



RAY

Product Manual
Produktmanual



CHARGE AMPS

RAY

ENG/SE

Technical Specifications/

Tekniska Specifikationer

	Type/Typ 1	Type/Typ 2
Description/ Beskrivning	RAY 1P 16A T1	RAY 1P 16A T2
Product number/ Produkt nummer	100310	100312
Vehicle interface/ Standard mot bilen	SAE J1772 (IEC Type 1) 62196-2 (IEC Type 2)	
Voltage/Nätspänning		220-240 V
Frequency/Nätfrekvens		50/60 Hz
Current/Ström		6-16 A
Cable length/Kabel längd		7,5 m
Protective earth conductor/Skyddsjord		Non-switched/Automatisk återställning
Standby power		< 5 W
Power requirement while charging		< 10 W
Encapsulation/Inkapsling		IP66
Operating temperature/Temperatur tålighet		-35 °C - + 45 °C
Ground fault protection/Jordfelsbrytare		RCD type/typ A, <30 mA
Self-tests/Jordfelstest		Self-test of the RCD is performed at the insertion into the car. The relays are continuously monitored for welding. / Vid anslutning till bilen så utför RAY ett automatiskt test jordfelsbrytare. Reläna är under konstant övervakning mot svetsning.
Standards		IEC 61851-1 Ed.3 IEC 62196-2



CHARGE AMPS

RAY

ENG

User Guide

READ SAFETY PRECAUTIONS BEFORE USE

Charging Current

You should always have good knowledge about the electrical installation before you start charging to make sure the installation handles the load correctly.

Charging with high current requires that the outlet is rated for the load continuously and that the cable dimensions between the electric central and the outlet are of adequate size. You should also make sure that the installation and outlet are in good shape and can handle the continuous load.

If you are uncertain about the quality or capacity of the electrical installation consult your certified electrician.

See safety precautions for more information

To start charging

1. Connect RAY to an outlet socket. Make sure to always do this step **first**.
2. RAY will start and indicate the selected charging current on the display.
3. Make sure the RAY cable is not creating a coil.
4. Select the desired charging current by maneuvering the touch sensors. Press settings (gear-wheel) and then adjust current with the up/down arrows on the screen and end with OK (green check).
5. Insert the RAY into the EV. Charging starts automatically. The display will begin to show a charging graphic.

To stop charging

To prevent arcing and wear on plugs and outlet, the order of removal is important. The following procedure minimizes the risk of arcing.

1. Unlock your car.
2. Remove RAY from your car
3. Remove the socket plug from the outlet.



CHARGE AMPS

RAY

SE

Användarmanual

LÄS SÄKERHETSFÖRESKRIFTERNA INNAN ANVÄNDNING

Laddström

Du bör alltid ha god kunskap gällande den elektriska installationen innan du startar laddningen för att försäkra dig att installationen kan hantera laddlasten korrekt. Laddning med hög ström kräver att uttaget är klassat för en kontinuerlig last och att kabeldimensionen mellan elcentralen och uttaget är av adekvat dimension. Du bör också försäkra dig om att installationen och uttaget är i bra skick och kan hantera en kontinuerlig laddning.

Om du är osäker på kvaliteten eller kapaciteten av ditt eluttag bör du alltid konsultera med en certifierad elektriker.

För att starta laddning

1. Anslut RAY till ett eluttag. Gör alltid detta steg **först**.
2. RAY startar och indikerar den valda effekten (6-16A) på displayen.
3. Säkerställ att RAY kabeln är helt utrullad.
4. Välj den önskade effekten genom att manövrera touch sensorerna. Tryck på inställningar (kugghjulet) och justera effekten med upp/ner pilearna på displayen och avsluta med OK (den gröna bocken).
5. Anslut RAY i bilen. Laddningen startas automatiskt. Displayen kommer att visa grafik som indikerar att laddning pågår.

För att avsluta laddning

För att förebygga ljusbågning och slitage på laddkontakten samt uttaget så är det viktigt hur du drar ut kabeln. Följande procedur minimerar risken för ljusbågning:

1. Lås upp bilen
2. Dra ur RAY från bilen.
3. Dra ur kontakten från eluttaget.

RAY

Safety precautions

Warning

Due to mishandling a dangerous condition might occur such as electric shock or fire.

- Before you connect the RAY make sure the correct charging current is selected. You must ensure that the outlet and circuit have enough current capacity to charge your vehicle safely. The outlet and circuit must be earthed and protected by a dedicated circuit breaker (max 16A) or fuse (max 16A). If in any doubt, consult a qualified electrician. Overloading an outlet may result in fire.
- Do not use an extension cord or adapter.
- Always connect the RAY to a RCD protected outlet. The RAY is equipped with an RCD to protect the cable, connector and car from ground faults, but always use an RCD protected outlet for your personal safety.
- Do not disassemble or try to repair. Contact vendor if service is required.
- Stop using the RAY if a failure or abnormality occurs or the cable is damaged.
- Stop using the RAY if the display shows any faults.
- Stop using the RAY if it gets very hot. The RAY will get warm during charging, this is normal.
- Keep the plug dry and take appropriate care when operating in wet conditions.
- Do not touch the electric terminals of the RAY.
- Do not use the RAY if any parts are broken, worn, cracked, and open or show any indication of damage. Contact vendor if you are uncertain if it is safe to use your RAY.
- Not for use by children.
- Ensure the electrical supply is 220-240V 50/60Hz.
- Handle the RAY with care; do not drop and do not pull the cable firmly.
- Ensure that the RAY is placed to avoid submersion in water.
- Do not hang the RAY in the cable.

Caution

Parts could be damaged due to mishandling

- Prevent foreign matter from getting into the terminal parts of the RAY.
- Avoid stepping on, folding, driving over, or putting tight kinks in the cable.
- Avoid using the RAY during electrical storms or thunderstorms.
- Do not place heavy objects on the RAY.
- When charging, make sure the RAY is not covered by objects preventing cooling of the RAY.
- Do not drop the RAY.





WARNING – This manual contains important instructions for the RAY electric vehicle charger that must be followed during operation, and maintenance of the unit. When using electric products, basic precautions should always be followed, including the following instructions.



CAUTION - Instructions pertaining to a risk of fire or electric shock. Save these important safety instructions.



WARNING - Do not use RAY for any other purpose than to charge an electric vehicle.

DISCLAIMER:

Charge Amps AB is not responsible for damages, either direct or indirect, relating to the use of these instructions.

Charge Amps AB cannot guarantee completeness, accuracy or timeliness of the information found in this manual, and we reserve the right to make changes at any time without notice.



DISPOSAL

The RAY contains electronic components and should be recycled as such. Contact your local recycling centre for information about recycling and where to dispose of your electronic products.



You can also send items back to Charge Amps for proper disposal. Contact info@charge-amps.com for instructions.

Charge Amps AB

Gustav III:s Boulevard 42

16973 SOLNA

SWEDEN

charge-amps.com

+46(0) 8-55 11 2000



CHARGE AMPS