Industrie Elektronik Brilon
Energy Systems

FILON FUTURE

CHARGING SYSTEMS – RESONANCE FREQUENCY TECHNOLOGY
WE GET ELECTRICITY INTO SHAPE ®

service manual

Rev.-Nr.: DE-1.3.4

FILON FUTURE L
FILON FUTURE XL

5. Charger settings

Danger of explosion when charging unsuitable or incorrectly set battery types!
Charging a battery that is not approved for this charger is prohibited. Moreover, the charging program set in the charger and the battery type to be charged must be in conformity with each other. Failing to observe the above instructions may damage both the charger and the battery. The battery can excessively emit gas, boil off and even explode!
⇨ It must always be checked, whether the charger has been set for the battery type concerned. In cases of doubt do get in touch with the competent specialists.

Various charging settings are stored in the charger. The settings of different chargers may differ.
This depends on:
- customer
- charger type
- firmware version
- customer-specific special adjustment

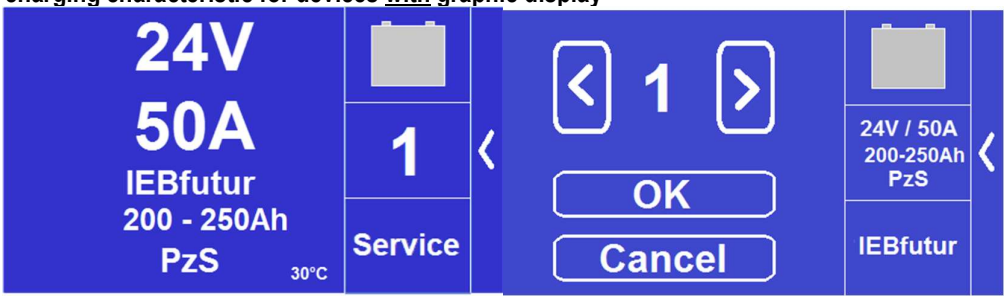
The charging settings stored on the processor card are attached to the charger in the form of a characteristic table and can be changed via the programming interface or via a USB firmware update.
The installed firmware is indicated on the name plate, as well as the installed software of the DSP card.

5.1. Setting the charging characteristic

⇨ The set charging characteristic is indicated by rapid flashing of the LEDs (3 times per second).
⇨ All unused characteristic curve settings are indicated by slow flashing of the LEDs (once per second).

After changing the characteristic curve, the charger must be put back into operation and checked for fault-free operation. In addition, it is recommended to read out the charger and to check the set charging characteristic with the ConVision FileReader using the readout (see "Read out charging history").

Setting the charging characteristic for devices with graphic display



display in the start display and in the menu for setting the charging curve

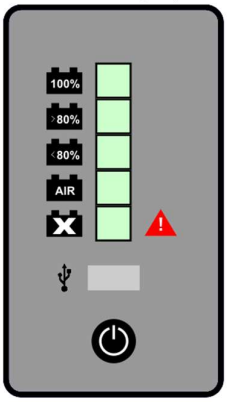
Requirements:

- The charger is connected to the mains.
- Start display is active. No battery must be connected.
- The charger is equipped with a graphic display (touch screen).

Procedure:

- Press the characteristic number in the start display.
- Enter the service password.
- Use the arrow keys to select the desired setting. The parameters of the selected charging curve are displayed on the right.
- Confirm the selection of the charging characteristic with "OK".

