“DC-UPS” uninterruptible power supply solutions”

Make Your system better over its Life Time

DC-Ups

micromax technology

ADELSYSTEM

Integrated Electronic Solutions

Connect

The new communication platform for ADELSYSTEM 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 ADELSYSTEM 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.

ADELSYSTEM 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.

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 .**

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 ADELSYSTEM cloud and visualize in real time data stored in your own account on the cloud. Data upload is possible through "Power Bus", an ADELSYSTEM 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 DC-UPS/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.

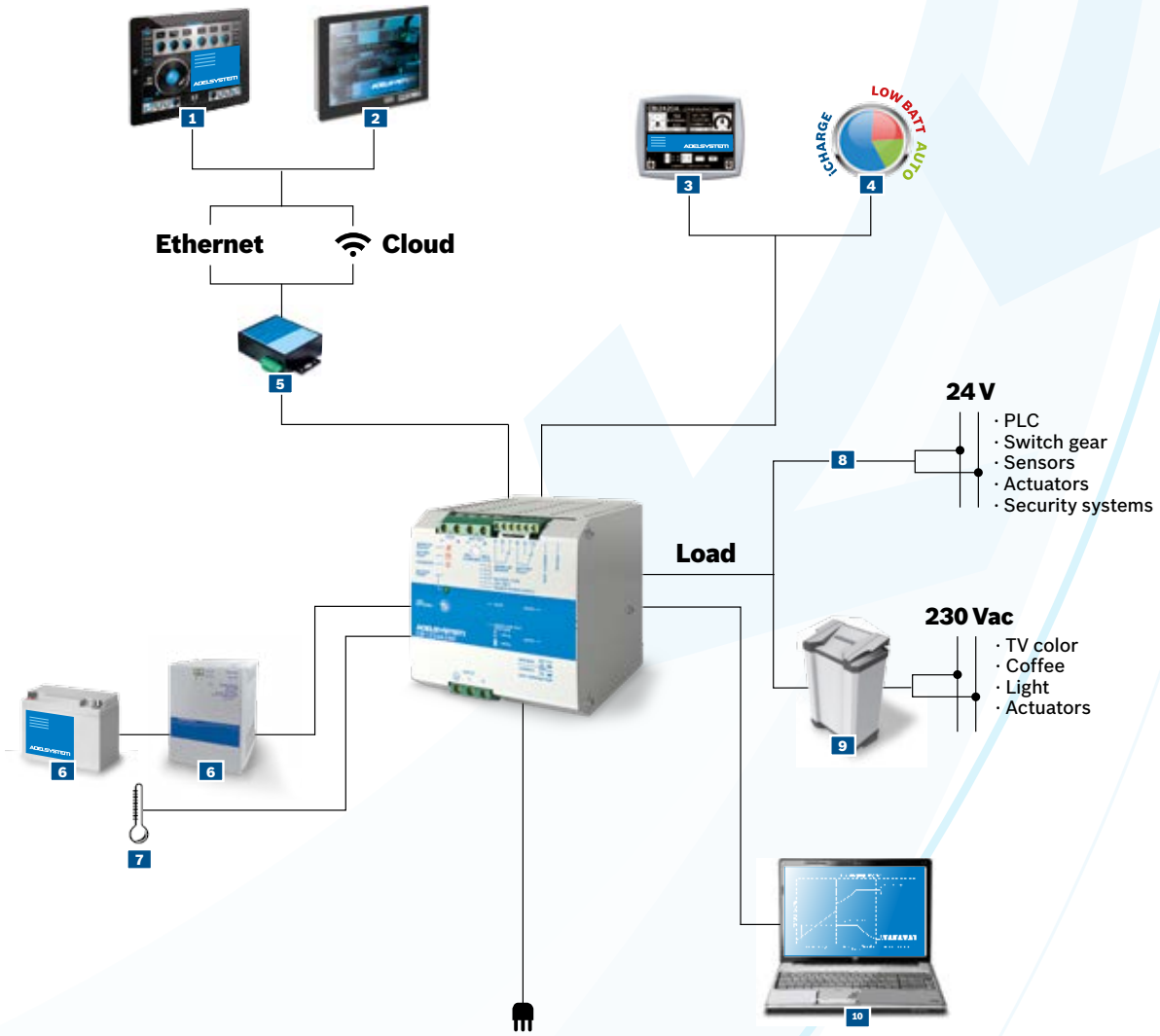
5 Power Bus

Interface Module MODBUS 485 - Ethernet and Cloud ADELSYSTEM provides a set of dedicated 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, ADELSYSTEM DC-UPS devices allow simple and effective integration. ADELSYSTEM 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, ADELSYSTEM supplies Batt VRLA battery modules.

