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Shepshed
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Leicestershire
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United Kingdom



SIP Chargestar D15 Digital Battery Charger



SIP Code 03506

For help or advice please contact your distributor, or sip directly on:

Tel.: 01509 500400

Email:

sales@sip-group.com

or

customerservice@sip-group.com

www.sip-group.com

Please read and fully understand the instructions in this manual before operation. Keep this manual safe for future reference.

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SAFETY INSTRUCTIONS

IMPORTANT: Please read the following instructions carefully, **failure to do so could lead to serious personal injury and / or damage to the charger and anything connected to it.**

When using your charger, basic safety precautions should always be followed to reduce the risk of fire, electric shock, personal injury and / or damage to the charger. Read all these instructions before operating the charger and save this user manual for future reference.

SIP recommends that the charger should **not** be modified or used for any application other than that for which it was designed. If you are unsure of its relative applications do not hesitate to contact us and we will be more than happy to advise you.

These chargers are designed for the charging of lead-acid batteries, and for starting vehicles with lead acid batteries fitted. They should not be used as a DC power source, Battery Support Units or used to recharge non-rechargeable batteries. To do so may cause fire, electric shock, etc.

They are designed to be powered from a 230v ~ 50 / 60Hz supply, which is reliably connected to the buildings ground (earth) point.

If the supply cable needs to be extended, ensure the cross-sectional area of the wire in the extension lead is of a sufficient size for the supply of current over the distance required.

If the charger is interrupted or damaged due to heavy impact etc., the battery should be taken off charge immediately.

Do not dismantle the charger - If repairs are required, they should be performed by a suitably qualified person. Incorrect reassembly may result in a fire hazard and / or electric shock.

Always disconnect the charger from any connected battery and the mains supply prior to cleaning the casing or changing fuses etc.

When connecting the charger whilst the battery is still connected to the vehicle - connect the lead to the battery first (normally +). The other connection is to be made to the chassis as far away as practical from the battery and fuel line. (a spark can be generated when connecting the second clip which can ignite battery or fuel gases). The charger is then to be connected to the mains supply. Once charging is complete, disconnect the charger from mains supply first, and then remove the chassis connection followed by the battery connection.

During charging, batteries give off some hydrogen and oxygen creating a highly explosive mix. Ensure adequate ventilation exists and avoid sparks, smoking, etc.

During battery maintenance ensure adequate clean water is available in the event of an acid spill. The liquid inside batteries is highly corrosive therefore ensure that it is not allowed to

SAFETY INSTRUCTIONS Cont...

make contact with the skin (especially eyes). In the event of contact, flush the area with clean water and immediately consult a doctor.

Lead-acid batteries store a large amount of energy. Short-circuiting the battery or charger terminals will cause the battery to try and release this energy immediately, which can result in fire or personal injury. Prevent any metal object (or other conductive material) from touching the + and – terminals of the charger or battery at the same time.

KNOW YOUR CHARGER: Read and understand the owner's manual and labels affixed to the charger. Learn its applications and limitations, as well as the potential hazards specific to it.

DO NOT USE THE CHARGER IN DANGEROUS ENVIRONMENTS: Do not use your charger in damp or wet locations, or expose it to rain. Always provide adequate space around the charger.

KEEP CHILDREN AND UNTRAINED PERSONNEL AWAY FROM THE WORK AREA: All visitors should be kept at a safe distance from the work area.

STAY ALERT: Always watch what you are doing and use common sense.

DISCONNECT THE CHARGER FROM THE MAINS SUPPLY: When not in use.

DO NOT ABUSE THE MAINS LEAD: Never pull the mains lead to remove the plug from the mains socket. Keep the mains lead away from heat, oil and sharp edges. If the mains lead is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid unwanted hazards.

HAVE YOUR CHARGER REPAIRED BY A QUALIFIED PERSON: The charger is in accordance with the relevant safety requirements. Repairs should only be carried out by qualified persons using original spare parts, otherwise this may result in considerable danger to the user and void the warranty.

DANGER! Check that the charger is in sound condition and good working order. Take immediate action to repair or replace damaged parts.

