

Invacare® OptiCharge

24 V 8 A/10 A

en **Lead Acid Battery Charger**
User Manual



This manual **MUST** be given to the user of the product.
BEFORE using this product, this manual **MUST** be read and saved for
future reference.



Yes, you can.®

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1 General

1.1 Introduction

This user manual contains important information about the handling of the product. To ensure safety when using the product, read the user manual carefully and follow the safety instructions.

Only use this product if you have read and understood this manual. Seek additional advice from a healthcare professional who is familiar with your medical condition and clarify any questions regarding the correct use and necessary adjustment with the healthcare professional.

Note that there may be sections in this document, which are not relevant to your product, since this document applies to all available models (on the date of printing). If not otherwise stated, each section in this document refers to all models of the product.

The models and configurations available in your country can be found in the country-specific sales documents.

Invacare reserves the right to alter product specifications without further notice.

Before reading this document, make sure you have the latest version. You find the latest version as a PDF on the Invacare website.

If you find that the font size in the printed document is difficult to read, you can download the PDF version from the website. The PDF can then be scaled on screen to a font size that is more comfortable for you.

For more information about the product, for example product safety notices and product recalls, contact your Invacare distributor. See addresses at the end of this document.

In case of a serious incident with the product, you should inform the manufacturer and the competent authority in your country.

1.2 Symbols in This Manual

Symbols and signal words are used in this manual and apply to hazards or unsafe practices which could result in personal injury or property damage. See the information below for definitions of the signal words.



WARNING

Indicates a hazardous situation that could result in serious injury or death if it is not avoided.



CAUTION

Indicates a hazardous situation that could result in minor or slight injury if it is not avoided.



NOTICE

Indicates a hazardous situation that could result in damage to property if it is not avoided.



Tips

Gives useful tips, recommendations and information for efficient, trouble-free use.



Tools

Identifies required tools, components and items which are needed to carry out certain work.

Other Symbols



UK Responsible Person

Indicates if a product is not manufactured in the UK.



Triman

Indicates recycling and sorting rules (only relevant for France).

1.3 Warranty Information

We provide a manufacturer's warranty for the product in accordance with our General Terms and Conditions of Business in the respective countries.

Warranty claims can only be made through the provider from whom the product was obtained.

1.4 Standards and regulations

Quality is of the utmost importance for our company; all processes are based on the ISO 9001.

This product features the CE mark and UKCA mark, in compliance with the Low Voltage Directive 2014/35/EU and the EMC Directive 2014/30/EU.

The product meets the requirements of the standards IEC 60335 (Household and similar electrical appliances - Safety), EN ISO 12184 (Electrically powered wheelchairs, scooters and their chargers - Requirements and test methods), ISO 7176-14 (Power and control systems for electric wheelchairs - Requirements and test methods), ISO 7176-25 (Batteries and chargers for powered wheelchairs - Requirements and test methods).

Invacare is continuously working towards ensuring that the company's impact on the environment, locally and globally, is reduced to a minimum.

- We comply with the current environmental legislation (e.g. WEEE and RoHS directives).
- We only use REACH compliant materials and components.

For further information, contact Invacare in your country (for addresses, see back page of this manual).

1.5 Intended use

This Invacare off-board battery charger is intended to be used indoors with a 220–240 V AC / 50–60 Hz mains supply for charging gel or AGM rechargeable batteries. Any other use is prohibited.

1.6 Service Life

We estimate a service life of five years for this product, provided it is used in strict accordance with the intended use as set out in this document and all maintenance and service requirements are met. The estimated service life can be exceeded if the product is carefully used and properly maintained, and provided technical and scientific advances do not result in technical limitations. The service life can also be considerably reduced by extreme or incorrect usage. The fact that we estimate a service life for this product does not constitute an additional warranty.

1.7 Scope Of Delivery



Pos.	Designation	Qty.
Ⓕ	Table mounting collared screws	2
Ⓖ	User manual	1
	Drilling template (included at the end of this manual)	1

The mains power cord and the charging cable are permanently installed in the housing.

Pos.	Designation	Qty.
Ⓐ	Battery charger 8 A fitted with Europlug (CEE 7/16)	1
Variants:	Battery charger 10 A fitted with Europlug (CEE 7/16)	
	Battery charger 8 A fitted with UK plug (BS 1363)	
	Battery charger 10 A fitted with UK plug (BS 1363)	
Ⓑ	Holder for XLR plug	1
Ⓒ	Screw for Holder for XLR plug	1
Ⓓ	Wall mounting screws	2
Ⓔ	Wall mounting plugs	2

2 Safety

2.1 Safety information

**WARNING!**

- Do not use this product without first completely reading and understanding these instructions. Invacare product manuals are available on the internet or at your local provider (addresses are displayed on the back cover of this manual).
- If you are unable to understand the warnings, cautions or instructions, contact a healthcare professional, provider or technical personnel before attempting to use this equipment – otherwise, injury or damage may occur.

