



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 re-cycling agent. This will allow the recycling of raw materials and help protect the environment.



# Chargestar P24 / P32

Battery Charger

# Startmaster P300

Starter / Charger



05530, 05531 & 05532

FOR HELP OR ADVISE ON THIS PRODUCT PLEASE CONTACT YOUR DISTRIBUTOR,  
OR SIP DIRECTLY ON:

TEL: 01509500400

EMAIL: [sales@sip-group.com](mailto:sales@sip-group.com) or [technical@sip-group.com](mailto:technical@sip-group.com)

[www.sip-group.com](http://www.sip-group.com)

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

# DECLARATION OF CONFORMITY

## Declaration of Conformity

We

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

As the manufacturer's authorised representative within the EC  
declare that the


Chargestar P24 - SIP Pt. No. 05530  
Chargestar P32 -SIP Pt. No. 05531  
Startmaster P300 -SIP Pt. No. 05532

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

2006/95/EC	Low Voltage Directive
2004/108/EC	EMC Directive
2002/95/EC	ROHS Directive

**And the following harmonised standard(s)**

EN 60335-2-29  
EN 55014  
EN 55104

Signed:  .....

Mr P. Ippaso - Director - SIP (Industrial Products) Ltd  
Date: 10/09/2012.



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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 Battery Charger and anything connected to it.**

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

**SIP** recommends that this 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 battery chargers are designed for the charging of lead-acid batteries, and for starting vehicles with lead acid batteries fitted (05532 only). They should not be used as a DC power source, 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 ~ 50Hz 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 to a vehicle's battery. Always connect the battery terminal not connected to the chassis first. 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 battery charger is then to be connected to the mains supply. Once charging is complete, disconnect the battery charger from mains supply first, and then remove the chassis connection followed by the battery connection.

## NOTES

Ref. No.	Description	SIP Part No.
1	Handle	PW02-00082
2	Cover	PW02-00084
3	Cover for fuse holder	PW02-00011
4	Fuse 80a	PW02-00003
5	Fuse holder	PW02-00010
6	Rectifier	PW02-00032
7	Ammeter 20a	PW02-00015
8	Cable gland	PW02-00079
9	Black cable	PW02-00063
10	Red/Black clamps	PW02-00071
11	Red cable	PW02-00055
12	Mains lead	PW02-00111
13	On/Off switch	PW02-00022
14	High/Low switch 16a	PW02-00021
15	Transformer	PW02-00046
16	Chassis	PW02-00090

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 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 BATTERY 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 BATTERY CHARGER IN DANGEROUS ENVIRONMENTS:** Do not use your Battery charger in damp or wet locations, or expose it to rain. Always provide adequate space around the battery 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 BATTERY CHARGER FROM THE MAINS SUPPLY:** When not in use.

**DO NOT ABUSE THE MAINS LEAD:** Never pull the mains lead it 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 BATTERY CHARGER REPAIRED BY A QUALIFIED PERSON:** The battery 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 battery 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 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 battery 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

## SAFETY INSTRUCTIONS

charger off and unplug from the mains supply before leaving the work area.

- Ensure that the battery 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 battery charger to switch it off - always use the on/off switch.
- Keep all combustible materials away from this battery charger.
- ALWAYS locate the battery 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 battery charger, as this may be dangerous and will invalidate the warranty.

If a problem with the battery 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 and frequency) specified on the model plate of the battery charger. If in doubt contact the manufacturer.
- Use only a three-prong, grounded mains supply socket.
- ALWAYS unplug the battery charger when not in use.

