

primepower

Idavägen 11
352 46 Växjö
Tel +46 470 72 74 95
Fax +46 470 72 74 99
www.primepower.se

LEAB ABC family



1600



600 / 800



3200

Art 0036XXX

2006-08-07	Utg 1	P101-005				
MH	LEAB ABC family				0036XXX	

General description

This Primepower product is a high efficient, intelligent and very compact battery charger. Suitable for all Lead acid batteries. It is a switch mode design and includes the latest component and technology in power conversion. The internal micro controller controls the charging phase. The charging phases are monitored and adjusted continuously during the charging process.

The product is suitable both in marine and automotive applications.

Features

- Latest MosFET technology fullbridge
- PFC controlled input circuit
- Microprocessor controlled charging algorithm
- Adaptable to different battery types
- High efficiency, Cool running normal operation
- Small and easy to install

Part number / order information

Primepower part number	Specification	Cabinett/size
0036120	12V / 20A	600/800
0036130	12V / 30A	600/800
0036155	12V / 40A	600/800
0036160	12V / 50A	600/800
0036170	12V / 60A	1600
0036180	12V / 130A	3200
0036181	12V / 200A	3200
0036020	24V / 20A	600/800
0036030	24V / 30A	600/800
0036040	24V / 40A	1600
0036050	24V / 50A	1600
0036061	24V / 60A	1600
0036100	24V / 100A	3200
0036110	24V / 127A	3200
0036320	36V / 20A	600/800
0036340	36V / 40A	1600
0036395	36V / 95A	3200

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0036415	48V / 15A	600/800
0036430	48V / 30A	1600
0036450	48V / 64A	3200
0036470	72V / 10A	600/800
0036475	72V / 20A	1600
0036478	72V / 40A	3200
0036480	96V / 8A	600/800
0036482	96V / 15A	1600
0036485	96V / 30A	3200

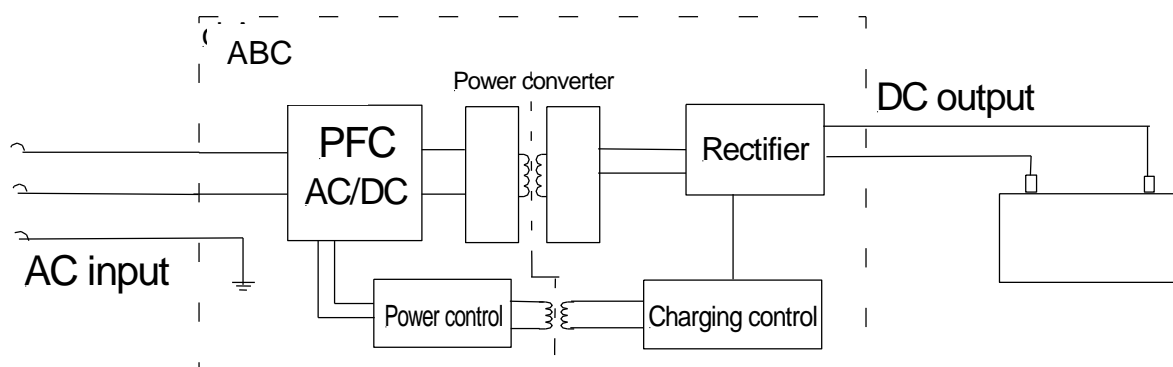
Numbers shows the basic standard models
Different charging algorithms or cables results into other article numbers.

Theory of operation

The Primepower LEAB ABC family is one of the most compact battery chargers available.

The input AC voltage is feed through a passive PFC stage and converted into a DC Voltage of approx 400V. A high frequency switch –full bridge- convert the 400VDC into the appropriate DC voltage . This voltage is controlled by the internal micro controller and rectified to a correct charging voltage on output.