USE RECOMMENDED PARTS ONLY - Unapproved parts may be dangerous and

SAFETY INSTRUCTIONS Cont...

will invalidate the warranty.

WARNING! Only operate on a level and stable surface.

WARNING! Do not allow untrained persons to operate the charger and do not operate the machine without all covers etc. correctly fitted.

WARNING! RISK OF ELECTRIC SHOCK. Do not expose the charger to water spray, rain, dripping water or moisture of any kind.

Do not move or handle the charger when it is running.

Do not leave the charger unattended for long periods when in use. Switch the charger off and unplug from the mains supply before leaving the work area.

Ensure that the charger is correctly turned off when not in use and store in a safe, dry area, out of reach of children.

Do not unplug the charger to switch it off - always use the on/off switch. Keep all combustible materials away from this charger.

ALWAYS locate the charger in an area of good ventilation. **ALWAYS** keep children and animals away from charger.

Never stand on the charger.

DO NOT dismantle or tamper with the charger, as this may be dangerous and will invalidate the warranty.

If a problem with the charger is experienced, or if the mains lead or plug become damaged, contact your distributor for repair.

If the charger is used in a place of work all rules and laws etc. relating to the use of portable electrical appliances should be followed.

WARNING: Risk of Electric Shock!

Use only the electrical power (voltage, current and frequency) specified on the model plate of the charger, or in this manual. If in doubt contact the manufacturer.

SAFETY INSTRUCTIONS Cont...

Use only a three-prong, grounded mains supply socket.

ALWAYS unplug the charger when not in use.



CAUTION: The warnings and cautions mentioned in this user manual can not cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be applied.

Safety Symbols Used Throughout This Manual.



Note: Supplementary information.



Danger / Caution: Indicates risk of personal injury and/or the possibility of damage.



Warning: Risk of electrical injury or damage!

GUARANTEE

Guarantee:

These SIP chargers are covered by a 24 month parts and labour warranty covering failure due to manufacturers defects. This does not cover failure due to misuse or operating the charger outside the scope of this manual - any claims deemed to be outside the scope of the warranty may be subject to charges Including, but not limited to parts, labour and carriage costs. Consumable items such as fuses are not covered by the warranty.

In the unlikely event of warranty claims, contact your distributor as soon as possible.



Note: Proof of purchase will be required before any warranty can be honoured

ELECTRICAL CONNECTION

WARNING! It is the responsibility of the owner and the operator to read, understand and comply with the following:

You must check all electrical products, before use, to ensure that they are safe.

You must inspect power cables, plugs, sockets and any other connectors for wear or damage.

You must ensure that the risk of electric shock is minimised by the installation of appropriate safety devices; A residual current circuit Breaker (RCCB) should be incorporated in the main distribution board. We also recommend that a residual current device (RCD) is used. It is particularly important to use an RCD with portable products that are plugged into a supply which is not protected by an RCCB. If in any doubt consult a qualified electrician.

ELECTRICAL CONNECTION Cont...

Connecting to the power supply:

The SIP D15 charger (03506) is fitted with a standard 230v ~ 13 amp type plug. Before using the charger, inspect the mains lead and plug to ensure that neither are damaged. If any damage is visible have the charger inspected / repaired by a suitably qualified person.

If it is necessary to replace the plug a heavy duty impact resistant plug would be preferable.

The wires for the plug are coloured in the following way:

Yellow / green Earth

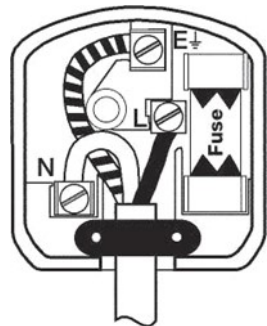
Blue Neutral

Brown Live

As the colours of the wires may not correspond with the markings in your plug, proceed as follows: The wire which is coloured blue, must be connected to the terminal marked with N or coloured black. The wire which is coloured brown, must be connected to the terminal, which is marked L or coloured red. The wire which is coloured yellow / green should be connected to the terminal which is coloured the same or marked.



Always secure the wires in the plug terminal carefully and tightly. Secure the cable in the cord grip carefully.



ELECTRICAL CONNECTION Cont...



