

CBI60 SERIES



DC-UPS

60W

DIMENSIONS:

OPEN FRAME:
2.81 x 3.54 x 2.46"
(71.5 x 90 x 62.5mm)

PROGRAMMABLE 4 STAGE CHARGING

**FePO₄ / NiCAD / NiMH
Li ION / LEAD ACID / AGM / GEL**

WEB PAGE GUI

START FROM BATTERY

DISCHARGE PROTECTION

TEMPERATURE COMPENSATION

Part numbers

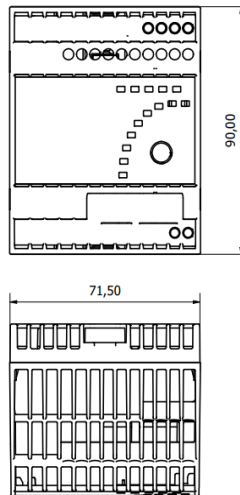
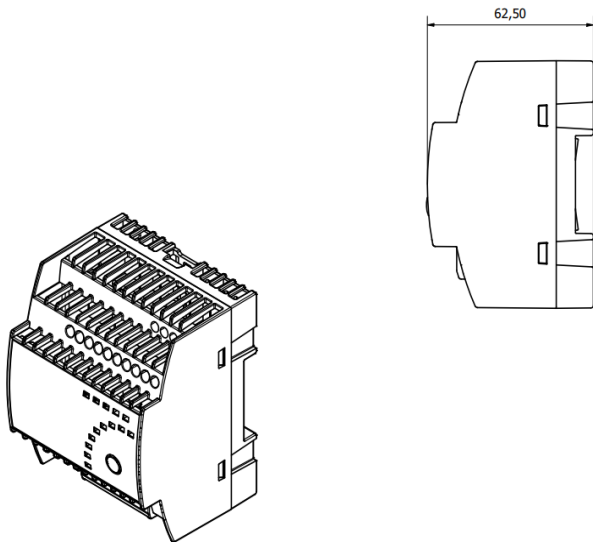
CBI	60	-	12A
Series	Power (W)		Output voltage
			12 = 12VDC 24 = 24VDC

Key specifications

Input range	Safety certification	Features	Efficiency	Environmental performance
90-305VAC 115-230-277VAC	IEC/EN 62368-1 EN 60204	Monitoring Data logging Alarms MODBUS TCP	>90%	Operational: -25 to 70°C

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Mechanical

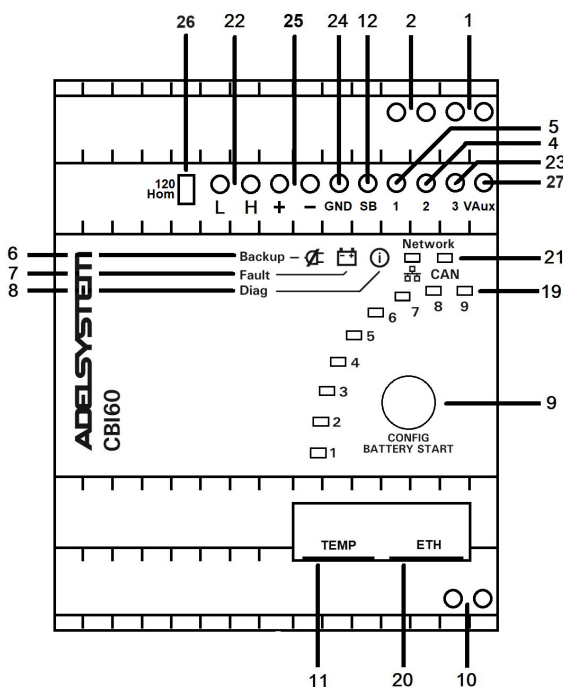


Notes

1. All dimensions in mm
2. Both cable In and Out: Solid or Stranded is 0.2-2.5 mm (12-14AWG)
3. Both cable In and Out: AWG is 24-14 and Torque 0.5-0.6 Nm
4. Both cable In and Out: Stripping Length is 7mm
5. DIN 43880

