PowerBox Systems®

PowerBox

Catalogue 2025

Dear modelling friends,

This year we have once again expanded our catalogue by several pages and enriched it with exciting new products and innovations.

The **iESC 160.HV** is based on the latest generation of ESCs for brushless motors with a 32-bit processor and extended functions such as telemetry and adjustability directly from the transmitter. With the **ESC backup**, a reliable and redundant receiver power supply can be set up with an existing BEC power supply of the motor controller and an additional battery. The **iGyro Update Generation 3** takes the performance of our gyro system to a new level! The **Pitot tube "Professional"** is the perfect complement to the PBS-TAV and is constructed from milled aluminium parts and carbon fibre, making it very light and of extremely high quality. Many of you have been waiting for the **stick switch with push-button**, and installation in the transmitter is now possible.

Also this year, there are many new products in the pipeline, e.g. the **PowerBox iServo HVC.45**: It has been designed in coreless technology for high starting torque, maximum reset accuracy and rock-hard holding accuracy, and will be available soon! The range of functions of the ATOM and CORE will also be significantly expanded by upcoming software updates.

Of course, we are not resting on our laurels. We always take our customers' wishes into account and keep a close eye on the latest technologies and trends.

Every day we do our best to continue to provide you with innovations and new developments of the highest quality.

Best regards,

Richard Deutsch

Managing Director

PowerBox

About us

We develop and produce modern, innovative and safe power supply systems for model making.

PowerBox-Systems GmbH has been setting standards for modern and safe power supplies in model making since the company was founded. Around 25 employees now work with passion in development, production, service and administration. We can proudly claim that many of our innovations, ideas and product developments have become an integral part of modern model aircraft.

PowerBox systems are the best-selling and safest power supplies in the world, with sales partners in over 50 countries. This makes them the world's number 1 power supply for model aircraft. **PowerBox-Systems** stands for high performance and the highest standards of safety, quality and workmanship.

PowerBox systems are the only systems recommended by well-known radio control manufacturers for installation in large-scale models. Many suppliers of kits, motors and accessories recommend the installation of **PowerBox systems**.

All products developed and manufactured by **PowerBox-Systems** also set standards in terms of quality. Our own quality management system ensures that all products are subjected to product-specific tests during manufacture, that all production processes are meticulously documented and that each product is assigned its own serial number and barcode.

With a product from **PowerBox-Systems** you are assured to have made the right choice. You will enjoy this product for many years to come. Guaranteed!

PowerBox

Hotline

We will be happy to help you – fast and uncomplicated!

For questions about orders, shipping or repairs, the direct line to **PowerBox Systems** is always the best choice.

Send us an e-mail to: sales@powerbox-systems.com

You can reach us by telephone on +49 (0)906 / 999 99-200 at the following times:

Monday – Thursday	from 8 am to 3 pm
Friday	from 8 am to 1 pm

Julia Klein

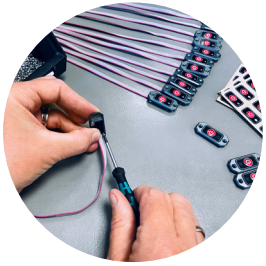
Head of shipping department, Customs clearance

Jenny Elsner

Dispatch department, Repairs

OUR **STAFF** AND OUR **EXPERTISE** ARE OUR CAPITAL

» Research & conception



» Production & distribution

» Development & construction

» Service

» Layout creation

» Operational tests at own airfield

PowerBox

Safety & quality

Maximum security

PowerBox-Systems is the only manufacturer in the model-building sector to provide a completely redundant power supply path in its battery backers. This means that safety does not end with a double battery design. Even in the smallest turnouts, two controllers, two switches and two regulators are responsible for a safe power supply. Both systems work completely independently of each other – a failure of one component does not lead to the loss of the model with **PowerBox-Systems**.

Maximum performance

PowerBox-Systems power supplies are designed for maximum performance. The dual controller design guarantees maximum power output. Current peaks from modern digital servos are easily compensated by our power supplies. Generously dimensioned cooling surfaces guarantee an enormous continuous current load. We always make sure that the products can also be used for their intended purpose – size and weight are crucial criteria.

User-friendly operation

All **PowerBox-Systems** products are developed to be as intuitive to use as possible. A large part of a product's development time is spent on making it user-friendly. This is very time-consuming and cost-intensive, but is absolutely essential if the customer is to enjoy the product in the long term.

