

ZEPIA Energy

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ZE-CDB 150 / 200



General description

This ZEPIA product is designed to separate batteries in a dual battery system. When connected to an alternator or other charging device the charging current is highly effectively distributed with almost no voltage drop at all. The product is suitable both in marine and automotive applications.

Features

- Latest MosFET technology
- Low voltage drop, Cool running normal operation
- Cross over function
- Starting current supply to alternator
- Waterproof and shock resistant, IP67
- Powder coated Metal enclosure
- Small and easy to install

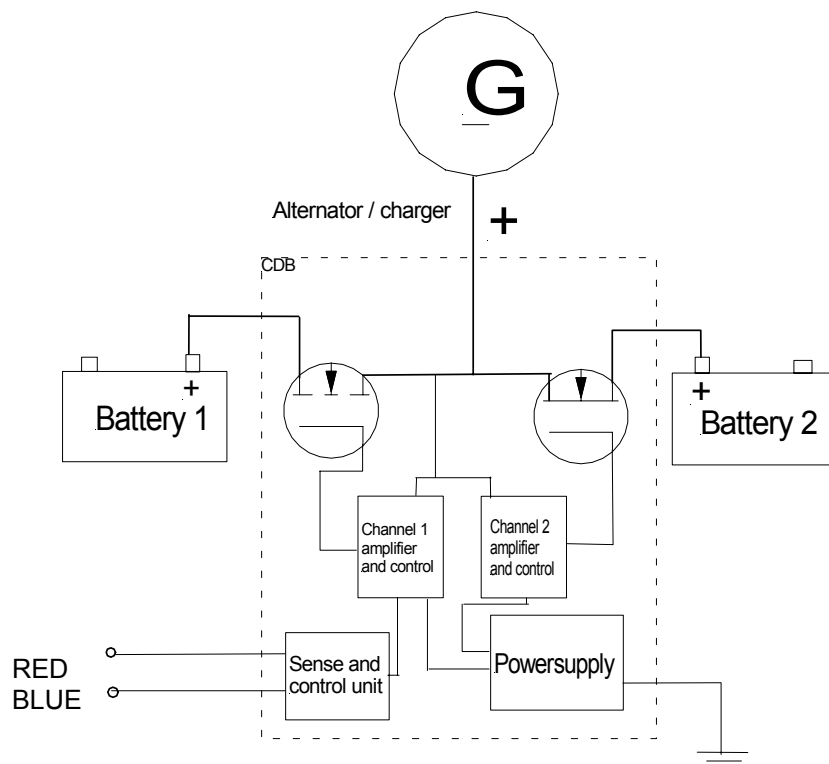
Part number / order information

ZEPIA Energy part number	Max current
0171400	150A
0171420	200A

Theory of operation

The ZE -CDB is a highly effective device when using a double battery systems. The voltage drop occurred by use of a conventional diode splitter is eliminated by the use of a more sophisticated technology based on Mos FET transistors. The result is maintained charging voltage in amplitude and a cool running system with very high efficiency.

Block Diagram



Descriptions of features

Cross over function:

If starter battery become low the Battery 2 can be used to start the engine. By connect the blue wire through a momentary switch to minus a current will flow backwards from battery 2 into battery 1. After a short while there will be enough energy in starter battery to engage the starter engine.

Starting current supply to alternator:

Modern alternators sometimes require a current or a counter voltage in their starting up procedure. By connecting the Red wire to +12/24V during start the alternator will sense the starter battery and start to give output current.

Descriptions of features (cont.)

Waterproof and shock resistant, IP67:

The complete electronics is mounted in the metal enclosure and totally sealed in polyurethane. Water, oil or other substances will thereby be effectively kept out. The ZE-CDB can be mounted in very harsh environment such as engine-compartment due to the encapsulation.

Electrical specifications

ABSOLUTE MAXIMUM RATINGS

Maximum ratings establish the maximum electrical rating to which the unit may be subjected without damage

Parameter	Value	Notes:
Output Current		
Model CDB 150	150Amp	
Model CDB 200	200Amp	
Stand off voltage	32V	Note 1
Heat Sink Temperature	95°C	
Operating Temperature Range	-30°C - +85°C	Note 2
Storage Temperature Range	-55°C- 85°C	

1. This is maximum voltage applied between INPUT and GND that the unit will standoff without causing damage to the unit.

2 The unit generates a significant amount of heat . When determining a mounting location it is important to account for this heat. Adequate ventilation must be provided.

Electrical Characteristics

Unless otherwise stated, conditions apply to full temperature range and full input voltage range.

Characteristic	MIN	TYP	MAX	Unit	Notes:
Input Under Voltage Turn ON	7	8-32	32	V	
Input Over Voltage			32	V	
Quiescent Current off			1	mA	
Quiescent Current on			25	mA	
Current handling capacity		150	230 (1sec)	A	0171400
		200	320 (1sec)	A	0171420
Max. voltage drop 30A:		30		mV	0171400
Max. voltage drop 100A :		150		mV	0171400
Max. voltage drop 30A:		15		mV	0171420
Max. voltage drop 100A :		100		mV	0171420

Environmental Specifications

Parameter	Level	Conditions / Notes
Humidity	0 – 100 %RH	
Splash	Yes, IP67	
Pressure Wash	Yes, IP67	
Dust Bombardment	n/a	
Mechanical Vibration	40G	according to standard IEC 60068-2-6
Handling Shock	Will Show Damage	

Mechanical specifications

The unit utilizes three M8 bolts to making power connections. 0171420 uses M10 bolts. Each bolt is designed to accommodate a cable shoe with a thickness of maximum 8mm. The maximum torque when mounting the hexnut is 7Nm This prevents rotation of the head when tightening the nut.

