

# User Manual



**Lithium Ion Chargers  
452040-L and 459940-L Series**



## READ THESE INSTRUCTIONS BEFORE USING THE CHARGER

This battery charger is only designed for indoor use and should not come into contact with water or dust. In order to avoid overheating, the charger should not be covered when it is in use.



The mains socket should be easily accessible. If an operational error occurs, the plug should be immediately removed from the socket.



This charger is designed for use with Lithium-ion batteries. For safety reasons, this charger must be used only for batteries which have the right number of cells in series: Output voltage divided by 4.1V or 4.2V.

The charger contains dangerous voltages and the cover should not be removed. All service or maintenance work should be carried out by qualified personnel who can get assistance by contacting the manufacturer's agent.



A fuse protects the product against short circuiting and overloading. In the event that the fuse needs to be replaced, the same type and size of fuse should always be used.

In the event that the charger has this symbol on it, it is double-insulated (in insulation class II).



If the battery charger is mounted in a vehicle, it can only be used when the vehicle is not in use.

If the product is labeled "EN60601-1" it complies with the requirements of electromedical equipment and can be used in hospital environments, etc. The product should not be used in the vicinity of flammable anaesthesia gases.

If the product has plastic casing, prevent it from coming into contact with oils, grease, etc., as most types of plastic can be broken down by chemicals and solvents.

**Technical specification: See product labeling.**

## CHARGING INSTRUCTIONS

1. Do not connect the charger to the mains before it is connected to the battery.
2. Observe correct polarity when connecting to the battery terminals.
3. Connect the charger to the mains.
4. When charging is complete, disconnect from the mains before removing battery connections.

## WARNING

The charger has internal fuses which blow if a fault occurs in the charger. Such faults must be repaired by qualified service personnel.

### LED's INDICATE FOLLOWING CHARGE STATUS

#### Fast charge

The charger is in constant current mode.  
Charge current is at its maximum.



#### Final charge

The charger is in timer mode.  
Charge current is less than maximum.  
The battery is normally 80-95% charged when the LED indicator changes to orange.  
The charger is in constant voltage mode.  
The charger stays in this mode until the timer has run out.



#### Charge completed

The LED indicator changes to green.  
Charging has stopped.  
Charge current drops to zero.



### Charging diagram