PowerBox

Team pilots


DANNY DIAZ


ADAM STRONG


RETO SENN


ADRIAN SENN


MATTHEW BISHOP


STEVEN BISHOP


DAVE WILSHERE


JAN ROTTMANN


NICOLAS GASTALDI


RORY TOOLEY


JOHN BOSSION


JÜRGEN SCHREINER


OLIVER GRÄFF


PABLO FERNANDEZ


ENRICO THÄTER


JULIAN GIRAUDO


SIMONE BORSI


ERIC BRANICKI


ANTHONY ROSSETTI


MADHUSUDAN MANWARE


BERNHARD KAGER


JAKUB BARAN


GEORGIOS PAPAGIANNIS


ALEXANDER RAFF


WOLFGANG KRAHOFER


ANTONIO DE SOUZA


WERNER KOHLBERGER


IVAN CANO


FINN CHRUBASIK


MARTIN MÜNSTER

... from all over the world entrust their models to **PowerBox-Systems**!


TIM WRIEDT-ANDRESEN


MARTIN PICKERING

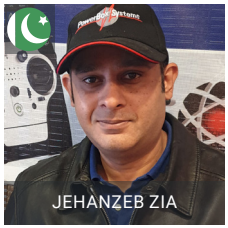

MARIO MÜLLER


TIM STADLER


MATT BALAZS

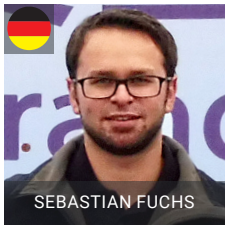

MATTHIAS SCHMIDT


SEBASTIANO SILVESTRI


JEHANZEB ZIA


PETER RÜTIMANN


RALPH LOSEMANN


SEBASTIAN FUCHS


ANGEL GOMEZ VARGAZ


ROBERT FUCHS


TIM KOSSMANN


TEDDY MANTONI


PIERRE VALET


GÜNTHER HÖLZLWIMMER


JEAN-CLAUDE SPILLMANN


JEAN PIERRE-ZARDINI


ZOHAR OREL


JOHN VAN GASTEL


ALESSANDRO PANZANINI

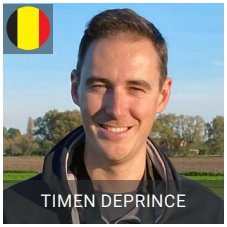

ALESSANDRO NUNZIATI


DONATAS PAUZUOLIS


MARC GRUNDHÖFER


FABIAN WIEDEMANN


STEFAN VOGL


TIMEN DEPRINCE

PowerBox Systems®
World Leaders in RC
Power Supply Systems

PowerBox

Product Overview

PowerBox

Radio Systems

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Receivers

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iESC

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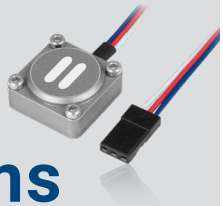
PowerBox

iGyro Systems



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PowerBox

Sensors

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RADIO

CORE®

MADE in GERMANY

PowerBox

CORE

Ultra-simple programming – even where complex models are involved – redundancy in the battery and radio circuits

Since the introduction of the **CORE** early in 2019 we have seen the establishment of a steadily growing community of pilots who are determined to make full use of the advantages of this unique radio control system. Ultra-simple programming – even where complex models are involved – redundancy in the battery and radio circuits, and huge potential for the future: all these features very quickly made a deep impression in the marketplace once the first systems had shipped. We have a highly motivated team of developers working continuously on expansions and improvements to the system. We also receive ideas from customers which we always consider, to ensure that we provide the maximum possible in terms of performance and facilities. Every transmitter is hand-assembled to the customer's precise specification in our factory at Donauwörth, where it is also checked. This means that the system is designed, developed and produced all under one roof – genuine "Made in Germany".

RADIO TRANSMISSION

The radio link is based on an extremely effective frequency-hopping process in the 2.4 GHz band. The system range of more than 9 km is unique in the marketplace, and offers the unprecedented system reserves which are essential for maximum safety and security – especially where conditions are difficult. The **CORE** features a redundant radio link which is monitored by the receiver. If a fault occurs in one transmission circuit, the receiver can immediately warn the user of the problem via telemetry. The system's reliability and interference rejection characteristics have already been demonstrated at a number of major flying events. Even when RF conditions are extremely unfavourable you can rely on the **CORE**.