Multimediality



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. ADELSYSTEM DC-UPSs allow connection of inverters up to 1500W.

10 Power View Config

System Configuration Software

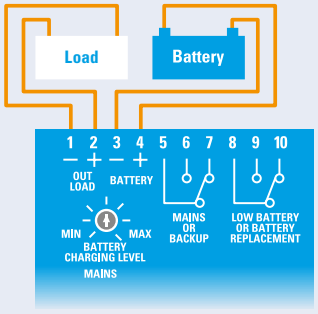
“Power View Config” is a PC-based software with simple and effective user interface that allows application engineer to configure the system, customize battery charging curve, set alarm thresholds, configure the parameters available for communication on the MODBUS output. Output Voltage: 12, 24, 48 Vdc.

Power continuity

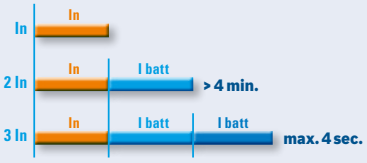
DC-UPS = Power Supply + Battery Charger + Back Up module

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: 12, 24, 48
Power Boost: In x 2 Continuos
In x 3 max 4 sec.



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.

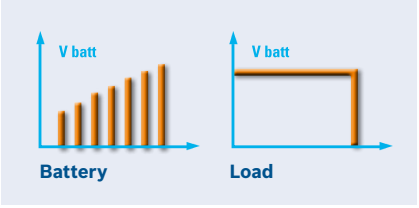


Time buffering

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

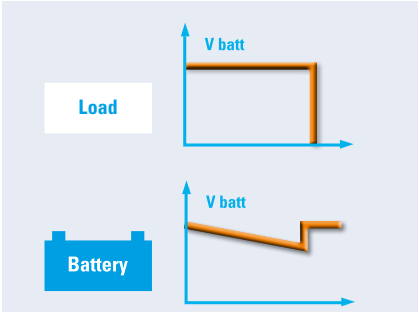
Smart battery management

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.



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.

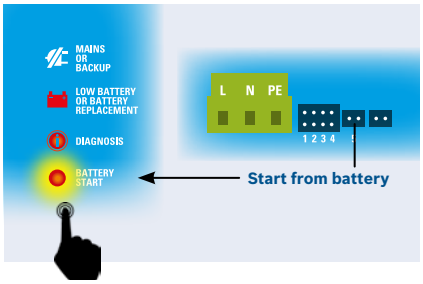


Adjustable maximum battery charging current

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

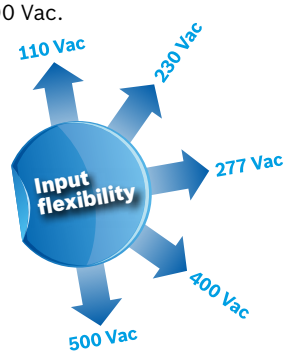
Start from battery without main

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.



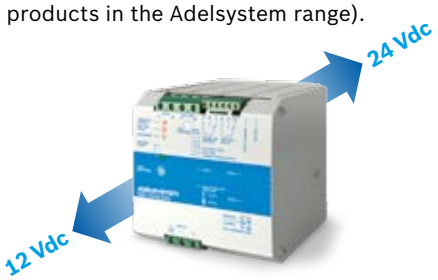
Wide input voltage range

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 some products in the Adelsystem range).



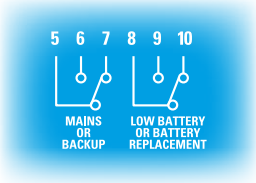
Connection & monitoring

Monitor signals

Clear definition of each system operation, via LED indications and Relay contact:

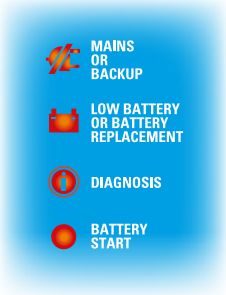
Contact Port signals, galvanic insulation

- 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

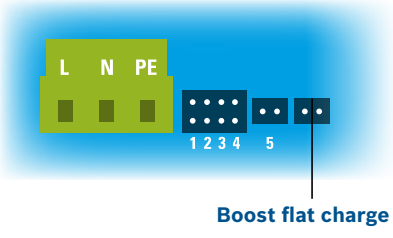
- Input Main On Off
- Battery Fault
- Low battery (capacity less than 30%)
- Type of Battery charge mode
- Help through “blinking code” the diagnosis of the system



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 put a jumper for Boost - Bulk Charging.



