage. The range of the devices accept input voltage 120 - 230 - 277 - 400 - 500 VAC.

One device for output 12 or 24 VDC

You can select the voltage between 12 or 24 VDC just before installing the device in your panel (available on selected products in the new Altech DC-UPS units).

Connection & Monitoring

Monitor Signals

_ _ _ _ _ _ _ _ .

Clear definition of each system oper-ation, via LED indications and Relay contact:

Contact Port signals, galvanic insulation

- Main or back-up signaling relay with voltage-free. NO-NC output terminals.
- Battery faulty signaling relay, relay with voltage-free. NO-NC output terminals.
- Flat battery signaling relay, relay with voltage-free. NO-NC output terminals.

Display Signals by LED

- Input Main On Off
- Battery Fault
- Low battery (capacity less than 30%)
- Type of Battery charge mode
- Help through "blinking code" the diagnosis of the system

Driver Contact

Remote link for selection of trickle/ boost charging Via RTCONN remote connections cable it is possible to drive the devices from Boost - Bulk to Trickle - Float charge. It is also possible to permanently install a jumper for Boost - Bulk Charging.

Accessories

All DC-UPS units can be made available with the following options by RJ45 or RJ11 connector:

Temperature sensor Probe, for ambient temperature compensation charging.

Voltage drop cable compensation.



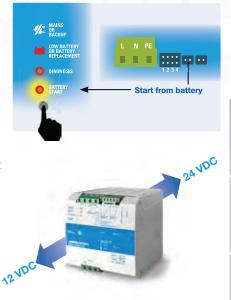


Auxiliary output "Aux 2 and "Aux 3" MODBUS and CANBUS

MODBUS and CANBUS connection for Multimedia management, for connection to external displays and perform customized data monitoring. Connection to:

- Power View App
- Power View System
- Power Bus
- Power View Graphic
- Power View Bar Graph
- Power View Config











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These devices are completely automatic and can charge any kind of battery using factory pre-set charging curves suitable to the most common battery technologies: open lead acid, sealed lead acid, lead gel, Ni-Cd and Ni-MH. These devices are very flexible and can be customized to meet the needs of the user and the requirements of the application. After the installation, it is possible to carry out functional software updates just using any laptop computer. Doing so, your system can always be updated to changing requirements. The Battery Care concept is based on algorithms that implement rapid and automatic charging, battery charge optimization during time, flat batteries recovery and real time diagnostic during installation and operation. Battery faults such as battery sulfated, elements in short circuit, accidental reverse polarity connection can easily be detected, identified and removed. The All in one Series meet the highest standards of quality and insure high reliability, with MTBF values up to 300.000 hours.

Battery Care

One Device for All Battery Types

All devices are suitable to charge most batteries types thank to user selectable charging curves. They can charge open lead acid, sealed lead acid, Gel, Ni-Cd, Ni-MH, Li Ion batteries. It is possible to change or add other charging curves connecting the device to a portable PC. Charging mode is then completely automatic.



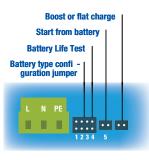
Sealed Lead Acid (1):



AGM Sealed Lead Acid (2): Trickle 2.27 V 123 Boost 2.40 V

Gel: Trickle 2.30 V Boost 2.40 V

Optional: Ni/Cd, LI-Ion

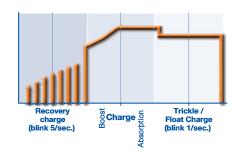


Boost or float charge

Multi-Stage Charging / Four Charging Modes

Automatic multi-stage operation and real time diagnostic allows fast recharge and recovery of deeply discharged batteries, adding value and reliability to the system hosting the DC-UPS device. The type of charging is Voltages stabilized and Current stabilized IUoU. CBI battery chargers feature four charging modes, identified by a flashing code on a LED.

- Recovery (5 Blinks / sec) able to recharge batteries even when their voltage is close to zero.
- Boost Bulk (2 Blinks / sec).
- Absorption (1 Blinks / sec).
- Trickle Float (1 Blink / 2 sec).



Diagnosis of Battery and Device

All CBI devices support the user during installation and operation. A LED flashing sequence code allows to discriminate among various possible faults. Error conditions, LED Fault ON and LED Diagnosis flashing with sequence of:

- I flash = Reverse polarity, wrong battery voltage
- 2 flashes= Disconnected battery
- 3 flashes = Battery element in short circuit
- 4 flashes = Overload
- 5 flashes = Battery to be replaced (Internal impedance Bad

or Bad battery wire connection).



Battery Care

Battery Life Test

It guarantees battery reliability in time by continuously testing the internal impedance status. It avoids any possible risk of damages and grants also a permanent, reliable and safe connection of the battery to the power supply. The system, through a battery stimulation circuit with algorithms of evaluation of the detected parameter, is able to recognize sulfated batteries or batteries with a short-circuited cell.

Temperature Compensation

In special application like fire fighting equipment, you can recharge the battery also with the temperature compensation charging function, for the best condition of your battery in the temperature fluctuation. Use Port# CBI-RJTEMP for this application.

Diagnostic Checks

Check for accidental disconnection of the battery cables.

DC-UPS detects accidental disconnection and immediately switches off output power.

Battery not connected.

If the battery is not connected the battery output is disabled.

Test of wire connection impedance.

During trickle charge the resistance on the battery connection is checked every 20 sec. This to detect if the cable connection has been properly made.

Battery in open circuit or sulfated.

Every four hours DC-UPS tests of internal impedance, while in trickle charging mode.

Reverse polarity check.

If the battery it is connected with inverted polarity, DC-UPS is automatically protected.

Test of battery voltage connections.

Appropriate voltage check, to prevent connection of wrong battery types.

End of charge check.

When the battery it is completely full, the device automatically switches to trickle charging mode.

Check for battery cells in short circuit.

Thanks to specific testing algorithms, the DC-UPS recognize batteries with cells in internal short circuit.

Maximum Safety and Protection

The DC-UPS series is designed to provide safe operation and long power supply and battery life. The following protections are standard features:

- Outputs protected against short circuit and overload
- Outputs in conformity to SELV and PELV conditions
- Protection against deep battery discharge
- Protection against reverse polarity connection
- High insulation between primary and secondary
- Detection of batteries with wrong rated voltage

All protections have automatic reset. No thermal fuse to be replaced. Robust construction and easy installation All the units in the range have aluminum casing, DIN rail fastening clip and are light and compact. IP20 protection degree.

Technology

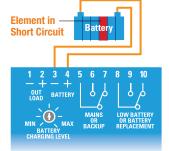
The new DC-UPS range is based on two strategic know-how elements. Switching technology, we have 25 years of experience in design of advanced stabilized switching technology power supplies. A power supply/battery charger unit based on this technology is much more efficient.

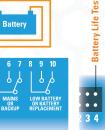
Back UP Module and Battery Care units, unlike most other state-of-the-art battery chargers, the DC-UPS series is equipped with complex algorithms which controls the charging process and enable several monitoring functions. The firmware implements the extended battery care know-how, result of many years of experience in this field.

Standards:

- IEC/EN 60335-2-29 Battery chargers • EN60950 / UL60950
- DIN 41773 (Charging cycle) EMC Directive
 - · Electrical safety EN54-4 Fire Detection and fire alarm systems

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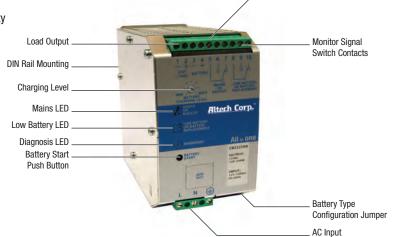
CBI All In One UPS Power Solutions combine the requirements for several applications in just one device which can be used as power supply unit, battery charger, battery care module or backup module. The available power is automatically distributed among load and battery, while supplying power to the load always is the first priority. The maximum available current of the load output is two times the value of the device's rated current.

If the device is disconnected from the main power source, the battery will supply the load until the battery voltage reaches 1.5 V per cell. This prevents the battery from deep discharge. CBI devices provide microprocessor controlled battery charging. Using algorithms, the battery's condition will be detected and based on that, an appropriate charging mode is chosen. The real-time diagnostics system will continuously monitor the charging progress and indicate possibly occurring faults such as elements in short circuit, accidental reverse polarity connection or disconnection of the battery by the battery fault LED and a flashing code of the diagnosis LED.

CBI All In One UPS Power Solutions are suitable for open/sealed lead acid-, lead gel- and optionally Ni-Cd batteries. By using the battery-select-jumper, it is possible to set predefined charging curves for those battery types. The available charging options are recovery-, boost- and trickle charge. All CB devices are built in a rugged metal case with a DIN rail mounting bracket.

Features:

- · Power supply, battery charger, battery care module and backup module in one device
- Three charging modes
- · Compact, rugged metal case
- Available in 12VDC, 24VDC and 48VDC
- · Suitable for most common battery types
- Adjustable charging current
- · Easy battery diagnosis and fault identification either by LED or external devices connected to fault
- Status contacts
- High efficiency up to 91% through switching technology
- Several output protection features such as short circuit, overload, deep battery discharge etc.
- DIN rail mounting
- Small size
- 3 year warranty



Battery Charging Output



	Battery type	1.2 Ah	3.2 Ah	7.2 Ah	12 Ah
	Load 1.5 A	20	60	200	400
	Load 3 A	8	30	120	240
υЩ	Load 5 A	3	15	55	100
	Load 7.5 A	2	10	30	60
BUFFERING (MINUTE) TIME	Load 10 A	-	7	20	45
Ξ	Load 12 A	-	3	12	30
	Load 15 A	-	-	9	20
	Load 20 A	-	-	7	13

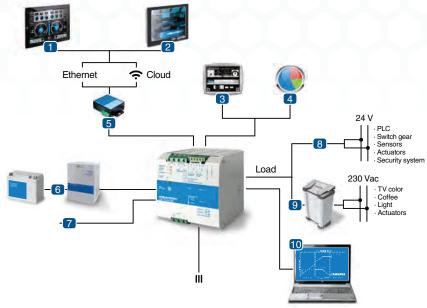
For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

The new communication platform for ALTECH CORP. devices allows the connection of all components in a simple but very powerful way. A single communication protocol based on MODbus-RTU or CANbus technology. You can select any of the two buses depending on the application. It allows to communicate with all the accessories provided by ALTECH CORP. and to develop an independent system for electrical continuity. At the same time, it allows monitoring and control all parameters in the system, even from the other side of the world, by means of application tools on the cloud.

ALTECH CORP. allows you to implement very simple but sophisticated monitoring and control for your energy system and opens your mind to new ways to approach your applications.

1 Power View App

System Monitoring Software APP for Tablet "Power View App", is an application for tablet, available in free download. With this App it is possible to connect to ALTECH CORP. cloud and visualize in real time data stored in your own account on the cloud. Data upload is possible through "Power Bus", an ALTECH CORP. MODBUS/Ethernet interface which connects the



DC-UPS MODBUS output to the cloud. Uploaded data can be battery voltage, charge current, discharge current, level of charge, charging mode, alarms, diagnostic signals and more. This allows monitoring of DC-UPS and battery status from any location. It just requires wireless internet connection via tablet.

2 Power View System Monitoring Software

"Power View System" is a PC-based software developed to monitor in real time every important parameter of the DCUPS/battery system. A simple and intuitive user's interface allows monitoring of battery parameters, load output, temperature sensor, mains presence and all alarm and diagnostic flags. All feature are displayed in a single screen.

3 Power View Graphic

Multifunction Graphic Display

"Power View Graphic" is a Multifunction Graphic Display that can be connected by a single data/power cables to the MODBUS interface of a DC-UPS. It allows to display all parameters of the DC-UPS/battery system that can be accessed by moving through the various screens with a push button user's interface. The screen is back-lit and features a screen saver function for energy saving and longer life.

4 Power View Bar Graph

"Power View Bar Graph" is a circular LED display device for panel mount. Simple and sturdy, it displays the current charge mode, state of charge and system diagnostics at a glance.

5 Power Bus

Interface Module MODBUS 485 - Ethernet and Cloud ALTECH CORP. provides a set of educated MODBUS interfaces that allow remote access to DC-UPS/battery data. Both Ethernet and Cloud communication is therefore made feasible.

6 Power Storage Devices

No matter how large or small the capacity of the battery storage needed in the system, ALTECH CORP. DC-UPS devices allow simple and effective integration. ALTECH CORP. has been a pioneer in the development of automatic charging and monitoring DC-UPS. Thanks to Adel Battery Care technology every battery will be taken care of and will last longer. Continuous system monitoring and life test checking allows preventive replacement and therefore increased system reliability. For a compact and optimized integration, ALTECH CORP. supplies Batt VRLA battery modules.

7 Temperature Compensated Charging

By installing the battery temperature probe "RJ Temp", the charge voltage is automatically adapted to battery temperatures. When the battery temperature is low, the charge voltage increases. Conversely, when battery temperature is high, charge voltage is decreased. Over charge and gassing are thus prevented. This will extend battery life, the specific goal of Adel Battery Care philosophy.

8 Load

The DC-UPS unit mission is to always keep the load supplied. The Load Output is the source of power for the whole electric system and has been designed to perform this duty under the most critical conditions, no matter if during stand-by or back-up modes.

9 Inverter

Among the loads there are sometime devices which requires AC power. In this case an inverter must be installed. ALTECH CORP. DC-UPSs allow connection of inverters up to 1500W.

10 Power View Config

System Configuration Software "Power View Config" is a PC-based software with simple and effective user interface that allows application engineer to configure the system, customize battery charging curve, set alarm thresholds, configure the parameters available for communication on the MODBUS output. Output Voltage: 12, 24, 48 Vdc.

