

DBL1903-14

Charging Computer

for lead acid / AGM / gel / fleece / Lithium-Ion batteries



Abbildung ähnlich / device similar to figure



DBL1903-14 - derivative table

Type	Input voltage	Typ. output voltage (configurable)*			Output current Boost / Nom.	Cat. No.**
		Charge Pb / LiFe	LTC Pb / LiFe	FSV		
DBL1903-14	100-240 VAC	14,4 / 14,0 V	14,4 / 14,0 V	14,0 V	120 A / 100 A	107241/x/yyy
DBL1903-14	100-240 VAC	14,4 / 14,0 V	14,4 / 14,0 V	14,0 V	120 A	107244/x/yyy
DBL1603-14	100-240 VAC	14,4 / 14,0 V	14,4 / 14,0 V	14,0 V	105 A / 90 A	107242/x/yyy
DBL1303-14	100-240 VAC	14,4 / 14,0 V	14,4 / 14,0 V	14,0 V	90 A / 80 A	107243/x/yyy

* Charging voltages can be customized on request. The actual charging voltage depends on the prevailing operating state.

**Setting /yyy: see 9 - Functional description

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1 Input

Input voltage range AC	100 - 240 VAC	tolerance: 85 - 265 VAC
Input frequency	50 - 60 Hz	tolerance: 45 - 65 Hz
Inrush current	No inrush current	active regulated current limitation ($I_{inrush} < \text{current consumption at full load}$)
Current consumption at full load	< 15 A	-
Power factor	typ. 0,95	-
No-load power	< 7 W	On Standby (operating mode selection) With active load detection

2 Output

Output voltage	-	see DBL1903-14 - derivative table on page 1
Continuous output current	max. 120 A (@DBL1903) max. 105 A (@DBL1603) max. 90 A (@DBL1303)	Boost / Nom. typ. 1 min. / 4 min.
Output power	< 1900 W (@DBL1903) < 1600 W (@DBL1603) < 1300 W (@DBL1303)	automatic power regulation depending on input voltage, ambient temperature and load condition
Nominal output voltage U_{nom}	14,0 VDC	Reference value for tolerance specifications
Initial tolerance $N_{initial}$	$\pm 0,4\% U_{nom}$	-
Load regulation tolerance N_{load}	$+0,3\% / -0,4\% U_{nom}$	-
Overall tolerance $N_{overall}$ 0 - 20 Hz	$+0,7\% / -0,8\% U_{nom}$	$N_{overall} = N_{initial} + N_{load} + N_{line}$
Ripple & Noise N_{RN}	$< \pm 1,3\% U_{nom}$	< 350 mVpp
Overall toleranz $N_{overall}$ 0 - 20 MHz	$+2,0\% / -2,1\% U_{nom}$	$N_{overall} = N_{initial} + N_{load} + N_{RN}$

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3 Environment

Operating temperature	-25 °C...+60 °C	automatic output power derating
Storage temperature	-40 °C...+85 °C	-
Humidity	max. 95%	no operation in presence of dewing allowed
Pollution degree	2	acc. to EN50178
Climatic category	3K3	acc. to EN60721
Degree of protection	IP54	EN60529

4 General data

Protective system	Class I	-
Isolation voltage	3000 VAC 500 VDC	Input / output Output / enclosure
Efficiency	typ. 92%	-
Enclosure	-	Metal (Aluminium), especially designed for car manufacturer and service stations. Mounting option via 6 screws size M6 at the side.
Dimensions (WxHxD)	ca. 295 x 145,5 x 340mm	see fig. 7.1
Weight	approx. 7,2 kg	without cables, without package

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5 Standards

EMC (Electromagnetic compatibility)

Title	Standard	Data
RF-Emission	EN55011	group 1, class B
Harmonic current emissions	EN61000-3-2	-
Immunity	EN61000-6-2	Immunity standard for industrial environments (Charging cable < 15m; USB-cable < 3m; Ethernet-cable < 30m)

Electrical safety

Title	Standard	Data
Electrical safety	EN60335, UL60335-2-29, CAN/CSA C22.2 No. 107.2-01	-

6 Installation and Safety Instructions

Cooling	Natural convection	Temperature monitoring (Automatic electronic power reduction at too high temperatures due to insufficient or missing cooling)
Mounting position	any	Fold out the appliance feet on a solid surface when the appliance is in the horizontal operating position.
Connection input	IEC/EN 60320, C20	-
Connection output	-	Welding cable connector (plug [-] / socket [+]) for wire cross section at least 16qmm (@DBL1303 & DBL1603) respectively 25qmm (@DBL1903) and typ. total length ≤ 15m.
USB connection	-	For connection to the USB ports, use USB cables with foil and braided shielding with a total length < 3m.
Ethernet connection	-	For connection to the Ethernet port, use a shielded Ethernet cable category CAT5e or higher with shielded network connector with a total length < 30m.
Transient over voltage protection	-	Varistor (6,5 kA / 220 J)
Reverse polarity protection output	-	In case of wrong polarity the charging process is interrupted

The general installation and safety instructions for charging computers can be found at www.deutronic.com

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7 Dimensions

All dimensions are given in millimeters and have a general tolerance according to DIN ISO 2768 - m.
 The integrated output cables (included in delivery) are not shown in this drawing.