**WARNING!****Risk of explosion and destruction of batteries if the wrong battery charger is used**

- Only ever use the battery charger supplied with your mobility device, or a charger that has been approved by Invacare.

**WARNING!****Risk of injury if using the mobility device during charging**

- DO NOT attempt to recharge the batteries and operate the mobility device at the same time.
- DO NOT sit in the mobility device while charging the batteries.

**WARNING!****Risk of electric shock and damage to the batteries**

- NEVER attempt to recharge the batteries by attaching cables directly to the battery terminals.

**WARNING!****Risk of short circuit and electric shock if the battery charger has been damaged**

- Do not use the battery charger if it has been dropped or damaged.

**WARNING!****Risk of injury**

- Do not use if defective.
- In the event of a malfunction, contact your provider immediately.
- Do not make any unauthorized changes or alterations to the product.
- Only use the charger indoors.
- Do not mount the battery charger directly onto a mobility device.

**WARNING!**

This device is not intended to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

**WARNING!**

This device may be used by children over 8 years of age and over, as well as by persons with reduced physical, sensory or mental abilities, or lack of experience and knowledge when supervised or instructed regarding the safe use of the device and the resulting dangers.

- Children must not play with the product.
- Cleaning and user maintenance must not be carried out by children without supervision.

**WARNING!**

– Users and suppliers of Assistive Mobility products should give consideration to the possibility of a failure to operate, or an incorrect operation, by the product. Should a user be left with limited or no mobility due to an equipment failure, they should still be able to summon assistance from where ever they may be.

- Charge only Gel and AGM type rechargeable batteries. Other types of batteries may burst, under charge or be damaged over time. Do not recharge non-rechargeable batteries.
- To prevent electrical shock, do not touch uninsulated parts of the charger like DC output connectors.
- The battery charger should be regularly checked for any damage or loose, damaged or corroded connectors, leads or terminals. If any of these situations occur, DO NOT attempt to operate but contact your provider immediately.

**WARNING!**

- Use charger only with batteries of the size and type for which the charger is designed.
- Do not use the charger for any purpose other than charging batteries of mobility devices through the charger socket provided on the mobility device.
- Do not operate the charger on its side or with the cooling vents obstructed.
- Do not cover the charger.
- This is a mains operated product and normal cautions should be observed.

**NOTICE!**

- The information contained in this document is subject to change without notice.
- Check all parts for shipping damage and other damage or other conspicuous features.

2.2 Labels and symbols on the product

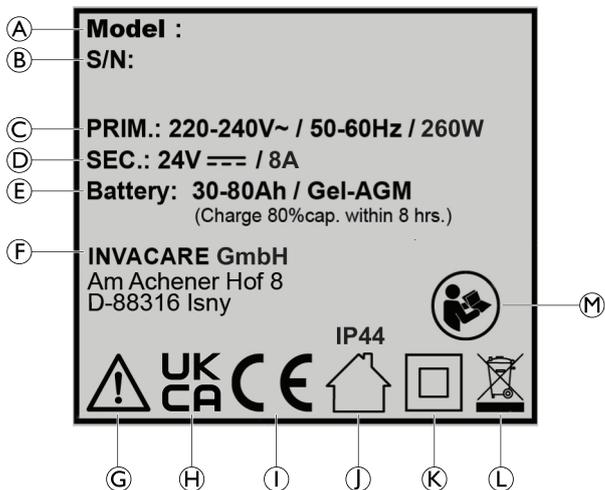
Identification label



The identification label is located on the backside of the product.

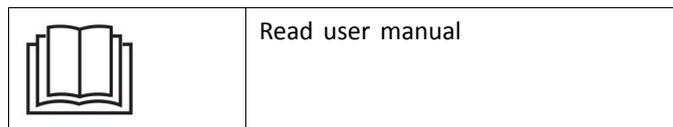


Identification label of 8 A charger shown as an example. The values might differ for other models such as a 10 A charger.