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Specifications



* Case Sizes

Size 1: 65 mm x 115 mm x 135 mm Size 2: 100 mm x 115 mm x 135 mm Size 3: 150 mm x 115 mm x 135 mm

Features:

- Power supply, battery charger, battery care module and backup module in one device
- Three charging modes
- Several output protection modes
- Compact, rugged metal case
- Available in 12VDC, 24VDC and 48VDC
- Suitable for most common battery types
- Three charging modes
- Adjustable charging current
- High efficiency up to 91% through switching technology
- DIN rail mounting
- Small size
- 3 year warranty

12V DC SSingle Phase DIN Rail All In One UPS Power Solution

Cat. No.	Case*	Input VAC	Outp VDC	ut* A	Recovery Charge VDC	Trickle Charge VDC	Boost Charge VDC	NOTES
CBI123A	1	115-230-277	12	3	2-9	13.75	14.4	
CBI126A	1	115-230-277	12	6	2-9	13.75	14.4	
CBI1210A	1	115-230-277	12	10	2-9	13.75	14.4	
CBI1235A	3	115-230-277	12	35	2-9	13.75	14.4	

24V DC Single Phase DIN Rail All In One UPS Power Solution

Cat. No.	Case*	Input VAC	Outp VDC		Recovery Charge VDC	Trickle Charge VDC	Boost Charge VDC	NOTES
CBI243A	1	115-230-277	24	3	2-16	27.5	28.8	
CBI245A	1	115-230-277	24	5	2-18	27.5	28.8	
CBI2410A	2	115-230-277	24	10	2-16	27.5	28.8	
CBI2420A	3	115-230-277	24	20	2-16	27.5	28.8	

48V DC Single Phase DIN Rail All-In-One UPS Power Solution

Cat. No.	Case*	Input VAC	Outp VDC	ut* A	Recovery Charge VDC	Trickle Charge VDC	Boost Charge VDC	NOTES
CBI485A	2	115-230-277	48	5	2-24	55	57.6	
CBI4810A	3	115-230-277	48	10	2-24	55	57.6	

Multi-Voltage DIN Rail All-In-One UPS Power Solution

Cat. No.	Cas	e* Input VAC	Outr VDC	out* A	Recovery Charge VDC	v Trickle Charge VDC	Boost Charge VDC	NOTES
CBI280 3648A	2	115-230-277	36/48	7/ 5	2-24	41/ 55	43.2/ 57.6	
CBI280 1224A	2	115-230-277	12/24	15/ 10	2-18	13.75/ 27.5	14.4/ 28.8	
CBI280 1224B	2	230-400-500	12/ 24	15/ 10	2-16	13.75/ 27.5	14.4/ 28.8	

*= Output Current can be adjusted from 20%-100% of value given above

For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.





Case 2



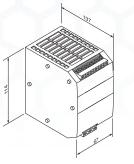
Case 3



SPECIFICATIONS

Altech Corp.

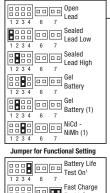
Case 1



Connection:

Packaging:

Input Voltage: 115 - 230 - 277 VAC Input Current: 2.8-1.3A (115-230VAC) screw terminal blocks for wires 0.2-2.5mm2 / AWG 24-14 Size (WxHxD): 65x115x135 mm 0.6kg



Jumper for Battery Type Selection

1 2 3 4 6 7 Fast Charge Enable² 1234 6 7 Fast Recovery 1 2 3 4 6 7 Charge (2)³

Jumper for **Battery Type Selection**

1234 6

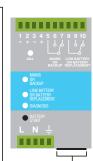
1234 6

1234 6

1234 6

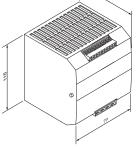
1234 6

1234 6



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

Case 2



Connection: Packaging:

Case 3

Connection:

Input Voltage: 115 / 230 - 277 VAC Input Current: 3.3-2.2A (115-230VAC) screw terminal blocks for wires 0.2-2.5mm² / AWG 24-14 Size (WxHxD): 100x115x135 mm 0.85kg

Street.

screw terminal blocks for wires

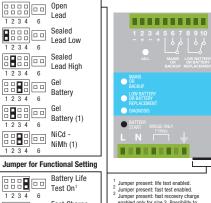
4mm² / AWG 30-10

Input Voltage: 115 / 230 - 277 VAC

Input Current: 8-4.2A (115-230VAC)

Size (WxHxD): 150x115x135 mm

Packaging: 1.55kg



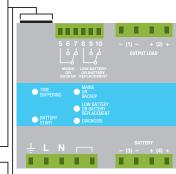
Jumper present: life test enabled. Jumper present: fast test enabled. Jumper present: fast test enabled. Jumper present: fast recovery charge enabled only for size 3. Possibility to recharge the battery also when the voltage is close to zero with the maximum power of the device.

Jumper for Battery Type Selection

Fast Charge Enable²

Open Lead 12345 6 7 Sealed Lead Low Sealed 1 2 3 4 5 6 7 Sealed High Gel 1 2 3 4 5 6 7 Gel Battery Gel 1 2 3 4 5 6 7 Gel Battery (1) NiCd -NiMh (1) 12345 6 7

> Jumper for Functional Setting Battery Life 1 2 3 4 5 6 7 Test On¹ Fast Charge Fast Charge 1 2 3 4 5 6 7 Fast Charge Fast Recovery Charge (2)³ 1234567



Jumper present: life test enabled. Jumper present: fast test enabled. 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.

Appendix

	CBI123A	Features: Input: Single-phase 115 - 277 VAC Output Load: now or supply 12 VDC: 2 A
		 Output Load: power supply 12 VDC; 3 A Output: Battery charging 12 VDC; 3 A
0.2 20	DC UPS	Suited for the following battery types:
A Altoch Carp.		 Open Lead Acid, Sealed Lead Acid, lead Gel and Ni-Cd (optio Automatic diagnostic of battery status.
a to come use	RHS RN 80 CE 🛄	Switching technology, output voltage 10-14.4 VDC
	C US E353188	Three charging levels: Boost, trickle and recovery Protection degree IP20 _ DNI roll mountable
		Protection degree IP20 - DIN rail mountable
NPUT	Cat. No.	CBI123A
_	Nominal Input Voltage	115 ~ 230 ~ 277 VAC
	Voltage range Inrush Current (V _n – I _n nom. Load). I ² t	90 – 305 VAC ≤11 A ≤ 5 msec
	Frequency	47 – 63 Hz
	Input Current (115 – 230 VAC)	2.8 ~ 1.3 A
	Internal fuse (factory replaceable)	4 A
OUTPUT	External Fuse (recommended) MCB curve B	10 A
	Output Voltage (V _n) / Nominal Current (I _n)	12 VDC / 3A
	Output Current I _n Efficiency (at 50% of rated current)	3 A ≥ 90 %
100 A	Turn-On delay after applying input voltage	≥ 90 % 1 sec. (max)
	Start up with Strong Load (capacitive load)	Yes, Unlimited
PROTECTION	Dissipation power load max	9 W
	Short-circuit protection	Yes
	Over Load protection	Yes
LOAD OUTPUT	Over Voltage Output protection Over Temperature protection	Yes (typ. 35 VDC) Yes
	Output voltage (at In)	10 ~ 14.4 VDC
	Nominal current I _{load}	$1.1 \times \ln A \pm 5\%$
	Continuous current (without battery) $I_{load} = I_n$ Continuous current (with battery) $I_{load} = I_n + I_{batt}$	3 A 6 A
	Max. Current Output Load (Main) III_{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
BATTERY	Protection alarm against total discharge Threshold alarm for battery almost flat	9-10V DC battery 10-11 V DC battery
OUTPUT		
	Boost charge (25 °C) (at I _n) Max. time Bust Charge	14.4 VDC 15 h
	Min. time Bust Charge	1 min.
	Trickle charge (25 °C) (at I _n)	13.75 VDC
	Jumper Configuration battery type (V cell) Ni-Cd (optional)	2.23; 2.25; 2.27; 2.30; NiCd: 1.50 (10 elem.)
	Recovery Charge	2 ~ 9 VDC
	Charging current max I _{batt} Charging current limiting I _{adi}	3 A ± 5% 20 – 100 % / lbatt
	Reverse battery protection	20 - 100 % / IDall Yes
	Sulfated battery check	Yes by Jumper
	Detection of element in short circuit	Yes
	Quiescent Current	≤ 5 mA
	Charging Curve automatic: I _{UoUo}	3 stage
OTHERS	Remote Input Control (RTCONN cable)	Boost /Trickle / Recovery
	Ambient temperature (operation) De Rating Ta $> 50^{\circ}$ C	-25 – +70°C - 2.5%(ln) / °C
	Ambient temperature Storage	- 2.5%(m) / *C -40 – +85°C
	Humidity at 25 °C no condensation	95%
	Cooling	Auto convention
	MTBF	> 300.000 h (IEC 61709)

CBI123A 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 - Optional
Remote monitoring d	isplay		Yes - Optional
Can Bus			No

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 mm² (24–14AWG)
Protection class (Ground Connected)	Class I
Dimensions (WxHxD)	65x115x135 mm
2.56x4.53x5.32 in	
Weight (approx.)	0.6 kg (1.35 Lbs)

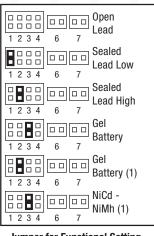
Safety and EMC

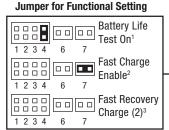
Battery charger standard compliance	IEC/EN 60335-2-29
Safety standards compliance:	EN60950 / UL1950 / CE
Fire Detection and alarm compliance	EN54-4
EMC Directive	89/336/EEC
Charging cycle	DIN41773
Emission	IEC 61000-6-4
Immunity	IEC 61000-6-2

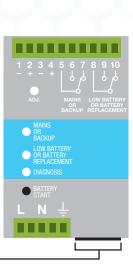
The Altech DC-UPS system is designed to charge and monitor all $\begin{subarray}{c} \begin{subarray}{c} \begin{subaray}{c} \b$ battery types, by selecting the battery type via jumpers. The predefined curves include Open Lead Acid, Sealed Lead Acid, Gel, Ni-Cd (optional) battery types. The charging curve 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.

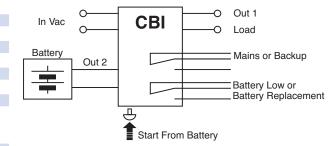
Jumper for Battery Type Selection

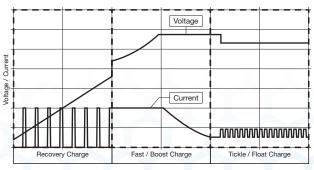






Jumper present: life test enabled. Jumper present: fast test enabled. Jumper present: fast recovery charge enabled only for size 3. Possibility to recharge the battery also when the voltage is close to zero with the maximum power of the device.





Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490

	CBI126A	Features: Input: Single-phase 115 - 277 VAC Output Load neuron surply 10 VDC - C A
LESS TOTAL	ODITZOA	 Output Load: power supply 12 VDC; 6 A Output: Battery charging 12 VDC; 6 A
Bitech Carps	DC UPS	 Output: Battery charging 12 vDc; 6 A Suited for the following battery types: Open Lead Acid, Sealed Lead Acid, lead Gel and Ni-Cd (option)
1		 Automatic diagnostic of battery status.
C Contras	🕬 🔊 🔊 🔊 🖓 🖓	Switching technology, output voltage 10-14.4 VDC
	E353188	 Three charging levels: Boost, trickle and recovery Protection degree IP20 - DIN rail mountable
NPUT	Cat. No.	CBI126A
	Nominal Input Voltage	115 ~ 230 ~ 277 VAC
	Voltage range	90 – 305 VAC
	Inrush Current ($V_n - I_n$ nom. Load). I ² t	\leq 11 A \leq 5 msec
1000	Frequency	47 – 63 Hz
	Input Current (115 – 230 VAC)	2.8 ~ 1.3 A
	Internal fuse (factory replaceable)	4 A
DUTPUT	External Fuse (recommended) MCB curve B	10 A
	Output Voltage (V_n) / Nominal Current (I_n) Output Current I_n	12 VDC / 6A 6 A
	Efficiency (at 50% of rated current)	≥ 90 %
	Turn-On delay after applying input voltage	≥ 90 % 1 sec. (max)
	Start up with Strong Load (capacitive load)	Yes, Unlimited
PROTECTION	Dissipation power load max	17 W
	Short-circuit protection	Yes
	Over Load protection	Yes
	Over Voltage Output protection	Yes (typ. 35 VDC)
LOAD	Over Temperature protection	Yes
	Output voltage (at In)	10 ~ 14.4 VDC
	Nominal current I _{load}	1.1 x ln A ± 5%
100 M	Continuous current (without battery) $I_{load} = I_n$	6 A
	Continuous current (with battery) $\mathrm{I}_{\text{load}}{=}\ \mathrm{I}_{\text{n}}{+}\ \mathrm{I}_{\text{batt}}$	12 A
	Max. Current Output Load (Main) I _{load} (4 sec.)	18 A max.
	Max. Current Output Load (Back Up) I _{load} (4 sec.)	12 A max.
	Push Button or Remote Input Control (RTCONN cable)	Start From Battery Without Main
	Time Buffering; min (switch output off without main input) Protection alarm against total discharge	∞: standard 5 min.: Require SW 9-10 VDC battery voltage
BATTERY	Threshold alarm for battery almost flat	10-11 VDC battery voltage
OUTPUT		
	Boost charge (25 °C) (at I _n)	14.4 VDC
	Max. time Bust Charge Min. time Bust Charge	15 h 1 min.
	Trickle charge (25 °C) (at I _n)	13.75 VDC
	Jumper Configuration battery type (V cell) Ni-Cd (optional)	2.23; 2.25; 2.27; 2.30; NiCd: 1.50 (10 elem.)
	Recovery Charge	2 ~ 9 VDC
	Charging current max I _{batt}	6 A ± 5%
	Charging current limiting I _{adj}	20 – 100 % / 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: I _{UoUo}	3 stage Boost /Trickle / Becovery
OTHERS	Remote Input Control (RTCONN cable)	Boost /Trickle / Recovery
	Ambient temperature (operation)	$-25 - +70^{\circ}$ C
	De Rating Ta > 50°C	- 2.5%(ln) / °C
	Ambient temperature Storage Humidity at 25°C no condensation	-40 - +85°C 95%
	Cooling	Auto convention
	MTBF (IEC 61709)	> 300.000 h