Block Diagram



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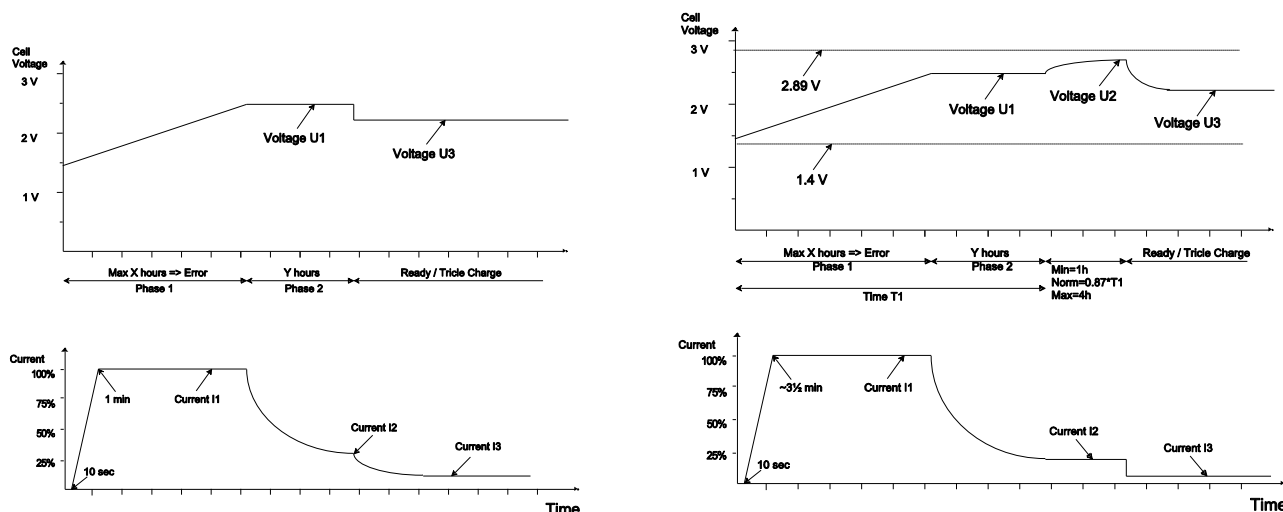
Charging algorithm

The charging in standard program is indicated as follows:

Step 1, the bulk phase is indicated with the yellow LED.

This indication is kept through step 2.

When the current is below threshold level (according to chosen software) the charger goes into step 3 and the LED turns green. The LED is turned on as long as the charger is connected to mains.



Descriptions of features

The standard programming is suitable for Lead acid batteries -Open or gel-, in most applications. The charger has an internal set of 15 different charging curves presetted by the switch accessible from the front. The software can be changed to fit different applications or batteries

Electrical specifications

ABSOLUTE MAXIMUM RATINGS

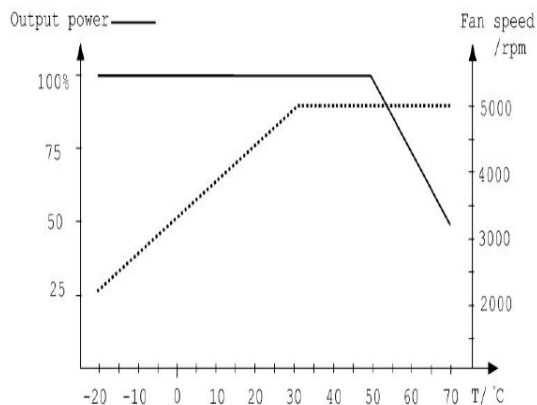
Maximum ratings establish the maximum electrical rating to which the unit may be subjected without damage

Parameter	Value	Units	Notes
Output Current / Voltage 600W	20	A	Tot 600W
	96	V	Nom.
Output Current / Voltage 800W	30	A	Tot 800W
	96	V	Nom.
Output Current / Voltage 1600W	60	A	Tot 1800W
	96	V	nom
Output Current / Voltage 3200W	200	A	Tot 3200W
	144	V	nom

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Stand off voltage	+25% of nom voltage	V	Nom 12V
Heat Sink Temperature	65	°C	
Operating Temperature Range	-30°C - +60°C		Note 1
Storage Temperature Range	-55°C- 85°C		

1. The out put is derated when ambient temperature excess 55 degrees



Electrical Characteristics

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

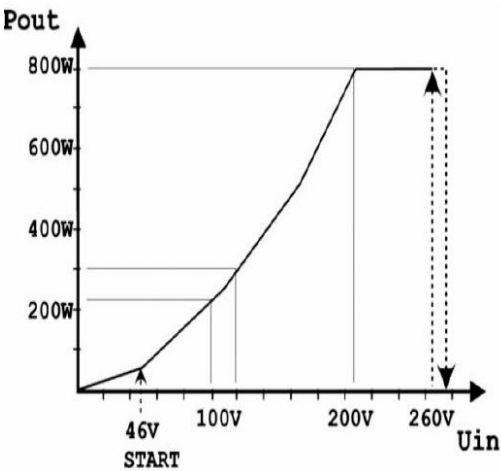
Characteristic	MIN	TYP	MAX	Unit	Notes:
Input Voltage	90	230	270	VAC	1
Input frequency		0 – 400Hz			
Input Over Voltage			285	VAC	
Inrush current		<30A cold start, use "c" characteristic fuse			
Quiescent Current off			<2	mA	
Quiescent Current on			150	mA	
Switch frequense		100Khz			
Isolation voltage		3750VAC between input and output 1500VAC between input and case 500VAC between output and case			
Greepages		8mm between input and output 3mm between input and case 1,4mm between output and case			

