

# DC-DC BATTERY CHARGER TS 24/12-06

**LEAB**  
*mobile energy*



USER MANUAL  
VERSION 7  
14/07/2021

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## 1 About this Manual

Read this manual carefully and keep it in a safe place. This manual is aimed at Skilled workers in the field of automotive electrics.

Any modifications to the product or its components are prohibited and do not conform to its intended use. Only use original LEAB or LEAB-approved accessories.

Throughout the manual, you will be alerted to warnings and safety notices about potential hazards associated with handling the device. The colours and signal words indicate the severity of the hazard:



### Notice

#### Possibility of material damage

The signal word *Attention* indicates that there is a possibility of material damage. To avoid material damage, follow the instruction.

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### ⚠ CAUTION

#### Danger that can lead to minor injuries

Safety instructions with the signal word *CAUTION* indicate a hazard which, if not avoided, can result in minor or moderate injury. Read the safety instructions carefully and follow them to avoid the hazard.

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### ⚠ WARNING

#### Hazards that can lead to severe injuries or death

Safety instructions with the signal word *WARNING* indicate a hazard which, if not avoided, can result in death or severe injury. Read the safety instructions carefully and follow them to avoid the hazard.

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**⚠ DANGER****Danger that will lead to severe injury or death**

Safety instructions with the signal word *Danger* indicate a hazard which, if not avoided, will result in death or severe injury. Read the safety instructions carefully and follow them to avoid the hazard.

You will find useful tips and tricks in certain parts of the manual. These appear as follows:

**TIP****Tips provides additional, useful information.**

Read the tip carefully and follow the instructions where applicable.

## 2 General Safety

This manual will help you to handle the device safely. Use the device solely in accordance with its intended use. Observe the safety instructions.

**⚠ WARNING****Risk of injury from damaged, frozen or deformed batteries**

Damaged, frozen or deformed batteries can cause injuries.

1. Before using the battery, make sure that the battery is undamaged and the electrolyte is not frozen.

**⚠ WARNING****Burns from escaping acid**

Acid can leak out when handling batteries.

1. Wear acid-proof clothing when handling batteries.

**⚠ WARNING****Risk of fire from overheated battery**

Flammable gases can escape if the battery overheats.

1. Always charge batteries in well-ventilated rooms and away from ignition sources.

**Notice****Device defects from incorrect installation**

Incorrect installation can result in device defects.

1. Install the device in a dry and cool location.

## 2.1 Intended Use

The device is a system for trickle charging and recharging batteries in technical equipment (e.g. starter batteries for portable pumps or generators).

At the output, the system delivers a DC voltage of 12 V and thereby provides consumers with power permanently or for a short time. Charging takes place via a 24 V DC voltage.

## 2.2 Foreseeable Misuse

The device is not designed for charging lithium batteries.

### 3 Technical Specifications

Part number	Output lead
0432412070	DIN 14690
0432412071	MagCode
0432412072	Without plug, spiral cable

*Tab. 1: TS 24/12-06*

TS 24/12-06	
Battery type	Wet, gel, AGM
Battery capacity	10 Ah ... 50 Ah
Charging current	6 A (10 A)
Input voltage	24 V (23 V ... 32 V)
Output voltage	13.6 V (-20 %/ +15 %)
Cutout	24.3 V
Delay	10 s
Switch on voltage	26.1 V
International Protection (IP class)	IP65
Operating temperature	-25 °C ... +80 °C (reduced power from 30 °C)
Dimensions (L x W x H)	108 mm x 91 mm x 52 mm
Weight	0.4 kg

### 4 Package Contents

No.	Name
1x	Charger
1x	Installation clip
1x	User manual
3x	Screws with screw covers
1x	Only with items with MagCode / MagCode Pro: MagCode power port

## 5 About this Product

The DC-DC TS battery charger is especially suitable for trickle charging and re-charging batteries in technical equipment (e.g. starter batteries for portable pumps or generators). They are designed for charging lead batteries (wet, gel and AGM) and have overvoltage and overheating protection. When doing so, the device is fed from the vehicle battery. For faster charging, the battery chargers can briefly deliver a higher current.

The integrated undervoltage protection protects the vehicle battery by automatically switching off the charger when the voltage falls below a threshold. When the cut-in voltage is reached, the charger switches on again.