CBI126A 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 - Optional
Remote monitoring display	Yes - Optional
Can Bus	No

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 (24–14AWG)
Protection class (Ground Connected)	Class I
Dimensions (WxHxD)	65x115x135 mm
2.56x4.53x5.32 in	
Weight (approx.)	0.6 kg (1.35 Lbs)

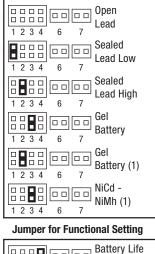
Safety and EMC

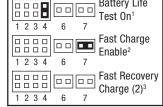
Battery charger standard compliance	IEC/EN 60335-2-29
Safety standards compliance:	EN60950 / UL1950 / CE
Fire Detection and alarm compliance	EN54-4
EMC Directive	89/336/EEC
Charging cycle	DIN41773
Emission	IEC 61000-6-4
Immunity	IEC 61000-6-2

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

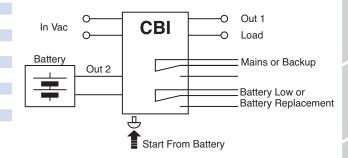


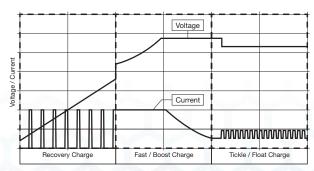




Altech Corp.

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.





	CBI1210A	Features: Input: Single-phase 115 - 277 VAC
92.010		 Output Load: power supply 12 VDC; 10 A Output: Battery charging 12 VDC; 10 A
0. Z ==	DC UPS	 Suited for the following battery types:
Altech Carp.		Open Lead Acid, Sealed Lead Acid, lead Gel and Ni-Cd (optic
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Automatic diagnostic of battery status.
O onter	Roffs , FNJ , S C C .	Switching technology, output voltage 10-14.4 VDC
	C US CONS CONS	 Three charging levels: Boost, trickle and recovery Protection degree IP20 - DIN rail mountable
NPUT	Cat. No.	CBI1210A
	Nominal Input Voltage	115 ~ 230 ~ 277 VAC
	Voltage range	90 – 305 VAC
	Inrush Current ($V_n - I_n$ nom. Load). I ² t	$\leq 11 \text{ A} \leq 5 \text{ msec}$
	Frequency	47 – 63 Hz
	Input Current (115 – 230 VAC)	2.8 ~ 1.3 A
	Internal fuse (factory replaceable)	4 A
UTPUT	External Fuse (recommended) MCB curve B	10 A
	Output Voltage (V _n) / Nominal Current (I _n)	12 VDC / 10A
	Output Current In	10 A ≥ 90 %
	Efficiency (at 50% of rated current) Turn-On delay after applying input voltage	≥ 90 % 1 sec. (max)
	Start up with Strong Load (capacitive load)	Yes, Unlimited
ROTECTION	Dissipation power load max	17 W
NOTECTION	Short-circuit protection	Yes
	Over Load protection	Yes
	Over Voltage Output protection	Yes (typ. 35 VDC)
OAD OUTPUT	Over Temperature protection	Yes
	Output voltage (at In)	10 ~ 14.4 VDC
	Nominal current I _{load}	1.1 x ln A ± 5%
1000	Continuous current (without battery) $I_{\text{load}} = I_n$	10 A
	Continuous current (with battery) I_{load} = I_n + I_{batt}	20 A
	Max. Current Output Load (Main) I _{load} (4 sec.)	30 A max.
	Max. Current Output Load (Back Up) I _{load} (4 sec.)	20 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
BATTERY	Protection alarm against total discharge	9-10V DC battery
OUTPUT	Threshold alarm for battery almost flat	10-11 V DC battery
	Boost charge (25 °C) (at In)	14.4 VDC
	Max. time Bust Charge	15 h
TANK AND	Min. time Bust Charge	1 min.
	Trickle charge (25 °C) (at I_n)	13.75 VDC
	Jumper Configuration battery type (V cell) Ni-Cd (optional)	2.23; 2.25; 2.27; 2.30; NiCd: 1.50 (10 elem.)
	Recovery Charge	$2 \sim 9 \text{ VDC}$
	Charging current max I _{batt}	$10 \text{ A} \pm 5\%$
	Charging current limiting I _{adj} Reverse battery protection	20 – 100 % / Ibatt Yes
	Sulfated battery check	Yes by Jumper
	Detection of element in short circuit	Yes
	Quiescent Current	$\leq 5 \text{ mA}$
	Charging Curve automatic: I _{UoUo}	3 stage
THERS	Remote Input Control (RTCONN cable)	Boost /Trickle / Recovery
	Ambient temperature (operation)	-25 – +70°C
	De Rating Ta $> 50^{\circ}$ C	- 2.5%(ln) / °C
	Ambient temperature Storage	-40 - +85°C
	Humidity at 25°C no condensation	95%
	Cooling	Auto convention
	MTBF	> 300.000 h (IEC 61709)

For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

CBI1210A 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

Yes
Yes
Yes
1A 30 VDC/60 VAC
1mA @ 5 VDC

RJ45 Connection Input/Output

Temp. Comp. Battery (with ext. probe)	Yes - Optional
Remote monitoring display	Yes - Optional
Can Bus	No

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 (24–14AWG)
Protection class (Ground Connected)	Class I
Dimensions (WxHxD)	65x115x135 mm
2.56x4.53x5.32 in	
Weight (approx.)	0.6 kg (1.35 Lbs)

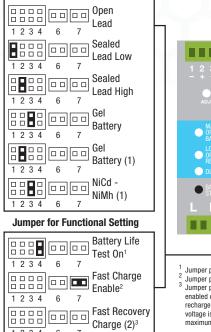
Safety and EMC

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

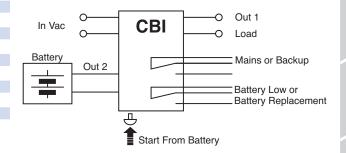


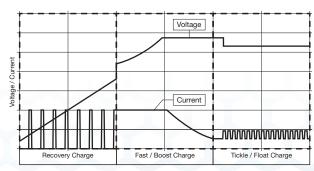
1234

6 7



Jumper present: life test enabled Jumper present: fast test enabled. 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.





Altech Corp.

1111		Features: Input: Single-phase 115 - 277 VAC
00000	CBI1235A	 Input: Single-phase 115 - 277 VAC Output Load: power supply 12 VDC; 35 A
18217 Internet star		 Output: Battery charging 12 VDC; 35 A
E CE	DC UPS	Suited for the following battery types:
***		Open Lead Acid, Sealed Lead Acid, lead Gel and Ni-Cd (option
		 Automatic diagnostic of battery status.
Altech Corp.	🕒 👧 🚷 CE 🛄	Switching technology, output voltage 10-14.4 VDC
- man interest	CONS LAVEN	 Three charging levels: Boost, trickle and recovery Protection degree IP20 - DIN rail mountable
NPUT		ODISOFA
INFUT	Cat. No. Nominal Input Voltage	CBI1235A 115 / 230 ~ 277 VAC
	Voltage range	90 – 135 / 180-305 VAC
	Inrush Current ($V_n - I_n$ nom. Load). I ² t	\leq 35 A \leq 5 msec
	Frequency	47 – 63 Hz
	Input Current (115 – 230 VAC)	8 ~ 4.2 A
	Internal fuse (factory replaceable)	10 A
DUTPUT	External Fuse (recommended) MCB curve B	16 A
	Output Voltage (V _n) / Nominal Current (I _n)	12 VDC / 35A
	Output Current In	35 A
	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
ROTECTION	Dissipation power load max	48 W
	Short-circuit protection	Yes
	Over Load protection	Yes
	Over Voltage Output protection	Yes (typ. 35 VDC)
LOAD OUTPUT	Over Temperature protection	Yes
	Output voltage (at In)	10 ~ 14.4 VDC
	Nominal current I _{load}	1.1 x In A ± 5%
- TANK	Continuous current (without battery) $I_{load} = I_n$	35 A
	Continuous current (with battery) $I_{load} = I_n + I_{batt}$	70 A
	Max. Current Output Load (Main) Iload (4 sec.)	105 A max.
	Max. Current Output Load (Back Up) I _{load} (4 sec.)	70 A max.
100 C	Push Button or Remote Input Control (RTCONN cable)	Start From Battery Without Main
	Time Buffering; min (switch output off without main input)	0.5,1,3,5,10,15,20,30,45,60,∞; Require SW
ATTERV	Protection alarm against total discharge	9-10V DC battery
BATTERY OUTPUT	Threshold alarm for battery almost flat	10-11 V DC battery
	Boost charge (25 °C) (at I_n)	14.4 VDC
	Max. time Bust Charge	15 h
	Min. time Bust Charge	1 min.
	Trickle charge (25 °C) (at I_n)	13.75 VDC
	Jumper Configuration battery type (V cell) Ni-Cd (optional)	2.23; 2.25; 2.27; 2.30; NiCd: 1.50 (10 elem.)
	Recovery Charge	2 ~ 9 VDC
	Charging current max Ibatt	35 A ± 5%
	Charging current limiting I _{adj}	20 – 100 % / Ibatt
	Reverse battery protection	Yes
	Sulfated battery check	Yes by Jumper
	Detection of element in short circuit	Yes
	Quiescent Current	\leq 5 mA
	Charging Curve automatic: I_{UoUo}	3 stage
OTHERS	Remote Input Control (RTCONN cable)	Boost /Trickle / Recovery
	Ambient temperature (operation)	-25 - +70°C
	De Rating Ta $> 50^{\circ}$ C	- 2.5%(ln) / °C
	Ambient temperature Storage	-40 - +85°C
	Humidity at 25°C no condensation	95%
	Cooling	Auto convention
	MTBF (IEC 61709)	> 300.000 h

CBI1235A 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 Contacte

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 - Optional
Remote monitoring display	Yes - Optional
Can Bus	Yes - Optional

Environment

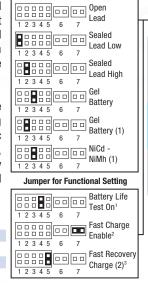
Insulation voltage (IN/OUT)	3000 VAC
Insulation voltage (input / ground)	1605 VAC
Insulation voltage (Output / ground)	500 VAC
Protection Class (EN/IEC 60529)	IP20
Pollution Degree Environment	2
Connection TB, Screw Terminal	4 mm ² (30–10AWG)
Protection class (Ground Connected)	Class I
Dimensions (WxHxD)	150x115x135 mm
5.91x4.53x5.32 in	
Weight (approx.)	1.55 kg (3.5 Lbs)
Safety and EMC	
Battery charger standard compliance	IEC/EN 60335-2-29

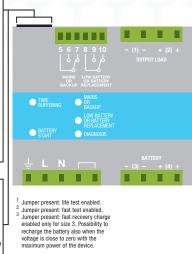
Battery charger standard compliance	IEC/EN 60335-2-29
Safety standards compliance:	EN60950 / UL1950 / CE
Fire Detection and alarm compliance	EN54-4
EMC Directive	89/336/EEC
Charging cycle	DIN41773
Emission	IEC 61000-6-4
Immunity	IEC 61000-6-2

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.

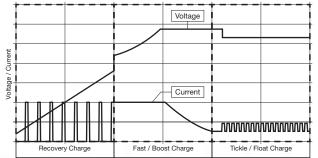
Jumper for Battery Type Selection





Out 1 0 In Vac CBI -0 Load Battery Mains or Backup Out 2 Battery Low or Battery Replacement П, 1

Start From Battery



Altech Corp.