Accessories

All DC-UPS units can be made available with the following options by Rj45 or Rj11 connector:

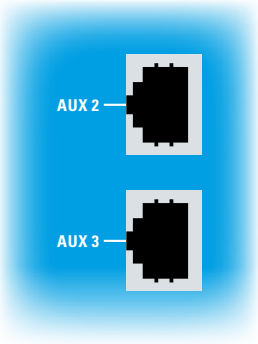
Temperature sensor Probe, for ambient temperature compensation charging.

Voltage drop cable compensation.

Battery Start UP cable.

Auxiliary output “Aux 2 and "Aux 3”

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.



Battery care

These devices are completely automatic and can charge any kind of battery using factory pre-set charging curves suitable to the most common accumulator 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 base on algorithms that implement rapid and automatic charging, battery charge optimization during time, flat batteries recovery and real time diagnostic during installation and operation. 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.

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.

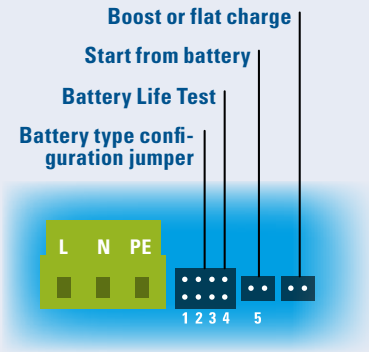
Open Lead Acid (factory preset):
Trickle 2.23 V
Boost 2.40 V

Sealed Lead Acid (1):
Trickle 2.25 V
Boost 2.40 V

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

Gel:
Trickle 2.30 V
Boost 2.40 V

Optional: Ni/Cd, LI-Ion

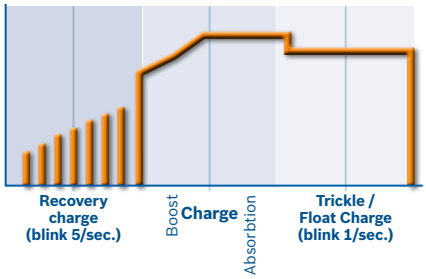


Boost or **float** charge.

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.

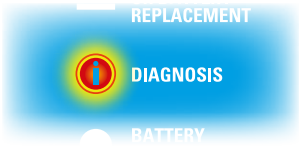
- Recovery (5 Blinks / sec) able to recharge batteries even when their voltage is close to zero.
- Boost - Bulk (2 Blinks / sec).
- Absorption (1 Blinks / sec).
- Trickle - Float (1 Blink / 2 sec).



Diagnosis of battery and device

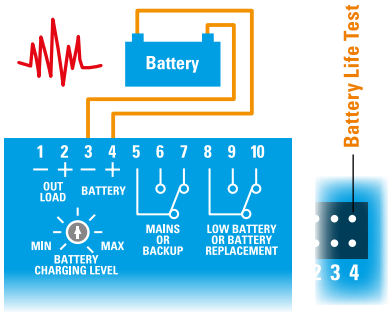
All CBI devices support the user during installation and operation. A LED flashing sequence code allows to discriminate among various possible faults.
Error conditions, LED Fault ON and LED Diagnosis flashing with sequence of:

- 1 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 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 sulphated 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.

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.

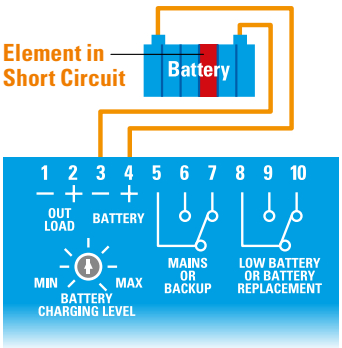
Battery in ppen circuit or sulphated
Every four hours DC-UPS tests of internal impedance, while in trickle charging mode.

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.



General data

Max. 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
- High insulation between primary and secondary
- Protection against deep battery discharge
- Protection against reverse polarity connection
- 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 aluminium 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
Adelsystem has a 25 year 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
Unlike most other state-of-the-art battery chargers, the DC-UPS series is equipped with complex algorithms whi-ch controls the charging process and enable several monitoring functions. The firmware implements the extended Adel battery care know-how, result of many years of experience in this field.

Norms

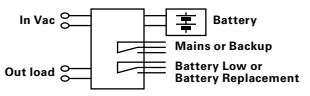
In Conformity to:

- IEC/EN 60335-2-29 Battery chargers;
- EN60950 / UL1950;
- Electrical safety EN54-4 Fire Detection and fire alarm systems;
- EMC Directive;
- DIN 41773 (Charging cycle).