(A)	Model number
(B)	Serial device number
(C)	Power indication
(D)	Current indication
(E)	Permitted types of batteries
(F)	Manufacturer
(G)	Warning symbol
(H)	UK Conformity Assessed
(I)	Conformity mark (CE)

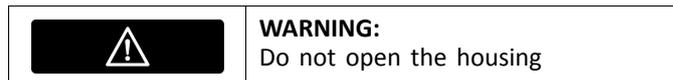
(J)	Indoor use only / Type of protection
(K)	Class II protection class
(L)	WEEE conform
(M)	Refer to user manual



Warning label



The Warning label is located on the bottom of the product.



3 Setup

3.1 Installing Battery Charger

The battery charger can be placed on its rubber feet on a horizontal surface or be mounted to the floor or to the wall.



WARNING!

- Make sure that no wires, pipes or other utility connections will be pierced when drilling in the mounting surface.
- Make sure that the mounting surface is suitable for drilling.

Installing Holder For XLR Plug



- TX20 Torx key



Fig. 3-1

1. Mount holder **B** to the housing using screw **C**.

Installing To Table



- Centre punch
- (Cordless) screwdriver, 5 mm drill bit, 5 mm Phillips screw insert
- Drilling template (See end of this document)

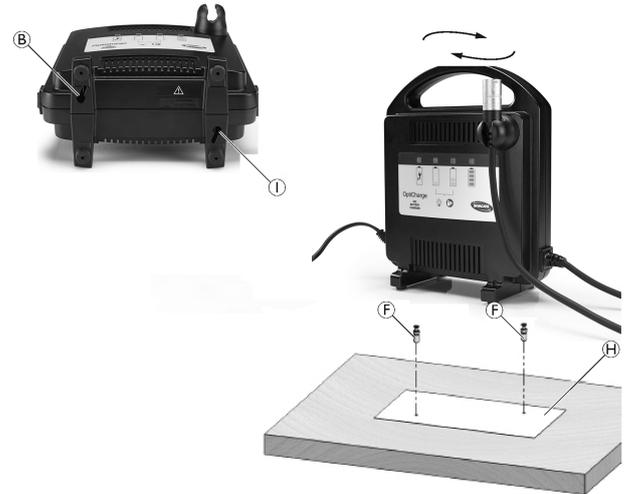


Fig. 3-2



NOTICE!

- The drilling template is only valid when printed in the original file size at 100% scale.
- Check the drilling template for correct dimensions.
 - If necessary, create your own drilling template with the given dimensions.

1. Place the drilling template H on the table and hold it in place.
2. Using a centre punch, mark the two drill holes indicated by the template.
3. Drill the two holes with a depth of 12 mm into the table using a suitable 5 mm drill bit.
4. Screw the two collared screws F (included in mounting kit) into the holes until they meet resistance.
5. Place the battery charger on the table by aligning holes I with the protruding screws.
6. Slightly turn the battery charger clockwise to lock it in place.

Installing To Wall



- Centre punch
- (Cordless) Screwdriver, 6 mm drill bit, 4 mm Phillips screw insert
- Pocket rule (or similar)

1. Using a centre punch, mark the two drill holes at the wall where you want to mount the charger.



The distance between the two holes must be 120 mm.

2. Drill the two holes into the wall using a suitable 6 mm drill bit.
3. Place a wall-plug E (included in mounting kit) into each hole.
4. Screw two screws D (included in mounting kit) into the holes while leaving 10 mm of the screws protruding.
5. Place the battery charger to the wall by aligning holes I with the protruding screws.

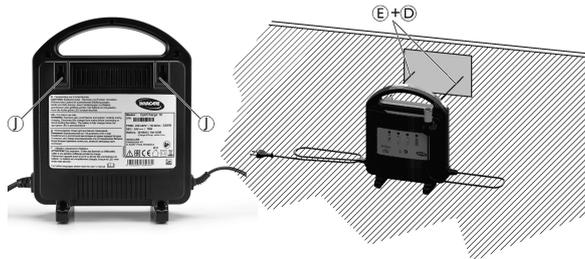


Fig. 3-3

4 Usage

4.1 Safety information

**WARNING!**

- Circuit breaker or fuse protection in the AC power outlet to which the charger is to be plugged should be rated at 5 Amps per charger. A delay-action fuse is recommended.
- Do not overload electrical outlets.
- Avoid use of an extension cord. Use of an improper extension cord could result in the risk of fire and electric shock. If an extension cord is necessary, ensure a 5 Amp current rating or greater and that it is in a good condition and as short as possible. If an extension cord is used, it should be used in accordance with the extension cord manufacturers' instructions.
- Use compatible extension cord connectors on the battery charger connector.
- Situate all cords in such positions as to eliminate the likelihood of being stepped on, tripped over or otherwise subjected to damage or stress.
- Do not operate the charger if the power cord is damaged. Contact a provider immediately.
- Do not operate the charger if it has suffered a sharp blow or is damaged in any other manner. Contact a provider immediately.
- Do not charge individual 12 volt batteries.