• Output: Battery charging 24 VDC; 3 A • Suited for the following battery types:		CBI243A	Features: Input: Single-phase 115 - 277 VAC Output Load: power supply 24 VDC; 3 A
California DC UPS			
WPUT Open Lad Add, Seed Del and Add, and Del and		DC LIPS	
WITH With Starts With Starts South Starts South Starts South Starts VIPUT Cat. No. CB2/33 Virger range Normain lock Wolge 115 - 230 - 277 WG Virger range Virger range Virger range Virger range Input Corrent (1, 15 - 230 WG) 114 A 5 mase 28 - 13 A Virger range Virger range 24 VOC / 3A 3A Virger range Virger range 24 VOC / 3A 3A Stort - circuit protection Virger range Virger range Virger range OUTPUT Order Vorge Virger Virger Virger 7A 3A Output vortage (af 1,a) Norminal corrent (kgot adaptotic konge 11 × K h a 2 5% Start up with Stora (Land (Rask U), kgar = 1,a) 8A <td< td=""><td>o much forth</td><td></td><td>Open Lead Acid, Sealed Lead Acid, lead Gel and Ni-Cd (option</td></td<>	o much forth		Open Lead Acid, Sealed Lead Acid, lead Gel and Ni-Cd (option
PUT Cat. No. CBI243A UPUT Cat. No. CBI243A UTPUT Cat. No. CBI243A Utput Carrett (In = L, non. Land). PT Frequency Frequency Frequency 23 - 13.4 Ithernal User (documented) MCB curve B 24 - 10.4 Control Uppt (at DBS of rando current (In) 24 VDC / 3A Output Votage (AL) Stort-circuit protection Yes Over Usage Output protection Ves Stort-circuit protection Over Votage Output protection Ves Yes Output Votage (AL) Stort-circuit protection Yes Over Usage Output code (Anine) hype = 1, f. Stort (AL) Stort-circuit protection Over Usage Output code (Anine) hype = 1, f. Stort (AL) Stort (AL) Mac. Carrett Output code (Anin) hype = 1, f. Stort (AL) Stort	I. Alternation		
PUT Cat. No. CBI243A UTPUT Cat. No. CBI243A Cat. No. CBI243A Solv & Cat. Sol	and a second second		
UTPUT Nominal liput Voltage Voltage range limitsh Current (115 - 230 V/27 WC 90 - 380 WC still A 5 misse 47 - 63 Hz 11 A 5 misse 47 - 63 Hz 28 - 13 A OUTPUT Odgat Voltage (V) / Nominal Current (L) Odgat Voltage (V) / Nominal Current (L) Ves. (Inilimited Dissipation power load imax 24 V0C / 3A 2 sec. (max) Ves. (Inilimited Dissipation power load imax OAD OUTPUT Short-circuit protection Over Uotage Odgut pretection Over Uotage Odgut pretection Over Uotage Odgut Load Main) (Ves. Ves. (Inilimited Dissipation power load imax Yes Ves. Ves. Ves. Ves. Ves. (Inilimited Dissipation power load imax AAD OUTPUT Odgut Voltage (I, I) Nominal current (Ves thathery) Issae I + Issa Continuous current (Ves thathery) Issae I + Issa Start From Battery Without Main ex-standard 5 mins. Require SW 19 22/V DC battery NATERY OUTPUT Boot charge (25 * C) (st 1, I) Nat. Line But Charge Nat. Line But Charge Charging current max Issa Reverse Datage (25 * C) (st 1, I) Nat. Line But Charge Charging current max Issae Charging Cure automatic runt Charging Current max Issae Charging Cure			
Normal hput Watage 115 - 230 - 277 WC Witage range finash Current (1, - 1, non. Load), PI 90 - 380 WC Frequency hyput Current (15 - 230 WC) 28 - 13.A Output Witage (11, 5 - 230 WC) 28 - 13.A Internal fuer (16, - 1, non. Load), PI 28 - 13.A Hitchard Loss (factor yrpikescable) 4A External Fuse (recommended) MCB curve B 10.A Output Witage (11, 0) 24 WC/ 3A Colpad Corrent I, Efficiency (al 50% of rated current) 24 WC/ 3A Start circuit protection Over Load protection 90 % Output voltage (11, 0) 24 WC/ 3A Start circuit protection Over Load protection 13 W Start circuit protection Over foregrature protection 13 W Output voltage (11, 0) 13 W Hite Nominal current (who tattery) 1 _{kag} = 1, 0, 0 34 Continuous current (who tattery) 1 _{kag} = 1, 0, 0 34 Continuous current (who tattery) 1 _{kag} = 1, 0, 0 34 Continuous current (who tattery) 1 _{kag} = 1, 0, 0 34 Continuous current (who tattery) 1 _{kag} = 1, 0, 0 34 Watter Carrent Output Load (180 Kkg) 1 _{kag} (4 sec.) 34 Mac. Current Output Load (180 Kkg) 1 _{kag} (4 sec.) 34 Pathetion or Freeole inglact trick (160 CON) 22 - 228 WC6 Mac. Current Output Load (180 Kkg) 1, 0 <	IDIIT		0010404
UTPUT Voltage range Inrush Current (M, - L, nom. Load). Fit Frequency Input Current (115 - 230 VAC) Internal fuse (factory replaceable) 90 - 305 VAC 47 - 63 Hz 10 A ROTECTION Dubut Oursert (1, - Dubut Current (1, - Dubut Curent (1, - Dubut Curent (1, - Dubut Current (1, - Dubut Cur	VFUT		
UTPUT Invasi Current (V ₀ – 1, non. Load). File \$11 A ≤ 5 macc Frequency Frequency 4A Internal fues (factory replaceable) 2B - 13 A External Fues (recommended) MCB curve B 10 A Output Voitage (V ₀) / Nominal Current (n, 0) 24 VDC / 3A Output Voitage (V ₀) / Nominal Current (n, 0) 24 VDC / 3A Start up with Strong Load (paceable) 29 0 % External Fues (recommended) MCB curve B 10 A Output Voitage (V ₀) / Nominal Current (n, 0) 24 VDC / 3A Start up with Strong Load (paceable) 29 0 % During Continues 29 0 % Start up with Strong Load (paceable) 1 sec. (max) Over Load protection Yes Over Voltage Output protection Yes Output Voltage (1, 0) Yes Nominal current Lag 2 - 28 8 VDC Continuous current (with battery) Lag= 1, + Lagt 6 A Max. Current Output Load (68 xM (Jagt (48 cc))) 9 A max. Max. Current Output Load (68 xM (Jagt (48 cc))) 9 A max. Max. Current Output Load (68 xM (Jagt (48 cc))) 9 A max. Start Trom Battery Without Main Start From Battery Without Main Were Courrent May Load I and (18 cc) 9 A max. Output Yor Boost charge (25 °C) (at 1, 0) Min			
UTPUT Prequency Imput Current (115 – 230 VAC) Internal fuse (factory replaceable) External fuse (factor) External fuse (factor) External fuse (factor) External fuse (factor) External fuse (factor) External fuse (fact			
UTPUT Indic Current (115 - 230 WG) Internal Fuse (recommended) MGB curve B 2.8 - 1.3 A AA 0.4 put Voltage (V ₂ / Nominal Current (I ₄) Output Current I, Eternal Fuse (recommended) MGB curve B 24 VDC / 3.A BROTECTION Disput Voltage (V ₂ / Nominal Current) Turn-On delay after applying input voltage Start up with Storog Load (capacitive load) Displation power load max 2.8 - 0.3 A OAD OUTPUT Short-circuit protection Over Voltage Output Load (Back Up) Inget - Fig. Continuous current (With battery) Inget - Fig. Continuous current (With battery) Inget - Fig. Max. Current Output Load (Back Up) Inget - Fig. Continuous current (With battery) Inget - Fig. Max. Current Output Load (Back Up) Inget - Fig. Start From Battery Without Main - control Output Output Inget - Fig. Start From Battery Without Main - control Output Output Inget - Fig. Start From Battery Without Main - control Output Output Output Inget - Fig. Start From Battery Without Main - control Output Output Inget - Fig. Start From Battery Without Main - control Output Output Inget - Fig. Start From Battery Start Fig. Dis Th - Innin. 27.5 VDC - 2.5 VEC. 15.0 (20 elem.) 2 - 16			
Internal fuse (factory replaceable) 4.4 External Fuse (recommended) MCB curve B 10.A Output Voltage (N ₀ / Nominal Current (I ₁) 2.4 VDC / 3.4 Output Voltage (N ₀ / Nominal Current (I ₁) 3.4 Efficiency (at 50% of rated current) 1.5 e.c. (max) Vest Up with Strong Load (capacitive load) 1.3 W Start up with Strong Load (capacitive load) 1.3 W OAD Output voltage (at I ₀) OUTPUT Output voltage (at I ₀) Nort-circuit protection Ves Over Voltage (ottop tryptection Ves Output voltage (at I ₀) Ves (1, 1 × In A ± 5% Nax. Current Output Load (Back Up) I _{Nort} = I ₀ 5.4 max. Continuous current (with battery) I _{Nort} = I ₀ 5.4 max. Continuous current (with battery) I _{Nort} = I ₀ 5.4 max. Max. Current Output Load (Back Up) I _{Nort} = I ₀ 5.4 max. Pue B battoring; min (witch output of Without main input) Person Battery almost flat OUTPUT Pue B battoring; min (witch output of Without main input) Pue B battoring are paintery input of tage 2.2 · 28.8 VDC 1.1 x In A ± 5% 3.4 ± 5% 2.2 · 2.2 V DC battery 20 · 21 V DC battery ParterNy ParterNy 2.2 · 22.2 · 22.2 · 22.7 · 2.30; NiCd : 1.50 (20 elem.) 2.2 · 22.2 · 22.2			
External Fuse (recommended) MCB curve B 10 A ROTECTION Odput Voitage (V ₀ / Nominal Current (I ₀) Output Current I, Efficiency (cd 50% of rate d current) Turn-On delay after applying input Voitage Start up with Strong Load (capacitive lead) Dissipation power lead max 24 VDC / 3A 3 A OAD OUTPUT Short-circuit protection Over Holge Output protection Over Holge (cd 1 _a) Nominal Current (Wab Lattry) I _{loag} = I _n Continuous current (Withbattry) I _{loag} = I _n Continuous current (Withbattsty) I _{loag} = I _n Contrinuous current (Withbattsty) I _{loag} = I _n Continuous current (Withbattsty) I _{loag} = I _n		,	
ATTERY Output Current In 3 A CAD Short-circuit protection 290 % OUTPUT Short-circuit protection Yes Output Output Control (appeditive load) Yes Yes (Junimized) Output Output Control (appeditive load) Yes Yes Output Voitage (at 1,0) Yes Yes Yes Nominal current (with battery) Isag= In, Control (apped Control (APCON) Cable) 3 A 6 A Yes Duttor or Renote Input Control (APCON) Cable) 9 A max. 6 A max. Yes Duttor or Renote Input Control (APCON) Cable) Start From Battery Without Main	UTPUT		
ATTERY OUTPUT Efficiency (at 50% of rated current) Turn-On delay after applying input voltage Start up with Strong Lad (capacitive load) Dissipation power lead max > 90 % 1 sec. (mma) Hes. Unimited 13 W ATTERY OUTPUT Short-circuit protection Over Voltage (at 1,) Nominal current Luga Continuous current (without battery) Lugar 1, Continuous current (without battery) Lugar 1, Max. Current Output Lad (Back Up) Lugar 1, Max. Current Output Lad (Back Up) Lugar 1, Pash Butto or Remote Input Control (RTCONN Cable) Time But Charge Threshold alarm for battery almost flat 22 - 28.8 VDC 1.1 x In A ± 5% 3.4 A ATTERY OUTPUT Boost charge (25 °C) (at 1,) Max. Line Bust Charge Threshold alarm for battery almost flat 28.8 VDC 1.5 h 1. min. 22.5 2.27; 2.30; NIGt: 1.50 (20 elem.) 2.3 + 6% 2.3 + 2% 2.3 +			
ATTERY Immon delay after applying input voltage 1 sec., max) OAD Dissipation power load max 1 sec., max) OUTPUT Short-circuit protection Ves Output output Output voltage (at 1,0) Ves Nominal current 1, taat Continuous current (without battery) 1, toat= 1,0 22 - 28.8 VDC Continuous current (without battery) 1, toat= 1,0 3 A 6 A Max. Current Output Cand (Rink) 1,aud (4 sec.) 8 A max. 6 A Max. Current Output Cand (Back Up) Integet (at 1,0) 8 A max. 6 A Max. Current Output Cand (Back Up) Integet (at 2,0) 6 A max. 6 A Max. Current Output Cand (Back Up) Integet (at 2,0) 6 A max. 6 A max. Max. Current Output Cand (Back Up) Integet (at 2,0) 6 A max. 6 A max. Max. Current Output Cand (Back Up) Integet (at 2,0) 6 A max. 6 A max. Max. Current Output Cand (Back Up) Integet (at 1,0) 6 A max. 6 A max. OUTPUT Boost charge (25 °C) (at 1,0) 6 A max. 6 A max. Max. There Bust Charge 1 fin. 7 S VDC 2 - 16 VDC 3 A = 5% OutPut Configuration battery tytotection 2 - 16 VDC 3 A = 5%			
ROTECTION Start up with Strong Load (capacitive load) Yes, Unlimited DAD Dissipation power load max 13 W OAD Over Voltage Output protection Yes Over Voltage Output protection Yes (typ. 35 VDC) Over Temperature protection Yes Antimeter Continuous current (with attery) Inger = In Continuous current (with attery) Inger = In Continuous current (with attery) Inger = In Max. Current Output Control (RTCONN cable) 22 - 28.8 VDC Time Buffering: min (switch output off Without main input) Protection alarm against total discharge 9 A max. Max. Current Output Control (RTCONN cable) Time Buffering: min (switch output off Without main input) Protection alarm against total discharge 9.20 VDC Dattery 20-21 V DC battery 20-21 V DC battery 20-21 V DC battery 20-22 - 28.8 VDC 1 min. 25 VDC 1 min. 27.5 VDC 22.3 22.5 22.7 2.30; NiCd: 1.50 (20 elem.) 2 - 16 VDC 3 A ± 5% 20 - 100 % / Instit 0 - 100 % / Instit Yes 3 A ± 5% 0 - 100 % / Instit Suffact Dattery (Incerant instit) 3 stage <td></td> <td></td> <td></td>			
ATTERY Dissipation power load max 13 W OAD Ourput Short-circuit protection Over Usage Output protection Over Valge Output protection Over Temperature protection Yes Yes (typ. 35 VDC) ATTERY Output voltage (at 1,a) Nominal current (without battery) I _{bad} = I _n - Continuous current (without battery) I _{bad} = I _n - Continuous current (without battery) I _{bad} = I _n -t I _{batt} 22 - 28.8 VDC ATTERY Output voltage (at 1,a) Nominal current I _{bad} 22 - 28.8 VDC Push Button or Remote Input Control (RTCONN cable) Trmes Buffering; min (switch output of without main input) Protection atam against total discharge Threshold alarm for battery almost fat 94 max. Boost charge (25 °C) (at 1,a) Max. Current Output Load (Bex Up) I _{bad} (4 sec.) Push Button or Remote Input Control (RTCONN cable) True Buffering; min (switch output of without main input) Protection atam against total discharge Min. time Bust Charge Min. time Bust Charge Charging current max I _{batt} Charging Curre automatic: I _{bab} Remote Input Control (RTCONN cable) 28.8 VDC ThERS Ambient temperature (operation) De Retaing Ta > 50°C Ambient temperature (operation) De Retaing Ta > 50°C -25-rX0°C -25-rX0°C			
ATTERY OUTPUT Short-circuit protection Over Veitage (qt 1,p) Nominal current 1,uad Continuous current (vithout battery) 1,uad = 1,n Continuous current (vithout battery) 1,uad (4 sec.) Max. Current Output Load (Back Up) 1,uad (4 sec.) Push Button or Remote Input Control (RTCONN cable) Time Butfering: min (switch output off without main input) Protection alam against total discharge Threshold alarm for battery almost flat Start From Battery Without Main 9 - standard 5 min. Require SW 9 - standard 5 min. Set Configure SW 9 - standard 5 min. Standard 5 min. Require SW 9 - standard 5 min. Stand			
DAD OUTPUT Over Load protection Over Voltage Output voltage (at I_0) Nominal current (without battery) I _{tood} = I _n Continuous current (Without Dattery) I _{tood} = I _n Charging current max I _{batt} Charging current max I _{batt} Charging Current Imshort circuit Cuescent Current Charging Current Correation De Reiting Ta > 50°C Ambient temperature (operation) Cooling Zen + 70°C Cooling	ROTECTION		·