Setting the charging characteristic for devices <u>without</u> graphic display



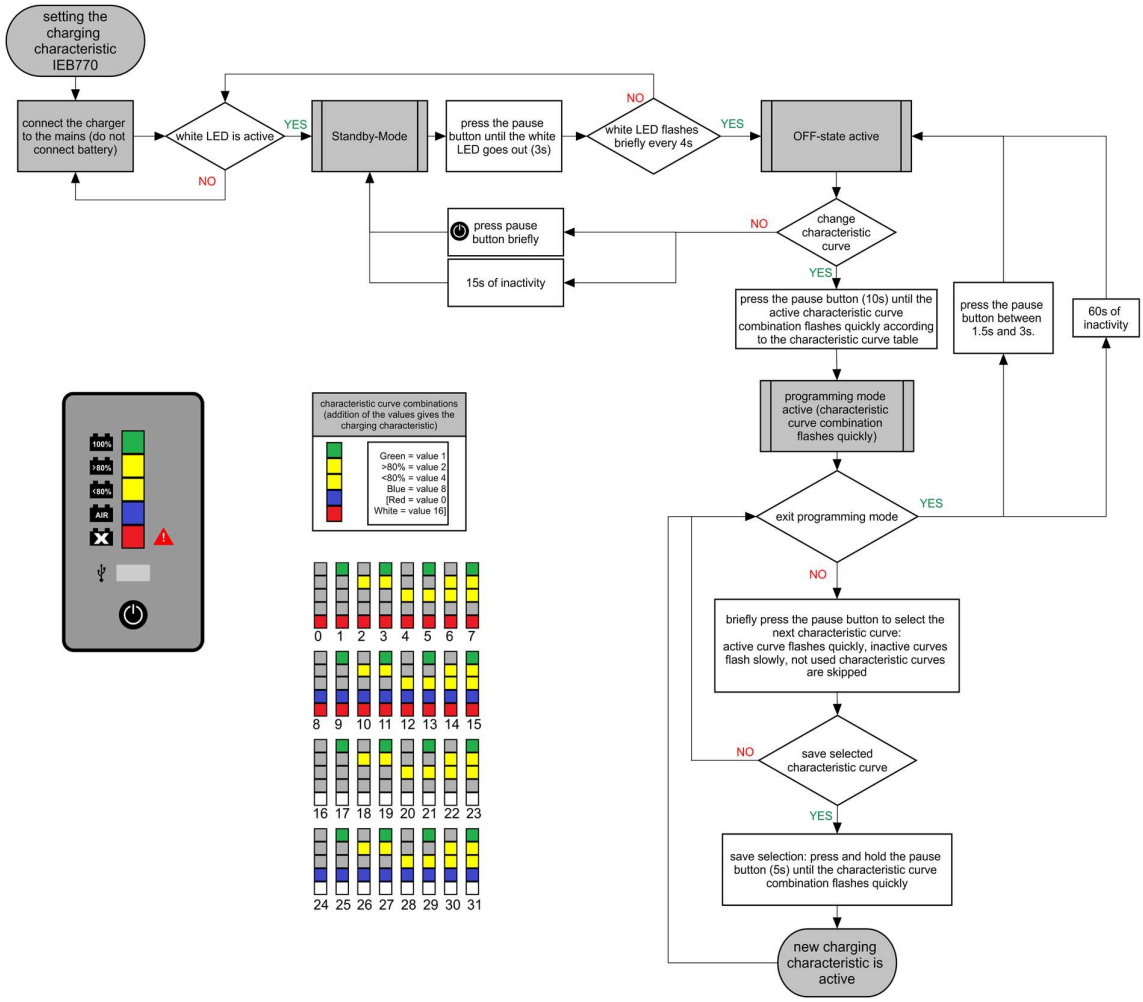
operating and display unit without graphic display with pause button (below)

Requirements:

- The charger is connected to the mains.
- No battery must be connected.

Procedure:

- Press the pause button for 3 seconds until the white LED goes out and then flashes briefly every 4 seconds.
- Press the pause button again for 10s to activate the programming mode.
- The LEDs flash rapidly in the currently set characteristic curve combination (4x per second).
- Press the pause button briefly until the corresponding combination of charging curves appears. The decoding can be found in the characteristic table.
- Press and hold the pause button again until the LEDs flash rapidly (5s).
- The changed characteristic is activated.
- Press the Pause button between 1.5s and 3s to exit the programming mode.
- Briefly press the pause button to return the charger to standby mode.



flow chart for setting the charging characteristic without graphic display

5.2. **Setting the service characteristic (formation, desulphation)**

The formation or the desulphation can be activated, depending on the battery type (see table with characteristic). If the desulphation/formation has been carried out properly, the charger will automatically return to the standard setting of the relevant charging characteristic.

Formation charge

The formation characteristic serves the formation during the commissioning of new batteries: The battery will be charged with an increased charging factor (1.3) during the first three charging cycles. The re-charging will be extended, when at least 50 % of the battery's rated capacity has been charged during the main charging phase. The standard setting of the relevant charging characteristic will again be automatically activated after three successful formation charges.

Desulphation

The desulphation characteristic is used for sulfated batteries to reduce/remove the sulfate layer. In doing so, the battery will be charged with a constant current (of approx. 3 A/100 Ah) for 24 hours. After the end of the desulphation charging, a charge with the standard setting of the relevant characteristic will be applied with a delay of 30 min, so as to charge the battery to its full capacity.

Industrie Elektronik Brilon GmbH

Almerfeldweg 40 – D 59929 Brilon

Fon: +49 (0)2961/9607-0
Fax: +49 (0)2961/9607-77
www.ieb.de – info@ieb.de