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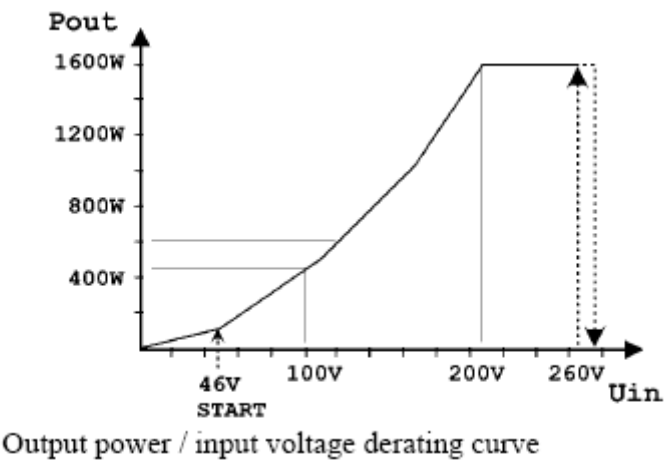
Efficiency >88%

Protection class Electrical class1 (600/800 available in class II)

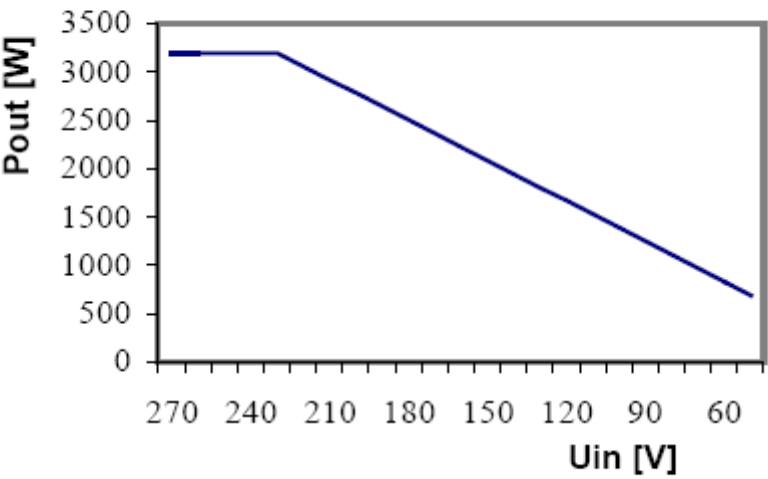
1. Reduced output power < 200VAC



600/800W



1600W



Output power / input voltage de rating curve
3200W

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Environmental Specifications

Ambient temperature

Storage Temperature Range -55°C- 85°C

Operating Temperature Range -30°C - +60°C

Mechanical specifications

Mechanical IP 20

Finish: Extruded aluminium eloxerad

Unit Dimensions:	600/800	225 x 112 x 73	1,5Kg
	1600	268 x 125 x 85	1,6Kg
	3200	415 x 250 x 85	8,0Kg

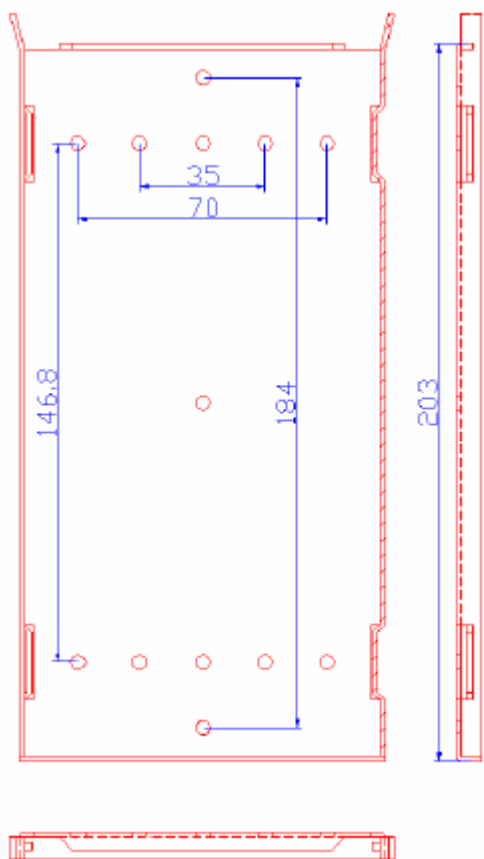
Connection and installation:

The AC connection is with standard PVC cord Length 1,5M. 3x0,75 1,5M, 6/800W. 3
x1,5mm² 1600W, 3 x 2,5mm² 3200W.