### Safety Symbols Used Throughout This Manual.



**Note:** Supplementary information.



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

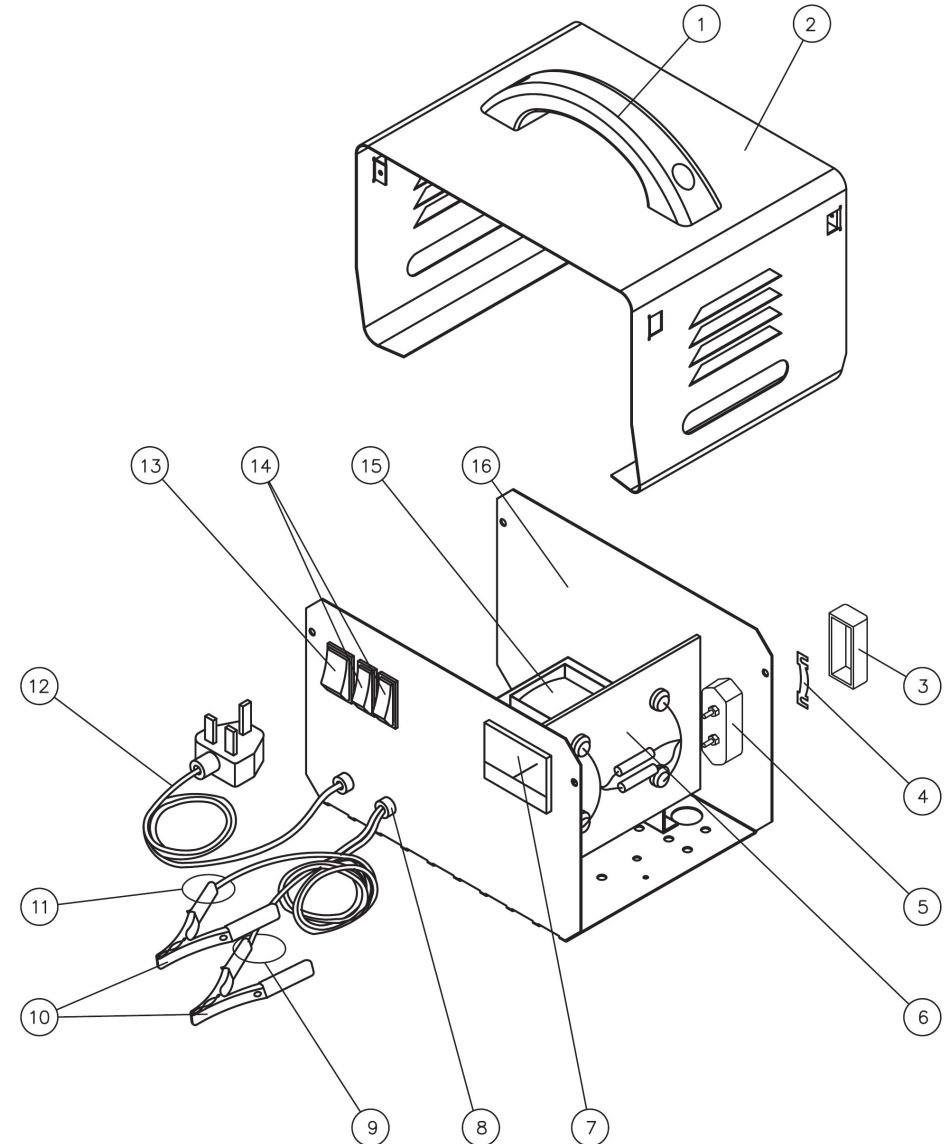


**Warning:** Risk of electrical injury or damage!



**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.

## EXPLODED DIAGRAM - STARTMASTER P300



Ref. No.	Description	SIP Part No.
1	Handle	PW02-00082
2	Cover	PW02-00084
3	Chassis	PW02-00089
4	Transformer	PW02-00045
5	Rectifier	PW02-00031
6	Ammeter 15a	PW02-00014
7	Circuit breaker 13a	PW02-00026
8	Cable gland	PW02-00078
9	Red cable	PW02-00054
10	Red/Black clamps	PW02-00070
11	Black cable	PW02-00062
12	Mains lead	PW02-00111
13	Fuse 5x20 T2.5a 250v	PW02-00002
14	Switch 16a	PW02-00020
15	Fuse holder	PW02-00009
16	High/Low switch 16a	PW02-00021

### Guarantee:

These SIP battery chargers are covered by a 12 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. Proof of purchase will be required before any warranty can be honoured.



