



Fast and Safe recharging of lead acid batteries (sealed or flooded)



- Auto or Manual initiated boost mode
- Manual forced float mode
- Automatic temperature compensation
- Short Circuit and reverse polarity protection
- Operating state and fault indication
- Fully programmable microprocessor control
- Can safely be left permanently connected to battery, will maintain 'float'
- Optional relay alarm outputs (SR250E)

The **SR SmartCharger** is designed to recharge your battery in the shortest practicable time with special features to protect against over-charging.

They are suited to both 'cyclic' (eg. wheelchairs, golf carts) or 'standby' (eg. emergency lighting, standby generators) applications.

SPECIFICATIONS Please contact our sales office if you have a standing load, see warning on next page

ELECTRICAL	
Input	180V - 264VAC 45-65Hz or 200 - 375V DC (standard) 88V - 132VAC 45-65Hz or 110-180VDC (on request)
Fusing / Protection	Internal AC input fuse
Isolation	3.5KV AC 1 min. input / output 1KV DC input / earth
Efficiency	≥ 85%
Inrush current	Soft start circuit
Output Power	250W continuous (0 - 50°C)
Output Voltages	Refer model table
Voltage adj. range	Approx 95 - 105% of V nominal
Temp. Compensation	Temperature sensor on 1.7m lead with adhesive pad: -4mV / °C / cell ±10%
Current Limit	Straight line current limit profile (output side)
Output Protection	Automatic shutdown if battery leads reversed or short circuit on output
Line Regulation	< 0.2% over AC input range
Load Regulation	< 0.4% open circuit to 100% load
Noise	< 1%
Drift	0.03% / °C
Hold-up time	15 - 20 mS (nom. - max. Vin) without battery
Thermal Protection	Automatic current reduction if > 50° C. Self-resetting
OVP	Over-voltage protection on output at ~ 130% of nominal output voltage

STANDARDS	
EMI	to CISPR 22 / EN55022 class A
Safety	to IEC950 / EN60950 / AS/NZS3260

FEATURES	
Switch/ LED Indication & function	BOOST: Red (Push button to boost) FLOAT: Green (Push button to 'force' float) STANDBY: Red (Push button to turn output off)
Factory programmable parameters	- Start up in boost or float mode (Boost) - Current terminated boost (Yes) - Current initiated boost (Yes)
(default settings shown in brackets) Please note that some parameters are interdependent of each other.	- Start boost on mains return (Yes) - Pre-boost state timer 1-255 minutes (1) - Max boost charge time 0-48 hours (24) - Pre-float state timer 1-255 minutes (1) - Resume prior state upon mains return timer 1-255 minutes (10) - Resume on boost charge upon mains return 0-255 hours (24) - Pre-forced float timer 1-255 minutes (1) - Delay before mains fail recognition 4sec - 8.5minutes(5 minutes)

PHYSICAL	
AC Input Connection	IEC320 inlet socket (AC power cord supplied)
DC Output Connection	M6 brass stud, or 'Phoenix combicon' Plug-in style socket & mating screw terminal block: (max. wire 4mm ² / way)
Alarm Connections	Plug in screw terminal block (max. wire 2.5mm ²)
Enclosure	Powder coated or zinc plated steel / anodised aluminium
Weight	1.7Kg

ENVIRONMENTAL	
Operating temperature	0 - 50°C ambient at full load De-rate linearly >50° C to no load @ 70° C
Storage temperature	-10 to 85 °C ambient
Humidity	0 - 95% relative humidity non-condensing
Cooling	Natural or fan cooled optional depending on model
Temperature Compensation	For accurate battery charging/float output voltage is automatically adjusted according to ambient temperature

STANDARD PREFERRED MODEL TABLE

MODELS	Output Voltage ² (float)	Output Voltage (max boost)	Output Current ³ (continuous)	Min - Max Battery Size ⁴
SR250B12	13.8V	15.0V	16.7A	65-200 Ah
SR250B24	27.6V	30.0V	8.3A	30-100 Ah
SR250B36	41.4V	45.0V	5.6A	22-70 Ah
SR250B48	55.2V	60.0V	4.2A	15-50 Ah