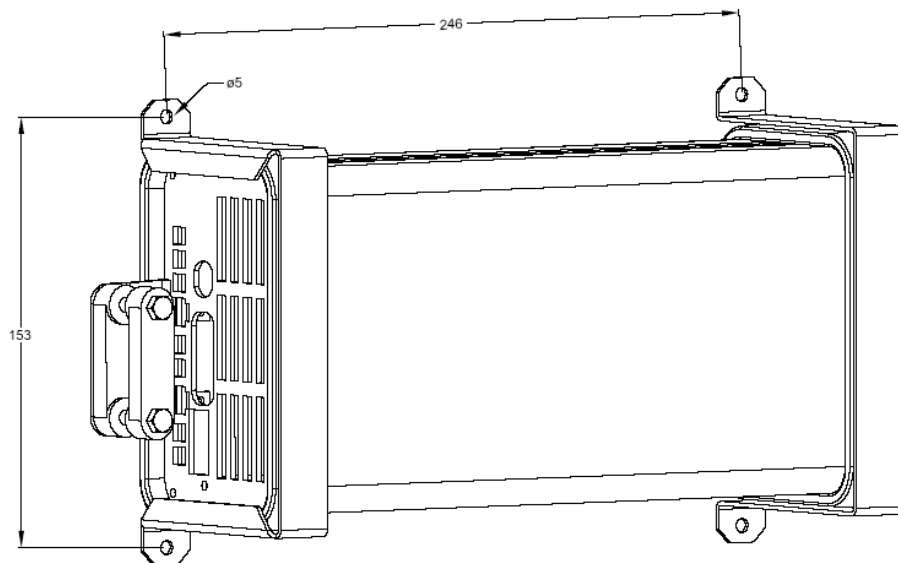
The DC connection is RK twincable 1,5m, 6mm² up to 30A, 10mm² up to 50A, 16mm²
up to 60amp, 25mm² up to 130A, 50mm² > 150amp

Mounting bracket 600/800:

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Mounting 1600

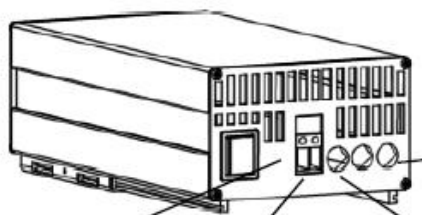
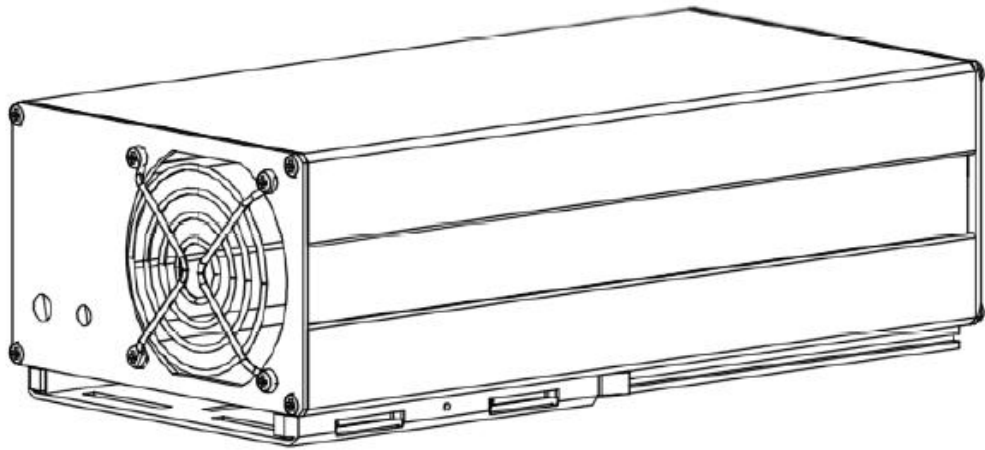


Mount the charger with LED:s facing downwards. This will maintain an efficient cooling and a maximum output current during the whole charging cycle.
 Do not extend charging cables. That may affect the charging result.
 Batteries can generate explosive gases - avoid open flames or sparks
 It is not allowed to modify the main cable.
 No reliability will be accepted for damages occurred by use without observation.