DC UPS

12 Vdc

110 - 230 Vac






	Model	CBI123A	CBI126A	CBI1210A	CBI1235A
	Output	12Vdc - 3A - 36W	12Vdc - 6A - 72W	12Vdc - 10A - 120W	12Vdc - 35A - 420W
INPUT DATA	Input voltage range	90 - 305 Vac	90 - 305 Vac	90 - 305 Vac	90 - 135 Vac 180 - 305 Vac
	Frequency	47 - 63 Hz ±6%	47 - 63 Hz ±6%	47 - 63 Hz ±6%	47 - 63 Hz ±6%
OUTPUT DATA	Output Vdc / IN	12Vdc - 3A	12Vdc - 6A	12Vdc - 10A	12Vdc - 35A
	Efficiency (50% of In)	≥ 90%	≥ 90%	≥ 90%	> 91%
	Over load and short-circuit protection	■	■	■	■
	Overheating thermal protection	■	■	■	■
	Reverse battery protection	■	■	■	■
LOAD OUTPUT	Output voltage (at at IN) Vdc	10 - 14.4Vdc	10 - 14.4Vdc	10 - 14.4Vdc	10 - 14.4Vdc
	Nominal current IN = Iload	1.1 x In A ± 5%	1.1 x In A ± 5%	1.1 x In A ± 5%	1.1 x In A ± 5%
	Continuous current (without battery) Iload = In	3A	6A	10A	35A
	Max current (with battery) Out: Iload = In + Ibatt	6A	12A	20A	70A
	Max current (main input) Out: Iload (4sec.)	9A max	18A max	30A max	105A max
	Max current output load: (Back Up) Iload (4sec.)	6A max	12A max	20A max	70A max
	Push button or remote input control	■	■	■	■
	Time Buffering	-	-	-	■
BATTERY CHARGER OUTPUT	Boost-Bulk charge (Typ. at IN)	14.4Vdc	14.4Vdc	14.4Vdc	14.4Vdc
	Max. time boost-bulk charge (Typ. at IN)	15h	15h	15h	15h
	Min. time boost-bulk charge (Typ. at IN)	1min.	1min.	1min.	1min.
	Trickle-Float charge (Typ. at IN)	13.8Vdc	13.8Vdc	13.8Vdc	13.8Vdc
	Charging current Limiting IN (Iadj)	20 ÷ 100 % / Ibatt	20 ÷ 100 % / Ibatt	20 ÷ 100 % / Ibatt	10 ÷ 100 % / Ibatt
	Jumper config. type battery (NiCd optional)	2.23 V/cell Open Lead, 2.25 V/cell Sealed Lead, 2.27 V/cell Sealed Lead, 2.3 V/cell gel; NiCd 1.5V/cell (10 elem.) trickle (Imax 10%)			
	Remote input control (AMP Type connector)	Boost / Trickle	Boost / Trickle	Boost / Trickle	Boost / Trickle
	Characteristic Curve	IUoU, Automatic, 4 stage			
SIGNAL OUTPUT (RELAY)	Main or backup power	■	■	■	■
	Low battery and fault battery	■	■	■	■
AUXILIARY OUTPUT* FOR:	Temp. charging probe	by ext. Probe	by ext. Probe	by ext. Probe	by ext. Probe
	UPS active	-	-	-	-
	Modbus - CAN Bus	-	-	-	■
CLIMATIC DATA	Ambient temperature operation	-25 ÷ +70°C	-25 ÷ +70°C	-25 ÷ +70°C	-25 ÷ +70°C
	De rating Tª > (In) / De rating Tª > (In)	> 50° -2.5%(In) / °C	> 50° -2.5%(In) / °C	> 50° -2.5%(In) / °C	> 50° -2.5%(In) / °C
	Ambient temperature storage	-40 ÷ +85°C	-40 ÷ +85°C	-40 ÷ +85°C	-40 ÷ +85°C
	Humidity at 25 °C	95% to 25°C	95% to 25°C	95% to 25°C	95% to 25°C
	Cooling	Auto Convection	Auto Convection	Auto Convection	Auto Convection
GENERAL DATA	Isolation voltage (IN / OUT)	3000Vac	3000Vac	3000Vac	3000Vac
	Isolation voltage (IN / PE)	1605Vac	1605Vac	1605Vac	1605Vac
	Isolation voltage (OUT / PE)	500Vac	500Vac	500Vac	500Vac
	Protection class (EN/IEC 60529)	IP 20	IP 20	IP 20	IP 20
	Reliability (MTBF IEC 61709)	> 300 000 h	> 300 000 h	> 300 000 h	> 300 000 h
	Dimension (w-h-d)	65x115x135	65x115x135	65x115x135	150x115x135
	Safety standard approval	CE /C-UL Recognized 60950			CE
OPTIONAL	Bar graph control panel				■
	Graphic multifunction control panel				■
	System monitoring software				■
	System configuration software				■
	Interface module modbus 485 - Ethernet				■
	Interface module cloude all in one - Ethernet				■
	Battery temp. compensation Probe RJTemp	■	■	■	■