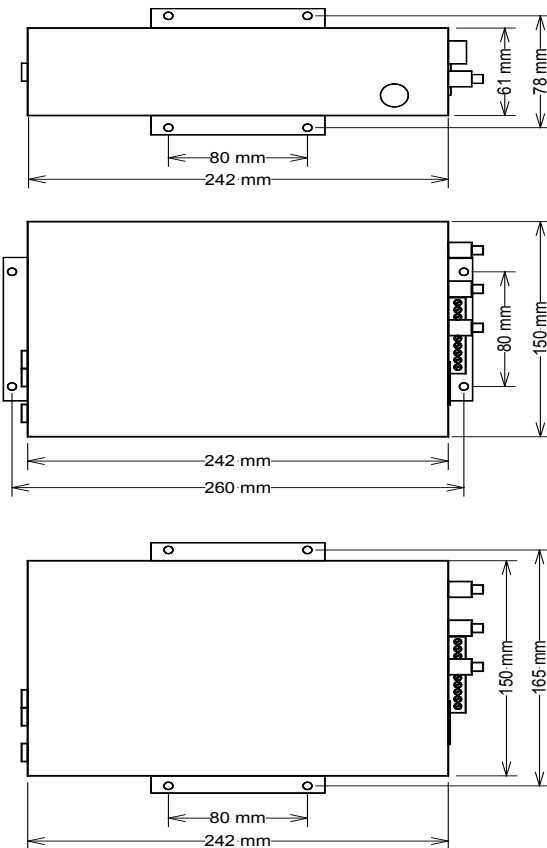
Rear View

² Other voltages available on request, please contact sales office for further details

³ Can be lowered to suit max battery charging current

⁴ Guidelines only. Check manufacturer's recommendations!

MOUNTING DETAILS / DIMENSIONS



ADDITIONAL OPTIONS (Physical / Electrical)

Rack Mount	2RU x 19" rack - (rear connection) <i>Refer page 112</i>
Wall Mount Cabinet	<i>Refer page 114</i>
Temperature Probe	Can be deleted or specify different length when ordering
Alarm & boost/float indication relays (SR750E...)	<ul style="list-style-type: none"> • Mains fail/PSU fail • Batt low (set at 1.83V/cell) • Boost/float
• Relay Contacts	C - NO - NC full changeover Rated 1A @ 50V DC or 32VAC
Output Volts	Slightly different boost and float voltages can be specified on ordering for special circumstances.
Adjustable Parameters	All firmware parameters listed under features may be adjusted at time of ordering

WARNING

If the SmartCharger is connected to operating equipment during charging:

1. equipment will be subjected to 1.25 times the nominal voltage.
2. the standing load must be taken into account for the correct operation of the charger. Please contact our sales office if you have any standing load.

MODEL CODING AND SELECTION CHART

SR250B 12 T F S L

Input voltage and front panel switches:	230V AC + switch = L 110V AC + switch = U 110V DC + switch = H	230V AC no switch = blank 110V AC no switch = G 110V DC no switch = J
Output DC Connector type:	Stud = S	Phoenix combicon (plug in screw t.b.) = X
Fan cooled:	With fan = F	No fan = blank
Temperature Compensation	Yes = T	No = blank
DC output: Nominal voltage	12, 24, 36, 48	
Function:	B = Standard SmartCharger E = Standard SmartCharger with alarms	



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- Auto or Manual initiated boost mode
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- Fully programmable microprocessor control
- Can safely be left permanently connected to battery, will maintain 'float'
- Optional relay alarm outputs (SR500E)

The SR *SmartCharger* is designed to recharge your battery in the shortest practicable time with special features to protect against over-charging.

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◆ 24 Month Warranty

SPECIFICATIONS Please contact our sales office if you have a standing load, see warning on next page

ELECTRICAL

AC Input	230V AC: 180V - 264V (standard) 110V AC: 88V - 132V (on request)
Frequency	45- 65 Hz
Fusing / Protection	Internal AC input fuse
Isolation	3.5KV AC 1 min. input / output 1KV DC input / earth
Efficiency	≥ 85%
Inrush current	Soft start circuit
Output Power	500W continuous (0 - 50°C)
Output Voltages	Refer model table
Voltage adj. range	Approx 95 - 105% of V nominal
Temp. Compensation	Temperature sensor on 1.7m lead with adhesive pad: -4mV / °C / cell ±10%
Current Limit	Straight line current limit profile (output side)
Output Protection	Automatic shutdown if battery leads reversed or short circuit on output (except for high voltage models-fuse)
Line Regulation	< 0.2% over AC input range
Load Regulation	< 0.4% open circuit to 100% load
Noise	< 1%
Drift	0.03% / °C
Hold-up time	15 - 20 mS (nom. - max. Vin) without battery
Thermal Protection	Automatic current reduction if > 50° C. Self-resetting
OVP	Over-voltage protection on output at ~ 130% of nominal output voltage