POWER SUPPLY

PowerBox-Systems is famous for its redundant power supplies, and the **CORE's** power system naturally incorporates this: two separate Li-Ion battery units are used, each rated at 3400 mAh/7.2 V, and the entire power regulation circuit is also duplicated - a feature currently available only in the **CORE**. The transmitter's operating time is around eight hours, measured with the screen set to maximum brightness and the system at maximum load.

HIGH-SPEED SIGNAL TRANSMISSION

The **CORE** provides 26 channels, each with 4096-bit resolution. Despite this, the control data are transmitted using a 10 ms frame rate with zero delay. All channels have full resolution, and there are no limitations to the frame rate.

TELEMETRY

Telemetry has already become a fundamental feature of all models, and it will become even more important over the next few years, so we have given high priority to this aspect of the system.
Telemetry handling and transmission has been the subject of a comprehensive redesign process, with the result that up to 240 sensors can be connected to the **P²BUS**, each generating 32 data values, and the system is capable of transmitting up to 800 x 16-bit values per second. For the future this level of performance opens up entirely new possibilities, such as real-time servo monitoring in the model. Since the system's introduction we have developed a series of sensors here at **PowerBox-Systems**, all of which are simple to connect to the **P²BUS** - Plug'n Play. However, the **P²BUS** telemetry interface is also open to third-party suppliers, who already offer software updates for their existing range of sensors. The customer simply has to load a software update, and can then continue to use his stock of sensors without problem. Setting the configuration and parameters of the entire telemetry system is a convenient procedure carried out at the transmitter using the 2.4 GHz radio link

LINUX WITH SMARTPHONE FEATURES

The **CORE** incorporates a modern, high-performance industrial Linux PC, which is controlled entirely using the integral touchscreen. The software's basic look and feel are identical to the typical smartphone. An intuitive user interface provides fast access to all associated settings, with the result that models can be programmed with the minimum of input effort.
Every feature of the user interface has been programmed using Toolkit Qt. Nowadays this development environment is virtually the

standard in the sphere of Embedded GUIs, and is employed by many renowned manufacturers.
The transmitter screen is manufactured to the specification of **PowerBox-Systems,** and is very clearly legible even in bright sunshine. A light touch on the surface of the capacitive touchpad is all that is required. The smartkeys (quick-select buttons) located at the bottom edge of the screen provide instant access to important functions such as Servo Monitor and Screen Lock.
Internal data communication is implemented via the CAN-BUS. This proven bus system is absolutely ideal for our use, and has already been employed successfully in the car and aviation industries for several decades.
Clear evidence of our system's high-speed processing is found in the Servo Monitor: when the transmitter controls are moved, the screen responds totally in real-time! As standard the Linux computer features OpenGL support, which provides almost unlimited scope for graphics, even in the future.

FEATURES

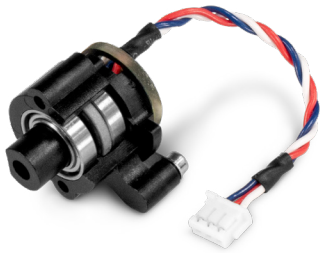
The two stick units are machined from solid, are fitted with quadruple ballraces and sample every control input at 16-bit resolution. The resultant 65,535 increments are passed digitally with zero losses to a high-performance digital signal processor, which is then responsible for signal processing. All four supplementary linear controls – two side-mounted, two at the top – are also fitted with Hall sensors, and each incorporates two ballraces. This means that the whole **CORE** transmitter is immune to mechanical wear. Fundamentally the transmitter is supplied fully equipped – with the exception of the toggle switches. Each transmitter is assembled individually at the factory to the customer's specification. Stick switches, locking switches and a wide range of other switch types can be installed at the factory, or retro-fitted by our Service department. Accessibility to the switches is good, enabling the customer himself to swap them over without difficulty. The final feature of the transmitter is the set of four momentary switches located below and adjacent to the sticks on both sides. These are ideal for controlling auxiliary functions including wheel brakes, electric starters or smoke pumps, and can be operated without having to release the sticks.

LOOK AND FEEL

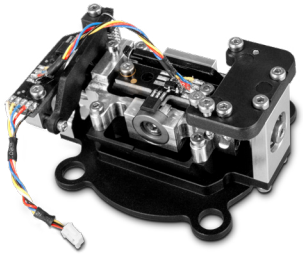
Any pilot picking up a **CORE** transmitter immediately feels "at home" with it: all the switches are arranged just as you would expect from a high-end system. The operator is presented with a professional "tool" which he can instantly understand and use. The detachable hand-grips are finished in Alcantara, which ensures a pleasant feel to the hands at every season of the year as well as looking superb. The transmitter's Centre of Gravity is designed to provide perfect balance.