**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.

### Connecting to the power supply:

These SIP battery chargers are fitted with a standard 230v ~ 13 amp type plug. Before using the battery charger, inspect the mains lead and plug to ensure that neither are damaged. If any damage is visible have the battery 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.

## ELECTRICAL CONNECTION...cont

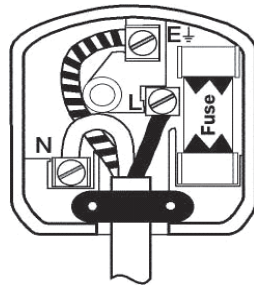
The wires for the plug are coloured in the following way:

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.



**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 the correct fuse protection is used. In the event of replacing the fuse always replace the fuse with the same value as the original.

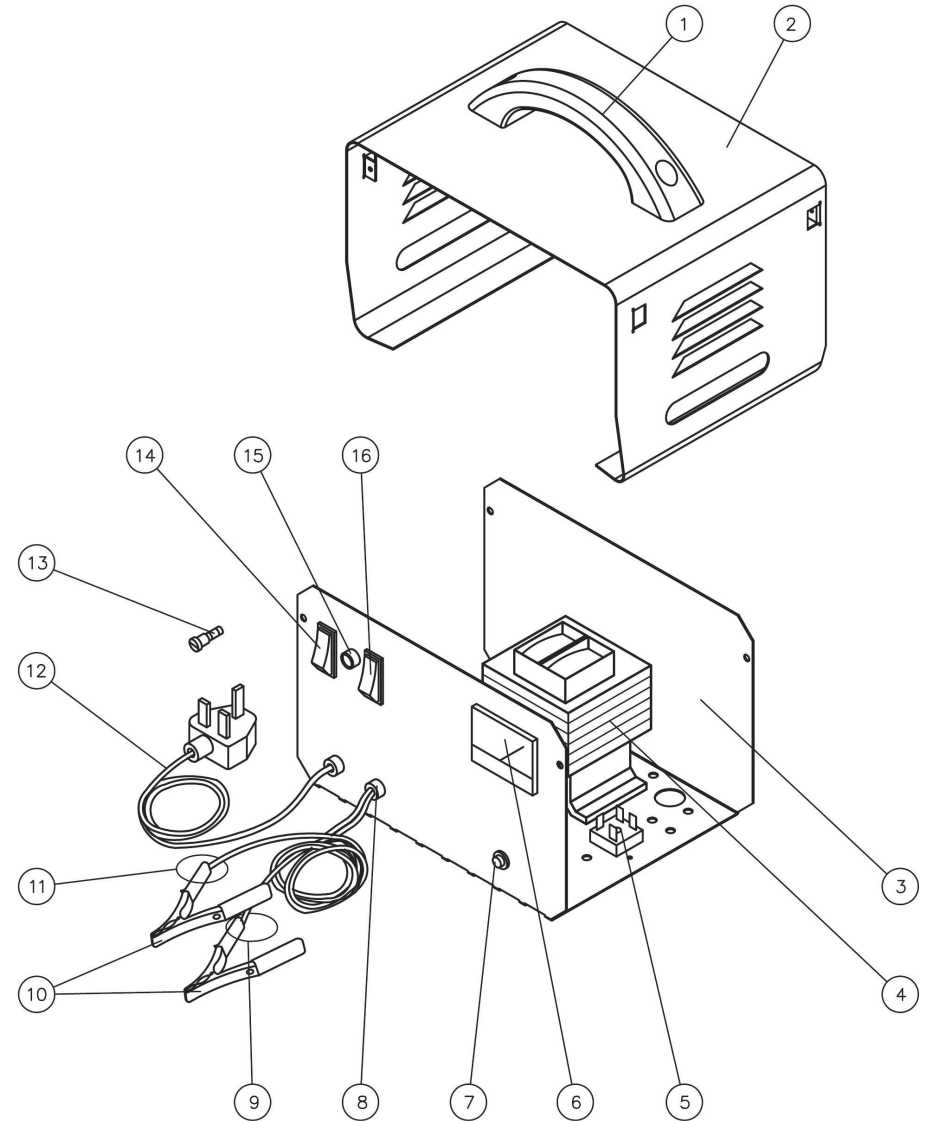


**Note:** If an extension lead is required in order to reach the mains supply; ensure that this too is rated for the correct voltage and fuse rating.



**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.

## EXPLODED DIAGRAM - CHARGE STAR P32

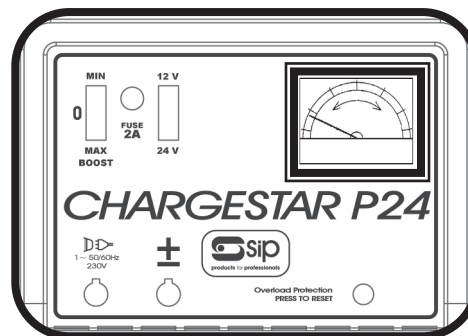




