

SC750

SmartCharger

Intelligent charger for lead acid / AGM / VRLA / LiFePO4 batteries



Abbildung ähnlich / device similar to figure



SC750 - derivative table

Type	Input voltage	Typ. output voltage (configurable)*			Output current**	Cat. No.
		Charge Pb / LiFe	LTC*** Pb / LiFe	FSV****		
SC500GEN2-14	100-240 VAC	14,4 / 14,0 V	14,4 / 14,0 V	14,0 V	35 A	107144/20/000
SC750-14	100-240 VAC	14,4 / 14,0 V	14,4 / 14,0 V	14,0 V	50 A	107146/x/yyyy

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

** See functional description "current limiting"

*** Long term charge

**** Power supply mode

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.../x/...	Accessory variant
.../20/...	5 m mains cable (with European input plug) 3 m charging cable with breakaway coupling and clamps
.../21/...	5 m mains cable (USA/Canada/Japan – Nema 5-15 3-pole) 3 m charging cable with breakaway coupling and clamps
.../22/...	5 m mains cable (with CN/AUS/NZL input plug) 3 m charging cable with breakaway coupling and clamps
.../23/...	5 m mains cable (with UK/Ireland/Hongkong input plug) 3 m charging cable with breakaway coupling and clamps

.../yyy	Setting (Standard setting or customized)
.../000	DC-Standard
Customer-specific parameterization on request	

1 Input

Input voltage range AC	100 - 240 VAC	tolerance: 85 - 265 VAC
Input frequency	50 - 60 Hz	tolerance: 45 - 65 Hz
Input voltage range DC	140 - 340 VDC	tolerance: 130 - 350 VDC
Inrush current	No inrush current	active regulated current limitation ($I_{inrush} < \text{current consumption at full load}$)
Current consumption at full load	< 6 A / < 8 A	SC500GEN2-14 / SC750-14
Power factor	> 0,95	-
No-load power	< 3 W < 6 W	On Standby (operating mode selection) With active load detection

2 Output

Output voltage		see on page 1
Continuous output current	max. 35 A max. 50 A	SC500GEN2-14 SC750-14
Current limiting	< 1 % I_{max}	of max. output current
Output power	< 525 / 750 W	SC500GEN2-14 / SC750-14 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 $N_{initial}$	$\pm 0,5 \% U_{nom}$	-
Load regulation tolerance N_{load}	+ 0,5 % / -2,0 % U_{nom}	-

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Ripple & Noise N_{RN}	$\pm 1,8 \% U_{nom}$	< 300 mVpp, typ. < 200 mVpp, 20 MHz measurement bandwidth
Overall toleranz $N_{overall}$ 0 - 20 MHz	+ 2,8 % / - 4,3 % U_{nom}	$N_{overall} = N_{initial} + N_{load} + N_{RN}$
Load regulation dynamic (10-90%)	< 10%	-
Recovery time	< 2 ms	-
Temperature drift	< 1 % (-25°C...+60°C)	typ. 0,5 % (-25°C...+60°C); typ. 0,2 % (0...40°C)
Operating modes	Charge Pb / Charge Pb LTC / Charge LiFe / Charge LiFe LTC / Power supply / PowerUp / Automatic cable compensation	Other modes on request. By default on delivery cable compensation is not active

3 EMC (Electromagnetic compatibility)

RF-Emission	EN55011	group 1, class B
Harmonic current emissions	EN61000-3-2	-
Immunity	EN61000-6-2	Immunity standard for industrial environments

4 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

5 General data

Electrical safety		EN60335, UL1236, CAN/CSA C22.2 No. 107.2-01
Protective system	Class I	-
Isolation voltage	3000 VAC 500 VDC	Input / output Output / enclosure
Efficiency	typ. 91%	-

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Enclosure		Metal (Aluminium), especially designed for car manufacturer and service stations. Plastic caps lateral.
Service interface	Mini-USB	-
Dimensions		see fig. 7.1
Weight	approx. 5,2 kg	with charging cable, without mains cable and without package

6 Installation and Safety Instructions

In addition to the general installation and safety instructions for SmartCharger, the following values and supplements apply:

Cooling	Natural convection	Temperature monitoring (Automatic electronic power reduction at too high temperatures due to insufficient or missing cooling)
Mounting position	-	any
Connection input	IEC/EN 60320, C14	-
Connection output		approx. 3 m Charging cable with integrated plug contact / predetermined breaking point (on the device side a cable piece of approx. 1m is permanently mounted and a cable piece including charging tongs of approx. 2 m can be flexibly adapted)
Input fuse	F1 (10 A T)/250 V	(6,3x32) mm
Transient over voltage protection	Varistor (6,5 kA / 190 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

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.

