

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.

Accessories /x/:

- /0/: WITHOUT accessories
- /20/: with power cable Europe and charging cable set (3.0m/6mm²) with charging clamps
- /21/: with power cable USA/Canada/Japan (3.0m/6mm²) with charging clamps
- /22/: with power cable China/Australia/New Zealand and charging cable set (3.0m/6mm²) with charging clamps
- /23/: with power cable UK/Ireland/Hong Kong and charging cable set (3.0m/6mm²) with charging clamps

Setting /yyy: see 9 - Function Description

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Alle Daten gemessen bei 230V/50Hz, 35/50 A und 25°C Umgebungstemperatur, wenn nicht anders gekennzeichnet. I All parameters are specified at 230V/50Hz, 35/50 A and 25°C ambient, if not marked otherwise.
Technische Änderungen und Irrtümer vorbehalten. I Technical modifications and mistakes reserved.

Mit den Angaben im Katalog und in den Datenblättern werden Produkte beschrieben, nicht Eigenschaften zugesichert. Belastung mit „Grenzwerten“ (einfache Kombination) ist zulässig ohne bleibende Schäden der Produkte. Betrieb der Geräte mit Grenzwertbelastung für längere Zeit kann die Zuverlässigkeit beeinträchtigen. Grenzwerttoleranzen unterliegen üblichen Schwankungen. I Products are described by information contained in catalogs and data-sheets. It is not be considered as assured qualities. Stresses listed under „Maximum Rating“ (one at a time) may be applied to devices without resulting in permanent damage. The operation of the equipment for extended periods may affect device reliability. Limiting value tolerance are subject to usual fluctuation margins.

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	$< 6 \text{ A} / < 8 \text{ A}$	SC500GEN2-14 / SC750-14
Power factor	$> 0,95$	-
No-load power	$< 3 \text{ W}$ $< 6 \text{ W}$	On Standby (operating mode selection) With active load detection

2 Output

Output voltage		see SC750 - derivative table 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	$< 525 / 750 \text{ W}$	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}	$+ 0,5 \% / -2,0 \% U_{nom}$	-
Ripple & Noise N_{RN}	$\pm 1,8 \% U_{nom}$	$< 300 \text{ mVpp}$, typ. $< 200 \text{ mVpp}$, 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	$< 2 \text{ ms}$	-
Temperature drift	$< 1 \% (-25^{\circ}\text{C}...+60^{\circ}\text{C})$	typ. $0,5 \% (-25^{\circ}\text{C}...+60^{\circ}\text{C})$; typ. $0,2 \% (0...40^{\circ}\text{C})$

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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%	-
Dewing	not allowed	-
Pollution degree according to EN61010	2	-
Climatic category according to EN60721	3K3	-
Protection class according to EN60529	IP54	without connection system

4 General data

Protective system	Class I	-
Isolation voltage	2500 VAC 150 VDC	Input / output and enclosure Output / enclosure
Efficiency	typ. 91%	-
Enclosure	Metal	Especially designed for car manufacturer and service stations. Plastic caps lateral.
Service interface	Mini-USB	-
Dimensions (LxWxH)	345 x 190 x 84 mm	see fig. 7.1
Weight	approx. 5,2 kg	with charging cable, without mains cable and without packaging

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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

Electrical safety

Title	Standard	Data
Electrical safety	EN60335, UL1236, CAN/CSA C22.2 No. 107.2-01	-

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
Charging batteries	-	The device is approved solely for the conditioning of one lead-acid, lead-gel, AGM, fleece and lithium-ion accumulator in vehicle electrical systems with the mode suitable for the accumulator in question. The typical nominal battery capacity is in the range of 5 Ah - 150 Ah. Attention: Do not charge non-rechargeable batteries!

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.