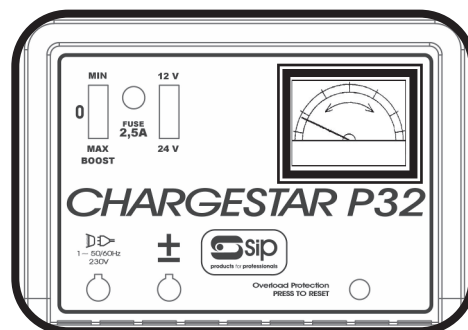
## PARTS LIST - CHARGESTAR P24

Ref. No.	Description	SIP Part No.
1	Handle	PW02-00082
2	Cover	PW02-00084
3	Chassis	PW02-00089
4	Transformer	PW02-00044
5	Rectifier	PW02-00030
6	Ammeter 12a	PW02-00013
7	Circuit breaker 10a	PW02-00025
8	Cable gland	PW02-00078
9	Red cable	PW02-00054
10	Red/Black clamps	PW02-00070
11	Black cable	PW02-00062
12	Mains lead	PW02-00111
13	Fuse 5x20 T2a 250v	PW02-00001
14	Switch 16a	PW02-00020
15	Fuse holder	PW02-00009
16	High/Low switch 16a	PW02-00021

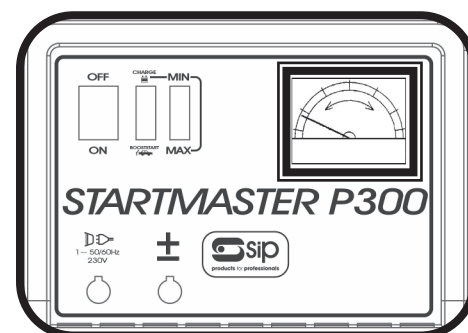
## TECHNICAL SPECIFICATION



Model No.	<b>05530</b>
Model Name	Chargestar P24
Input Voltage	230v ~
Input Frequency	50/60 Hz
P. Max Charge	300W
Fuse Rating (Machine)	2A
Output Voltage/s	12/24v
Max. Battery Capacity	85Ah
Output (A)	8,5
Output Max. (A)	12,5



Model No.	<b>05531</b>
Model Name	Chargestar P32
Input Voltage	230v ~
Input Frequency	50/60 Hz
P. Max Charge	390w
Fuse Rating (Machine)	2.5A
Output Voltage/s	12/24v
Max. Battery Capacity	110Ah
Output (A)	11
Output Max. (A)	16