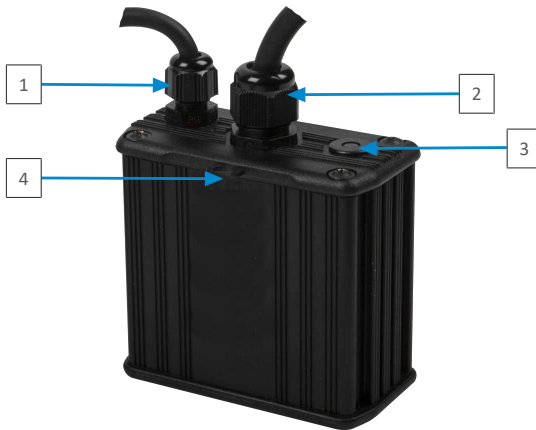


Fig. 1: TS Battery Charger

- |                             |                |
|-----------------------------|----------------|
| 1 Input cable               | 2 Output cable |
| 3 Operating indicator (LED) | 4 Latch        |



Fig. 2: Installation Clip TS Battery Charger

## 6 Assembly



Fig. 3: Mounting the TS battery charger

To mount the battery charger, proceed as follows:

✓ Choose a cool, dry and well-ventilated assembly site.

1. Remove the installation clip (5).

**⚠ CAUTION!** To avoid damaging the lock (4), release the installation clip from the left side.

2. Mark the holes for the installation clip (5) at the mounting location.

3. Drill the 3 holes ( $\varnothing$  3.5 mm).

4. Attach the installation clip (5) with the screws included.

5. Cover the screw heads with the screw covers.

6. Insert the battery charger into the installation clip (5).

⇒ The battery charger is mounted.

## 7 Installation



Fig. 4: TS charger input lead

To install the battery charger, proceed as follows:

1. Disconnect the vehicle battery from the vehicle power circuit.

**⚠ CAUTION!** Disconnect the negative cable first.

2. Connect the red wire of the input lead (1) to the positive terminal of the vehicle battery.

3. Secure the positive cable as close as possible to the vehicle battery with a suitable fuse.

**NOTE!** TS 24/12-06: 10 A.



4. Connect the black wire of the input lead (1) to the negative terminal of the vehicle battery.
  - ⇒ The input lead is connected. Now connect the output lead according to its design.

### Output lead with open cable ends

To connect the open cable ends of the output lead, proceed as follows:

- ✓ The input lead is connected.
- 5. Connect the red wire of the output lead (2) to the positive connection of your plug.
- 6. Connect the black wire of the output lead (2) to the negative connection of your plug.

**NOTE!** The green wire is not used.

7. Connect the vehicle battery to the vehicle power circuit.
  - ⇒ The operating display (3) is lit green. The battery charger is ready for operation.

OR

### Output lead with DIN 14690 plug

To connect the DIN plug of the output lead, proceed as follows:

- ✓ The input lead is connected.
- 8. Connect the DIN plug of the output lead (2) to the your plug connection.
- 9. Connect the vehicle battery to the vehicle power circuit.
  - ⇒ The operating display (3) is lit green. The battery charger is ready for operation.

OR

### Output lead with MagCode plug

To connect the MagCode plug of the output lead, proceed as follows:

- ✓ The input lead is connected.
- 10. Connect the MagCode plug of the output lead (2) to your plug connection.
- 11. Connect the vehicle battery to the vehicle power circuit.
  - ⇒ The operating display (3) is lit green. The battery charger is ready for operation.

## 8 Operation

To charge a battery in technical equipment, proceed as follows:

- ✓ The battery charger is mounted and installed.
  - ✓ The operating display (3) is lit green.
    1. Connect the output lead (2) to the socket on the technical equipment.
- ⇒ The battery charger charges the battery.

## 9 Maintenance

The battery charger is maintenance-free. If the batteries are not maintenance-free, check the level of the cells at regular intervals.

## 10 Troubleshooting

Fault	Possible solution
Operating display (3) does not illuminate.	Check: <ul style="list-style-type: none"> <li>- The fuse</li> <li>- The voltage at the device</li> <li>- The voltage in the vehicle power circuit</li> </ul> (Has the undervoltage protection tripped?)
Battery is not charging. Operating display (3) lit green.	Check: <ul style="list-style-type: none"> <li>- The voltage of the battery to be charged.</li> <li>- The contacts of the plug connection.</li> </ul>
Voltage (< 25 V) is supplied to the device.	The undervoltage protection has tripped. Charge the vehicle battery.
Operating display (3) does not illuminate.	
MagCode plug does not fit the MagCode connector.	Check: <ul style="list-style-type: none"> <li>- Whether the MagCode plugs are compatible</li> </ul> (12 V plug and 24 V plug repel each other).

## 11 Disposal



Dispose of the device in accordance with the Waste Electrical and Electronic Equipment Regulations (WEEE).

The system must not be disposed of with household waste. Take it to a recycling point or return it to your point of sale.

## 12 EU Declaration of Conformity



The Charger TS 24/12-06 complies with the requirements of the following directives:

- 2014/30/EU: EMV
- 2011/65/EU: RoHS

# We make energy mobile.

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