STANDARDS

EMI	to CISPR 22 / EN55022 class A
Safety	to IEC950 / EN60950 / AS/NZS3260

FEATURES

Switch/ LED Indication & function	BOOST: Red (Push button to boost) FLOAT: Green (Push button to 'force' float) STANDBY: Red (Push button to turn output off)
Factory programmable parameters (default settings shown in brackets) Please note that some parameters are interdependent of each other.	<ul style="list-style-type: none"> - Start up in boost or float mode (Boost) - Current terminated boost (Yes) - Current initiated boost (Yes) - Start boost on mains return (Yes) - Pre-boost state timer 1-255 minutes (1) - Max boost charge time 0-48 hours (24) - Pre-float state timer 1-255 minutes (1) - Resume prior state upon mains return timer 1-255 minutes (10) - Resume on boost charge upon mains return 0-255 hours (24) - Pre-forced float timer 1-255 minutes (1) - Delay before mains fail recognition 4sec - 8.5minutes(5 minutes)

PHYSICAL

AC Input Connection	IEC320 inlet socket (AC power cord supplied)
DC Output Connection	M6 brass stud, or 'Phoenix combicon' Plug-in style socket & mating screw terminal block: (max. wire 4mm ² / way)
Alarm Connections	Plug in screw terminal block (max. wire 2.5mm ²)
Enclosure	Powder coated or zinc plated steel / anodised aluminium
Weight	4.3 kg

ENVIRONMENTAL

Operating temperature	0 to 50°C ambient at full load De-rate linearly >50° C to no load @ 70° C
Storage temperature	-10 to 85 °C ambient
Humidity	0 to 95% relative humidity non-condensing
Cooling	Natural or fan cooled depending on model
Temperature Compensation	For accurate battery charging/float output voltage is automatically adjusted according to ambient temperature

STANDARD PREFERRED MODEL TABLE

MODELS	Output Voltage ² (float)	Output Voltage (max boost)	Output Current ³ (continuous)	Min - Max Battery Size ⁴
SR500B12	13.8V	15.0V	33.3A	130-600 Ah
SR500B24	27.6V	30.0V	16.7A	65-300 Ah
SR500B36	41.4V	45.0V	11.1A	44-200 Ah
SR500B48	55.2V	60.0V	8.3A	30-150 Ah
SR500B91 *	110.4V	120.0V	4.2A	16-75 Ah
SR500B92 *	124.2V	135.0V	3.7A	15-65 Ah
SR500B93 *	138.0V	150.0V	3.3A	13-60 Ah

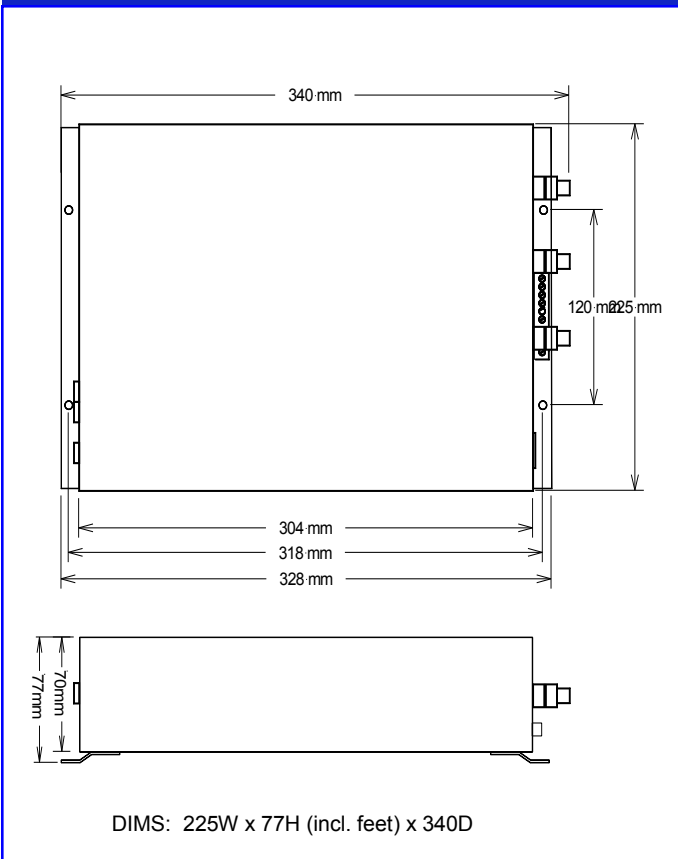
* **SR750B91, 92, 93** are not available with automatic operation. Initiation of equalising /boost charge is via manual or remote request (contact closure). Termination is by manual push button or when the internal timer times out (default set to 4 hours)

² Other voltages available on request, please contact sales office for further details

³ Can be lowered to suit max battery charging current

⁴ Guidelines only. Check manufacturer's recommendations!