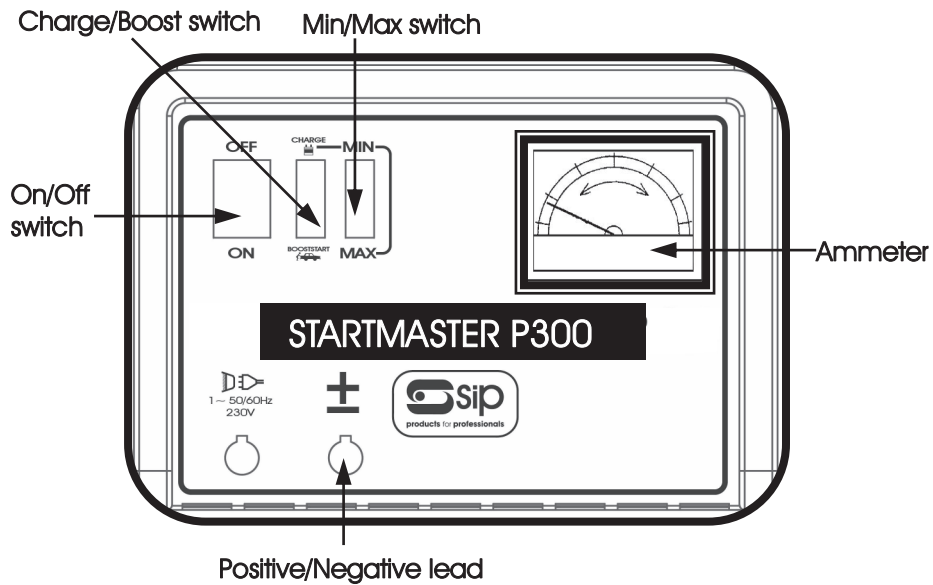
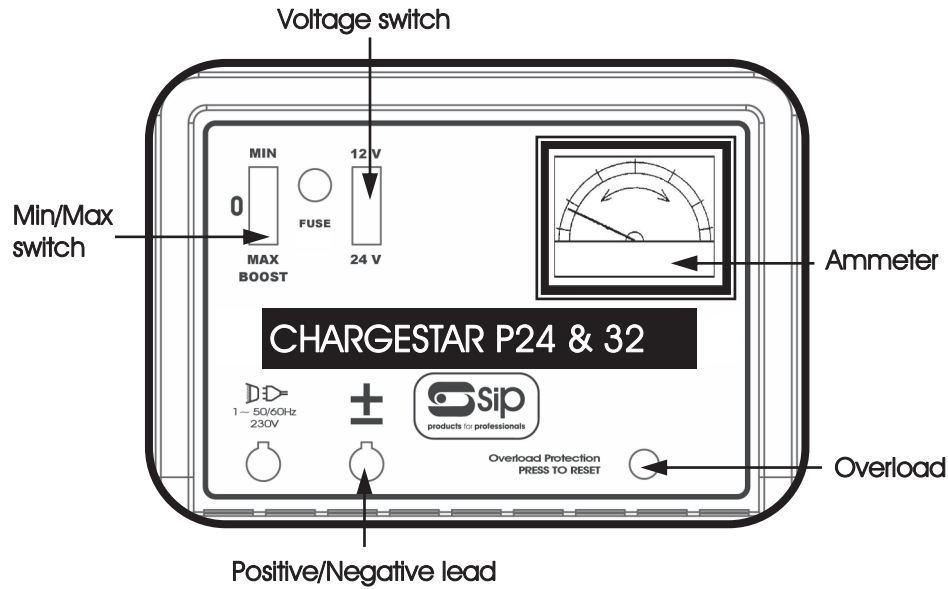
Model No.	<b>05532</b>
Model Name	Startmaster P300
Input Voltage	230v ~
Input Frequency	50/60 Hz
P. Max Charge	190w
Fuse Rating (Machine)	80A
Output Voltage/s	12v
Max. Battery Capacity	150Ah
Output (A)	14
Output Max. (A)	20
Boost 1V/c (A)	85
Boost Max. (A)	150