24 Vdc

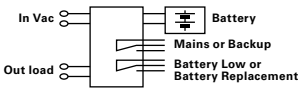
110 - 230 Vac

48 Vdc

110 - 230 Vac

					
CBI243A 24Vdc - 3A - 72W	**CBI245A** 24Vdc - 5A - 120W	**CBI2410A** 24Vdc - 10A - 240W	**CBI2420A** 24Vdc - 20A - 500W	**CBI485A** 48Vdc - 5A - 240W	**CBI4810A** 48Vdc - 10A - 500W
90 - 305 Vac	90 - 305 Vac	90 - 135 Vac 180 - 305 Vac	90 - 135 Vac 180 - 305 Vac	90 - 135 Vac 180 - 305 Vac	90 - 135 Vac 180 - 305 Vac
47 - 63 Hz ±6%	47 - 63 Hz ±6%	47 - 63 Hz ±6%	47 - 63 Hz ±6%	47 - 63 Hz ±6%	47 - 63 Hz ±6%
24Vdc - 3A	24Vdc - 5A	24Vdc - 10A	24Vdc - 20A	48Vdc - 5A	48Vdc - 10A
≥ 90%	≥ 90%	≥ 83%	> 91%	≥ 83%	> 91%
■	■	■	■	■	■
■	■	■	■	■	■
■	■	■	■	■	■
22 - 28.8Vdc	22 - 28.8Vdc	22 - 28.8Vdc	22 - 28.8Vdc	44 - 57.6Vdc	44 - 57.6Vdc
1.1 x In A ± 5%	1.1 x In A ± 5%	1.1 x In A ± 5%	1.1 x In A ± 5%	1.1 x In A ± 5%	1.1 x In A ± 5%
3A	5A	10A	20A	5A	10A
6A	10A	20A	40A	10A	20A
9A max	15A max	30A max	60A max	15A max	30A max
6A max	10A max	20A max	40A max	10A max	20A max
■	■	■ CBI2410A/S	■	■ CBI485A/S	■
-	-	-	■	-	■
28.8Vdc	28.8Vdc	28.8Vdc	28.8Vdc	57.6	57.6
15h	15h	15h	15h	15h	15h
1min.	1min.	1min.	1min.	1min.	1min.
27.6Vdc	27.6Vdc	27.6Vdc	27.6Vdc	55.2Vdc	55.2Vdc
20 ÷ 100 % / Ibatt	20 ÷ 100 % / Ibatt	20 ÷ 100 % / Ibatt	10 ÷ 100 % / Ibatt	20 ÷ 100 % / Ibatt	10 ÷ 100 % / Ibatt
2.23 V/cell Open Lead, 2.25 V/cell Sealed Lead, 2.27 V/cell Sealed Lead, 2.3 V/cell gel; NiCd 1.5V/cell trickle (Imax 10%)					
Boost / Trickle	Boost / Trickle	Boost / Trickle	Boost / Trickle	Boost / Trickle	Boost / Trickle
IUoU, Automatic, 4 stage					
■	■	■	■	■	■
■	■	■	■	■	■
by ext. Probe	by ext. Probe	by ext. Probe	by ext. Probe	by ext. Probe	by ext. Probe
-	-	-	-	-	-
-	-	-	■	-	■
-25 ÷ +70°C	-25 ÷ +70°C	-25 ÷ +70°C	-25 ÷ +70°C	-25 ÷ +70°C	-25 ÷ +70°C
> 50° -2.5%(In) / °C	> 50° -2.5%(In) / °C	> 50° -2.5%(In) / °C	> 50° -2.5%(In) / °C	> 50° -2.5%(In) / °C	> 50° -2.5%(In) / °C
-40 ÷ +85°C	-40 ÷ +85°C	-40 ÷ +85°C	-40 ÷ +85°C	-40 ÷ +85°C	-40 ÷ +85°C
95% to 25°C	95% to 25°C	95% to 25°C	95% to 25°C	95% to 25°C	95% to 25°C
Auto Convection	Auto Convection	Auto Convection	Auto Convection	Auto Convection	Auto Convection
3000Vac	3000Vac	3000Vac	3000Vac	3000Vac	3000Vac
1605Vac	1605Vac	1605Vac	1605Vac	1605Vac	1605Vac
500Vac	500Vac	500Vac	500Vac	500Vac	500Vac
IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
> 300 000 h	> 300 000 h	> 300 000 h	> 300 000 h	> 300 000 h	> 300 000 h
65x115x135	65x115x135	100x115x135	150x115x135	100x115x135	150x115x135
CE /C-UL Recognized 60950		CE	CE	CE	CE
			■		■
			■		■
			■		■
			■		■
			■		■
			■		■
■	■	■	■	■	■