MOUNTING DETAILS / DIMENSIONS



ADDITIONAL OPTIONS (Physical / Electrical)

Rack Mount	2RU x 19" rack - (rear connection) <i>Refer page 112</i>
Wall Mount Enclosure	<i>Refer page 114</i>
Temperature Probe	Can be deleted or specify different length when ordering
Alarm & boost/float indication relays (SR750E...)	<ul style="list-style-type: none"> Mains fail Batt low (set at 1.83V/cell) Boost/float
Relay Contacts	C - NO - NC full changeover Rated 1A @ 50V DC or 32VAC
Adjustable Parameters	All firmware parameters listed under features may be adjusted at time of ordering
DC Input	Available on request but has output fuse for short circuit protection Voltage ranges: 110-180VDC 200-375VDC

WARNING

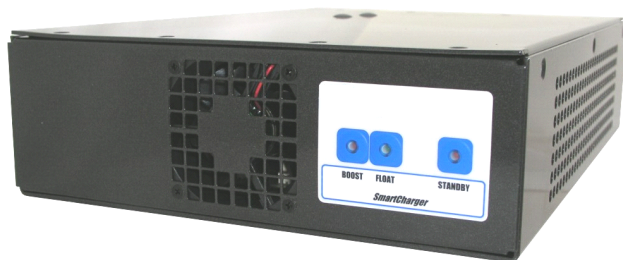
If the SmartCharger is connected to operating equipment during charging:

- equipment will be subjected to 1.25 times the nominal voltage.
- the standing load must be taken into account for the correct operation of the charger. Please contact our sales office if you have any standing load.

MODEL CODING AND SELECTION CHART

SR500B 12 T F S L

Input voltage and front panel switches:	230V AC + switch = L 110V AC + switch = U 110V DC + switch = H	230V AC no switch = blank 110V AC no switch = G 110V DC no switch = J
Output DC Connector type:	Stud = S	Phoenix combicon (plug in screw TBlock) = X
Fan cooled:	With fan = F	No fan = blank
Temperature Compensation	Yes = T	No = blank
DC output: Nominal voltage	12, 24, 30, 36, 48V, 91=96V, 92=108V, 93=120V (nominal)	
Function:	B = Standard SmartCharger E = Standard SmartCharger with alarms	



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- Auto or Manual initiated boost mode
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- Can safely be left permanently connected to battery, will maintain 'float'
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They are suited to both 'cyclic' (eg. wheelchairs, golf carts) or 'standby' (eg. emergency lighting, standby generators) applications.

◆ 24 Month Warranty



SPECIFICATIONS Please contact our sales office if you have a standing load, see warning on next page

ELECTRICAL	
AC Input	230V AC: 180V - 264V (standard) 110V AC: 88V - 132V (on request)
Frequency	45- 65 Hz
Fusing / Protection	Internal AC input fuse
Isolation	3.5KV AC 1 min. input / output 1KV DC input / earth
Efficiency	≥ 85%
Inrush current	Soft start circuit
Output Power	750W continuous (0 - 50°C)
Output Voltages	Refer model table
Voltage adj. range	Approx 95 - 105% of V nominal
Temp. Compensation	Temperature sensor on 1.7m lead with adhesive pad: -4mV / °C / cell ±10%
Current Limit	Straight line current limit profile (output side)
Output Protection	Automatic shutdown if battery leads reversed or short circuit on output (except for high voltage models-fuse)
Line Regulation	< 0.2% over AC input range
Load Regulation	< 0.4% open circuit to 100% load
Noise	< 1%
Drift	0.03% / °C
Hold-up time	15 - 20 mS (nom. - max. Vin) without battery
Thermal Protection	Automatic current reduction if > 50° C. Self-resetting
OVP	Over-voltage protection on output at ~ 130% of nominal output voltage

STANDARDS	
EMI	to CISPR 22 / EN55022 class A
Safety	to IEC950 / EN60950 / AS/NZS3260

FEATURES	
Switch/ LED Indication & function	BOOST: Red (Push button to boost) FLOAT: Green (Push button to 'force' float) STANDBY: Red (Push button to turn output off)
Factory programmable parameters (default settings shown in brackets) Please note that some parameters are interdependent of each other.	- Start up in boost or float mode (Boost) - Current terminated boost (Yes) - Current initiated boost (Yes) - Start boost on mains return (Yes) - Pre-boost state timer 1-255 minutes (1) - Max boost charge time 0-48 hours (24) - Pre-float state timer 1-255 minutes (1) - Resume prior state upon mains return timer 1-255 minutes (10) - Resume on boost charge upon mains return 0-255 hours (24) - Pre-forced float timer 1-255 minutes (1) - Delay before mains fail recognition 4sec - 8.5minutes(5 minutes)

