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LEAB EDR 12/75 24/50



General description

This Primepower product is designed to separate batteries in a dual battery system. When connected to an alternator or other charging device the charging current is distributed to a second battery through the device. This condition is voltage controlled.
The product is suitable both in marine and automotive applications.

Features

- Low voltage drop, Cool running normal operation
- Waterproof and shock resistant, IP65
- Compact plastic enclosure
- Small and easy to install

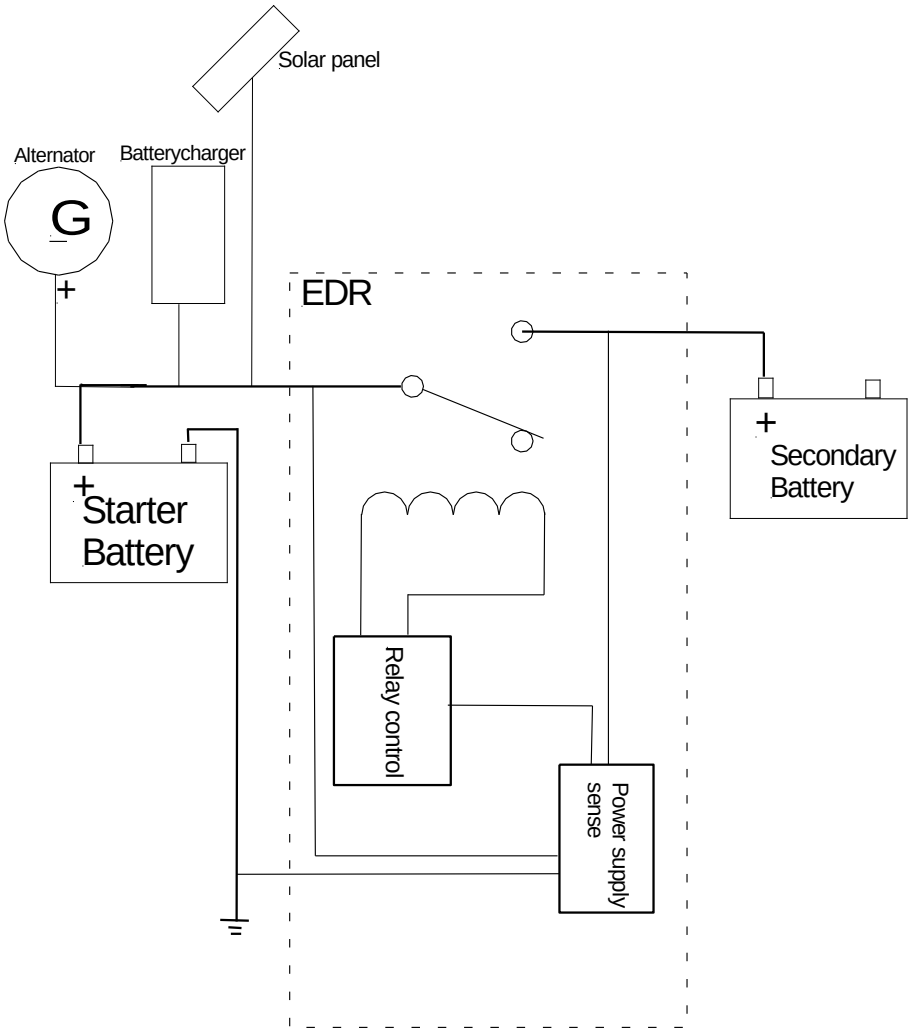
Part number / order information

Primepower part number	Max current	Nom voltage
0171200	75A	12V
0171250	50A	24V

Theory of operation

The Leab EDR is an electronically controlled relay for charging two or more batteries. The EDR is installed between the primary and the secondary battery. The relay is open until the primary battery reaches the correct voltage. It then closes and both batteries are charged until full. When consuming energy the battery voltage will sink. The relay then opens and continued consumption will only affect the secondary battery leaving the primary battery next to fully charged. The EDR unit has a built in timer that causes the yellow LED to light up a few seconds after the primary battery reaches correct voltage and goes out a few seconds after charging stops.
The voltage drop occurred by use of a conventional diode splitter is eliminated by the use of a relay. The result is maintained charging voltage in amplitude and a cool running system with high efficiency. The build in electronics is constantly measuring the system voltage level and connect the secondary battery only when correct level is reached.