OAD OUTPUT Over Voltage Output protection Over Temperature protection Yes (typ. 35 VDC) Yes Autor Voltage Output voltage (at I _a) Nominal current I _{load} 22 ~ 28.8 VDC 1.1 x in A ± 5% Continuous current (with battery) I _{load} = I _n Continuous current (with battery) I _{load} = I _n + I _{batt} Max. Current Output Load (Main) I _{load} (4 sec.) Push Button or Remote Input Control (RTCONN cable) Time Button or Remote Input Control (RTCONN cable) Theshold alarm for battery almost flat 9 A max. Boost charge (25 °C) (at I _n) Max. time Bust Charge Tickle charge (25 °C) (at I _n) Max. time Bust Charge Charging current mimiting I _{adg} Reverse battery protection 28.8 VDC 15 h 1 min. 27.5 VDC 2.23; 2.25; 2.27; 2.30; NICd: 1.50 (20 elem.). 2 - 16 VDC 3 A ± 5% 20 - 100 % / Ibatt HERS Ambient temperature in short circuit Quiescent Current Charging current in short circuit Quiescent Current Charging Tickle alarm for battery the (V cell) Ni-Cd (optional) Revores battery protection Sulfated battery check Detection of element in short circuit Quiescent Current Charging Current in short circuit Quiescent Current Charging Curve automatis: I _{ljotin} Remote Input Control (RTCONN cable) 25 - +70°C - 2.5%(In) / °C - 2.5%(In) / °C - 4.0 - +85°C 9% Auto convention			
OAD OUTPUT Over Temperature protection Yes Output voltage (at I _n) Nominal current I _{bad} Continuous current (with battery) I _{bad} = I _n Continuous current (with battery) I _{bad} = I _n + I _{bat} Max. Current Output Load (Maki N _{bad} = I _n + I _{bat} Max. Current Output Load (Maki N _{bad} = I _n + I _{bat} Max. Current Output Load (Maki N _{bad} = I _n + I _{bat} Max. Current Output Load (Maki N _{bad} = I _n + I _{bat} Max. Current Output Load (Maki N _{bad} = I _n + I _{bat} Max. Current Output Load (Maki N _{bad} = I _n + I _{bat} Max. Current Output Load (Back U) I _{bad} (4 sec.) Push Button or Remote Input Control (RTCONN cable) Time Buffering; min (switch output off without main input) Protection alarm against total discharge Threshold alarm for battery almost flat Start From Battery Without Main ···· standard 5 min.: Require SW 9.020 UC battery Boost charge (25 °C) (at I _n) Max. time Bust Charge Trickle charge (25 °C) (at I _n) Max. time Bust Charge Trickle charge (25 °C) (at I _n) Jumper Configuration battery type (V cell) Ni-Cd (optional) Recovery Charge Charging current max I _{batt} Charging current inshort circuit Quiesent Current Charging Current inshort circuit Quiesent Current Charging Current Imiting I _{ad} Reverse battery protection Sulfated battery check Detection of element in short circuit Quiesent Current Charging Curve automatic: I _{lupto} Remote Input Control (RTCONN cable) 2.25 - +70°C - 25 - +70°C - 40 - +85°C 95% -2570°C - 40 - +85°C			
OUTPUT Output voltage (at I ₀) 22 - 28.8 VOC Nominal current (without battery) I _{lad} = I _n 3 A Continuous current (without battery) I _{lad} = (A = Date) 9 A max. Max. Current Output Load (Back Up) I _{lad} (4 sec.) 9 A max. Push Button or Remote Input Control (RTCONN cable) 9 A max. ThreeNot alarm against total discharge 19.20V DC battery Threshold alarm for battery almost flat 20-21 V DC battery Boost charge (25 °C) (at I _n) 28.8 VDC Max. time Bust Charge 1 min. Trickle charge (25 °C) (at I _n) 28.8 VDC Jumper Configuration battery type (V cell) Ni-Cd (optional) 27.5 VDC Verserse battery protection 23 A ± 5% Sulfated battery configuration battery type (V cell) Ni-Cd (optional) 27.5 VDC Reverse battery protection 3 A ± 5% Sulfated battery check Yes Detection of element in short circuit Yes Quiscent Current 25 mA Sulfated battery tork (RTCONN cable) 3 stage Remote Input Control (RTCONN cable) 3 stage Humidity at 25°C no condensation 25 SmA Solid Charge Configuration battery type (V cell) Ni-Cd (optional) 3 stage Reverse battery protection Stafter on Sulfatery Protection Bending Ta > 50°C <t< td=""><td>040</td><td></td><td></td></t<>	040		
ATTERY OUTPUT Output voltage (at l _n) Nominal current l _{load} 22 ~ 28.8 VDC 1.1 x ln A ± 5% 3 A ATTERY OUTPUT Continuous current (with battery) l _{load} = l _n Continuous current (with battery) l _{load} = l _n + l _{loatt} Max. Current Output Load (Main) l _{load} (4 sec.) Push Button or Remote Input Control (RTCONN cable) Time Buffering; mi (switch output of Without main input) Protection alarm against total discharge Threshold alarm for battery almost flat 9 A max. Boost charge (25 °C) (at I _n) Max. time Bust Charge Trickle charge (25 °C) (at I _n) Jumper Configuration battery type (V cell) Ni-Cd (optional) Recovery Charge Charging current mixing I _{adj} Reverse battery contextics 28.8 VDC 15 h 1 min. 27.5 VDC 2.23; 2.25; 2.27; 2.30; NiCd: 1.50 (20 elem.) 2.23; 2.25; 2.27; 2.30; NiCd: 1.50 (20 elem.) 2.25; 4.70°C 3.4 ± 5% 3.4 ± 5%		Over Temperature protection	Yes
ATTERY OUTPUT Nominal current l _{load} Continuous current (with battery) l _{load} = l _n + l _{batt} Max. Current Output Load (Main) l _{load} (4 sec.) 1.1 x ln A ± 5% 3 A ATTERY OUTPUT Name Nominal current l _{load} (Max. Current Output Load (Back Up) l _{load} (4 sec.) 9 A max. Bost charge (25 °C) (at l _n) Start From Battery Without Main •	001101	Output voltage (et I)	22 28 8 VDC
ATTERY OUTPUT Continuous current (without battery) Iugad = In Continuous current (with battery) Iugad = In+ Ibatt Continuous current (with battery) Iugad = In+ Ibatt Max. Current Output Load (Back Up) Iugad (4 sec.) 9 A max. Max. Current Output Load (Back Up) Iugad (4 sec.) 9 A max. Push Button or Remote Input Control (RTCONN cable) Start From Battery Without Main existandard 5 min.: Require SW 19-20V DC battery Protection alarm against total discharge Threshold alarm for battery almost flat 28.8 VDC 15 h Boost charge (25 °C) (at In) Max. time Bust Charge Trickle charge (25 °C) (at In) Jumper Configuration battery type (V cell) Ni-Cd (optional) Recovery Charge Charging current max Ibart Charging current max Ibart Charging current max Ibart Charging current max Ibart Quiescent Current Charging current automatic: Iugalo Remote Input Control (RTCONN cable) 28.8 VDC 15 h Min. 27.5 VDC 22.32, 22.52, 2.27; 2.30; NiCd: 1.50 (20 elem.) 2.23, 22.52, 2.77; 2.30; NiCd: 1.50 (20 elem.) 2.23, 22.55, 2.27; 2.30; NiCd: 1.50 (20 elem.) 2.24 for VDC Charging current max Ibart Charging current max Ibart Quiescent Current Charging Current automatic: Iugalo Suffate battery protection Suffate battery automatic: Iugalo Remote Input Control (RTCONN cable) 2.5 - rA0°C - 2.5%(In) / °C - 4.0 - r45°C Ambient temperature (operation) De Rating Ta > 50°C Ambient temperature (operation) Cooling -2570°C - 2.5%(In) / °C - 4.045°C			
THERS Continuous current (with battery) I _{load} = I _n + I _{batt} Max. Current Output Load (Kain) I _{load} (4 sec.) Max. Current Output Load (Kain) I _{load} (4 sec.) Start From Battery Without Main 6 A Push Button or Remote Input Control (RTCONN cable) Time Buffering; min (switch output off without main input) Protection alarm against total discharge Start From Battery Without Main Threshold alarm for battery almost flat Sost charge (25 °C) (at I _n) Start From Battery Without Main Boost charge (25 °C) (at I _n) 20-21 V DC battery Jumper Configuration battery type (V cell) Ni-Cd (optional) 27.5 VDC Recovery Charge 1 min. Charging current max I _{batt} 20 - 100 % / Ibatt Charging current limiting I _{adj} 20 - 100 % / Ibatt Peverse battery protection Yes Sulfated battery check Yes Detection of element in short circuit Yes Quiescent Current 3 stage Remote Input Control (RTCONN cable) Boost /Trickle / Recovery Ambient temperature (operation) De Rating Ta > 50°C -40 - +45°C <td></td> <td></td> <td></td>			
Max. Current Output Load (Main) I _{load} (4 sec.) Max. Current Output Load (Back Up) I _{load} (4 sec.) Max. Current Output Load (Back Up) I _{load} (4 sec.) Push Button or Remote Input Control (RTCONN cable) Time Buffering; min (switch output off without main input) Protection alarm against total discharge Threshold alarm for battery almost flat 9 A max. 6 A max. Boost charge (25 °C) (at I _n) Max. time Bust Charge Trickle charge (25 °C) (at I _n) Max. time Bust Charge Trickle charge (25 °C) (at I _n) Jumper Configuration battery type (V cell) Ni-Cd (optional) Recovery Charge Charging current max I _{batt} Charging current min short circuit Quiescent Current Charging Curve automatic: I _{Uotbo} Remote Input Control (RTCONN cable) 28.8 VOC THERS Ambient temperature (operation) De Rating Ta > 50°C Ambient temperature Storage Humidity at 25°C no condensation Cooling -25 - 470°C - 2.5%(ln) / °C			
HATTERY 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) ov: standard 5 min.: Require SW Protection alarm against total discharge 19-20V DC battery 20-21 V DC battery 20-21 V DC battery 20-21 V DC battery 20-21 V DC battery 20-21 V DC battery 20-21 V DC battery 20-21 V DC battery 1 min. Trickle charge (25 °C) (at I _n) 28.8 VDC Max. 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; 2.30; NICd: 1.50 (20 elem.) Recovery Charge 2 - 16 VDC Charging current ImitIng I _{adl} 3 A ± 5% Charging current ImitIng I _{adl} 20 - 100 % / Ibatt Reverse battery protection Yes by Jumper Sulfated battery check Yes by Jumper Detection of element in short circuit Yes Quiescent Current 5 mA Charging Curve automatic: I _{loblo} 3 stage Remote Input Control (RTCONN cable) -25			
HERS Push Button or Remote Input Control (RTCONN cable) Time Buffering; min (switch output off without main input) Protection alarm against total discharge Threshold alarm for battery almost flat Start From Battery Without Main ex: standard 5 min.: Require SW 19-20V DC battery 20-21 V DC battery Boost charge (25 °C) (at In) Max. time Bust Charge Min. time Bust Charge Trickle charge (25 °C) (at In) Max. time Bust Charge Trickle charge (25 °C) (at In) Jumper Configuration battery type (V cell) Ni-Cd (optional) Recovery Charge Charging current max Ibatt Charging Current the cover Boost /Trickle / Recovery			
Time Buffering; min (switch output off without main input) -:: standard 5 min.: Require SW Protection alarm against total discharge 19-20V DC battery Threshold alarm for battery almost flat 20-21 V DC battery 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) 22.3; 2.25; 2.27; 2.30; NiCd: 1.50 (20 elem.) Jumper Configuration battery type (V cell) Ni-Cd (optional) 2.3; 2.25; 2.27; 2.30; NiCd: 1.50 (20 elem.) Recovery Charge 2 - 16 VDC Charging current max I _{batt} 20 - 100 % / Ibatt Reverse battery protection Yes Sulfated battery check Yes Detection of element in short circuit 4 s fm Quiescent Current 4 s fm Charging Curve automatic: Iuoto 3 stage Remote Input Control (RTCONN cable) -25 - +70°C Ambient temperature (operation) -25 - +70°C Patting Ta > 50°C -40 - +85°C Ambient temperature Storage -40 - 485°C Humidity at 25°C no condensation 95%			
Threshold alarm for battery almost flat 20-21 V DC battery Boost charge (25 °C) (at I _n) 28.8 VDC Max. time Bust Charge 15 h Min. time Bust Charge (25 °C) (at I _n) 27.5 VDC Jumper Configuration battery type (V cell) Ni-Cd (optional) 27.5 VDC Recovery Charge 2 ~ 16 VDC Charging current max I _{batt} 20 - 100 % / Ibatt Charging current limiting I _{adj} 20 - 100 % / Ibatt Reverse battery protection Yes Sulfated battery check Yes Quiescent Current ≤ 5 mA Charging Curve automatic: I _{uoto} 3 stage Remote Input Control (RTCONN cable) -25 - +70°C Ambient temperature (operation) -25 - +70°C Patient temperature Storage -40 - +85°C Humidity at 25°C no condensation 95% Auto convention 95%			∞: standard 5 min.: Require SW
OUTPUTBoost charge (25 °C) (at I_n)28.8 VDCMax. time Bust Charge15 hMin. time Bust Charge1 min.Trickle charge (25 °C) (at I_n)27.5 VDCJumper Configuration battery type (V cell) Ni-Cd (optional)2.23; 2.25; 2.27; 2.30; NiCd: 1.50 (20 elem.)Recovery Charge1 min.Charging current max I_{batt} 3 A ± 5%Charging current limiting I_{adj} 20 - 100 % / IbattReverse battery protectionYesSulfated battery checkYesDetection of element in short circuitYesQuiescent Current5 mACharging Current (RTCONN cable)-25 - +70°CAmbient temperature (operation)-25 - +70°CDe Rating Ta > 50°C-40 - +85°CHumidity at 25°C no condensation95%CoolingAuto convention		Protection alarm against total discharge	19-20V DC battery
Here Boost charge (25 °C) (at I _n) 28.8 VDC Max. time Bust Charge 1 5 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; 2.30; NiCd: 1.50 (20 elem.) Recovery Charge 2 ~ 16 VDC Charging current max I _{batt} 3 A ± 5% Charging current limiting I _{adj} 20 - 100 % / 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: I _{Uolo} 3 stage Remote Input Control (RTCONN cable) Boost /Trickle / Recovery Ambient temperature (operation) -25 - +70°C De Rating Ta > 50°C -2.5%(ln) / °C Ambient temperature storage -40 - +85°C Humidity at 25°C no condensation 95% Cooling Auto convention		Threshold alarm for battery almost flat	20-21 V DC battery
Min. time Bust Charge Trickle charge ($25 ^{\circ}$ C) (at I_n) Jumper Configuration battery type (V cell) Ni-Cd (optional) Recovery Charge Charging current max I_{batt} Charging current mix I_{batt} Charging current limiting I_{adj} Reverse battery protection Sulfated battery check Detection of element in short circuit Quiescent Current Charging Curve automatic: I_{uollo} Remote Input Control (RTCONN cable)1 min. 27.5 VDC 2.23; 2.25; 2.27; 2.30; NiCd: 1.50 (20 elem.) 2.23; 2.25; 2.27; 2.30; NiCd: 1.50 (20 elem.)THERS			
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Ambient temperature (operation) -25 - +70°C De Rating Ta > 50°C - 2.5%(ln) / °C Ambient temperature Storage -40 - +85°C Humidity at 25°C no condensation 95% Cooling Auto convention	THERS		•
Ambient temperature Storage -40 - +85°C Humidity at 25°C no condensation 95% Cooling Auto convention			
Humidity at 25°C no condensation 95% Cooling Auto convention		· · ·	
Cooling Auto convention			
5			
MIBF (IEC 61709) > 300.000 h		5	
		WIBF (IEC 61709)	> 3UU.UUU N