PHYSICAL	
AC Input Connection	IEC320 inlet socket (AC power cord supplied)
DC Output Connection	M6 brass stud, or 'Phoenix combicon' Plug-in style socket & mating screw terminal block: (max. wire 4mm ² / way)
Alarm Connections	Plug in screw terminal block (max. wire 2.5mm ²)
Enclosure	Powder coated or zinc plated steel / anodised aluminium
Weight	4.3 kg

ENVIRONMENTAL	
Operating temperature	0 - 50°C ambient at full load De-rate linearly >50° C to no load @ 70° C
Storage temperature	-10 to 85 °C ambient
Humidity	0 - 95% relative humidity non-condensing
Cooling	Natural or fan cooled depending on model
Temperature Compensation	For accurate battery charging/float output voltage is automatically adjusted according to ambient temperature

STANDARD PREFERRED MODEL TABLE

MODELS	Output Voltage ² (float)	Output Voltage (max boost)	Output Current ³ (continuous)	Min - Max Battery Size ⁴
SR750B12	13.8V	15.0V	50.0A	200-900 Ah
SR750B24	27.6V	30.0V	25.0A	100-450 Ah
SR750B36	41.4V	45.0V	16.7A	66-300 Ah
SR750B48	55.2V	60.0V	12.5A	50-220 Ah
SR750B72 *	82.8V	90.0V	6.0A	27-120 Ah
SR750B91 *	110.4V	120.0V	6.25A	25-110 Ah
SR750B92 *	124.2V	135.0V	5.6A	22-100 Ah
SR750B93 *	138.0V	150.0V	5.0A	20-90 Ah

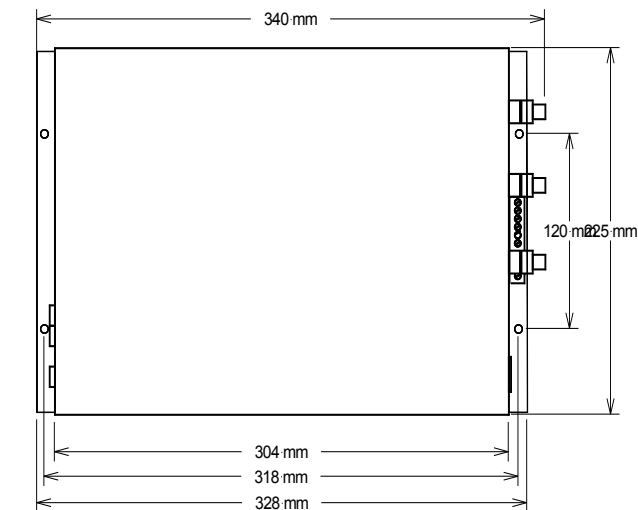
* SR750B72, 91, 92, 93 are not available with automatic operation. Initiation of equalising /boost charge is via manual or remote request (contact closure). Termination is by manual push button or when the internal timer times out (default set to 4 hours)

² Other voltages available on request, please contact sales office for further details

³ Can be lowered to suit max battery charging current

⁴ Guidelines only. Check manufacturer's recommendations!

MOUNTING DETAILS / DIMENSIONS



DIMS: 225W x 77H (incl. feet) x 340D

OPTIONS

Rack Mount	2RU x 19" rack - (rear connection) Refer page 112
Wall Mount Enclosure	Refer page 114
Temperature Probe	Can be deleted or specify different length when ordering
Alarm & boost/float indication relays (SR750E...)	<ul style="list-style-type: none"> Mains fail Batt low (set at 1.83V/cell) Boost/float
<ul style="list-style-type: none"> Relay Contacts 	C - NO - NC full changeover Rated 1A @ 50V DC or 32VAC
Adjustable Parameters	All firmware parameters listed under features may be adjusted at time of ordering
DC Input	Available on request but has output fuse for short circuit protection Voltage ranges: 110-180VDC 200-375VDC

WARNING

If the Smartcharger is connected to operating equipment during charging:

- equipment will be subjected to 1.25 times the nominal voltage.
- the standing load must be taken into account for the correct operation of the charger. Please contact our sales office if you have any standing load.

MODEL CODING AND SELECTION CHART

SR750B 12 T F S L

Input voltage and front panel switches:	230V AC + switch = L 110V AC + switch = U 110V DC + switch = H	230V AC no switch = blank 110V AC no switch = G 110V DC no switch = J
Output DC Connector type:	Stud = S	Phoenix combicon (plug in screw t.b.) = X
Fan cooled:	With fan = F	No fan = blank
Temperature Compensation	Yes = T	No = blank
DC output: Nominal voltage	12, 24, 36, 48V, 91=96V, 92=108V, 93=120V	
Function:	B = Standard SmartCharger E = Standard SmartCharger with alarms	

CONNECTION PROCEDURE

Connect the positive (+) output of the charger to the positive terminal of the battery.
Connect the negative (-) output of the charger to the negative terminal of the battery.