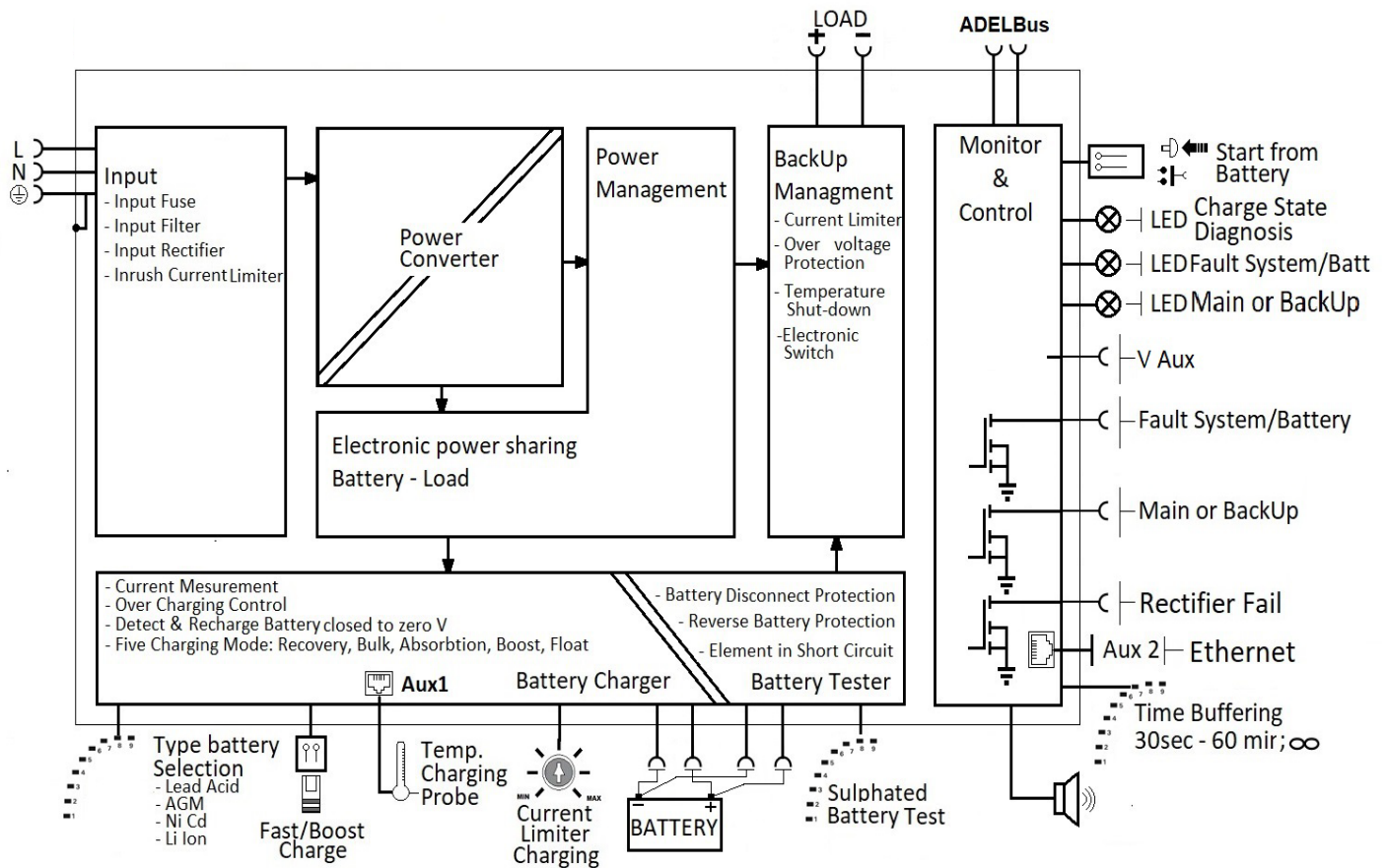
Weight

400g



Connection	Notes/Conditions
1	Battery
2	Load
4	System / battery fault (or reconfigurable by Web Server)
5	Mains - Backup (or reconfigurable by Web Server)
6	Mains - Backup LED
7	Battery fault - System fault LED
8	Diagnosis LED
9	Configuration - Start from Battery
10	Input VAC
11	Aux1: RJtemp - DPY353
12	Start from Battery or UPS Disabling: close to negative GND No:24
19	Battery Config - Life Test - Fast Charge - UPS Disabling- Time Buffering
20	Aux4: Ethernet
21	Network Communication LED
22	ADELBus (CAN)
23	Rectifier Alarm (or reconfigurable by Web Server)
24	GND: Ground reference for terminal No:12
25	Battery Sense: Connect to pole + and - of the battery for SoH detection
26	120 Ohm LT CAN. Insert Jumper for Enabling
27	V Auxiliary: Auxiliary Output 12 or 24 VDC depend on the Output device