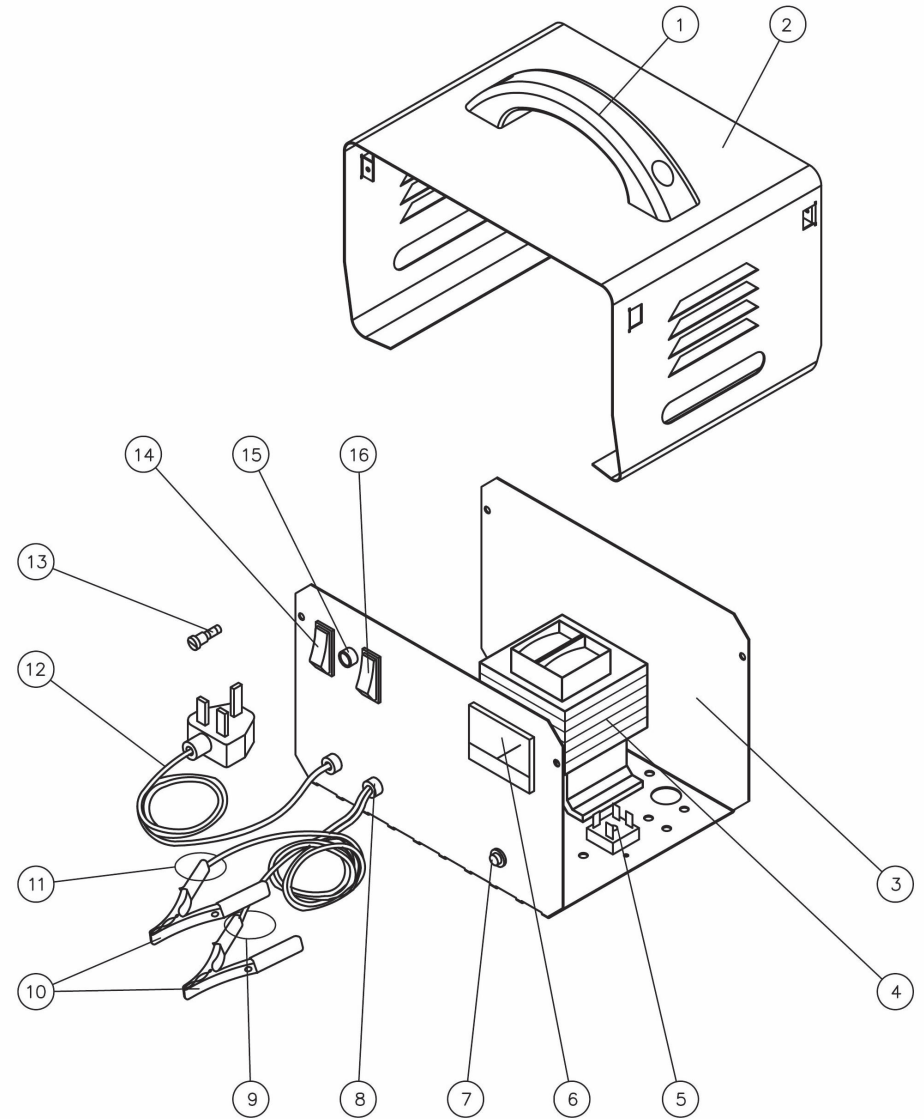
**Warning:** Duty cycle for boost on Startmaster P300 - 3 seconds on, 30 seconds off, maximum of 10 cycles. If this is exceeded then you must wait a minimum 20 minutes before trying again.

# GETTING TO KNOW YOUR CHARGER

Front Panel.