The charging status is indicated by the LEDs according to the table on page 10 of this booklet.

WARNING—STANDING LOADS

It is recommended that the boost charge mode is not initiated unless all connected equipment is switched off as it could be damaged by the higher voltage or the battery may be overcharged.

OPERATION

The mode of operation of your *SmartCharger* is determined by the firmware version it has been fitted with—there is a label on the *SmartCharger* which indicates the version, eg. SFBOOST-F v2.2. Refer to the corresponding sheet for the specific settings.

INDICATION & CONTROLS (refer to data sheets for float and boost voltage settings)

- BOOST:** LED *on* indicates charger is in boost mode (battery is still being charged) pushing this button will force the charger into boost mode
- FLOAT:** LED *on* indicates charger is in float mode (the battery is fully charged), pushing this button will cause the charger into the float mode
- STANDBY:** Push the button to turn charger output off - LED *on* indicates charger is in standby mode

OPTIONAL ALARM OUTPUTS (SR 250E, SR500E, SR750E versions)

Alarm relay de-energized states:

- RELAY 1: Float Mode
RELAY 2: Mains fail (&/or Charger fail for SR250E..)
RELAY 3: Battery voltage is low

Alarm Terminal Configuration

1	2	3	4	5	6	7	8	9	10
COM -	N/C -	N/O	COM -	N/C -	N/O	COM -	N/C -	N/O	EARTH

RELAY 1:	RELAY 2:	RELAY 3:
Boost/Float	Mains fail	Battery low

eg. Contact 4-5 will be closed when mains fail occurs

*For HV versions, (suffix –72 and higher) there is no Boost/float relay and terminals 1-2 used for remote initialization of boost charge (momentary contact closure required).

Safety

This equipment is designed to comply with information technology/business equipment standard IEC950.

As stand alone equipment, the design allows for simple connection to mains and output.

The user is responsible for ensuring that input and output wiring segregation complies with local standards and that in the use of the equipment, access is confined to operators and service personnel.

HAZARDOUS VOLTAGES EXIST WITHIN A POWER SUPPLY ENCLOSURE AND ANY REPAIRS MUST BE CARRIED OUT BY A QUALIFIED SERVICEPERSON.

Electrical Isolation Testing

Electric strength tests: Components within the power supply responsible for providing the safety barrier between input and output are constructed to provide electrical isolation as required by the standard. However EMI filtering components could be damaged as result of excessively long high voltage tests between input, output and ground. Please contact our technicians for advice regarding electric strength tests.

Earth Leakage

The internal interference suppression circuit causes earth leakage currents which may be to the maximum allowable of 3.5mA. A low resistance earth connection is essential to ensure safety and additionally, satisfactory interference suppression.

Ventilation

High operating temperature is the cause of the majority of power supply failures. For example a 10°C rise in the operating temperature of a capacitor may halve its expected life. The rated operating temperature of the equipment is the highest test temperature at which internal components will provide maximum lifetime consistent with flexibility in application.

A switchmode power supply with a rated efficiency of 85% at full load draws 1.18 times the output power from the input. This extra power is lost as heat within the circuitry of the unit. Case and heatsinks are designed to provide maximum transfer of heat to the surrounding air. However, if airflow is constrained within a cabinet, a unit will heat its environment and operate at an elevated temperature. The final operating temperature therefore must be considered in the design of a system for maximum trouble free service life.

Batteries housed in the same enclosure as a power supply / charger may also suffer drastically shortened lifetime if subjected to high ambient temperatures - the same life degradation as for capacitors above apply.

Water / Dust

Every effort must be made in the installation to minimise the risk of ingress of water or dust. Dust settling on internal heatsinks will degrade their ability to radiate heat and will also attract moisture, thus possibly causing leakage currents and circuit damage.

Electromagnetic Interference (EMI)

Switching power supplies and DC-DC converters inherently generate electrical noise.

A major aim at the design stage is to suppress switching noise to at least the levels required by the various standards.

Residual noise is nevertheless capable of causing interference in associated equipment if susceptible.

Generally, power supply and susceptible equipment wiring should be well segregated, as short as practicable and all equipment well earthed.

Residual noise can be reduced by looping DC wiring through ferrite cable sleeves. These are most effective as close to the power supply as possible and as many turns of the wire taken through the core (+ and - in the same direction) as the core will accommodate.

For more information, contact our sales office or your distributor.