For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

CBI243A 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 - Optional
Remote monitoring display	Yes - Optional
Can Bus	No

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 mm² (24–14AWG)
Protection class (Ground Connected)	Class I
Dimensions (WxHxD)	65x115x135 mm
2.56x4.53x5.32 in	
Weight (approx.)	0.6 kg (1.35 Lbs)

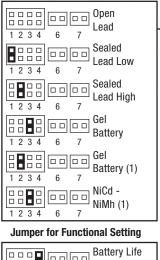
Safety and EMC

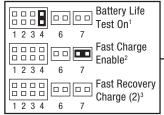
Battery charger standard compliance	IEC/EN 60335-2-29
Safety standards compliance:	EN60950 / UL1950 / CE
Fire Detection and alarm compliance	EN54-4
EMC Directive	89/336/EEC
Charging cycle	DIN41773
Emission	IEC 61000-6-4
Immunity	IEC 61000-6-2

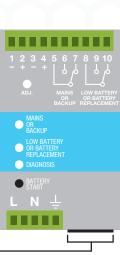
The Altech DC-UPS system is designed to charge and monitor all battery types, by selecting the battery type via jumpers. The predefined curves include Open Lead Acid, Sealed Lead Acid, Gel, Ni-Cd (optional) battery types. The charging curve are programmed to automatically switch between Recovery Charge, 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

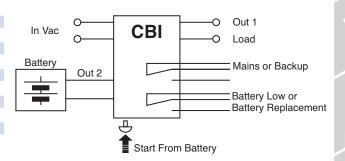


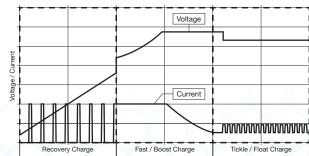




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 Jumper present: life test enabled.
 Jumper present: fast test enabled.
 Jumper present: fast recovery charge enabled only for size 3. Possibility to recharge the battery also when the voltage is close to zero with the maximum power of the device.





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a the state of the		Features: • Input: Single-phase 115 - 277 VAC
00000000	CBI245A	Output Load: power supply 24 VDC; 5 A
134447744		Output: Battery charging 24 VDC; 5 A
0.2	DC UPS	Suited for the following battery types:
Altech Carp.		Open Lead Acid, Sealed Lead Acid, lead Gel and Ni-Cd (option
		Automatic diagnostic of battery status.
	🐘 🔊 🔊 CE 🔛	 Switching technology, output voltage 22-28.8 VDC Three charging levels: Boost, trickle and recovery
	E353188 BAVER	 Protection degree IP20 - DIN rail mountable
NPUT	Cat. No.	CBI245A
	Nominal Input Voltage	115 ~ 230 ~ 277 VAC
	Voltage range	90 - 305 VAC
	Inrush Current ($V_n - I_n$ nom. Load). I ² t	\leq 11 A \leq 5 msec
	Frequency	47 – 63 Hz
	Input Current (115 – 230 VAC)	2.8 ~ 1.3 A
	Internal fuse (factory replaceable)	4 A
UTPUT	External Fuse (recommended) MCB curve B	10 A
	Output Voltage (V_n) / Nominal Current (I_n)	24 VDC / 5A
	Output Current In	5 A
	Efficiency (at 50% of rated current)	≥ 90 %
	Turn-On delay after applying input voltage	1 sec. (max)
	Start up with Strong Load (capacitive load) Dissipation power load max	Yes, Unlimited 17 W
ROTECTION		
	Short-circuit protection	Yes
	Over Load protection	Yes
OAD	Over Voltage Output protection Over Temperature protection	Yes (typ. 35 VDC) Yes
OUTPUT	Output voltage (at I)	22 ~ 28.8 VDC
	Output voltage (at In)	$1.1 \text{ x ln A} \pm 5\%$
	Nominal current I_{load} Continuous current (without battery) $I_{load} = I_n$	5A
	Continuous current (with battery) $I_{load} = I_n$	10 A
	Max. Current Output Load (Main) I_{load} (4 sec.)	15 A max.
	Max. Current Output Load (Main) I _{load} (4 sec.) Max. Current Output Load (Back Up) I _{load} (4 sec.)	10 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
	Protection alarm against total discharge	19-20V DC battery
BATTERY	Threshold alarm for battery almost flat	20-21 V DC 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; 2.30; NiCd: 1.50 (20 elem.)
	Recovery Charge	$2 \sim 16 \text{ VDC}$
	Charging current max I _{batt}	$5A \pm 5\%$
	Charging current limiting I _{adj}	20 – 100 % / 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: I _{UoUo} Remote Input Control (RTCONN cable)	3 stage Boost /Trickle / Recovery
THERS		· · · · · · · · · · · · · · · · · · ·
	Ambient temperature (operation) De Rating Ta $> 50^{\circ}$ C	-25 – +70°C - 2.5%(ln) / °C
	Ambient temperature Storage	- 2.5%(III) / -C -40 - +85°C
	Humidity at 25°C no condensation	-40 - +85°C 95%
	Cooling	Auto convention
	MTBF (IEC 61709)	> 300.000 h
		2 000.000 H

CBI245A 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 - Optional
Remote monitoring display	Yes - Optional
Can Bus	No

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 mm² (24-14AWG)
Protection class (Ground Connected)	Class I
Dimensions (WxHxD)	65x115x135 mm
2.56x4.53x5.32 in	
Weight (approx.)	0.6 kg (1.35 Lbs)

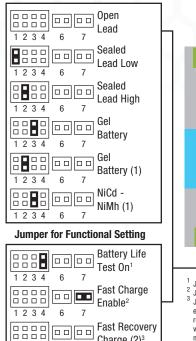
Safety and EMC

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



Charge (2)3

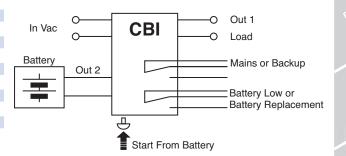
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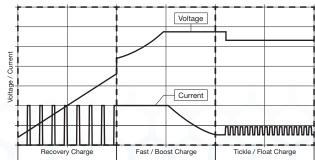
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Altech Corp.

Jumper present: life test enabled. Jumper present: fast test enabled 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.





CBI2410A DC UPS

Altech Corp

Features:

- Input: Single-phase 115 277 VAC
- Output Load: power supply 24 VDC; 10 A
- Output: 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.
- Switching technology, output voltage 22-28.8 VDC
 Three charging levels: Boost, trickle and recovery
- Protection degree IP20 DIN rail mountable

PUT	Cat. No.	CBI2410A
	Nominal Input Voltage	115 / 230 ~ 277 VAC
1	Voltage range	90-135 / 180-305 VAC
	Inrush Current (V _n – I _n nom. Load). I ² t	\leq 16 A \leq 5 msec
1000	Frequency	47 – 63 Hz
	Input Current (115 – 230 VAC)	3.3 ~ 2.2 A
	Internal fuse (factory replaceable)	6.3 A
ITPUT	External Fuse (recommended) MCB curve B	16 A
	Output Voltage (V _n) / Nominal Current (I _n)	24 VDC / 10A
	Output Current I_n	10 A
		≥ 83 %
	Efficiency (at 50% of rated current) Turn-On delay after applying input voltage	
		1.5 sec. (max)
	Start up with Strong Load (capacitive load)	Yes, Unlimited
OTECTION	Dissipation power load max	28 W
	Short-circuit protection	Yes
	Over Load protection	Yes
	Over Voltage Output protection	Yes (typ. 35 VDC)
AD DUTPUT	Over Temperature protection	Yes
	Output voltage (at In)	22 ~ 28.8 VDC
	Nominal current I _{load}	$1.1 \text{ x ln A} \pm 5\%$
	Continuous current (without battery) $I_{load} = I_n$	10 A
	Continuous current (with battery) $I_{load} = I_n + I_{batt}$	20 A
	Max. Current Output Load (Main) I_{load} (4 sec.)	30 A max.
	Max. Current Output Load (Back Up) I _{load} (4 sec.)	20 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
	Protection alarm against total discharge	19-20V DC battery
TTERY	Threshold alarm for battery almost flat	20-21 V DC battery
DUTPUT	Depart shares (05.90) (st.l.)	
	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 In)	27.5 VDC
	Jumper Configuration battery type (V cell) Ni-Cd (optional)	2.23; 2.25; 2.27; 2.30; NiCd: 1.50 (20 elem.)
	Recovery Charge	2 ~ 16 VDC
	Charging current max I _{batt}	$10 \text{ A} \pm 5\%$
	Charging current limiting I _{adj}	20 – 100 % / Ibatt
	Reverse battery protection	Yes
	Sulfated battery check	Yes by Jumper
	Detection of element in short circuit	Yes
	Quiescent Current	\leq 5 mA
	Charging Curve automatic: I _{UoUo}	3 stage
HERS	Remote Input Control (RTCONN cable)	Boost /Trickle / Recovery
	Ambient temperature (operation)	-25 - +70°C
	De Rating Ta $> 50^{\circ}$ C	- 2.5%(ln) / °C
	Ambient temperature Storage	-2.5%(m) / C -40 - +85°C
	Humidity at 25°C no condensation	95%
		Auto convention
	MTBF (IEC 61709)	> 300.000 h

CBI2410A 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 - Optional
Remote monitoring display	Yes - Optional
Can Bus	No

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 mm2 (24-14AWG)
Protection class (Ground Connected)	Class I
Dimensions (WxHxD)	100x115x135 mm
2.95x4.53x5.32 in	
Weight (approx.)	0.85 kg (1.9 Lbs)

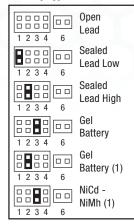
Safety and EMC

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

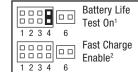
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A compact and rugged metal case with DIN rail mounting bracket provide an easy installation and an IP20 protection.