HIGHLIGHTS

A particular feature of note is the unique speech output system. Other systems require the pilot to create audio files on a PC and then laboriously copy them to the transmitter, but the **CORE** is fitted with a licensed TTS (Text to Speech) server from Acapella. This is currently the most sophisticated TTS system available, and offers a number of different voices for each language; these can be used individually to announce telemetry values or switch positions. Upon request you can even set up a landing reminder spoken by the Queen of England! A further unique selling point of the **CORE** system is the facility to update receivers using the 2.4GHz radio link itself. Never again will the pilot be obliged to remove a receiver from the depths of a model in order to load a software update into it. A simple button press is all that's required, and thirty seconds later the receiver is fully up-to-date again.
The **CORE** transmitter even includes Bluetooth and WiFi as standard, and in future the latter will send telemetry data to a web portal, so that the information can conveniently be analysed later on a smartphone or PC using web browser software. Model memories and other data can also be managed in this way from the transmitter.
To complete the hardware a GPS system and a 9-axis motion sensor are included in order to keep all options open for future applications.



Rotary



Sticks

Order No.	titanium	black
handheld version	8101	8102
tray version	8105	8106

CORE handheld version, titanium

CORE handheld version, black

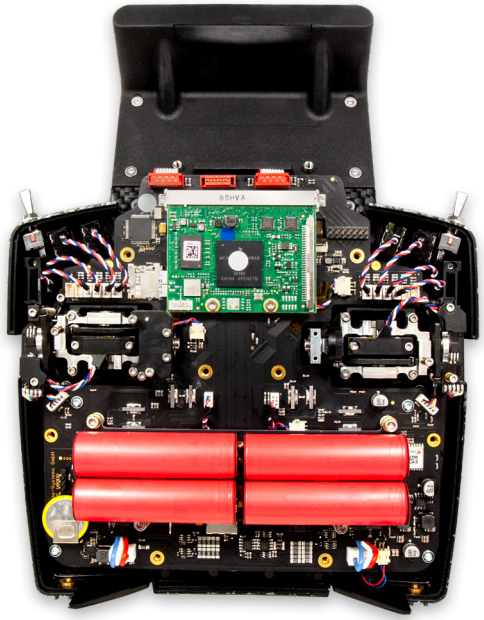
CORE tray version, titanium

CORE tray version, black

Features

+ 26-channel radio control system
+ Full 4096-step resolution for all 26 channels
+ Extremely secure against interference, genuine redundant 2.4 GHz transmission
+ Extremely long range
+ Redundant PowerBox power supply system with Li-Ion batteries
+ High-performance real-time telemetry
+ Up to 800 telemetry values per second
+ Open bus interface for servos and telemetry
+ Sensors and receivers can be set up conveniently from the transmitter
+ Up to four equal-value receivers can be bound to the transmitter
+ Identical high-speed telemetry and reception for all four receivers
+ Robust stick units machined from solid aluminium
+ Quadruple ballraces
+ Hall sensors for sticks and slider controls
+ 20 transmitter controls
+ 2 optional stick switches
+ Full-color screen with capacitive touch-screen
+ High-contrast screen, legible in sunlight
+ Ultra-simple programming even for complex models
+ Intuitive menu system with Smartkeys
+ Speech output using licensed Acapella TTS module
+ Speech output without *.wav files – only text input required
+ Supports eight languages with different voices
+ 12 flight modes with priority control
+ Bluetooth audio system
+ 2 independent door sequencers
+ Integral GPS system
+ Model finder feature
+ Telemetry controls with extremely fast response time
+ Comprehensive timer options
+ Virtual switches
+ Servo cut-off function
+ Receivers can be updated by radio from the transmitter
+ Download updates via Wifi
+ Flexible telemetry alarm output
+ Model image on the main screen
+ Text widgets on the main screen
+ Flight program announcement function
+ Easy handling of the flight modes
+ Inputs and servo curves with up to 33 points
+ Flight mode dependent vario
+ Teacher-student system also with other student transmitters
+ Preflight check
+ Perfectly balanced transmitter
+ Alcantara handrests for maximum possible comfort in use
+ File Manager for exchanging data and backing up models
+ Linux PC system for every imaginable expansion
+ Transmitter options and switches installed individually to the customer's specification

Inside



Go to the configuration form!