Warning: Never connect live or neutral wires to the earth terminal of the plug. Only fit an approved plug with the correct rated fuse. If in doubt consult a qualified electrician.



Note: Always make sure the mains supply is of the correct voltage and amperage and the correct fuse protection is used. In the event of replacing the fuse always replace the fuse with the same value as the original.



Note: If an extension lead is required in order to reach the mains supply; ensure that this too is rated for the correct voltage and fuse rating.



Note: The cross section of the extension lead should be checked so that it is of sufficient size so as to reduce the chances of voltage drops.

TECHNICAL SPECIFICATION

Model	03506 SIP Chargestar D15
Input Voltage	220 - 240v 50/60Hz
Input Power	220w @ 2.5A
Charging Voltage	12v DC
Charging Current	2, 6, 10 & 15A
Battery Low Voltage Detection	>3v
Charging Steps	6 - Smart Charger
Battery Type	<ul style="list-style-type: none"> *Wet (Flooded) *Gel *Maintenance Free *EFB (Enhanced Flooded Battery) *AGM (Absorbent Glass Matt) *CA (Calcium)
Battery Capacity	Charging 2 - 220Ah Maintenance 220 - 300Ah
Power Supply Function	13.6v @ 7A
Temperature Range	0°C - 40°C
Insulation Class	IP20
Size (L x W x H)	230 x 115 x 230mm
Weight	1.5kg
Accessories	2 x 1.2mtr leads c/w Clip Clamps

****Lead Acid Battery***

The charger is protected against short circuits and polarity reversals.

It also has "Anti-Spark" system to avoid sparks when connecting the clips to the battery terminals.

The charger is fitted with "Auto-Protection" to stop charging if the voltage is less than 2 volts.

GETTING TO KNOW YOUR CHARGER

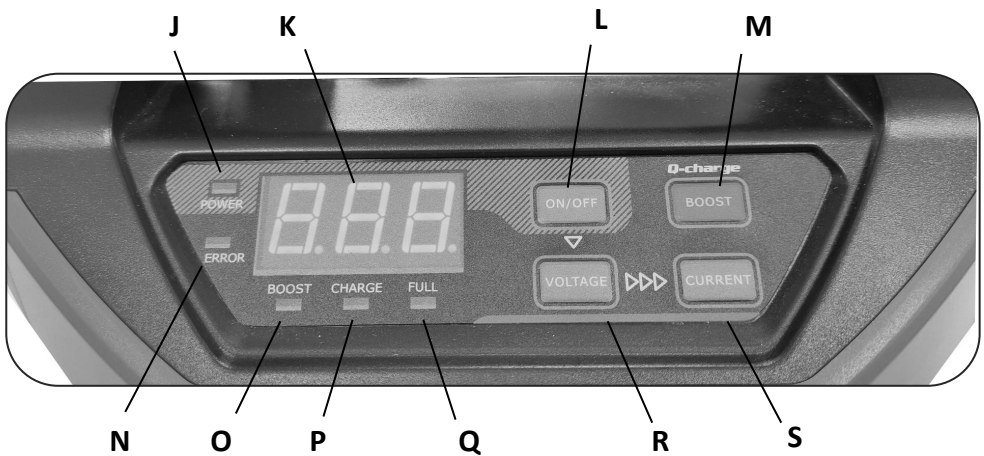
03506 Chargestar D15



GETTING TO KNOW YOUR CHARGER Cont...

Item	Description	Item	Description
A	Negative Clip	F	Rear Panel
B	Positive Clip	G	Power Supply Socket 12v
C	Leads (1.2mtr each)	H	Socket Cover
D	Control Panel	I	Front Panel
E	Cable Storage		

Control Panel









Item	Description	Item	Description
J	Power LED	O	Boost Fast Charge LED
K	Digital Display	P	Charge LED
L	On/Off Button	Q	Full Charge LED
M	Charge Boost Button	R	Voltage State LED
N	Error LED	S	Current State LED

OPERATING INSTRUCTIONS

Charging a Battery

The SIP03506 D15 charger has seven modes; **STANDBY, 12v 2A, 12v 6A, 12v 10A, 12v 15A, FAST CHARGE.** -