DC UPS

	36/48 Vdc 110-230 Vac	12/24 Vdc 110-230 Vac	12/24 Vdc 230-400-500 Vac
			
			
Model Output	**CBI2803648A** 36/48Vdc - 270W	**CBI2801224A** 12/24Vdc - 270W	**CBI2801224B** 12/24Vdc - 270W
INPUT DATA — Input voltage range	90 - 135 Vac 180 - 305 Vac	90 - 135 Vac 180 - 305 Vac	180 - 264 Vac 330 - 550 Vac
INPUT DATA — Frequency	47 - 63 Hz ±6%	47 - 63 Hz ±6%	47 - 63 Hz ±6%
OUTPUT DATA — Output Vdc / IN	36 / 48Vdc - 270 W	12 / 24Vdc - 270 W	12 / 24Vdc - 270 W
OUTPUT DATA — Efficiency (50% of In)	> 91%	> 91%	> 91%
OUTPUT DATA — Over load and short-circuit protection	■	■	■
OUTPUT DATA — Overheating thermal protection	■	■	■
OUTPUT DATA — Reverse battery protection	■	■	■
LOAD OUTPUT — Output voltage (at at IN) Vdc	33 - 43,2Vdc / 44 - 57.6Vdc	11 - 14.4Vdc / 22 - 28.8Vdc	11 - 14.4Vdc / 22 - 28.8Vdc
LOAD OUTPUT — Nominal current IN = Iload	1.1 x In A ± 5%	1.1 x In A ± 5%	1.1 x In A ± 5%
LOAD OUTPUT — Continuous current (without battery) Iload = In	7A (36V) / 5A (48V)	15A (12V) / 10A (24V)	15A (12V) / 10A (24V)
LOAD OUTPUT — Max current (with battery) Out: Iload = In + Ibatt	14A (36V) / 10A (48V)	30A (12V) / 20A (24V)	30A (12V) / 20A (24V)
LOAD OUTPUT — Max current: (main input) Out: Iload (4sec.)	21A (36V) / 15A (48V)	45A (12V) / 30A (24V)	45A (12V) / 30A (24V)
LOAD OUTPUT — Max current output load: (Back Up) Iload (4sec.)	14A (36V) / 10A (48V)	30A (12V) / 20A (24V)	30A (12V) / 20A (24V)
LOAD OUTPUT — Push button or remote input control	■	■	■
LOAD OUTPUT — Time Buffering	■	■	■
BATTERY CHARGER OUTPUT — Boost-Bulk charge (Typ. at IN)	43.2Vdc (36V) / 57.6Vdc (48V)	14.4 Vdc (12V) / 28.8Vdc (24V)	14.4 Vdc (12V) / 28.8Vdc (24V)
BATTERY CHARGER OUTPUT — Max. time boost-bulk charge (Typ. at IN)	15h	15h	15h
BATTERY CHARGER OUTPUT — Min. time boost-bulk charge (Typ. at IN)	1min.	1min.	1min.
BATTERY CHARGER OUTPUT — Trickle-Float charge (Typ. at IN)	41.4Vdc (36V) / 55.2Vdc (48V)	13.8 Vdc (12V) / 27.6Vdc (24V)	13.8 Vdc (12V) / 27.6Vdc (24V)
BATTERY CHARGER OUTPUT — Charging current Limiting IN (Iadj)	10 ÷ 100 % / Ibatt	10 ÷ 100 % / Ibatt	10 ÷ 100 % / Ibatt
BATTERY CHARGER OUTPUT — Jumper config. type battery (NiCd optional)	2.23 V/cell Open Lead, 2.25 V/cell Sealed Lead, 2.27 V/cell Sealed Lead, 2.3 V/cell gel; NiCd 1.5V/cell (20 elem.) trickle (Imax 10%)		
BATTERY CHARGER OUTPUT — Remote input control (AMP Type connector)	Boost / Trickle	Boost / Trickle	Boost / Trickle
BATTERY CHARGER OUTPUT — Characteristic Curve	IUoU, Automatic, 4 stage		
SIGNAL OUTPUT (RELAY) — Main or backup power	■	■	■
SIGNAL OUTPUT (RELAY) — Low battery and fault battery	■	■	■
AUXILIARY OUTPUT* FOR: — Temp. charging probe	by ext. Probe	by ext. Probe	by ext. Probe
AUXILIARY OUTPUT* FOR: — UPS active	-	-	-
AUXILIARY OUTPUT* FOR: — Modbus - CAN Bus	■	■	■
CLIMATIC DATA — Ambient temperature operation	-25 ÷ +70°C	-25 ÷ +70°C	-25 ÷ +70°C
CLIMATIC DATA — De rating Tª > (In) / De rating Tª > (In)	> 50° -2.5%(In) / °C	> 50° -2.5%(In) / °C	> 50° -2.5%(In) / °C
CLIMATIC DATA — Ambient temperature storage	-40 ÷ +85°C	-40 ÷ +85°C	-40 ÷ +85°C
CLIMATIC DATA — Humidity at 25 °C	95% to 25°C	95% to 25°C	95% to 25°C
CLIMATIC DATA — Cooling	Auto Convection	Auto Convection	Auto Convection
GENERAL DATA — Isolation voltage (IN / OUT)	3000Vac	3000Vac	3000Vac
GENERAL DATA — Isolation voltage (IN / PE)	1605Vac	1605Vac	1605Vac
GENERAL DATA — Isolation voltage (OUT / PE)	500Vac	500Vac	500Vac
GENERAL DATA — Protection class (EN/IEC 60529)	IP 20	IP 20	IP 20
GENERAL DATA — Reliability (MTBF IEC 61709)	> 300 000 h	> 300 000 h	> 300 000 h
GENERAL DATA — Dimension (w-h-d)	115x115x135	115x115x135	115x115x135
GENERAL DATA — Safety standard approval	CE	CE	CE
OPTIONAL — Bar graph control panel	■	■	■
OPTIONAL — Graphic multifunction control panel	■	■	■
OPTIONAL — System monitoring software	■	■	■
OPTIONAL — System configuration software	■	■	■
OPTIONAL — Interface module modbus 485 - Ethernet	■	■	■
OPTIONAL — Interface module cloude all in one - Ethernet	■	■	■
OPTIONAL — Battery temp. compensation Probe RJTemp	■	■	■