The control connections are 0,75mm² RK copper cable with loose ends. Length 0,5M

Finish: Grey RAL 7035 powder coated aluminium

Potting material: Polyurethane

Terminals: Galvanized steel bolt with hex nut.

Hardware Included: Bolts – 3X, M8 Hex Head, Galvanized Steel, 0171400
Bolts – 3X, M10 Hex Head, Galvanized Steel, 0171420
Washers – 3X, M8, Galvanized Steel, 0171400
Washers – 3X, M10, Galvanized Steel, 0171420

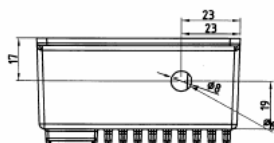
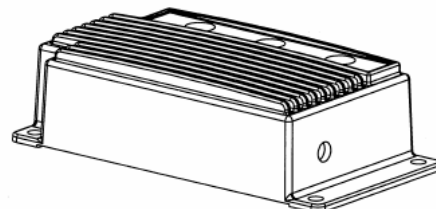
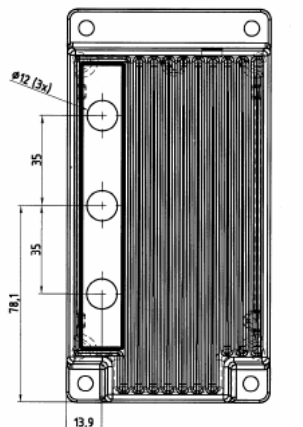
Maximum Torque: 7NM

Mounting Slots: 4X, Accepts M4-M6 (6mm diam) Hardware (not included)

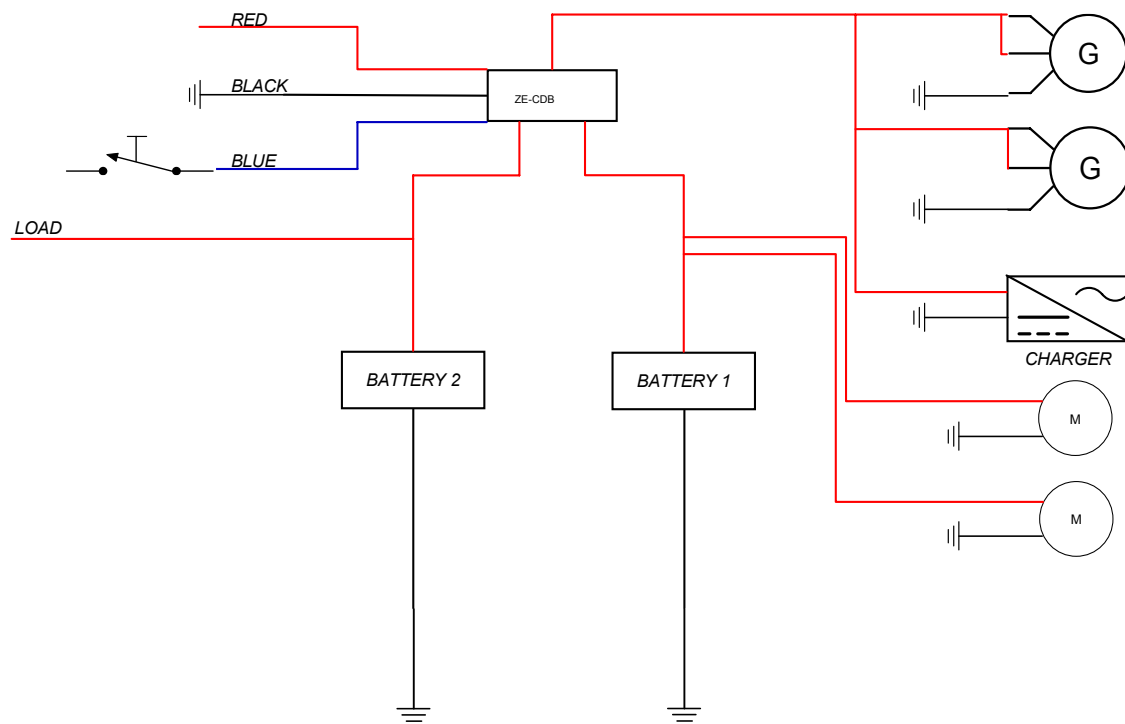
Weight: 0171400: 1,1Kg 0171420: 1,6Kg

Unit Dimensions: 0171400: 155 x 80 x 43 (Height 63mm including bolts)
0171420: 198 x 98 x 42 (Height 65mm including bolts)

0171400



Connection and installation:



Installation hints:

The unit generates a significant amount of heat. When determining a mounting location it is important to account for this heat. Adequate ventilation must be provided.

Safety regulations and measures

Install the device according to the stated instructions.

Never use the ZE-CDB at a location where there is danger of gas or dust explosions.

Connections and safety features must be executed according to the locally applicable regulations.

Use cables with appropriate size wire and keep the cable connections as short as possible. Use reliable terminals and fasten the bolts tightly, but do not over torque.