# EXPLODED DIAGRAM - CHARGESTAR P24



## TROUBLESHOOTING

Fault	Possible cause	Solution
	Bad contact of power socket	Repair or replace socket
	Initial voltage is too low	Replace damaged battery
<b>No charging current</b>	+ and - polarity terminals of battery are oxidised or dirty	Clean terminals
	Battery is damaged	Replace battery
	Fuse blown	Replace fuse
	Overload popped out	Reset overload
	+ and - polarity terminals of battery are oxidised or dirty	Clean terminals
<b>Low charging current</b>	Battery not accepting charge	Replace battery
<b>Excessive transformer noise</b>	Battery is charged fully	Measure specific gravity
	Unstable position	Change position for proper placement

## OPERATING INSTRUCTIONS

1. Remove the battery caps to allow any excess gas to escape and to prevent the case bursting.
2. Check the battery liquid and top up if required.
3. Clamp the red clip of charger to the + terminal of battery and black clip to the - terminal of the battery and confirm that connection is correct.



**Note:** If the battery is still connected to the vehicle - The battery terminal not connected to the chassis has to be connected first. The other connection is to be made to the chassis, remote from the battery and fuel line.



**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.

4. After the charger clip is attached, slightly rotate it so as to remove any dirt or oxidation, this will ensure a good contact.
5. Set the current switch of the charger to the positions corresponding to the desired mode.
6. Set the voltage switch to the correct voltage.
7. The battery charger should then be connected to the mains supply and switched on.



**CAUTION:** Do not leave the battery connected to the charger once the charge has finished, this may cause excessive heating of the cells and the electrolyte to "boil". If this happens during charging select a lower setting or stop the charge.



**Danger / Caution:** Do not touch the positive clamp (Red) with the negative clamp (Black) to check the battery charger output – this will cause the circuit breaker to trip or the internal / mains fuse to blow.

### Boosting a vehicle (Startmaster P300 only).



**Important:** Check with the manufacturer of the vehicle to be started that it is safe to use a charger / starter without causing damage to the electrical system.

1. Ensure the mains supply to the starter / charger is off.
2. Check battery liquid and top up if required.
3. Connect the + (red) lead to the correct voltage terminal on the charger depending on the voltage of the vehicle to be started.
4. 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).

## OPERATING INSTRUCTIONS...cont



**Note:** Never exceed the duty cycle of the battery charger - 3 second boost and 30 second rest period, to a maximum of 10 cycles, failure to adhere to this will void your warranty.



**Note:** If the vehicle has not started within 10 cycles, switch the charger / starter off and allow to cool before attempting to operate again; failure to do so will void the warranty .

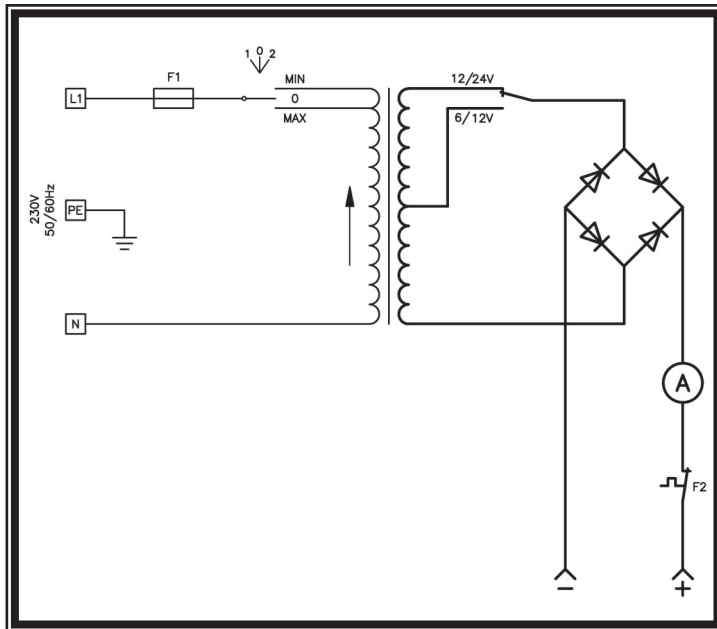
5. Set the charge setting to max.
6. Switch the mains supply on, then switch the charger on.
7. Wait until the ammeter has dropped to about 50%.
8. Then switch the cars ignition on and immediately switch to boost on the battery charger.
9. Once the vehicle has started turn the charger / starter off and remove the clips from the battery / vehicle - chassis connection first followed by the battery connection.