Block Diagram



The relay will be activated when voltage level is 13,5V (0171200) and 27V (0171250).
The turn off voltage is 12,7 (0171200) and 25,8V (0171250)

Descriptions of features

Waterproof and shock resistant, IP67:
The complete electronics is mounted in the plastic enclosure and totally sealed in polyurethane. Water, oil or other substances will thereby be effectively kept out. The EDR 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:
Max Current		
Model EDR 12/75	Cont. 75Amp Peek 300Amp	
Model EDR 24/50	Cont. 50Amp Peek 150amp	
Stand off voltage	18V / 40V	Note 1
Enclosure Temperature	60°C	
Operating Temperature Range	-30°C - +85°C	
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. 0171200 / 0171250

Electrical Characteristics

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

Characteristic		MIN	TYP	MAX	Unit	Notes:
Input Voltage Turn ON		13,2	13,5	13,85	V	0171200
Input Voltage Turn OFF		12,5	12,7	13,0	V	0171200
Input Voltage Turn ON		26,9	27,5	27,9	V	0171250
Input Voltage Turn OFF		25,2	25,8	26,2	V	0171250
Input Over Voltage				18	V	0171200
				40	V	0171250
Quiescent Current off				< 1	mA	
Quiescent Current on	0171200			280	mA	
	0171250			230	mA	
Current handling capacity			75	300 (0,1sec)	A	
			50	150(0,1sec)	A	

Environmental Specifications

Parameter	Level	Conditions / Notes
Humidity	0 – 100 %RH	
Splash	Yes, IP65	
Pressure Wash	Yes, IP65	
Mechanical Vibration	20G	according to standard IEC 60068-2-6
Handling Shock	Will Show Damage	

Mechanical specifications

The unit utilizes two M6 bolts to making power connections. Each bolt is designed to accommodate a cable shoe with a thickness of maximum 8mm.

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

Finish: Black PVC box.

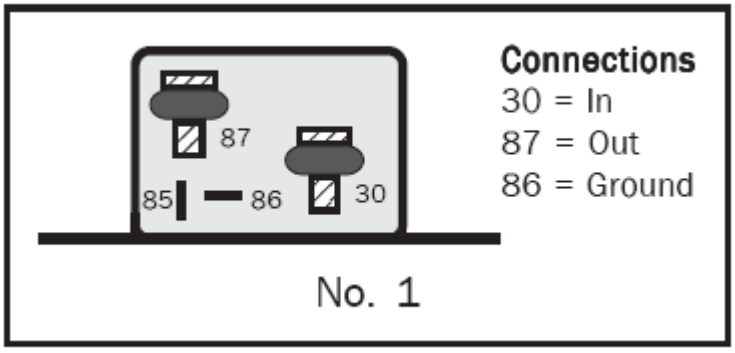
Potting material: Polyurethane

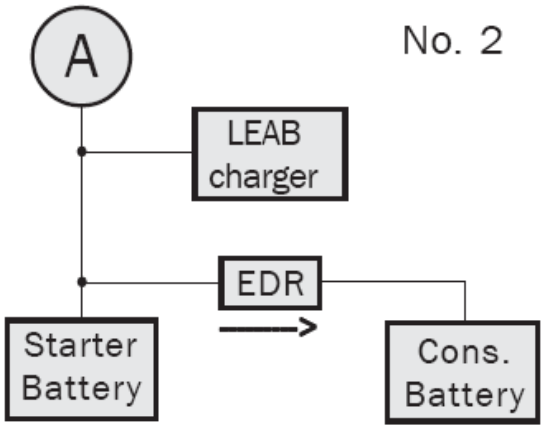
Terminals: galvanized steel bolt with hex head

Hardware Included: Bolts – 2X, M6 Hex Head, Galvanized Steel,

Maximum Torque: 5NM
Mounting Slots: 2X, Accepts M4-M5 (5mm diam) Hardware included)
Weight: 0,2Kg
Unit Dimensions: 75 x 70 x 33 with mounting flange

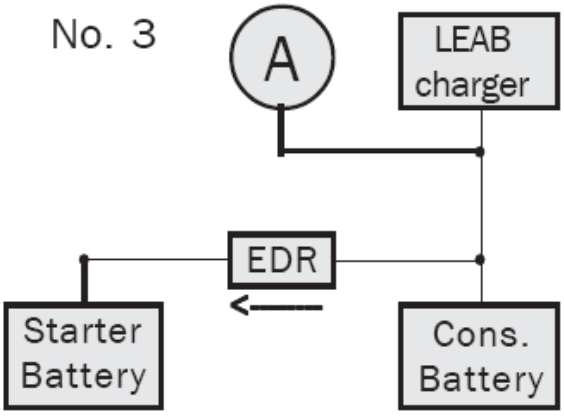
Connection and installation:





No. 2

No. 3



Install the EDR preferably vertical with the cable connectors down. Use maximum 1 m long cables to the primary battery.Use cables with minimum 10 mm2 area.

Approvments according : EN 55022 CE and **e** mark e5 0087

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