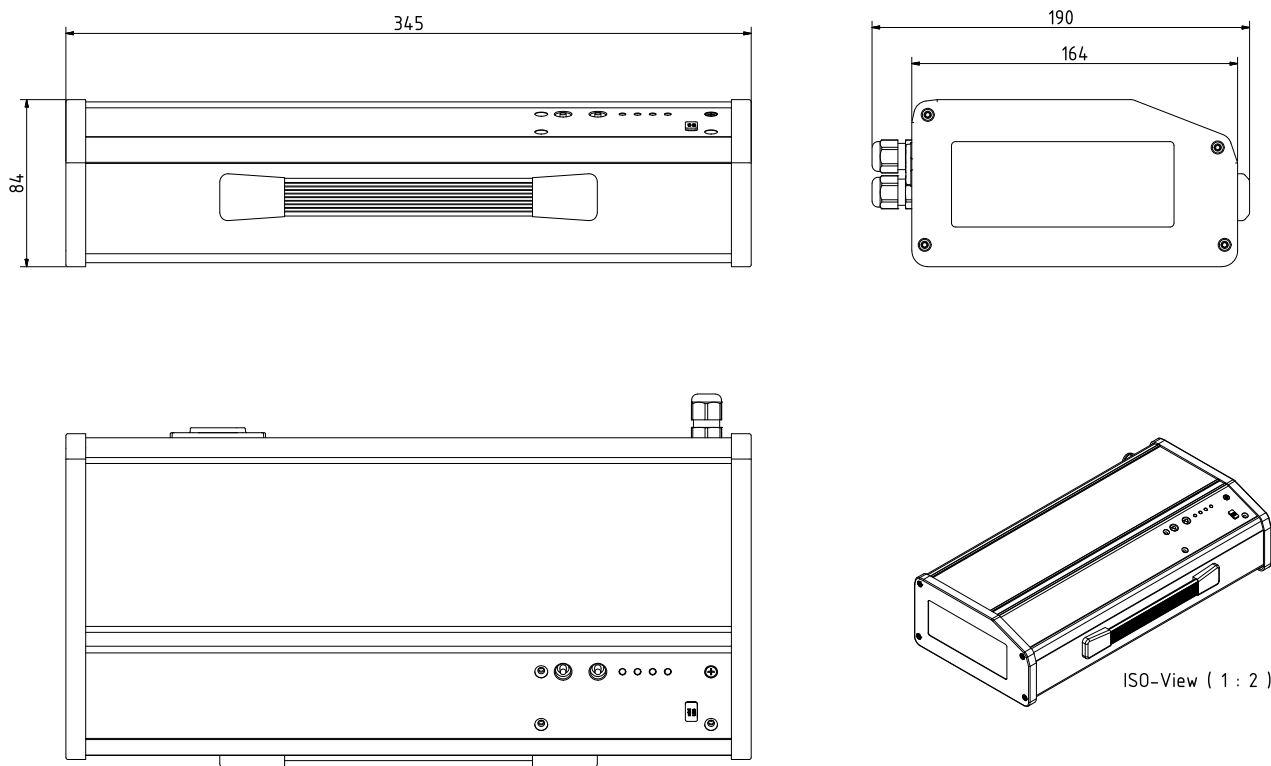


Figure 7.1: Dimensions

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8 Characteristics

All shown characteristics were measured at 25 °C ambient temperature, an input voltage of 230 VAC and an input frequency of 50 Hz, unless otherwise indicated.