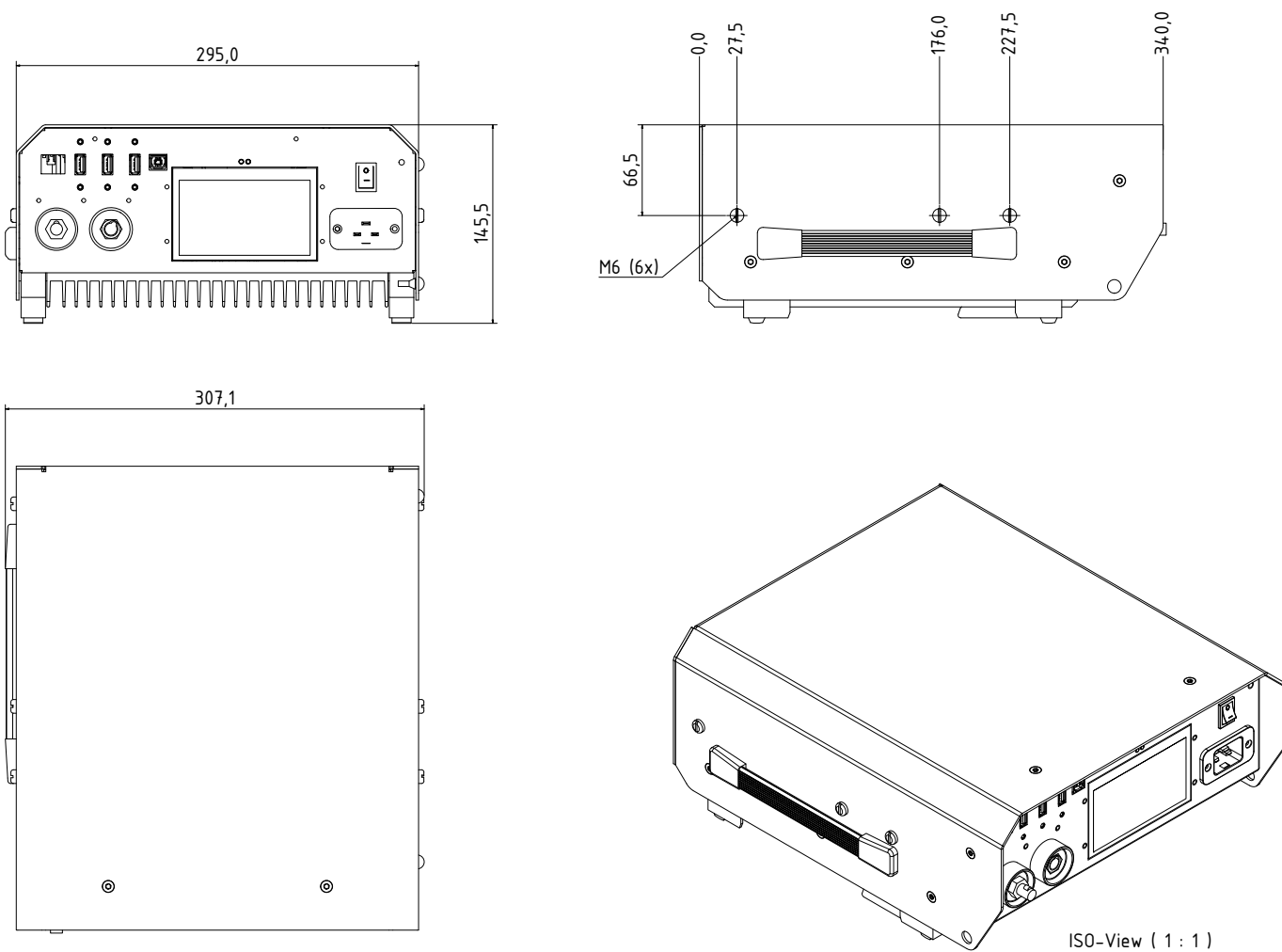


Figure 7.1: Dimensions

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8 Interfaces

Ethernet-Interface	max. 100 Mbit/s	Device control via ethernet possible, Power over ethernet
3x USB-Typ-A Host - Interface	FW-Update/Setting via USB-Stick possible	possible Accessory-Adapter (on request): <ul style="list-style-type: none"> · Retrofit 25-pol. SUB-D (function e.g. pot. free Relay, Remote ON/OFF, Connection DBL-SIG Signalindicator, etc.) · USB-Signalindicator · IO-Link (on request) · Wireless-Adapter (on request)
USB-Client - Interface	-	Service-Interface
Signalization	Power-LED (white / red) Status-LED (RGB-LED)	-
4,3" Touch-Display	Large size graphic display	Display of charging mode, current, voltage, device status, charging status, active adapters, menu structure.

