

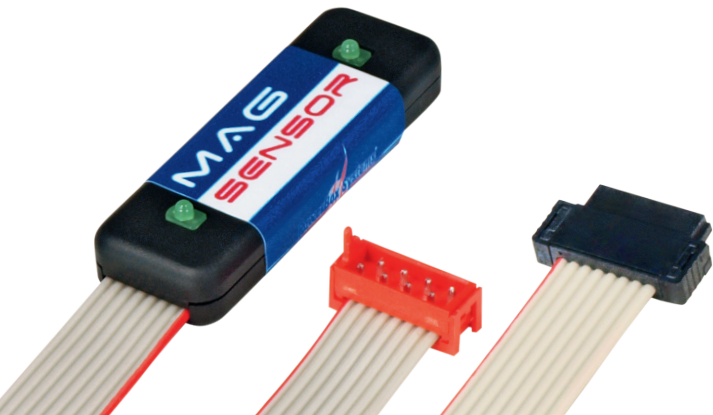


INSTRUCTION MANUAL



World Leaders in RC
Power Supply Systems

MAG SENSOR



Dear customer,

We are delighted that you have decided to purchase our **MagSensor**. The **MagSensor** can be used with any **PowerBox** system which is normally operated using the button switch (three buttons); the unit switches the system on and off magnetically. If the **PowerBox** features an integral capacity counter, the **MagSensor** can also be used to reset the counter.

The switch operates using a no-contact process based on Hall sensors, which respond to a defined magnetic field, and a micro-controller which emulates the conventional switching process, as used by the button switch.

This process activates and de-activates the electronic switches in the backer.

The magnet supplied in the set is easily capable of penetrating wood several millimetres thick, or fuselage sides made of GRP or CFRP, making it possible to install the **MagSensor** in a concealed position inside the fuselage.

The **MagSensor** features a piezo buzzer, which emits different sounds to provide an audible indication of the power-on and power-off processes, in addition to a visual check using the two LEDs.

1. CONNECTING AND INSTALLING THE MAGSENSOR

The **MagSensor** is plugged into the **PowerBox** instead of the **SensorSwitch**. The **MagSensor** is available with a [red plug \(#9040\)](#) to suit all earlier systems, or a [black plug \(#9045\)](#) for more recent systems.

The **MagSensor** can be installed in either of two ways. In both cases the **MagSensor** is attached to the inside of the fuselage side using the self-adhesive tape supplied. The set includes stickers simulating a fueltank cap; these are designed

to be applied to the outside of the fuselage to help you locate the position of the Hall sensors from the outside.

a) Installation with the LEDs exposed

This option requires two 2mm Ø holes to be drilled in the fuselage side. The advantage is that the green LEDs give you a visual check of the **MagSensor** in addition to the unit's audible feedback.

b) Installation with the LEDs concealed

If you wish to install the **MagSensor** in a completely concealed location, this presents no problems. The switch operates reliably, and the unit's switched status is self-evident from the operation of the receiving system. Audible confirmation is also provided by the unit's integral piezo buzzer.

2. OPERATING THE MAGSENSOR

a) Switching on and off

The current Version 2 features a fundamental revision of the power-on and power-off processes. In the previous version both electronic switches were turned on and off independently of each other, whereas in Version 2 both switches are operated simultaneously by a single pass of the magnet.

The **PowerBox** is switched on or off by holding the magnet in front of one of the Hall sensors (close to the LEDs) for about three seconds.

When you switch on, the unit emits a rising audible signal, followed by two brief confirming beeps.

When you switch off, the unit emits a falling audible signal, also followed by two brief confirming beeps.

Since both circuits are switched together, you can be certain that both batteries are reliably switched on or off even when the unit is concealed, i.e. without being able to see the two LEDs.

The **MagSensor** includes a further security feature which alerts you if one battery is not plugged in: in this case the unit switches on, but then immediately activates the power-off process.

The PowerBox is not activated!

Note: Every time a power-on or power-off process is carried out, the **Mag-Sensor** activates a 10-second time lock. This prevents the switch being turned off again immediately if you should inadvertently fail to remove the magnet immediately.

b) Resetting the capacity counter

If you are using a system such as the **PowerBox Mercury SR2, Competition SR2** or **Royal SR2**, or an earlier system with capacity counter, then the magnet sensor can be used to reset the counter.

This is accomplished by repeatedly and briskly moving the ring magnet between the two LEDs, as if you were trying to wipe something off. After five successful contacts you will hear five audible signals, and the backer's screen will display a Reset message.

3. SPECIFICATION

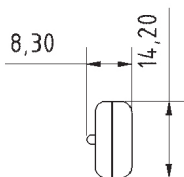
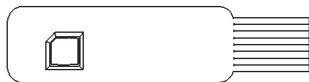
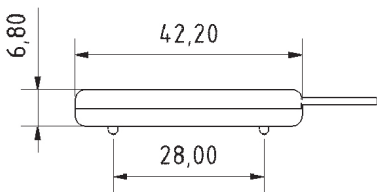
Power supply: from the **PowerBox** connected to it
Current drain in the switched-on state: approx. 10 mA
Current drain in the switched-off state: approx. 100 μ A
Temperature range: -30°C to +75°C
Weight: 10 g

CAUTION: The magnet sensor contains a powerful permanent magnet. Keep away from heart pacemakers and magnetic data memory devices such as EC, credit cards etc. credit cards, etc.