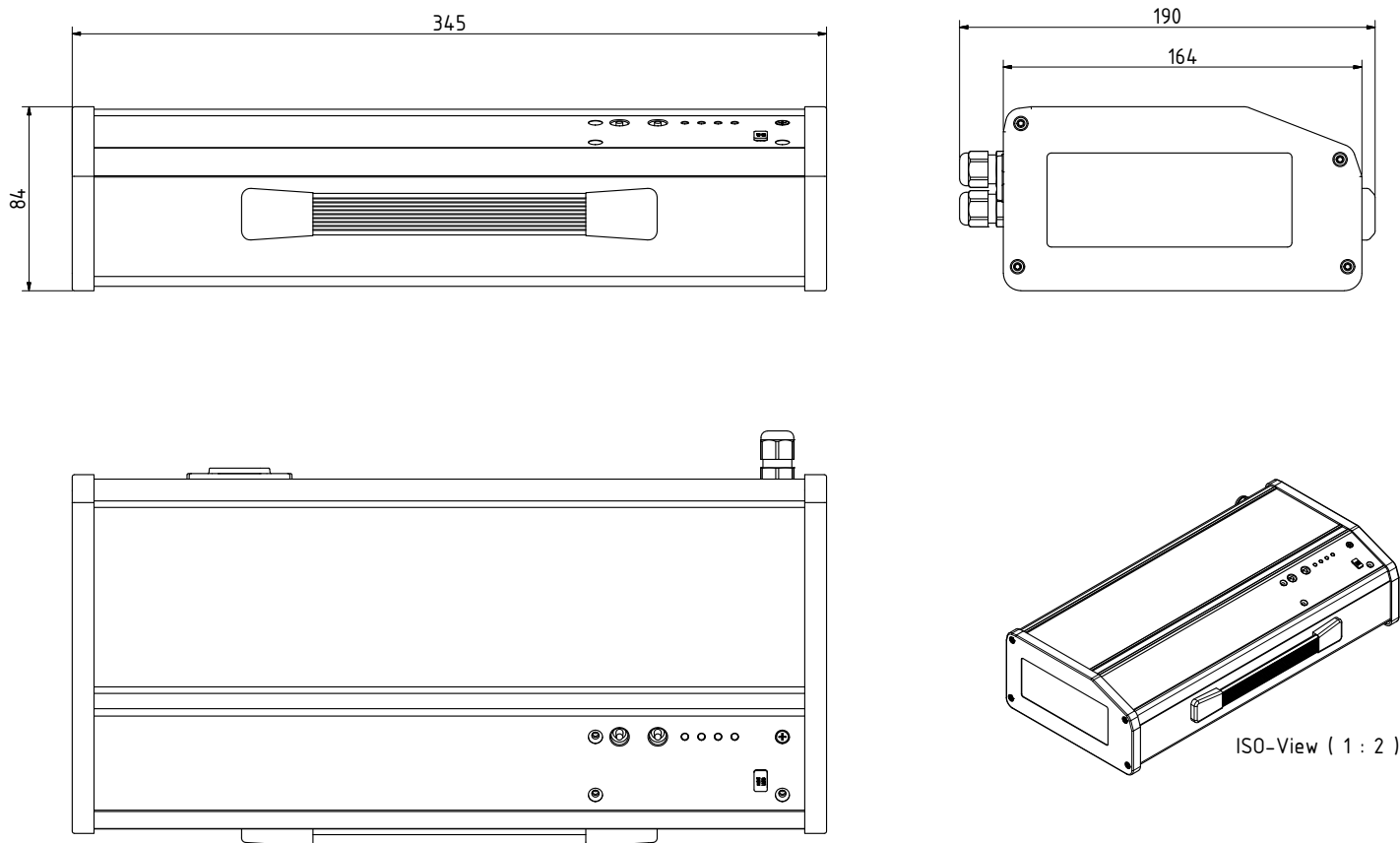


Figure 7.1: Dimensions

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8 Function description

Features

Load detection, reverse polarity, short circuit and over voltage protection (OVP), cable compensation

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.

Charge Mode (Factory settings)

For more details on the individual modes, such as LTC Pb, LTC, LiFe, refer to the corresponding operating instructions.

Current limiting

According to the operation state the current limit is automatically adjusted during operation.

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