Functional Diagram



Signal Output	Notes/Conditions	Signal Input	Notes/Conditions
Main or backup power (sink 20 mA max)	ON: 0 VDC OFF: Vout (alarm)	Battery start by:	Terminal block or push button
Fault battery / system (sink 20 mA max)	ON: 0 VDC OFF: Vout (alarm)	Temp comp battery	RJ temp (RJ11)
Rectifier failure "device" (sink 20 mA max)	ON: 0 VDC OFF: Vout (alarm)		
V Aux auxiliary output voltage	22-28.8 vdc / 50 mA		
Acoustic buzzer selectable for:	Alarm features		
		Digital Input / Output	Notes/Conditions
		Communication protocol (Ethernet)	TCP/ IP - SNMP V3 - HTTPS
		ADELBus	CAN open

Models & Ratings

Model Number	General Output		Load Output					
	Voltage	Current (I _n)	Voltage at I _n	Nom Current	Current (with-out battery)	Current (with battery)	4sec Peak with battery	4sec Peak (back up)
CBI6012A	12V	4.5A ±5%	10-14.4V (17V with jumper)	1.1 I _n A ±5%	5A	2 x I _n	3 x I _n	2 x I _n
CBI6024A	24V	2.5A ±5%	22-28.8V (31V with jumper)	1.1 I _n A ±5%	2.5A	2 x I _n	3 x I _n	2 x I _n

Input

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Input voltage	90	230	305	VAC	Single phase or phase -phase 277VAC
Input frequency	47		63	Hz	
Inrush current			<10	A	<5 msec
Input current (rms)		0.7/1		A	115VAC/230VAC Internal fuse 4A, external fuse 6A MCB curve B

No load (no alarm)

Model Number	Quiescent Current			Ethernet Enabled			CAN Enabled			Ethernet + CAN Enabled		
	110VAC	230VAC	Back up	110VAC	230VAC	Back up	110VAC	230VAC	Back up	110VAC	230VAC	Back up
CBI6012A	20	34	27	22	34.5	33.5	21	34	30	23	34.5	36.5
CBI6024A	24.8	34	18.5	27.5	34.5	22.5	26	34.5	22.5	28.5	35	23.7

Output Data

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Turn-on delay			1	Sec	After applying mains voltage
Start up with strong load					Unlimited capacitive load
Ripple and noise		80		mVp-p	20MHz BW
Start from battery only					Push button or terminal block
Time buffering					Switch output off without main input. 0.5; 2.5; 10; 15; 20; 30; 45, 60
Push button - terminal input					Start from battery without main
Dissipation power			6	W	



Battery Output

Parameter	Notes/Conditions
Output voltage battery	Follow the out load
Boost-fast charge configuration 25°C (V/cell) Jumper configuration battery type	Lead acid: 2.4V; NiCd:1.51V, Li-ion:3.65V
Float charge configuration 25°C (V/cell) Jumper configuration battery type	Lead acid: 2.23V; 2.25V; 2.27V; 2.3V NiCd:1.4V, Li-ion:3.45V
Minimum time boost/fast charge (typ. at I _n)	1 minute
Max time bulk charge (typ at I _n)	15 hours
Min time bulk charge (typ at I _n)	1 minute
Trickle charge: depends on battery type (V cell)	2.23V; 2.25V; 2.27V; 2.3V
Ni-Cd: trickle - boost charging V/cell (20 cell)	1.4V - 1.5V
Recovery charge	2 - 10V
End of charging current (bulk & absorption charge)	6% of current limit
Charging current max I _{batt}	I _n ±5%
Charging current limiting I _{adj}	10 / 100 % / I _{batt}
Reverse battery protection	Yes
Sulfated battery check	Yes (by jumper)
Detection of element of short circuit	Yes
Quiescent current on the battery	<5mA
Charging curve automatic: IUoU	4 stage (24V 5 stage)
Fast charge	Boost / Float
Threshold alarm battery almost flat	11.5-12 / 20-21 Vdc batt
Protections against total discharge	10-11 / 19-20 Vdc batt

Safety

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Safety standards	IEC/EN 62368-1, EN 60204				
Isolation: Input to output	3000			VAC	
Isolation: Input to ground	1605			VAC	
Isolation: Output to ground	500			VAC	
Insulation resistance	100			MΩ	

Environmental

Parameter	Min	Typical	Max	Unit	Notes/Conditions
Operating temperature	-25		70	°C	Derating >55 °C -2.5%(in) / °C
Storage temperature	-40		85	°C	
Cooling					Convection
Humidity			95	%/°C	at 25°C no condensation
Altitude	0		2000	m	No restrictions
Altitude	2000		6000	m	Derating 5°C/1000m
MTBF	300			Khrs	IEC 61709
IP			22		

Protections

Parameter	Notes/Conditions
Overload	
Short circuit	
Over voltage output	Typical 35 VDC
Over temperature	
Battery reverse polarity	

EMC

Standard	Notes/Conditions
EN61000-6-2	EMC Immunity
EN61000-6-3	EMC Emissions