**Note:** The battery clip connected to the chassis should be removed first. The other connection can then be removed from the battery terminal.

## WIRING DIAGRAMS

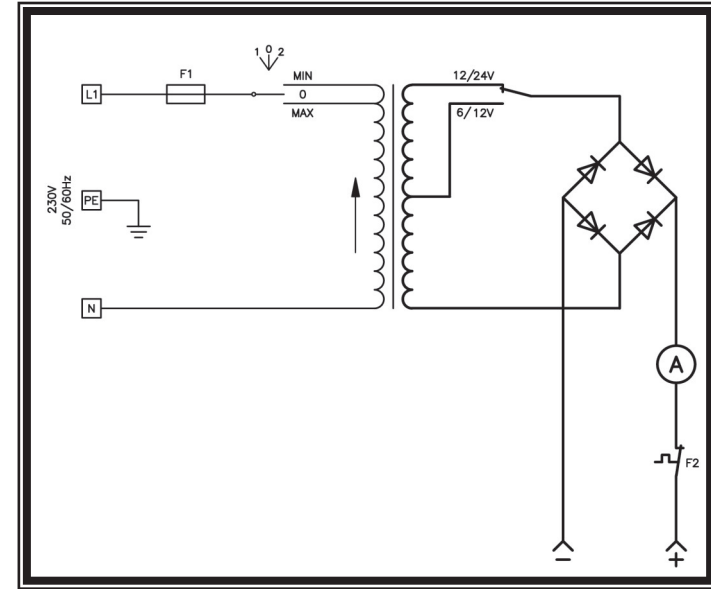
Chargestar P24.



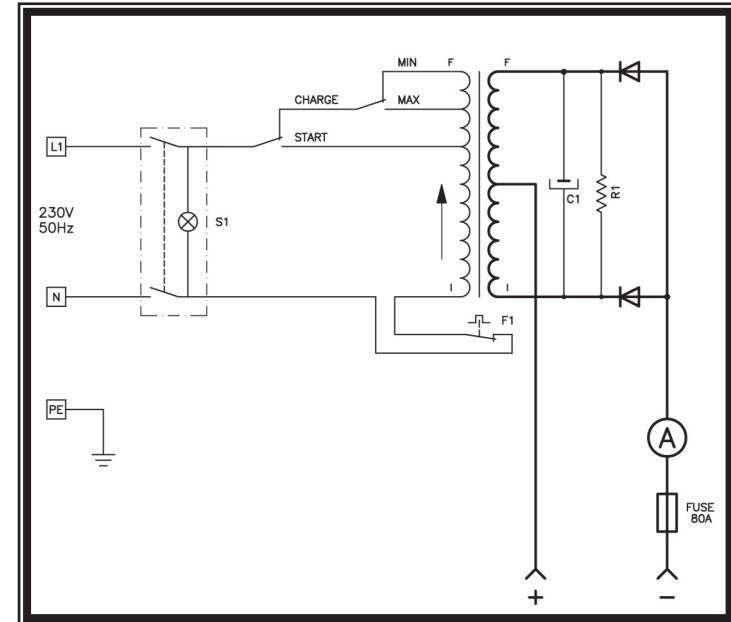
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## WIRING DIAGRAMS...cont

Chargestar P32.



Startmaster P300.



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