Mode	Display	Description
STANDBY		When the charger is working press the ON/OFF button to enter <i>STANDBY</i> mode. Press again to switch the charger back on.
12v 2A		Connect to a battery and press <i>CURRENT</i> ; it will display 2A setting.
12v 6A		Press <i>CURRENT</i> again; it will display 6A setting.
12v 10A		Press <i>CURRENT</i> again; it will display 10A setting.
12v 15A		Press <i>CURRENT</i> again; it will display 15A setting.
BOOST FAST CHARGE		Connect to a battery and press <i>BOOST</i> ; charger goes into FAST CHARGE mode for
POWER SUPPLY		Connect a plug to the rear socket of the charger and it will deliver 13.6v 7A



Danger / Caution: Do not touch the positive clip (Red) with the negative clip (Black) together to check the charger output .

- Remove the battery from the vehicle.
- **Unsealed batteries only** - Remove the battery caps to allow any excess gas to escape and to prevent the case rupturing. Check the battery liquid level and top up if required

OPERATING INSTRUCTIONS Cont...

- Make sure that the battery charger is switched OFF.
- Connect the red clip cable to the + terminal and the - black clip cable to the - terminal. **Note:** the charger is suitable for 12v batteries only.
- After both clips are connected to the battery, slightly rotate them to remove any dirt or oxidation; this will ensure a good contact.
- Switch on the charger. Make your selection based on the table on page 14 .



If **BOOST** fast charge is selected then this will continue for 5 minutes.

Charging a Battery on a vehicle



Important: Check with the manufacturer of the vehicle that the battery can be charged whilst still connected to avoid any unwanted damage to the vehicle.



Note: If the battery is still connected to the vehicle - connect one lead to the battery first (normally +). The other connection is to be made to the chassis as far away as practical from the battery and fuel line.



DANGER: The engine must not be running whilst the battery charger is charging the battery

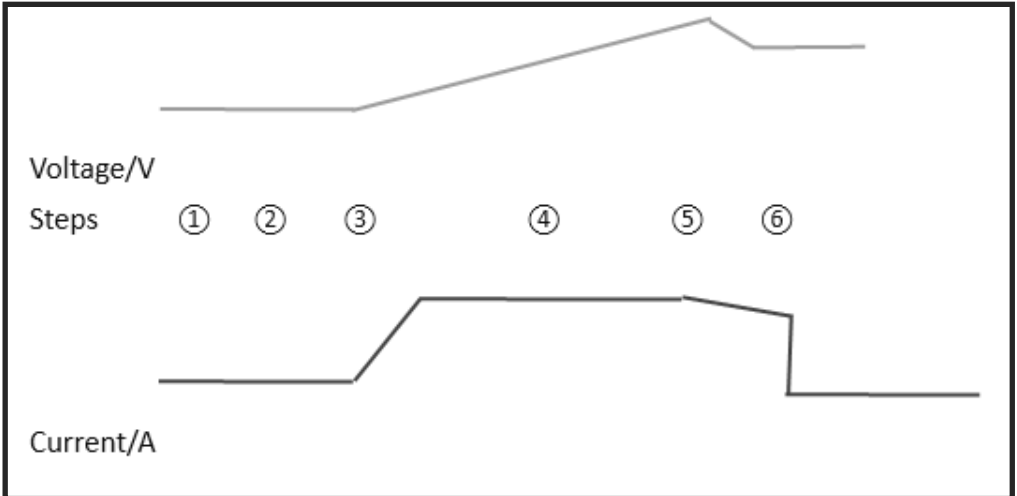
- Ensure the mains supply to the battery charger is OFF.
- **Unsealed batteries only** - Remove the battery caps to allow any excess gas to escape and to prevent the case rupturing. Check the battery liquid level and top up if required
- Connect the red clip cable to the + terminal and connect the - black clip cable to the chassis as far as practically possible from the fuel line and battery.

OPERATING INSTRUCTIONS Cont...

(a spark can be generated when connecting the clip to the battery terminal which could ignite battery or fuel gases). **Note:** the charger is suitable for 12v batteries only.

- Once the + (red) clip lead is connected to the battery, slightly rotate it to remove any dirt or oxidation; this will ensure a good contact.
- Switch on the charger. Make your selection based on the table on page 14 .
- Once the battery has been charged, remove the clips in the reverse order.