**WARNING!**

- Use only with a 220 - 240 V AC / 50 - 60 Hz mains supply.

**WARNING!**

- Keep charger protected from rain and moisture. In the event of water or other fluid entering the unit, switch unit off at the mains supply and unplug from the power supply and wheelchair immediately. Contact your provider.

**WARNING!**

- Do not attempt to open the case. There is a risk of electric shock, even if the unit is unplugged. There are no fuses or user-serviceable parts inside.
- Do not insert objects through the cooling slots.

**WARNING!**

- Explosive gases may be vented from the batteries during the normal operation of battery chargers.
- Do not smoke or expose naked flame in the vicinity of the charger.
- Only use charger in a ventilated area.

4.2 Using The Battery Charger



CAUTION!

Risk of injury from hot surfaces

The XLR plug can become very hot during charging.

- Do not touch XLR plug during charging.
- Do not remove XLR plug until mobility device is fully charged.
- Remove mains lead from power socket and wait until XLR plug cooled down.

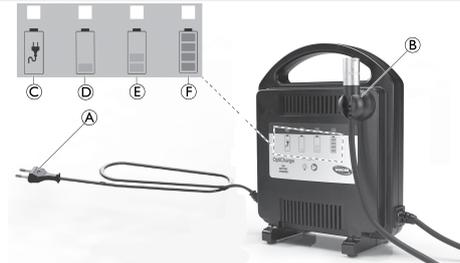


Fig. 4-1

1. Switch OFF mobility device.
2. Connect XLR plug **B** to mobility device to be charged.
3. Connect the mains lead **A** to a suitable power socket. Battery level indicator LEDs **D**/**E**/**F** flash once. Power LED **C** illuminates green. This indicates that battery is correctly connected and is charging.
4. When charging is complete first disconnect mains lead from power socket and then XLR plug from mobility device.

LED Indication



NOTICE!

- Batteries repeatedly charged to and used at partly charged level will suffer a greatly reduced battery life.
- While connected to a charger the state of charge should be read solely from the battery charger indicators and not from the mobility device.

“Battery Discharged” LED **D** illuminates yellow when the battery is discharged and charging is in progress. A battery with a low charge state should recharge in approximately 12 hours. Smaller or partly charged batteries will take proportionally less time to become fully charged.

“Battery Partly Charged” LED **E** illuminates yellow in addition when the battery is partly charged (> 50 %). A mobility device with batteries at this charge level or below must be used in emergency situations only.

“Battery Fully Charged” LED **F** illuminates green in addition (all LEDs are on) when the battery is fully charged.

When LEDs **D** and **E** are flashing an error has occurred:

- Check for correct connection
- Contact your local provider

5 Technical Data

5.1 General data

Electrical data	
Output current	8 A / 10 A \pm 8 %
Output voltage	24 V DC nominal (12 cells)
Mains input nominal voltage range	220 – 240 V AC, 50 – 60 Hz
Input voltage tolerance range	198 – 264 V AC, 47 – 63 Hz
Max. output power	240 W (8 A) 300 W (10 A)
Degree of protection	IP31 ¹ / IP44 ² (see label on product)
Insulation class	Class II
Temperature compensation of charge voltage	-3 mV / °C per cell
Efficiency (at 100 % load, input 230 V AC / output 28.8 V DC)	> 90 %

Approved battery capacity range at 8 A	(C ₂₀ -capacity) 30 Ah – 80 Ah (C ₅ -capacity) 26 Ah – 68 Ah
Approved battery capacity range at 10 A	(C ₂₀ -capacity) 30 Ah – 100 Ah. (C ₅ -capacity) 26 Ah – 85 Ah.
Dielectric withstanding voltage	3750 V AC, 50 Hz
Approved battery types	Lead acid (Gel / AGM) 24 V DC (2 x 12 V)
Cooling	Convection cooling / fanless operation
Plug fuse (UK only)	5 A or 10 A (as indicated on plug)

Dimension, weight, material

Housing width	206 mm
Housing height	251 mm
Housing depth	109 mm
Power cord length	1800 mm
Charging cable (XLR) length	2000 mm

1. IP31 classification means that the charger is protected against dripping water and ingress of solid foreign objects greater than 2.5 mm
2. IP44 classification means that the charger is protected against spray water and ingress of solid foreign object greater than 1 mm.