Screenshots
Programming

ATOM®

MADE in GERMANY

PowerBox

ATOM

Ingeniously simple operating system

Our **ATOM** radio control system establishes a new standard in the market segment of upper mid-range systems. Based on the considerable expertise we have gained from the CORE, together with new developments in electronics, revised software, a smaller Linux computer and a revision to the method of case manufacture, we have been able to create a system which has few rivals in terms of price performance ratio.
The system's crucial feature is the ingeniously simple operating system, which is exactly the same as that of the CORE - it is even possible to interchange model files between the **ATOM** and CORE. As you would expect from PowerBox, we have allowed no compromises in the matter of redundancy: the radio system and its power supply are of fully redundant design.

MENU STRUCTURE

The **ATOM** menu - adopted from the CORE - presents the pilot with a freely programmable system which is primarily defined by functions. Special menus for mixers such as Butterfly (Crow), Combi-Switch (CAR) Snap-Roll or other fixed structures, which are a throwback from the 1990's, are simply not present in the **ATOM.** You just create a function, consisting of one transmitter control and the servos assigned to it. Multiple functions can be assigned to any servo. A good example is the two functions "Aileron" and "Flap", both of which operate separately. The additional function "Butterfly" (Crow landing aid) is then used to set up the already assigned servos individually for the third function - without affecting the settings of the first two functions. Additional menu points such as ServoCut, differential or virtual switches are also available for all functions, enabling the pilot to set up each model to suit his personal requirements in the shortest possible time.
The system also offers a powerful supplementary tool in the form of a clearly comprehensible flight phase structure, which can be used to solve even complex tasks quickly, without the need for protracted study of the instructions.

RADIO TRANSMISSION

The radio link implements a highly effective frequency hopping process, utilising 66 channels in the 2.4GHz band. Radio range is more than 9 km, which is unique to our systems. This offers maximum possible system reserves, which is essential when security has top priority - especially when conditions are difficult. The **ATOM** provides redundancy in the radio link, which is monitored by the receiver. If a fault should occur in one transmission unit, the receiver can alert the pilot immediately via telemetry.
The reliability and interference rejection of the PowerBox radio link has been proved in thousands of hours' operation with the CORE!

SIGNAL TRANSMISSION

The **ATOM** can transmit 18 channels at 2048-bit resolution with a data rate of 10 ms. All channels are transmitted simultaneously in a single data packet, ensuring minimal latency and maximum precision. The performance of the telemetry feedback channel is also unique in the RC world: data can be transmitted from the model to the transmitter at a rate of 800 x 16-bit packets per second. The maximum number of sensors is 250, each of which can deliver 32 sensor values - a gigantic quantity of data which is recorded in the **ATOM** transmitter, and is available for subsequent analysis.

P²-BUS TELEMETRY

The **P²-BUS,** developed by **PowerBox-Systems**, transfers servo and telemetry data simultaneously on one conductor. This simplifies the cabling in the model with conventional servo leads and Uni connectors.
All the sensors on the **P²-BUS** have individual addresses, which are automatically assigned by the transmitter if they are already in use. This means that the sensors in the model can be connected without the need for active hubs - all the sensors are connected to the receiver by means of Y-leads or the passive P²-Dock.

When the system is switched on, each sensor sends all the information - such as sensor names or units of measurement - to the transmitter, making it possible to connect new sensors to the system at any time, without requiring a transmitter update. A wide range of sensors is available from **PowerBox-Systems**, but there is also a large number of sensor manufacturers who support the **P²-BUS** system.

POWER SUPPLY

In typical **PowerBox** fashion, the **ATOM's** power supply is of redundant design. This means that two separate Li-Ion battery packs, each rated at 3400mAh / 7.2V, and the entire voltage regulation system are duplicated. This feature is exclusive to radio control equipment made by **PowerBox-Systems,** as it always has been. Battery duration is a minimum of 7 - 8 hours, varying according to the screen brightness.

OPERATING SYSTEM

Inside the **ATOM** we find a modern, high-performance Linux industrial PC, which is controlled exclusively using the touchscreen. The operating methodology and 'touch and feel' are identical to those of a smartphone. In conjunction with an intuitive user interface, which provides the user with direct routes to associated settings, the system allows the user to complete a model's programming with just a few inputs.