Jumper for Battery Type Selection

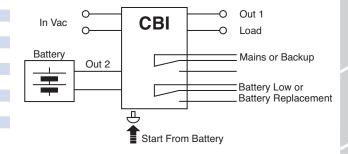


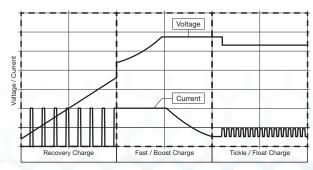






Jumper present: life test enabled. Jumper present: fast test enabled. Jumper present: fast recovery charge enabled only for size 3. Possibility to recharge the battery also when the voltage is close to zero with the maximum power of the device.





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CBI2420A DC UPS

COTP

Features:

- Input: Single-phase 115 277 VAC
- 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.
- Switching technology, output voltage 22-18.8 VDC
 Three charging levels: Boost, trickle and recovery
- Protection degree IP20 DIN rail mountable

NPUT	Cat. No.	CBI2420A
and the second se	Nominal Input Voltage	115 / 230 ~ 277 VAC
	Voltage range	90-135 / 180-305 VAC
	Inrush Current (V _n – I _n nom. Load). I ² t	\leq 35 A \leq 5 msec
1000	Frequency	47 – 63 Hz
	Input Current (115 – 230 VAC)	8.0 ~ 4.2 A
	Internal fuse (factory replaceable)	10 A
UTPUT	External Fuse (recommended) MCB curve B	16 A
	Output Voltage (Vn) / Nominal Current (In)	24 VDC / 20A
	Output Current In	20 A
	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	48 W
ROTECTION		
	Short-circuit protection	Yes
	Over Load protection	Yes
	Over Voltage Output protection	Yes (typ. 35 VDC)
)AD	Over Temperature protection	Yes
OUTPUT		
	Output voltage (at I _n)	22 ~ 28.8 VDC
	Nominal current I _{load}	$1.1 \times \ln A \pm 5\%$
	Continuous current (without battery) I_{load} = I_n	20 A
	Continuous current (with battery) $\mathrm{I}_{\text{load}}{=}~\mathrm{I}_{\text{n}}{+}~\mathrm{I}_{\text{batt}}$	40 A
	Max. Current Output Load (Main) ${\rm I}_{\text{load}}~~(\text{4 sec.})$	60 A max.
	Max. Current Output Load (Back Up) I_{load} (4 sec.)	40 A 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,∞; Require SW
	Protection alarm against total discharge	19-20V DC battery
ATTERY	Threshold alarm for battery almost flat	20-21 V DC battery
OUTPUT	Depart charge (25 90) (at L)	
	Boost charge (25 °C) (at I _n)	28.8 VDC
	Max. time Bust Charge	15 h
2463	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; 2.30; NiCd: 1.50 (20 elem.)
	Recovery Charge	2 ~ 16 VDC
	Charging current max I _{batt}	20 A ± 5%
	Charging current limiting I _{adj}	10 – 100 % / Ibatt
	Reverse battery protection	Yes
	Sulfated battery check	Yes by Jumper
	Detection of element in short circuit	Yes
	Quiescent Current	\leq 5 mA
	Charging Curve automatic: IU0U0	3 stage
THERS	Remote Input Control (RTCONN cable)	Boost /Trickle / Recovery
	Ambient temperature (operation)	-25 – +70°C
	De Rating Ta $> 50^{\circ}$ C	- 2.5%(ln) / °C
	Ambient temperature Storage	- 2.5%(III) / C -40 – +85°C
	Humidity at 25°C no condensation	95%
	Cooling	Auto convention
	MTBF (IEC 61709)	> 300.000 h

For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

CBI2420A 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 - Optional
Remote monitoring display	Yes - Optional
Can Bus	No

Environment

3000 VAC Insulation voltage (IN/OUT) 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 4 mm² (30-10 AWG) Protection class (Ground Connected) Class I Dimensions (WxHxD) 150x115x135 mm 5.91x4.53x5.32 in Weight (approx.) 1.55 kg (3.5 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.

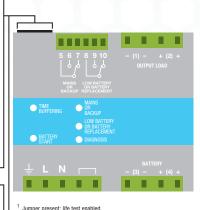
A compact and rugged metal case with DIN rail mounting bracket provide an easy installation and an IP20 protection.

Jumper for Battery Type Selection

Open Lead 1234567 Sealed Lead Low Sealed 12345 6 7 Sealed Sealed 123456 7 Gel Battery 1234567 Gel Battery (1) Gel 1234567 NiCd -NiMh (1) 1234567 Jumper for Functional Setting Battery Life 1234567 Fast Charge Fast Characteristic Fast C

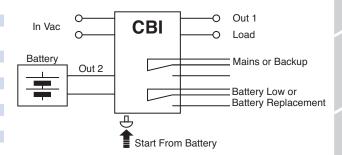
Fast Recovery Charge (2)³

1234567



Altech Corp.

Jumper present: fast test enabled. Jumper present: fast test enabled. Jumper present: fast test enabled. recharge the battery also when the voltage is close to zero with the maximum power of the device.



Voltage / Current				Voltage Current		
	Recovery	/ Charge	Fast / Boo	ost Charge	Tickle / Flo	oat Charge

CBI485A DC UPS

Altech Corp.

Features:

- Input: Single-phase 115 277 VAC
- Output Load: power supply 48VDC; 5A
 Output: Battery charging 48VDC; 5A
- 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 44-57.6VDC
 Three charging levels: Boost, trickle and recovery
- Protection degree IP20 DIN rail mountable

NPUT	Cat. No.	CBI485A
and the second se	Nominal Input Voltage	115 / 230 ~ 277 VAC
	Voltage range	90-135 / 180-305 VAC
	Inrush Current (V _n – I _n nom. Load). I ² t	\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
DUTPUT		10 A
	Output Voltage (Vn) / Nominal Current (In)	48 VDC / 5A
	Output Current I_n	5 A
		≥ 83 %
	Efficiency (at 50% of rated current)	
	Turn-On delay after applying input voltage	1.5 sec. (max)
	Start up with Strong Load (capacitive load)	Yes, Unlimited
PROTECTION	Dissipation power load max	28 W
NOTECTION		
	Short-circuit protection	Yes
	Over Load protection	Yes
	Over Voltage Output protection	Yes (typ. 90 VDC)
LOAD	Over Temperature protection	Yes
OUTPUT		
	Output voltage (at In)	44 ~ 57.6 VDC
	Nominal current I _{load}	1.1 x ln A ± 5%
	Continuous current (without battery) I _{load} = I _n	5 A
	Continuous current (with battery) $I_{load} = I_n + I_{batt}$	10 A
	Max. Current Output Load (Main) I_{load} (4 sec.)	30 A max.
	Max. Current Output Load (Back Up) I _{load} (4 sec.)	15 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
		38-40V DC battery
BATTERY	Protection alarm against total discharge	-
OUTPUT	Threshold alarm for battery almost flat	40-42V DC battery
001101		
	Boost charge (25 °C) (at I_n)	56.6 VDC
	Max. time Bust Charge	15 h
1 200	Min. time Bust Charge	1 min.
	Trickle charge (25 °C) (at I _n)	55 VDC
	Jumper Configuration battery type (V cell) Ni-Cd (optional)	2.23; 2.25; 2.27; 2.30; NiCd: 1.50 (40 elem.)
	Recovery Charge	2 ~ 24 VDC
	Charging current max Ibatt	$2A \pm 5\%$
	Charging current limiting I _{adi}	20 – 100 % / Ibatt
	Reverse battery protection	Yes
	Sulfated battery check	Yes by Jumper
	Detection of element in short circuit	Yes
	Quiescent Current	$\leq 5 \text{ mA}$
	Charging Curve automatic: I _{UoUo}	3 stage
OTHERS	Remote Input Control (RTCONN cable)	Boost /Trickle / Recovery
	Ambient temperature (operation)	05 . 70%0
	Ambient temperature (operation)	$-25 - +70^{\circ}$ C
	De Rating Ta > 50°C	- 2.5%(ln) / °C
	Ambient temperature Storage	-40 - +85°C
	Humidity at 25°C no condensation	95%
	Cooling	Auto convention
	MTBF (IEC 61709)	> 300.000 h

For the latest on Altech Power Supply specifications please visit www.altechcorp.com/power.

CBI485A 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 - Optional
Remote monitoring display	Yes - Optional
Can Bus	No

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)	100x115x135 mm
2.95x4.53x5.32 in	
Weight (approx.)	0.85 kg (1.9 Lbs)

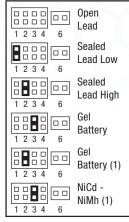
Safety and EMC

IEC/EN 60335-2-29
EN60950 / UL1950 / CE
EN54-4
89/336/EEC
DIN41773
IEC 61000-6-4
IEC 61000-6-2

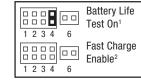
The Altech DC-UPS system is designed to charge and monitor all battery types, by selecting the battery type via jumpers. The predefined curves include Open Lead Acid, Sealed Lead Acid, Gel, Ni-Cd (optional) battery types. The charging curve are programmed to automatically switch between Recovery Charge,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

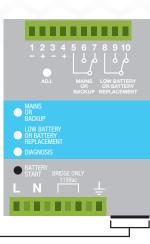
A compact and rugged metal case with DIN rail mounting bracket provide an easy installation and an IP20 protection.

Jumper for Battery Type Selection

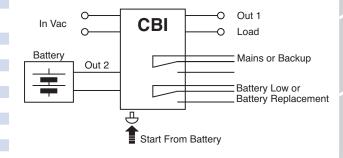


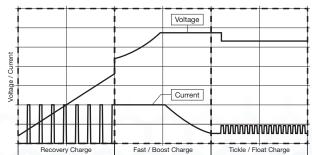






Jumper present: life test enabled. Jumper present: fast test enabled. Jumper present: fast recovery charge enabled only for size 3. Possibility to recharge the battery also when the voltage is close to zero with the maximum power of the device.





Altech Corp."

CBI4810A DC UPS

Features:

- Input: Single-phase 115 277 VAC
- Output Load: power supply 48VDC; 10A
 Output: Battery charging 48VDC; 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 44-57.6VDC
 Three charging levels: Boost, trickle and recovery
- Protection degree IP20 DIN rail mountable

IPUT	Cat. No.	CBI4810A
	Nominal Input Voltage	115 / 230 ~ 277 VAC
	Voltage range	90-135 / 180-305 VAC
	Inrush Current (V _n – I _n nom. Load). I ² t	\leq 35 A \leq 5 msec
	Frequency	47 – 63 Hz
	Input Current (115 – 230 VAC)	8.0 ~ 4.2 A
	Internal fuse (factory replaceable)	10 A
UTPUT	External Fuse (recommended) MCB curve B	16 A
	Output Voltage (V _n) / Nominal Current (I _n)	48 VDC / 10A
	Output Current I_n	10 A
	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	54 W
ROTECTION		54 W
	Short-circuit protection	Yes
	Over Load protection	Yes
	Over Voltage Output protection	Yes (typ. 90 VDC)
OAD OUTPUT	Over Temperature protection	Yes
	Output voltage (at In)	44 ~ 57.6 VDC
	Nominal current I _{load}	1.1 x ln A ± 5%
	Continuous current (without battery) I _{load} = I _n	10 A
	Continuous current (with battery) $I_{load} = I_n + I_{batt}$	20 A
	Max. Current Output Load (Main) Iload (4 sec.)	30 A max.
	Max. Current Output Load (Back Up) I _{load} (4 sec.)	20 A max.
	Push Button or Remote Input Control (RTCONN cable)	Start From Battery Without Main
	Time Buffering; min (switch output off without main input)	0.5,1,3,5,10,15,20,30,45,60,∞; Require SW
	Protection alarm against total discharge	38-40V DC battery
ATTERY DUTPUT	Threshold alarm for battery almost flat	40-42V DC battery
501101	Boost charge (25 °C) (at I _n)	56.6 VDC
	Max. time Bust Charge	15 h
	Min. time Bust Charge	1 min.
	Trickle charge (25 °C) (at I_n)	55 VDC
	Jumper Configuration battery type (V cell) Ni-Cd (optional)	2.23; 2.25; 2.27; 2.30; NiCd: 1.50 (40 elem.)
	Recovery Charge	2 ~ 24 VDC
	Charging current max I _{batt}	$10 \text{ A} \pm 5\%$
	Charging current limiting I _{adj}	10 – 100 % / lbatt
	Reverse battery protection	Yes
	Sulfated battery check	Yes by Jumper
	Detection of element in short circuit	Yes
	Quiescent Current	\leq 5 mA
	Charging Curve automatic: I_{UoUo}	3 stage
HERS	Remote Input Control (RTCONN cable)	Boost /Trickle / Recovery
	Ambient temperature (operation)	-25 – +70°C
	De Rating Ta $> 50^{\circ}$ C	- 2.5%(ln) / °C
	Ambient temperature Storage	-40 - +85°C
	Humidity at 25°C no condensation	95%
	Cooling	Auto convention
	MTBF (IEC 61709)	> 300.000 h

CBI4810A 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 - Optional
Remote monitoring display	Yes - Optional
Can Bus	Yes - Optional

Environment

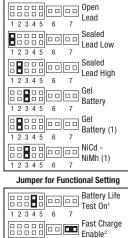
Insulation voltage (IN/OUT)	3000 VAC
Insulation voltage (input / ground)	1605 VAC
Insulation voltage (Output / ground)	500 VAC
Protection Class (EN/IEC 60529)	IP20
Pollution Degree Environment	2
Connection TB, Screw Terminal	4 mm ² (30-10 AWG)
Protection class (Ground Connected)	Class I
Dimensions (WxHxD)	150x115x135 mm
5.91x4.53x5.32 in	
Weight (approx.)	1.55 kg (3.5 Lbs)
Safety and EMC	

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

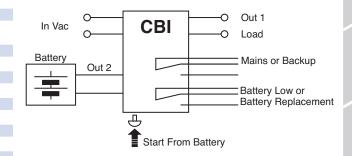


Fast Recovery Charge (2)³

12345 6 7

12345 6 7 Altech Corp.

