CLOSED BATTERIES AND CHARGERS











English

Before starting...

Periodic service and safety inspection

Service check is required once each year, however at least for every 500 hours of operation.

Safety inspection should be performed by the dealer or other qualified persons at least once each year, unless local regulations state otherwise.

The safety inspection to be performed on the basis of form no. B0278/B0342 and proved on form no. B284. Forms and instructions for the safety inspection are available at your dealer.



Filling in acid solution on the battery:

 The battery acid is corrosive. If it should touch skin or eyes, wash with water and contact a doctor. Filling in acid into the battery should be performed in a ventilated room.





The charging of open and closed batteries gives off gases that can be explosive:

• Sparks and use of naked flames near the batteries should be avoided.



- Do not use the truck when charging the battery.
- · Charging should be performed in a ventilated room.
- The battery lid has to be open to ensure a good ventilation of the battery.



At temperatures around the freezing point, battery capacity is reduced by 30%. If the acid density of the battery is 1,10 kg/l and the temperature 0° C, the battery will freeze and the capacity will be 0% - battery will be damaged.

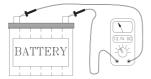


Battery and charger

Checking the battery conditions

The battery condition for closed batteries appears from the battery indicator.

The battery voltage can be measured with a voltmeter (DC) on the poles of the battery. Do not use the battery half an hour before measuring.



Battery voltage:		
12 Volt	24 Volt	
Ca. 12,9 V	Ca. 25,8 V	Fully charged
Ca. 12,3 V	Ca. 24,5 V	80% discharged

By two batteries connected in series (24V), the voltage difference between the two batteries is not allowed to exceed 0.1V.

Battery indicator - 12V

The battery indicator shows the charging condition.

The most accurate reading can be obtained, after the battery has been allowed to remain idle for 5-10 minutes.

Red diode is on: Do <u>not</u> use the product. The battery can be permanently damaged.

The first green lamp is on: The product can still be used; Charging is recommended.

Charging: The charging diode flashes during charging. Charging is continued until the charging diode is on constantly.

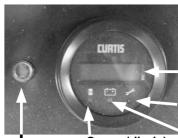


Charging diode

Battery indicator 24V

The messages are shown on the LCD display.

The diodes indicate type of message shown.



LCD display (8 characters)

Red (diode)

Orange (diode)

Green (diode)

Charging diode

Red (diode): Indicates service and error.

Orange (diode): Indicates battery condition.

0-30%: Charging is recommended

0%: Charging has to be made.

Shortly after the indication of 0% on the display, the driving speed is reduced (display shows error 4.2). The battery has to be charged!

Battery condition is updated when fully charged and when driving function is activated.

Green (diode): Indicates hour meter

The hour meter shows:

- 1. Hours during which the truck has been in driving mode, when the green diode is on constantly.
 - The hour meter can be disconnected by key and emergency stop.
- 2. Operation hours, when the green diode flashes.

Error codes

In case of errors, the display shows error codes:

Error code 1.4: The forward/reverse knob is activated, before the handle was placed in drive position.

Error code 4.2: Battery discharged.

If the display shows other error codes, please contact your dealer.

Standby:

When display is in standby mode, stars are shown in the display. When activating the driving function, battery condition is indicated (not hour meter and operations hours).

Charging

Please be aware that the mains voltage corresponds the mains voltage, indicated on the charger.

Built-in charger (12V and 24V):

- 1. Connect the charger to the mains.
- 2a. **12V charger:** Within 5 minutes, the "charging" diode will be alight on the battery indicator. A full charge normally takes 8 hours.
- 2b. 24V charger: The diode of the charger is placed next to the battery hour meter. When the charging starts, the green diode flashes. When the battery is fully charged, the green diode is alight.
 - **Please note!** When connected to the mains, the driving functions of the truck are disconnected (truck with propulsion).
- If the charger stays connected, the charging process will end after finished charging, and the charger will change to equalising charge.
 If the battery has not been fully charged after 18 hours of constant charging, the charger is switched off automatically.