VRLA

They are traditional and Rugged Battery Module for DC UPS range. They are composed maintenance-free lead-acid VRLA batteries whit serial fuse. Simple connection with screws. Size: 1.2 Ah, 3 Ah, 7.2 Ah and 12 Ah. Battery Modules: 2 x 12 Vdc.






	Model / Output	12 Vdc BATT 123 12V - 3.2Ah	12 Vdc BATT 127 12V - 7.2Ah	24 Vdc BATT 1.2 Ah 24V - 1.2Ah	24 Vdc BATT 3 Ah 24V - 3.2Ah	24 Vdc BATT 7.2 Ah 24V - 7.2Ah	24 Vdc BATT 12 Ah 24V - 12Ah
FEATURE	End-of-charge voltage (trickle charge)	27.5 Vdc (20°C) ; 27 Vdc (30°C); 26.5 Vdc (40°C)					
	Max. permissible charging current	0.80 A	1.70 A	0.30 A	0.80 A	1.70 A	3 A
	Short-circuit protection	■	■	■	■	■	■
	Protection fuse	25 A	25 A	25 A	25 A	25 A	25 A
	Ambient temperature (operation)	+5 ÷ +40 °C	+5 ÷ +40 °C	+5 ÷ +40 °C	+5 ÷ +40 °C	+5 ÷ +40 °C	+5 ÷ +40 °C
	Ambient temperature (storage)	-20 ÷ +50 °C	-20 ÷ +50 °C	-20 ÷ +50 °C	-20 ÷ +50 °C	-20 ÷ +50 °C	-20 ÷ +50 °C
	Self-discharge rate	20 °C 15% per month					
GENERIC DATA	Dimension (w-h-d)	105 x 175 x 90	105 x 175x120	170 x 100 x 80	170 x 140 x 90	170 x 155x120	235 x 155x120
	Weight	0.7 Kg approx	1.1 Kg approx	1.55Kg approx	3 Kg approx	5.5 Kg approx	9 Kg
	Protection class	IP20	IP20	IP20	IP20	IP20	IP20
	Assembly using 4 holes	For hanging onto M4 screws					

Small VRLA

Compact and fully enclosed improve safety and maintenance, transmit information on the temperature and type of batteries. They save space and improve the efficiency of the DC UPS “All In One”.. Size for 24 Vdc: 1.2 Ah, 3 Ah, 7.2 Ah and 12 Ah.