LED Indication & Alarm Outputs (if alarm relays fitted)

LED Indication

Boost (red) LED	Float (green) LED	Stand-by (red) LED	Description
*Occulting	Off	Off	Pre-boost state : Boost voltage level
On	Off	Off	Boost voltage mode
Off	Occulting	Off	Pre-float state: Float voltage level
Off	On	Off	Charger in float mode (usually indicates battery fully charged) see Note 1.
Flash	Occulting	Off	Pre-forced float state: Float voltage level
Off	Flash-flash pause	Off	Forced float voltage : Float voltage level
Flash	Flash-Flash	Off	Mains/charger fail, Battery voltage OK
Flash-flash	Flash	Off	Mains/charger fail, Battery voltage low
Flash	Flash-Flash	On	Charger in standby mode (no output) Mains/charger fail, Battery voltage OK
Flash-flash	Flash	On	Charger in standby mode (no output) Mains/charger fail, Battery voltage low
Off	Off	On	Charger in standby mode (no output)

* Occulting = LED flashes with 'on' state longer than 'off' state

Note 1: Special or abnormal operating conditions may also give this indication, eg. Manual initiated boost charger which has not been activated, boost timer may have timed out before the battery is fully charged.

Alarm outputs on SR250E, SR500E & SR750E units:

'On' = relay energised

Boost/Float indic. relay	Batlow relay	Mains/charger fail relay	Description
On	On	On	Pre-boost or Boost state : Boost voltage level
Off	On	On	Pre-float or Float state : Float voltage level
Off	On	On	Pre-forced float or forced float state: Float voltage level
Off	On	Off	Mains/charger fail or stand-by, Battery voltage ok
Off	Off	Off	Mains/charger fail or stand-by, Battery voltage low

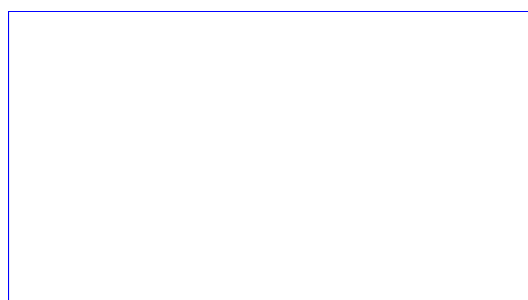
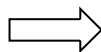
Firmware Parameter Settings

The firmware settings for your *SmartCharger* are shown on one of the following pages. Note that these settings are not user adjustable but can be changed if required by returning the *SmartCharger* to Innovative Energies.

SETTINGS FOR FIRMWARE VERSION: SFBOOST-A v2.2 (Manual Boost)

PARAMETER	Setting	Description
SBS	NO	Start in Boost State At charger start-up
CTB	NO	Current Terminated Boost Allow termination of boost charge via the detection of a predefined value of charge current (default = 15% of max charge current)
CIB	NO	Current Initiated Boost Allow initiation of boost charge via the detection of a predefined value of charge current (default = 10% of max charge current)
MRSB	NO	Mains Return Start Boost After the detection that mains has been restored to the charger a boost charge cycle will be initiated.
PBTime	1 Minute	Pre-Boost State Timer The time the charger will always stay at the elevated boost voltage whenever an attempt is made to enter a boost charge cycle
BTimehours	24 Hours	Boost Timer hour count The hours of the maximum time the charger can spend in a boost charge cycle. When both minutes and hours of the boost timer have expired the charger will enter the forced float state. The forced float state does not allow any further boost cycles unless initiated by user initiated boost button press.
PFTime	1 Minute	Pre Float Timer The time the charger will always stay at the float voltage whenever an attempt is made to enter a float charge cycle
RMFTTime	10 Minutes	Recall Mains Fail Timer Maximum time of a mains fail where on the reoccurrence of mains the charger will resume charging in the mode as prior to the mains fail
MFTimehours	24 Hours	Mains Fail Time hours The hours of the time of a mains fail after which the charger will always restart with a boost cycle when mains reoccurs.
PFFTime	1 Minute	Pre Forced Float Time The time the charger will always stay at the float voltage whenever an attempt is made to enter a forced float charge cycle
DelaybeforeMF	5 Minutes	Delay before a mains fail will be recognized, displayed and alarm given in 'E' versions

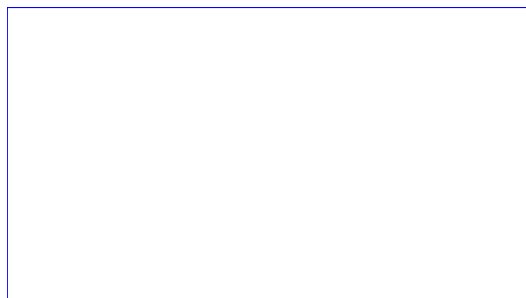
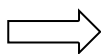
Serial No. Label will be affixed here if the version of firmware used in your *SmartCharger* is on this page