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600/800

Measurements 112 x 220 x 73 mm
weight 1,5kg



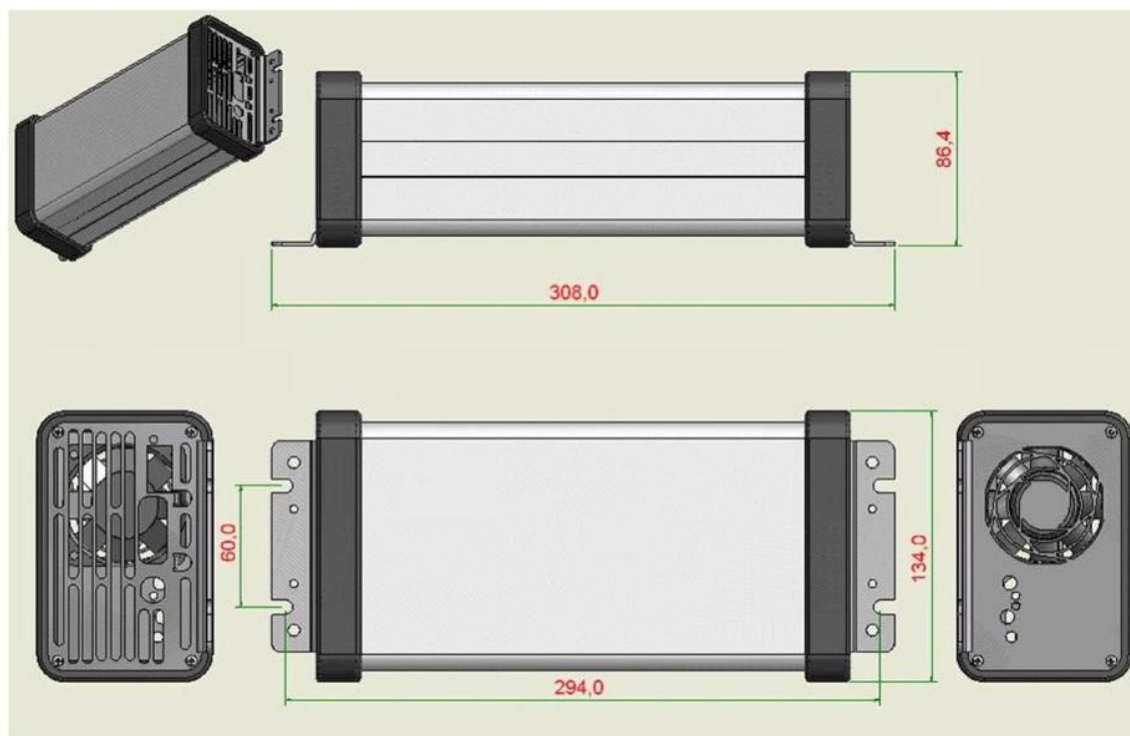
AC Mains 3x0,75

Remote control connector 4p modular White

Output DC Cables: 2 x 6 mm² twin

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1600



Features / Options

External LED

All models has an optional output for external LED

Alarm relay models

On models with an alarm relay, the alarm relay output indicates whether the output voltage is healthy or not. The alarm signal is activated in case of an AC failure or charger failure. Both normally closed signals and normally open contacts are available.

Pin configuration, modular jack J5 with alarm relay option

Relay

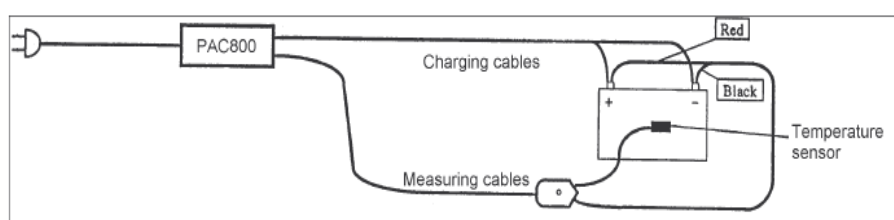
Isolation: Output to case: 500V

Output to gnd: 120V

Technical data: 0,5A@24Vdc 0,5A@120Vac

Voltage and Tempense

External temp and voltage



Available to all models, Temp and voltage cable

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IP44 Kapsling



Approvmnts

Low Voltage Directive, 2006/95/EC, the EMC Directive, 2004/108/EC, including amendments by the CE marking Directive, 93/68/EEC

The following harmonised European standards or technical specifications have been applied :

Standards Test reports issued by Regarding

EN 60 335-1 Intertek SEMKO electrical safety

EN 60 335-2-29 ,SS 4330770 Intertek SEMKO electrical safety

EN 61204-3:2000 Intertek SEMKO EMC emission

EN 61204-3:2000 Intertek SEMKO EMC immunity

EN 50366:2003+A1 Intertek SEMKO EMF, magnetics

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