	Model / Output	24 Vdc BAT1.2 VRLA 24V - 1.2Ah	24 Vdc BAT3.4 VRLA 24V - 3.2Ah	24 Vdc BAT7.2 VRLA 24V - 7.2Ah	24 Vdc BAT12 VRLA 24V - 12Ah
INPUT DATA	End-of-charge voltage (trickle charge)	27.5 Vdc (20°C) ; 27 Vdc (30°C); 26.5 Vdc (40°C)			
	Max. permissible charging current	0.30 A	0.80 A	1.70 A	3 A
OUTPUT DATA	Short-circuit protection	■	■	■	■
	Protection fuse	25 A	25 A	25 A	25 A
	Output current	max. 25 A	max. 25 A	max. 25 A	max. 25 A
GENERIC DATA	Mounting position	DIN Rail / Wall Mount			
	Assembly using 4 holes	for hanging onto M4 screws			
	Ambient temperature (operation)	0 ÷ +40 °C	0 ÷ +40 °C	0 ÷ +40 °C	0 ÷ +40 °C
	Ambient temperature (storage)	-20 ÷ +50 °C	-20 ÷ +50 °C	-20 ÷ +50 °C	-20 ÷ +50 °C
	Self-discharge rate	20 °C 15% per month			
	Dimension (w-h-d)	62 x 175 x 120	82 x 200 x 160	145 x 210 x130	210 x 210x210
	Weight	1.5Kg approx	3 Kg approx	5.5 Kg approx.	9 Kg
	Protection class	IP20	IP20	IP20	IP20

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

	Battery type	1.2 Ah	3.2 Ah	7.2 Ah	12 Ah
BUFFERING (MINUTE) TIME	Load 10 A	-	7	20	45
	Load 12 A	-	3	12	30
	Load 15 A	-	-	9	20
	Load 20 A	-	-	7	13

Product range

DC UPS "All In One"

DC Power Back Up units. Multi-function devices: power supply, battery charger and back-up module in the same casing together with Adel Battery Care software.

Flex

DIN rail Switching Power Supplies. Very compact in size, 150% power boost, wide input voltage range 110 - 230 - 400 - 500 Vac. Selec-table output protection mode

D-Flex

High efficiency Power Supplies in DIN type modules. For all kinds of small power. Requirements in installation, building automation and Industrial applications.

CB

The best generation of Battery Chargers with 4 charging levels, equipped with Adel Battery Care software. One product for all batteries types.

Power supply low input voltage

Switching power suppy for direct connection to secondary transformer In 24 Vac Out 12-24-48 Vdc Watt: 25-460.

Dc/Dc converter

Dc / Dc Converter, step Up and Step down. Input - Output isolated, low voltage. With or without DIN Rail.

Interfaces

Wide range of passive interfaces units for Input and Output connections, for PLC and CNC machine.

BM

Battery Modules and Battery holders for connection to DC-UPS or battery charger units Battery sizes: 1.2; 3; 7.2; 12 Ah at 12Vdc and 24 Vdc.

Auxiliary module

Decoupling Modules for redundancy applications. Electronic Fuses for Over Load output control, up to 4 cannel.

SFP Safety Power

Power continuity solutions for alarm systems and fire alarms. Available as a fully enclosed device conforming with EN54.4 or as a component to be integrated in other instrumentation.

Innovation and multimediality

Adelsystem continues to expand its offering of innovative and functional products for DC power back-up and battery charging in DIN mounting configuration. The already wide range of products available is now integrated by the DC-UPS Series, the last generation of Uninterruptible Power Supply with low output voltage. Yet another innovative solution developed by Adelsystem R&D team for the expert designer and the user who need problem-free operation. These units are top-level, state-of-art devices for both battery charging and back-up power switching on the load. They fulfill the electric continuity requirements emerging from the ever increasing use of batteries in computer and PLC supervised systems. CBI devices improve battery reliability and its life span, paying special attention to a proper supervision. This in order to give complete and trouble-free tools to system engineers, for a wide range of application, in conformity with the highest standards and in the most cost-effective way. The DC-UPS Series meets the highest standards of quality and insures high reliability, with MTBF values up to 300.000 hours.