SETTINGS FOR FIRMWARE VERSION: SFBOOST-B v2.2 (Standard Default Version)

PARAMETER	Setting	Description
SBS	YES	Start in Boost State At charger start-up
CTB	YES	Current Terminated Boost Allow termination of boost charge via the detection of a predefined value of charge current (default = 15% of max charge current)
CIB	YES	Current Initiated Boost Allow initiation of boost charge via the detection of a predefined value of charge current (default = 10% of max charge current)
MRSB	YES	Mains Return Start Boost After the detection that mains has been restored to the charger a boost charge cycle will be initiated.
PBTime	1 Minute	Pre-Boost State Timer The time the charger will always stay at the elevated boost voltage whenever an attempt is made to enter a boost charge cycle
BTime	24 Hours	Boost Timer hour count The hours of the maximum time the charger can spend in a boost charge cycle. When both minutes and hours of the boost timer have expired the charger will enter the forced float state. The forced float state does not allow any further boost cycles unless initiated by user initiated boost button press.
PFFTime	1 Minute	Pre Float Timer The time the charger will always stay at the float voltage whenever an attempt is made to enter a float charge cycle
RMFTime	10 Minutes	Recall Mains Fail Timer Maximum time of a mains fail where on the reoccurrence of mains the charger will resume charging in the mode as prior to the mains fail
MFTTime	24 Hours	Mains Fail Time hours The hours of the time of a mains fail after which the charger will always restart with a boost cycle when mains reoccurs.
PFFTime	1 Minute	Pre Forced Float Time The time the charger will always stay at the float voltage whenever an attempt is made to enter a forced float charge cycle
DelaybeforeMF	5 Minutes	Delay before a mains fail will be recognized, displayed and alarm given in 'E' versions

Serial No. Label will be affixed here if the version of firmware used in your *SmartCharger* is on this page



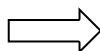
SETTINGS FOR FIRMWARE VERSION: SFBOOST .. v2.2

PARAMETER	D	E	F	G	I	J	K	M
SBS	YES	YES	NO	N/A	YES	NO	NO	YES
CTB	YES	YES	YES	N/A	YES	YES	YES	YES
CIB	NO	YES	NO	N/A	NO	NO	NO	NO
MRSB	YES	YES	NO	NO	NO	NO	NO	NO
PBTime (minutes)	1	1	1	N/A	1	1	1	1
BTime (hours)	8	12	24	N/A	24	8	4	8
PFTTime (minutes)	1	1	1	N/A	1	1	1	1
RMFTTime (minutes)	10	10	240	N/A	255	10	1	255
MFTTime (hours)	24	24	240	N/A	24	255	N/A	255
PFFTime (minutes)	1	1	1	N/A	1	1	1	1
DelaybeforeMF (minutes)	5	5	1	5	5	1	N/A	1

* G v2.2 : all boost functions disabled, this firmware was used to obtain electronic reverse polarity protection

N/A = not applicable

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SETTINGS FOR FIRMWARE VERSION: SFBOOST - L v2.2

PARAMETER	Setting	Description
SBS	Y	Start in Boost State At charger start-up
CTB	Y	Current Terminated Boost Allow termination of boost charge via the detection of a pre-defined value of charge current (default = 15% of max charge current)
CIB	Y	Current Initiated Boost Allow initiation of boost charge via the detection of a predefined value of charge current (default = 10% of max charge current)
MRSB	Y	Mains Return Start Boost After the detection that mains has been restored to the charger a boost charge cycle will be initiated.
PBTime (minutes)	1	Pre-Boost State Timer The time the charger will always stay at the elevated boost voltage whenever an attempt is made to enter a boost charge cycle
BTime (hours)	8	Boost Timer hour count The hours of the maximum time the charger can spend in a boost charge cycle. When both minutes and hours of the boost timer have expired the charger will enter the forced float state. The forced float state does not allow any further boost cycles unless initiated by user initiated boost button press.
PFFTime (minutes)	1	Pre Float Timer The time the charger will always stay at the float voltage whenever an attempt is made to enter a float charge cycle
RMFTime (minutes)	10	Recall Mains Fail Timer Maximum time of a mains fail where on the reoccurrence of mains the charger will resume charging in the mode as prior to the mains fail
MFTTime (hours)	24	Mains Fail Time hours The hours of the time of a mains fail after which the charger will always restart with a boost cycle when mains reoccurs.
PFFTime (minutes)	1	Pre Forced Float Time The time the charger will always stay at the float voltage whenever an attempt is made to enter a forced float charge cycle
DelaybeforeMF (minutes)	1	Delay before a mains fail will be recognized, displayed and alarm given in 'E' versions

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