Charging Steps



OPERATING INSTRUCTIONS *Cont...*

<i>Step</i>	<i>Description</i>
1 & 2: Analyse & Diagnose	Check the battery condition and voltage
3: Reverse Connection Detection	Detects battery connection is correct
4: High Current	Charges at high current to approx. 80% of battery capacity
5: Low Current	Charges at low current until maximum capacity is achieved
6: Cycle End	Detects full battery capacity & stops charging. Automatically starts charging if voltage drops below the threshold

Approx. Charging Times

Different battery capacities, battery current & residual voltage will affect the charging time for batteries.

The following table is only as a guide for fully discharged batteries:-

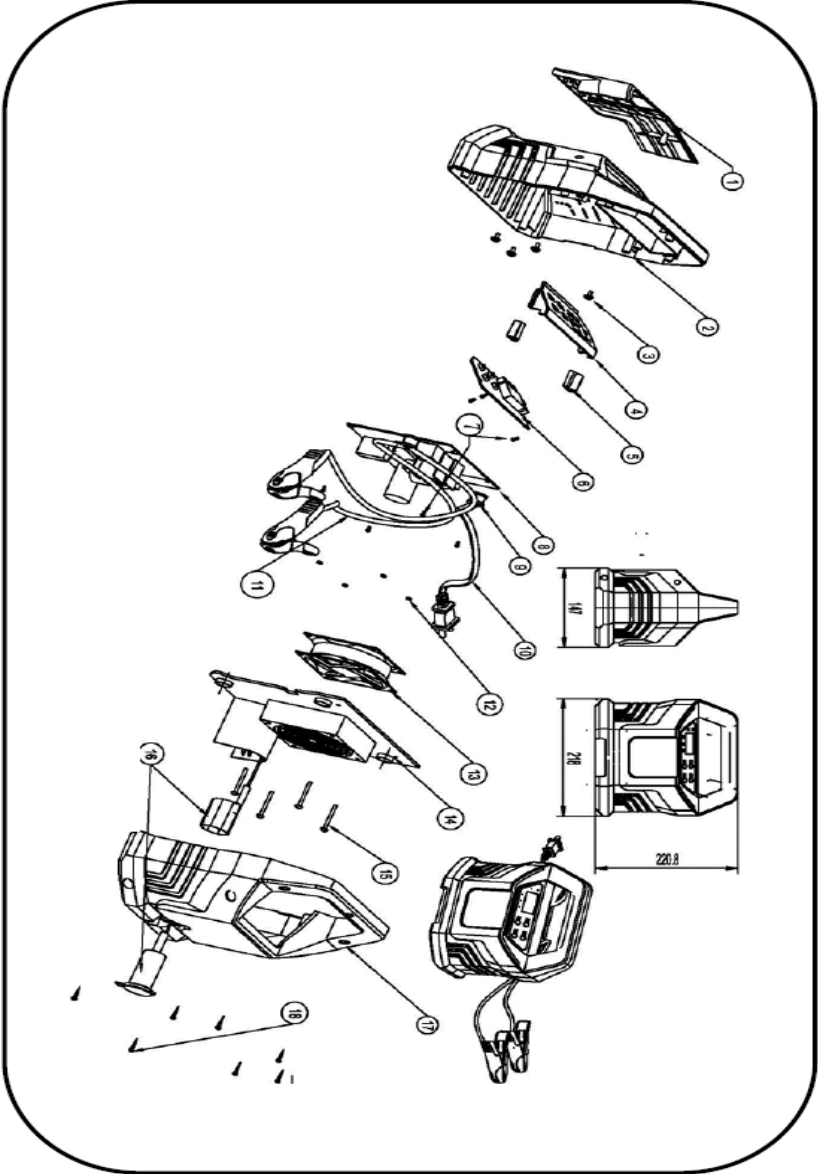
Battery Capacity / Ah	Approx. Charging Time / Hours			
	2A	6A	10A	15A
4	2			
14	7	2.3		
25	12.5	4.2	2.5	
30	15	5	3	2
40	20	6.7	4	2.7
50	25	8.3	5	3.4
60	30	10	6	4
100		16.7	10	6.7
180		20	18	12
230		38.3	23	15.3
300			30	20