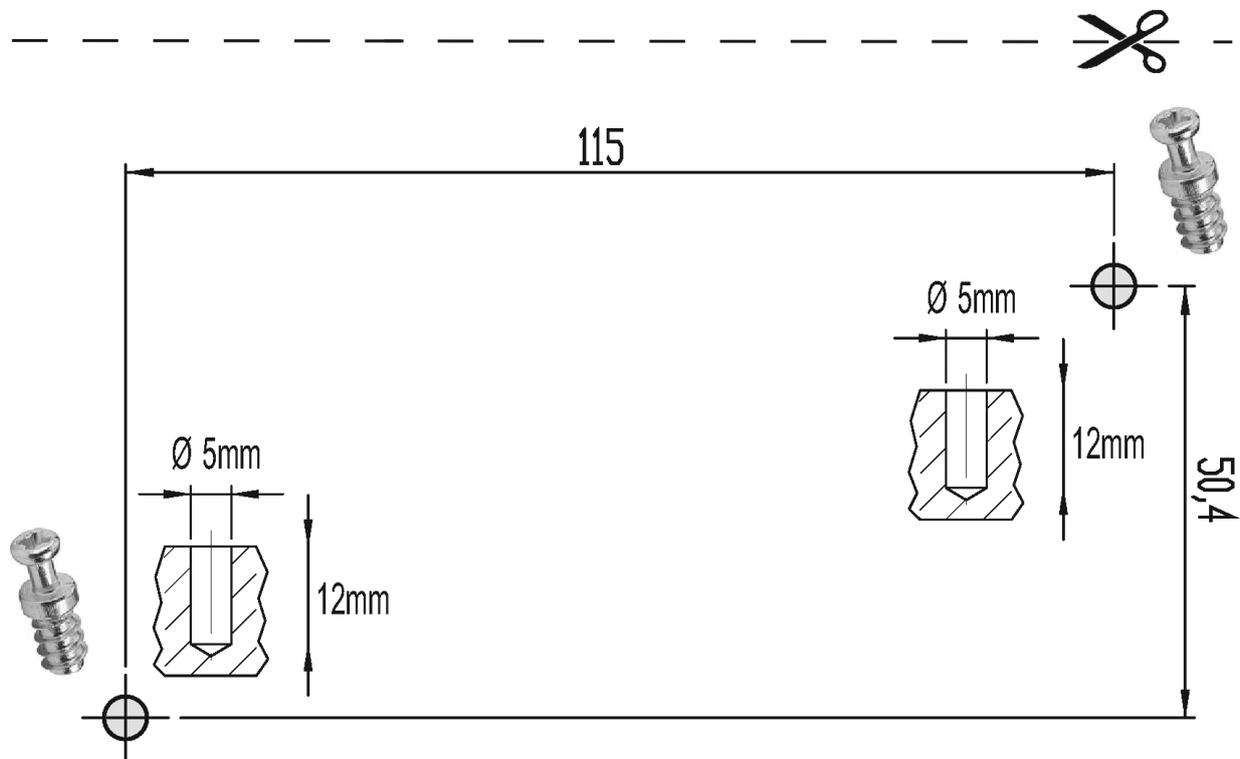
Product weight	1.4 kg
Housing material	PC / ABS

If in doubt, contact your provider or supplier.

5.2 Environmental Parameters

Operating conditions	
Ambient temperature	-5 °C – +40 °C
Relative humidity	10 % – 90 %, non-condensing
Storage and shipping conditions	
Ambient temperature	-40 °C – +65 °C

6 Drilling template for table mounting





United Kingdom:

Invacare Limited
Pencoed Technology Park, Pencoed
Bridgend CF35 5AQ
Tel: (44) (0) 1656 776 200
uk@invacare.com
www.invacare.co.uk

Ireland:

Invacare Ireland Ltd,
Unit 5 Seatown Business Campus
Seatown Road, Swords, County Dublin
EirCode: K67 K271 — Ireland
Tel : (353) 1 810 7084
Fax: (353) 1 810 7085
ordersireland@invacare.com
www.invacare.ie



Invacare GmbH
Am Achener Hof 8
D-88316 Isny
Germany



Invacare UK Operations Limited
Unit 4, Pencoed Technology Park,
Pencoed
Bridgend CF35 5AQ
UK

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