9 Functional description

Features	-	Load detection, reverse polarity, short circuit and over voltage protection (OVP), cable compensation Hint: The cable compensation function is not activated as standard ex works.
Output (Factory settings)	-	Output voltage monitored by OVP (over voltage protection) and complete disable of output current if preset charging voltage limit is exceeded. Extensive functional description of the charger's features see operating instructions.
Current limiting	-	According to the operation state, the current limit is automatically adjusted during operation.
Operating modes	Standard setting /000	<ul style="list-style-type: none"> · Pb-Charging · Li-Charging · Pb-Long-Time-Charging (Pb-LTC) · Li-Long-Time-Charging (Li-LTC) · External-Power-Supply (FSV) · PowerUp · Auto mode function (automatic detection of FSV/Charging) · Additionally 5 individually configurable charging modes Hint: For more details, please refer to the corresponding operating instructions.
	Customized setting /yyy	On request: <ul style="list-style-type: none"> · Universal configurations and charging programs · Autodetect functionality (automatic detection Pb/Li)

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10 Characteristics

Note: Figure valid for all device variants, max. current depending on the order variant.

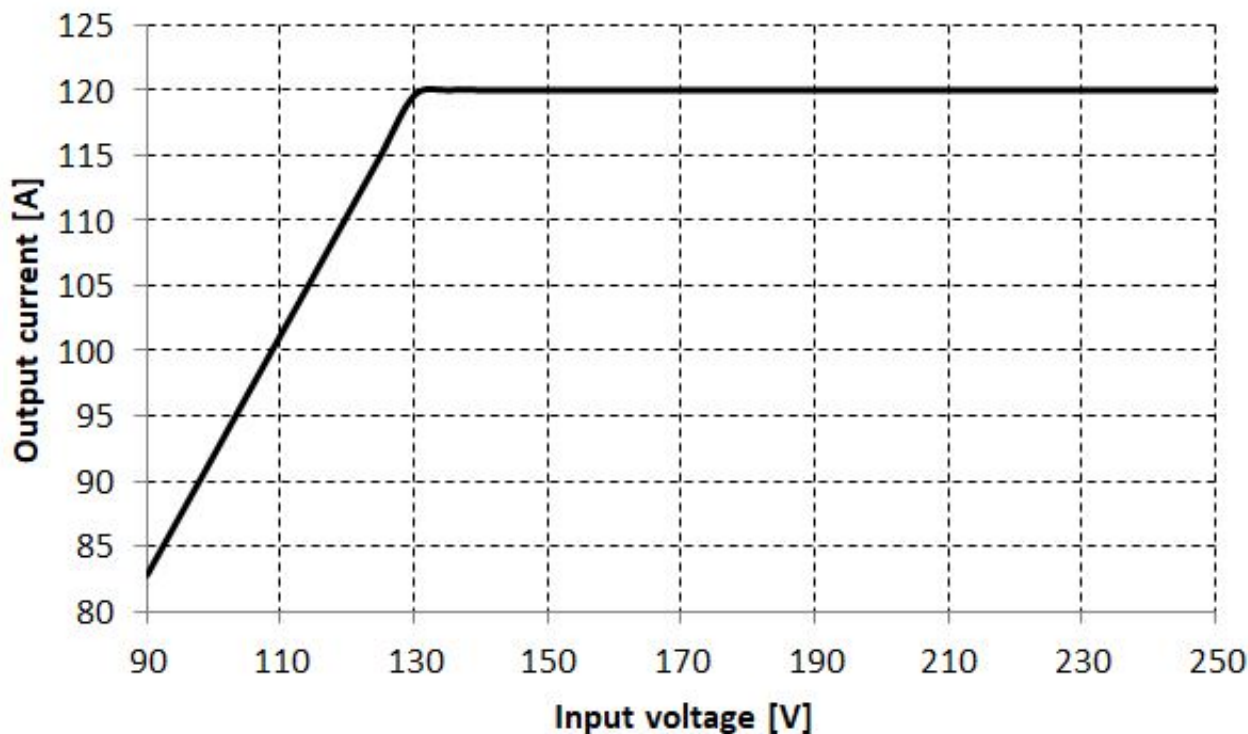


Figure 10.1: Max. output current depending on input voltage

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