



# CBI2420A DC UPS



## 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

## INPUT

### Cat. No.

### CBI2420A

|   |                         |
|---|-------------------------|
| Nominal Input Voltage                           | 115 / 230 ~ 277 VAC     |
| Voltage range                                   | 90-135 / 180-305 VAC    |
| Inrush Current ( $V_n - I_n$ nom. Load). $I^2t$ | $\leq 35 A \leq 5$ msec |
| Frequency                                       | 47 – 63 Hz              |
| Input Current (115 – 230 VAC)                   | 8.0 ~ 4.2 A             |
| Internal fuse (factory replaceable)             | 10 A                    |
| External Fuse (recommended) MCB curve B         | 16 A                    |

## OUTPUT

|  |                |
|--|----------------|
| Output Voltage ( $V_n$ ) / Nominal Current ( $I_n$ ) | 24 VDC / 20A   |
| Output Current $I_n$                                 | 20 A           |
| Efficiency (at 50% of rated current)                 | $\geq 91$ %    |
| 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           |

## PROTECTION

|                                |                   |
|--------------------------------|-------------------|
| Short-circuit protection       | Yes               |
| Over Load protection           | Yes               |
| Over Voltage Output protection | Yes (typ. 35 VDC) |
| Over Temperature protection    | Yes               |

## LOAD OUTPUT

|   |  |
|---|--|
| Output voltage (at $I_n$ )                                    | 22 ~ 28.8 VDC                                    |
| Nominal current $I_{load}$                                    | $1.1 \times I_n A \pm 5\%$                       |
| Continuous current (without battery) $I_{load} = I_n$         | 20 A   |
| Continuous current (with battery) $I_{load} = I_n + I_{batt}$ | 40 A   |
| Max. Current Output Load (Main) $I_{load}$ (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, $\infty$ ; Require SW |
| Protection alarm against total discharge                      | 19-20V DC battery                                |
| Threshold alarm for battery almost flat                       | 20-21 V DC battery                               |

## 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 ~ 16 VDC                                    |
| Charging current max $I_{batt}$                             | 20 A $\pm 5\%$                                |
| Charging current limiting $I_{adj}$                         | 10 – 100 % / $I_{batt}$                       |
| Reverse battery protection                                  | Yes   |
| Sulfated battery check                                      | Yes by Jumper                                 |
| Detection of element in short circuit                       | Yes   |
| Quiescent Current   | $\leq 5$ mA                                   |
| Charging Curve automatic: $I_{UoUo}$                        | 3 stage                                       |
| Remote Input Control (RTCONN cable)                         | Boost /Trickle / Recovery                     |

## OTHERS

|                                  |                 |
|----------------------------------|-----------------|
| Ambient temperature (operation)  | -25 – +70°C     |
| De Rating $T_a > 50^\circ C$     | - 2.5%(In) / °C |
| Ambient temperature Storage      | -40 – +85°C     |
| Humidity at 25°C no condensation | 95%             |
| Cooling                          | Auto convection |
| MTBF (IEC 61709)                 | > 300.000 h     |

# 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

|                                      |                               |
|--------------------------------------|-------------------------------|
| 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 <sup>2</sup> (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)             |

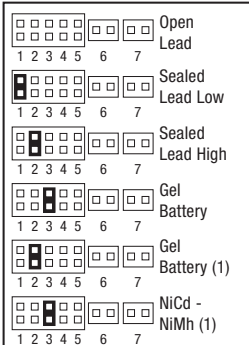
### Safety and EMC

|                                     |                       |
|-------------------------------------|-----------------------|
| 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         |

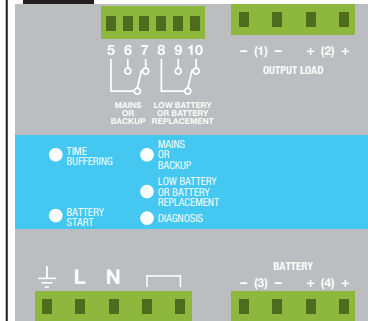
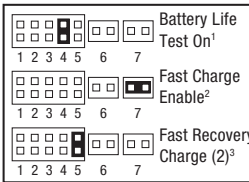
The Altech DC-UPS system is designed to charge and monitor all battery types, by selecting the battery type via jumpers. The predefined curves include Open Lead Acid, Sealed Lead Acid, Gel, Ni-Cd (optional) battery types. The charging curve are programmed to automatically switch between Recovery Charge,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



### Jumper for Functional Setting



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