Jumper present: life test enabled. Jumper present: fast test enabled. 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.



Voltage / Current				Current	
Vol	Recovery Ch	harge	Fast / Boo		 WWWWW

CBI2803648A **DC UPS**

RoHS Former

Altech Corp.

Features:

- Input: Single-phase 115 277 VAC
- Output Load: power supply 36/48VDC; 7/5A
- Output: Battery charging 36/48VDC; 7/5A
- 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 33-43.2/44-57.6VDC
- Three charging levels: Boost, trickle and recovery
- Protection degree IP20 DIN rail mountable

PUT	Cat. No.	CBI2803648A
	Nominal Input Voltage	115 ~ 230 ~ 277 VAC
	Voltage range	90 ~ 305 VAC
	Inrush Current (V _n – I _n nom. Load). I ² t	\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
JTPUT	External Fuse (recommended) MCB curve B	16 A
_	Output Voltage (Vn) / Nominal Power (W)	36 / 48 VDC / 270W (jumper selection)
	Output Current I_n	7 A @36VDC / 5A @48VDC
	Efficiency (at 50% of rated current)	≥ 91 %
	Turn-On delay after applying input voltage	1.5 sec. (max)
	Start up with Strong Load (capacitive load)	Yes, Unlimited
ROTECTION	Dissipation power load max	30 W
	Short-circuit protection	Yes
	Over Load protection	Yes
	Over Voltage Output protection	Yes (typ. 90 VDC)
AD DUTPUT	Over Temperature protection	Yes
	Output voltage (at In	33 ~ 43.2 / 44 ~ 57.6 VDC
	Nominal current I _{load}	
		$1.1 \times \ln A \pm 5\%$
	Continuous current (without battery) $I_{load} = I_n$	7 A @ 36VDC / 5A @ 48VDC
	Continuous current (with battery) $I_{load} = I_n + I_{batt}$	14 A @ 36VDC / 10A @ 48VDC max.
	Max. Current Output Load (Main) ${\rm I}_{\text{load}}~$ (4 sec.)	21 A @ 36VDC / 15A @ 48VDC max.
	Max. Current Output Load (Back Up) I _{load} (4 sec.)	14 A @ 36VDC / 10A @ 48VDC 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	26-28 / 38-40V DC battery
TERY	Threshold alarm for battery almost flat	29-31 / 40-42V DC battery
UTPUT		
	Boost charge (25 °C) (at I _n)	43.2 @ 36VDC / 57.6 @ 48VDC
	Max. time Bust Charge	15 h
	Min. time Bust Charge	1 min.
	Trickle charge (25 $^{\circ}$ C) (at I _n)	41.4 @ 36VDC / 55.2 @ 48VDC
	Jumper Configuration battery type (V cell) Ni-Cd (optional)	2.23; 2.25; 2.27; 2.30; NiCd: 1.50V/element
	Recovery Charge	$2 \sim 18 / 2 \sim 24$ VDC
	Charging current max I _{batt}	$7 \text{ A} @ 36 \text{VDC} / 5 \text{ A} @ 48 \text{VDC} \pm 5\%$
		10 - 100 % / lbatt
	Charging current limiting I _{adj}	
	Reverse battery protection	Yes
	Sulfated battery check	Yes by Jumper
	Detection of element in short circuit	Yes
	Quiescent Current	\leq 5 mA
	Charging Curve automatic: IU000	4 stage
IEDC	Remote Input Control (RTCONN cable)	Boost / Trickle
IERS		
	Ambient temperature (operation)	$-25 - +70^{\circ}$ C
	De Rating Ta > 50°C	- 2.5%(In) / °C
	Ambient temperature Storage	-40 - +85°C
	Humidity at 25°C no condensation	95%
	Cooling	Auto convention
	MTBF (IEC 61709)	> 300.000 h

CBI2803648A 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

Yes
Yes
Yes
1A 30 VDC/60 VAC
1mA @ 5 VDC

RJ45 Connection Input/Output

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

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)	100x115x135 mm
2.95x4.53x5.32 in	
Weight (approx.)	0.85 kg (1.9 Lbs)

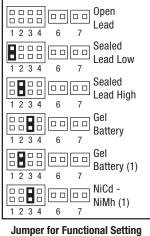
Safety and EMC

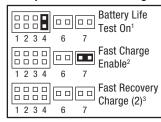
Battery charger standard compliance	IEC/EN 60335-2-29
Safety standards compliance:	EN60950 / UL1950 / CE
Fire Detection and alarm compliance	EN54-4
EMC Directive	89/336/EEC
Charging cycle	DIN41773
Emission	IEC 61000-6-4
Immunity	IEC 61000-6-2

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.

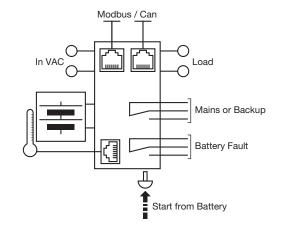
Jumper for Battery Type Selection

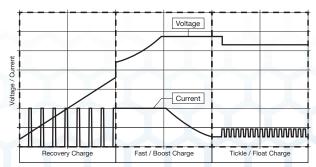






Jumper present: life test enabled Jumper present: fast test enabled. Jumper present: fast recovery charge enabled only for size 3. Possibility to recharge the battery also when the voltage is close to zero with the maximum power of the device.





Altech Corp.® • 35 Royal Road • Flemington, NJ 08822-6000 • Phone (908)806-9400 • FAX (908)806-9490



Altech Corp.

Alterh Corp.

CBI2801224A DC UPS RoHS

Features:

- Input: Single-phase 115 277 VAC
- Output Load: power supply 12 VDC; 15 A / 234VDC; 10A •
- ٠ 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

PUT	Cat. No.	CBI2801224A
	Nominal Input Voltage	115 ~ 230 ~ 277 VAC
	Voltage range	90 ~ 305 VAC
	Inrush Current (V _n – I _n nom. Load). I ² t	\leq 16 A \leq 5 msec
- Andrew and the	Frequency	47 – 63 Hz
	Input Current (115 – 230 VAC)	3.3 ~ 2.2 A
	Internal fuse (factory replaceable)	6.3 A
ITPUT	External Fuse (recommended) MCB curve B	16 A
	Output Voltage (Vn) / Nominal Power (W)	12 / 24 VDC / 270W (jumper selection)
	Output Current In	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
OTECTION	Dissipation power load max	20 W
	Short-circuit protection	Yes
	Over Load protection	Yes
	Over Voltage Output protection	Yes (typ. 35 VDC)
AD DUTPUT	Over Temperature protection	Yes
	Output voltage (at In)	10-14.4 / 22-28.8 VDC
	Nominal current I _{load}	1.1 x In A ± 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) Iload (4 sec.)	45 A @ 12VDC / 30A @ 24VDC max.
	Max. Current Output Load (Back Up) Iload (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
TTERY	Threshold alarm for battery almost flat	9-10 / 19-20V DC battery
DUTPUT	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.
	, and the second s	
	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 ± 5%
	Charging current limiting I _{adj}	10 – 100 % / Ibatt
	Reverse battery protection	Yes
	Sulfated battery check	Yes by Jumper
	Detection of element in short circuit	Yes
	Quiescent Current	\leq 5 mA
	Charging Curve automatic: I _{UoUo}	4 stage
HERS	Remote Input Control (RTCONN cable)	Boost / Trickle
	Ambient temperature (operation)	-25 – +70°C
	De Rating Ta $> 50^{\circ}$ C	- 2.5%(In) / °C
	Ambient temperature Storage	-40 - +85°C
	Humidity at 25°C no condensation	95%
	Cooling	Auto convention
	MTBF (IEC 61709)	> 300.000 h

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CBI2801224A **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
01 /	

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)	100x115x135 mm
2.95x4.53x5.32 in	
Weight (approx.)	0.85 kg (1.9 Lbs)

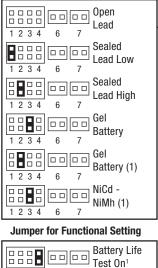
Safety and EMC

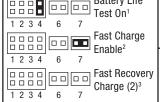
Battery charger standard compliance	IEC/EN 60335-2-29
Safety standards compliance:	EN60950 / UL1950 / CE
Fire Detection and alarm compliance	EN54-4
EMC Directive	89/336/EEC
Charging cycle	DIN41773
Emission	IEC 61000-6-4
Immunity	IEC 61000-6-2

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.

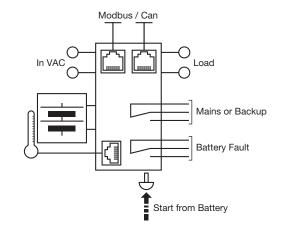
Jumper for Battery Type Selection

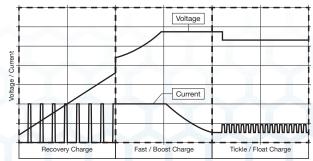






Jumper present: life test enabled. Jumper present: fast test enabled. Jumper present: fast recovery charge enabled only for size 3. Possibility to recharge the battery also when the voltage is close to zero with the maximum power of the device.





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CBI2801224B DC UPS

Altech Corp.

Features:

- Input: Single-phase 230 500 VAC •
- Output Load: power supply 12 VDC; 15 A / 24VDC; 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.
- ٠
- Switching technology, output voltage 10-14.4 VDC / 22-28.8 VDC Three charging levels: Boost, trickle and recovery •
- •
- Protection degree IP20 DIN rail mountable

Nominal Input Voltage Voltage range	230 ~ 400 ~ 500 VAC
	180-264 / 330-550 VAC
Inrush Current (V _n – I _n nom. Load). I ² t	\leq 16 A \leq 5 msec
Frequency	47 – 63 Hz
	2.2 -1.4 -1.0 A
	4A
	16 A
External fuse (recommended) with curve b	10 A
Output Voltage (V.,) / Nominal Power (W)	12 / 24 VDC / 270W (jumper selection)
	15 A @ 12VDC / 10A @ 24VDC
	≥ 91 %
	1 sec. (max)
	Yes, Unlimited
Dissipation power load max	28 W
Short-circuit protection	Yes
	Yes
	Yes (typ. 35 VDC)
Over temperature protection	Yes
Output voltage (at I.)	10-14.4 / 22-28.8 VDC
	$1.1 \times \ln A \pm 5\%$
Continuous current (without battery) $I_{load} = I_n$	15 A @ 12VDC / 10A @ 24VDC
	30 A @ 12VDC / 20A @ 24VDC max.
	45 A @ 12VDC / 30A @ 24VDC max.
	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,∞
	10-11 / 20-21V DC battery
с с с с с с с с с с с с с с с с с с с	9-10 / 19-20V DC battery
	·····,
Boost charge (25 °C) (at I _n)	14.4 @ 12VDC / 28.8 @ 24VDC
	15 h
÷	1 min.
	13.8 @ 12VDC / 27.6 @ 24VDC
	2.23; 2.25; 2.27; 2.30; NiCd: 1.50 / element
	2 ~ 18 / 2 ~ 24VDC
	15 A @ 12VDC / 10A @ 24VDC ± 5%
	10 – 100 % / Ibatt
Reverse battery protection	Yes
Sulfated battery check	Yes by Jumper
Detection of element in short circuit	Yes
Quiescent Current	\leq 5 mA
	4 stage
	Boost / Trickle
Ambient temperature (operation)	-25 – +70°C
	- 2.5%(In) / °C
	$-40 - +85^{\circ}C$
	95%
0	Auto convention
WIBF (IEC 01709)	> 300.000 h
	Time Buffering; min (switch output off without main input) Protection alarm against total discharge Threshold alarm for battery almost flatBoost charge (25 °C) (at I_n) Max. time Bust Charge

CBI2801224B DC UPS

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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
Max. Current Rating (Resistive Load)	1A 30 VDC/60 VAC

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)	100x115x135 mm
2.95x4.53x5.32 in	
Weight (approx.)	0.85 kg (1.9 Lbs)

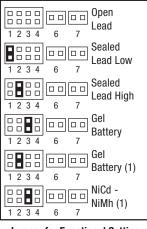
Safety and EMC

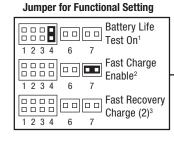
Battery charger standard compliance	IEC/EN 60335-2-29
Safety standards compliance:	EN60950 / UL1950 / CE
Fire Detection and alarm compliance	EN54-4
EMC Directive	89/336/EEC
Charging cycle	DIN41773
Emission	IEC 61000-6-4
Immunity	IEC 61000-6-2

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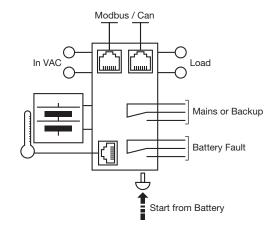
Jumper for Battery Type Selection

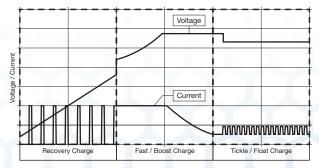






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 Jumper present: fast recovery charge enabled only for size 3. Possibility to recharge the battery also when the voltage is close to zero with the maximum power of the device.





power

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Телефон: +7 812 627 14 35

Электронная почта: sales@st-electron.ru

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