MTAG EX - EN   CE

NFC¹ Battery Reader

MTAG is a sensor dedicated to make battery management easier. It allows you to specify the battery name and ID, number of cells, capacity and discharge rate. You can also specify the automatic counter of discharge cycles and all these parameters are available via telemetry downlink. Together with additional intelligence (see the Lua apps section), the sensor allows you to manage alarms automatically if you have several battery packs with different capacity or even different number of cells.

Main features

* Battery identification and easy battery management.
* Number of cells and capacity can be defined and transmitted via telemetry downlink.
* Automatic cycle count – the counter is incremented after each battery insertion.
* Integrated single-port EX Bus expander (allows sensor daisy-chaining).
* The device is compatible with EX Bus protocol, i.e. it is possible to be configured comfortably via a special menu in DC/DS JETI model transmitters.
* Firmware updates.

Technical data	MTAG
Dimensions	53x26x3mm
Weight with the cables	7g
Maximum NFC tag distance	Up to 3cm
Supported NFC tags	Mifare Classic 1k for metal surface
Operating temperature	-10÷85°C
Supply voltage	3.5 ÷ 8.4V
Current consumption	15mA

MTAG sensor placement

* Stick the NFC chip onto the battery or use the NFC-enabled battery type.

* Place the MTAG reader board as close to the NFC chip as possible. Use double-sided adhesive tape for mounting the sensor in the model. Avoid battery movement and possibility of detaching the sensor from the battery during flight.

* Keep the distance of at least 2cm between the reader and other electronic devices and wires.

MTAG Reader

NFC tag

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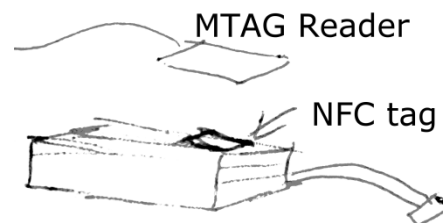
¹ NFC (Near Field Communication) – a set of communication protocols that enable two electronic devices to establish wireless communication in close distance.
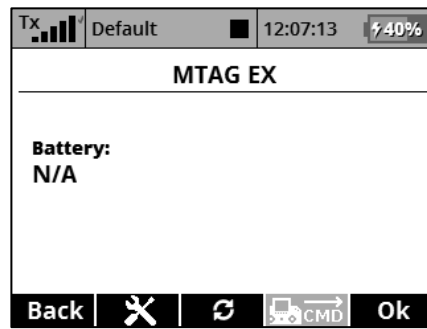
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MTAG sensor menu

MTAG connected to the receiver Ext. port (EX Bus mode).

MTAG menu – chip disconnected.

After connecting the MTAG to your receiver Ext. port (or another port switched to EX Bus), the device will be detected automatically and then might be configured by the DC/DS transmitter – see the *Model → Device Explorer* menu.

Notice: Please verify that you use the latest transmitter firmware (minimum 4.28) for proper function. Also, make sure that in the Devices folder of your SD card there is a configuration file MTAG.bin.
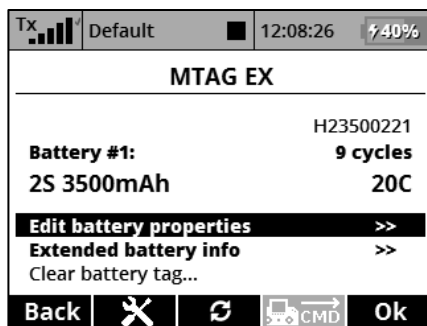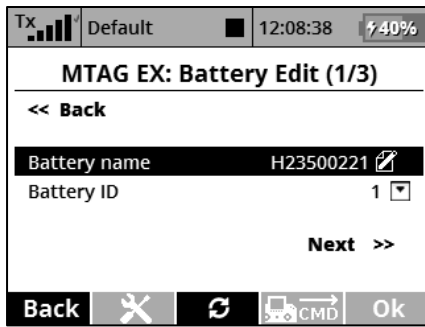

Connected battery with the NFC chip.
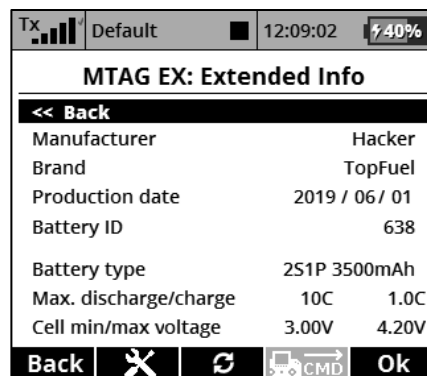
Extended info - provided by the battery manufacturer with the NFC-enabled battery, e.g. Hacker TopFuel.

Setting up battery properties

Step 1: Battery name and ID

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By clicking the "Edit battery properties" link you are redirected to the battery setting wizard. On the first page you can define battery name and ID according to your preferences. The ID should be unique among your batteries, this is important mainly if you use the MTAG with additional smart functions. Do not remove the battery until the wizard is finished.
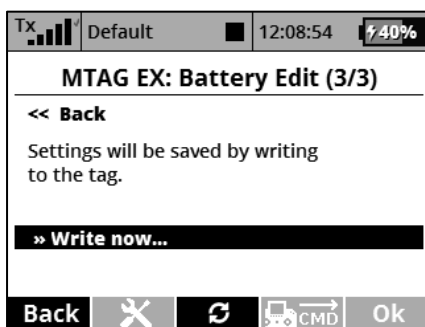
Step 2: Battery properties, cycle count etc.
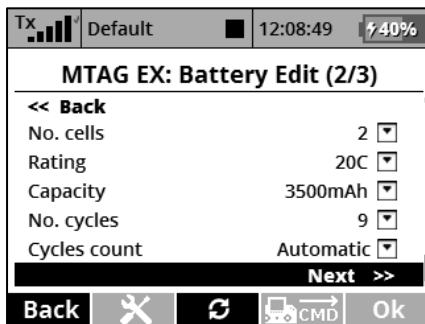
In the second step you can define properties of your battery according to the manufacturer's specification.

Additionally, you can specify whether to use the automatic cycles count function (the counter is incremented each time you insert the battery) or manual.

Step 3: Writing the settings

After clicking the "Write now…" link, the updated data will be stored in the NFC tag. Now you can remove the battery.

Lua Apps

RFID-Battery by RC-Thoughts

https://www.rc-thoughts.com/rfid-battery/

Available via JETI Studio.

- One app to all models, up to 15 batteries per model
- Automatic battery identification based on ID-number from RFID-tag
- RFID-info is ID, Capacity (mAh), Cycle-count and Cell-count
- Automatic detection of 2-pack config (For example two 7S in 14S use)
- Automatic detection of empty battery when powering model
- Empty battery on powering -alarm has repeatable and user selectable voice-alert
- Used capacity alarm has repeatable and user selectable voice-alert
- Possibility to select a switch for announcement of percentage used

- Several different telemetry screens available based on available information
- Warning and info-screen on main screen
- Allows usage of batteries with any voltage, capacity in one model without doing several overlapping telemetry-warnings etc
- All settings are model-specific
- Minimal setting required

This product is guaranteed for 24 months from the date of purchase, provided that it has been operated in accordance with these instructions at the prescribed load and becomes mechanically damaged. Proof of purchase required for any warranty claim. For customer service, see your JETI dealer or the manufacturer.

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