4. SET CONTENTS

- **MagSensor** with 40 cm connecting lead
- Magnet trigger containing ring magnet
- Double-sided adhesive tape
- Key-ring
- Blue key fob
- Operating instructions in German and English

5. DIMENSIONS



6. SERVICE NOTE

We make every effort to provide a good service to our customers, and have now established a Support Forum which covers all queries relating to our products. This helps us considerably, as we no longer have to answer frequently asked questions again and again. At the same time it gives you the opportunity to obtain assistance all round the clock, and even at weekends. The answers come from the **PowerBox team**, which guarantees that the answers are correct.

Please use the Support Forum **before** you contact us by telephone.

You will find the forum at the following address:
www.forum.powerbox-systems.com



7. EU DECLARATION OF CONFORMITY

This device complies with the essential requirements and other relevant provisions of Directives 2011/65/EU + 2015/863/EU (RoHS) and 2014/30/EU (EMC). The EU Declaration of Conformity for the **MagSensor** can be found under the following link:

www.powerbox-systems.com/en/content/certificates

8. GUARANTEE CONDITIONS

At **PowerBox-Systems** we insist on the highest possible quality standards in the development and manufacture of our products. They are guaranteed **“Made in Germany”!**

That is why we are able to grant a **24 month guarantee** on our **MagSensor** from the initial date of purchase. The guarantee covers proven material faults, which will be corrected by us at no charge to you. As a precautionary measure, we are obliged to point out that we reserve the right to replace the unit if we deem the repair to be economically unviable.

Repairs which our Service department carries out for you do not extend the original guarantee period.

The guarantee does not cover damage caused by incorrect usage, e.g. reverse polarity, excessive vibration, excessive voltage, damp, fuel, and short-circuits. The same applies to defects due to severe wear.

We accept no liability for transit damage or loss of your shipment. If you wish to make a claim under guarantee, please send the device to the following address, together with proof of purchase and a description of the defect:

SERVICE ADDRESS

PowerBox-Systems GmbH
Dr.-Friedrich-Drechsler-Str. 35
86609 Donauwörth
Germany



9. SAFETY INFORMATION FOR THE INTENDED USE OF THE POWERBOX MAGSENSOR

a) Intended use

- The **PowerBox MagSensor** is intended exclusively for use in remote-controlled model applications.
- It is designed for the contactless activation of switching functions in PowerBox systems.
- The device is not approved for manned aviation, safety-critical or medical applications.
- It must only be used by competent persons.

b) General safety instructions

- Before use, please ensure you read and follow the full user manual.
- Only carry out installation and connection when the system is switched off.
- Protect the device from moisture, rain and damp.
- Keep away from open flames, sparks and hot surfaces ($> 60\text{ }^{\circ}\text{C}$).
- Do not dismantle, modify or open the device – doing so will invalidate the warranty.

c) Installation

- The **MagSensor** must be mounted in the model in a mechanically stress-free and vibration-damped manner.
- It can be mounted in the model in two different ways. The manufacturer's instructions in the user manual must be followed.
- Route the cables so that no tensile stress is created and moving parts are not affected.
- Ensure adequate shielding against strong sources of electromagnetic interference.

d) Operation

- Check that the device is working correctly before each use.
- Operate only within the specified operating conditions (voltage, temperature range).
- Use the device only in dry environments – avoid contact with water, fuel or moisture.
- Do not carry out any unauthorised repairs or modifications.
- In the event of unusual readings or malfunctions, stop operation immediately and check the system.

e) Approval information

- This device complies with the requirements of Directives 2011/65/EU and 2015/863/EU (RoHS) and 2014/30/EU (EMC).
- When operating outside the EU, the relevant country-specific regulations must be observed.

f) Transport & storage

- Protect the device from mechanical stress and moisture during transport.
- Transport the sensor in a manner that protects it from impact.
- Store in a cool, dry and dust-free place.
- Avoid extreme temperatures (below -30 °C or above +85 °C).

g) Disposal

- This product must not be disposed of with household waste.
- Take it to a designated collection point for proper disposal (observe the WEEE Directive).
- Packaging materials must be separated and disposed of in an environmentally responsible manner.

10. LIABILITY EXCLUSION

We are not in a position to ensure that you observe our instructions regarding installation of the **MagSensor**, fulfil the recommended conditions when using the unit, or maintain the entire radio control system competently.

For this reason we deny liability for loss, damage or costs which arise due to the use or operation of the **MagSensor**, or which are connected with such use in any way. Regardless of the legal arguments employed, our obligation to pay damages is limited to the invoice total of our products which were involved in the event, insofar as this is deemed legally permissible.

We wish you every success using your new **MagSensor**!

A handwritten signature in blue ink, appearing to be 'De AR', is positioned above the date.

Donauwoerth, March 2026

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