TROUBLESHOOTING

Error Display

<i>Digital Display</i>	<i>Symptom</i>	<i>Remedy</i>
E01	Charger Overheated.	The charger will automatically suspend the charge. Audible alarm will sound. Charger will automatically re-start when cooled.
E03	Overload in <i>SUPPLY</i> mode. Charger will automatically shut down for 30 seconds.	Disconnect external device.
E04	Battery cannot store charge.	Battery is damaged. Charger unable to repair.
E05	Battery is seriously sulphated.	Battery is damaged. Charger unable to repair.
E06	Reverse connection.	Disconnect and re-connect correctly.

EXPLODED DRAWING



PARTS LIST

<i>Ref. No</i>	<i>Description</i>	<i>SIP Part No.</i>
1	Front Panel	PW02-00550
2	Front Cover	PW02-00551
3	Screw	PW02-00552
4	Front Control Panel	PW02-00553
5	Support	PW02-00554
6	Circuit board	PW02-00555
7	Screws	PW02-00556
8	Main Circuit Board	PW02-00557
9	Clip	PW02-00558
10	Mains Lead	PW02-00559
11	Charging Lead	PW02-00560
12	Nuts	PW02-00561
13	Fan	PW02-00562
14	Middle Partition Plate	PW02-00563
15	Screw	PW02-00564
16	12v Socket Assembly	PW02-00565
17	Back Cover	PW02-00566

NOTES

UK DECLARATION OF CONFORMITY

We

SIP (Industrial Products) Ltd
Gelders Hall Road
Shepshed Loughborough
Leicestershire
LE12 9NH
England

As the manufacturer within England, Scotland and Wales, we declare that the
SIP Chargestar D15 Digital Battery Charger - SIP Code 03506

Conforms to the requirements of the following regulation(s), as indicated:

Electrical Equipment (Safety) Regulations 2016
Electromagnetic Compatibility Regulations 2016
The Restriction of use of Certain Hazardous Substances in
Electrical and Electronic Equipment Regulations 2012

And the following harmonised standard(s):

BS EN IEC 60335-2-29:2004+A2:2010
BS EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A2:2019+A14:2019+A15:2021
BS EN 62233:2008+AC:2008
BS EN55014-1:2006+A1:2009+A2:2011
BS EN55015-2:2015
BS EN IEC 61000-3-2:2019
BS EN 61000-3-3:2013+A1:2019

Signed.....



Mr. Paul Ippaso Managing Director SIP (Industrial Products) Ltd

Date: 06 June 2023

**UK
CA**

EU DECLARATION OF CONFORMITY

We

SIP Machinery Europe Ltd
Quayside Business Park
Dundalk
County Louth

As the manufacturer within England, Scotland and Wales, we declare that the
SIP Chargestar D15 Digital Battery Charger - SIP Code 03506

Conforms to the requirements of the following directive(s), as indicated:

2014/35/EU	Low Voltage Directive
2014/30/EU	Electro-Magnetic Compatibility Directive
2011/65/EU & 2015/863/EU	RoHS Directive

And the following harmonised standard(s):

EN IEC 60335-2-29:2004+A2:2010
EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A2:2019+A14:2019+A15:2021
EN 62233:2008+AC:2008
EN55014-1:2017+A11:2020
EN55014-2:2015
EN IEC 61000-3-2:2019
EN 61000-3-3:2013+A1:2019

Signed.....



Mr. Paul Ippaso

Managing Director SIP (Industrial Products) Ltd

Date: 06 June 2023





Please dispose of packaging for the product in a responsible manner. It is suitable for recycling.

Help to protect the environment, take the packaging to the local amenity tip and place into the appropriate recycling bin.



Never dispose of electrical equipment or batteries in with your domestic waste.

If your supplier offers a disposal facility please use it or alternatively use a recognised recycling agent.

This will allow the recycling of raw materials and help protect the environment.

For help or advice please contact your distributor, or sip directly on:

Tel.: 01509 500400

Email:

sales@sip-group.com

or

customerservice@sip-group.com

www.sip-group.com