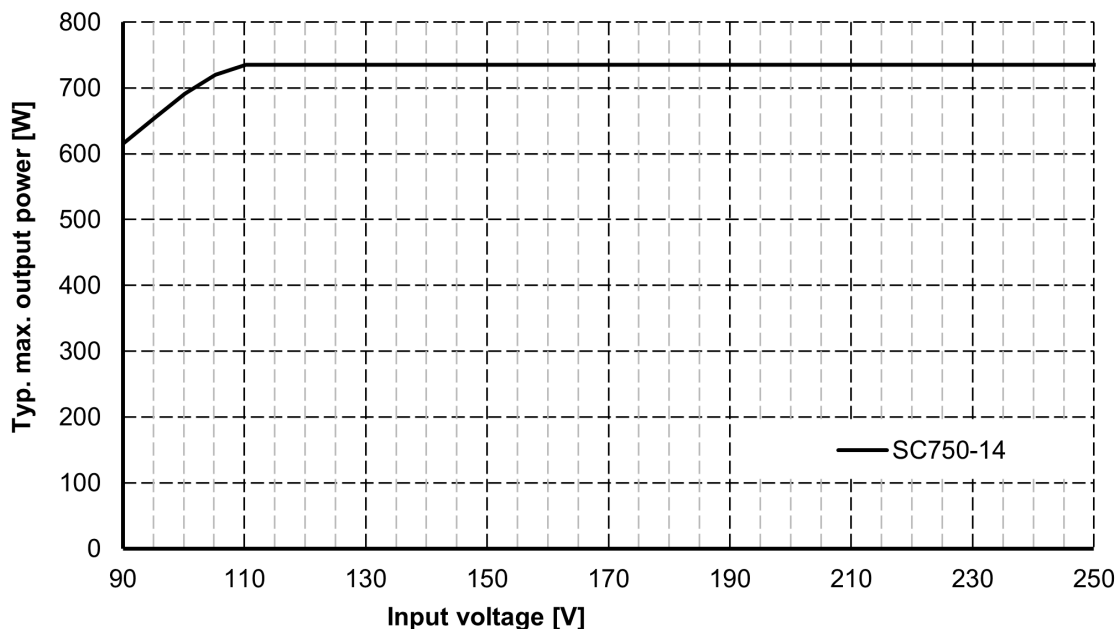


Figure 8.1: Maximum output power as a function of input voltage

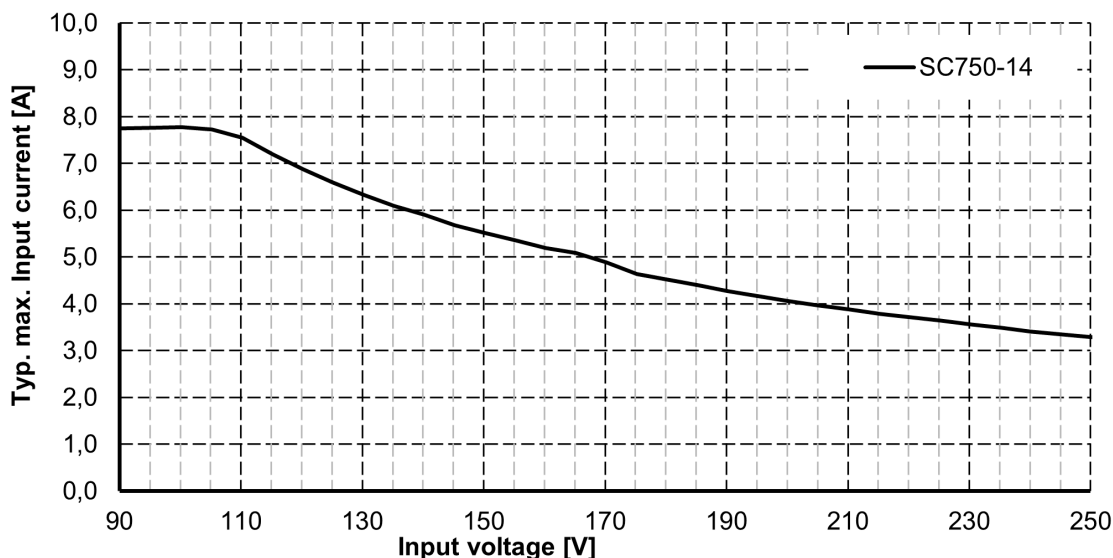


Figure 8.2: Maximum input current as a function of input voltage

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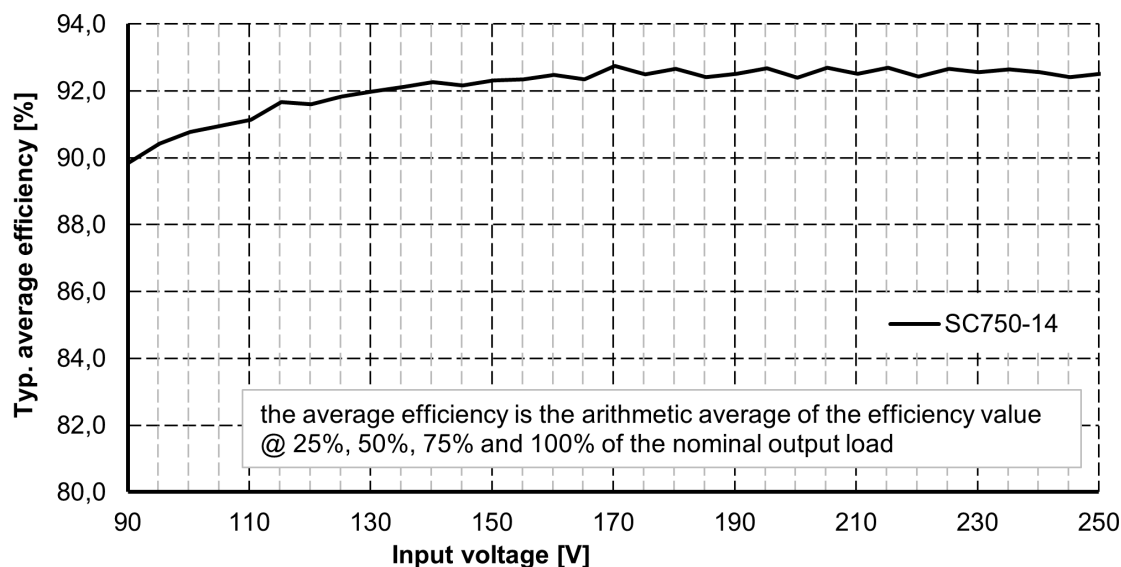


Figure 8.3: Average efficiency SC750-14

9 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.

Operating modes

Standard setting /000

- Pb-Charging
- Li-Charging
- Pb-Long-Time-Charging (Pb-LTC)
- Li-Long-Time-Charging (Li-LTC)
- External-Power-Supply (FSV)
- PowerUp1
- PowerUp2

Hint: For more details, please refer to the corresponding operating instructions.

Customized setting /yyy

on request:

- universal configurations and charging programs

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