Every aspect of the user interface was programmed using Toolkit Qt. This development environment is today the accepted standard in the field of the Embedded GUI, and is utilised by many renowned manufacturers.
The screen employed is manufactured to the specific requirements of **PowerBox-Systems**, and is very clearly legible even in full sunshine. Just a light touch of the surface is all that's needed to operate the capacitive touchpad. Smart Keys (quick-select buttons) are located at the bottom edge of the screen, and provide rapid access to important functions such as the servo monitor and screen lock.

Internal data communication is implemented using the CAN-BUS. This Bus system has been employed successfully for several decades in the fields of road vehicles and aviation, and is tailor-made for our application

LOOK AND FEEL

Just hold the **ATOM** in your hand, and you immediately feel at home: all the switches are positioned just where you would expect from a high-end system. The pilot instantly has the impression of a professional "tool", which he can instinctively control and handle. The detachable hand-grips, with their microfibre cloth surface, are pleasant to the touch at any time of year - as well as looking great. The transmitter also balances perfectly in the hands.

HIGHLIGHTS

One very special feature is the system's unique speech output capability. The **ATOM** incorporates a licensed TTS (Text to Speech) server from Acapella. This is the most sophisticated TTS system currently available, and offers several different voices for every language; these can be used to provide spoken messages relating to telemetry values or switch settings. The complex task of creating audio files on the PC, followed by tediously copying them to the transmitter, Is now a thing of the past.
A further unique characteristic of the **ATOM** is the ability to update receivers using the 2.4 GHz radio interface. Pilots can carry out a software update without the need to remove an inaccessible receiver, which might have been installed at considerable effort. All it takes is a button press, and thirty seconds later the receiver is up-to-date once more.
The **ATOM** also has an internal USB interface which permits the optional use of a Wi-Fi module. This makes it possible to call up transmitter or receiver updates on-line.

EQUIPMENT

The two primary sticks are machined from solid aluminium and feature quadruple ballraces; they sample each control input with 12-bit resolution (4096 steps). When digital signal processing is complete, a full 2048 steps are available. The four supplementary linear controls - two at the side, and two at the top - are also equipped with Hall sensors and twin ballraces; this means that no part of the **ATOM** is susceptible to wear.

There are four momentary switches in easily-accessed positions to left and right, adjacent to and below the sticks. These are supplementary transmitter controls which are perfectly designed for controlling wheel brakes, electric starters or a smoke pump.

Both versions of the **ATOM** transmitter - handheld or tray-mounted - are supplied fully expanded. Naturally it is possible to order optional factory-fitted stick switches. Easy access to all the switches makes it simple for the customer to assign individual switches at any time.

Order No.	Mode 1	Mode 2
handheld version	8301	8302
tray version	8305	8306

Features

+ 18-channel radio control system
+ Full 2048-step resolution for all 18 channels
+ Genuinely redundant 2.4GHz transmission for extreme resistance to interference
+ Extreme range
+ Redundant PowerBox power supply system with Li-Ion batteries
+ Powerful real-time telemetry
+ Up to 800 telemetry values per second
+ Open servo and telemetry bus interface
+ Sensors and receivers can be set up conveniently from the transmitter
+ Ability to bind two receivers with equal rights
+ Same speed of telemetry and reception with both receivers
+ Robust stick units machined from solid aluminium
+ Quadruple ballraces
+ Hall sensors for sticks and dials
+ 20 actuators
+ 2 optional stick switches
+ Full-colour capacitive touch-screen
+ High-contrast screen, legible in sunlight
+ Ultra-simple to program, even with complex models
+ Intuitive menu system with Smartkeys
+ Licensed Acapella TTS module for speech output
+ Speech output without *.wav files – text input only required
+ Supports 8 languages, with many different voices
+ 9 flight modes with priority control
+ Door sequencer function
+ Telemetry controls with extremely fast response time
+ Comprehensive timer options
+ Virtual switches
+ Servo cut-off function
+ Receiver update from the transmitter by radio link
+ Download updates via Wifi
+ Flexible telemetry alarm output
+ Model image on the main screen
+ Text widgets on the main screen
+ Flight program announcement function
+ Easy handling of the flight modes
+ Inputs and servo curves with up to 33 points
+ Flight mode dependent vario
+ Teacher-student system also with other student transmitters
+ Preflight check
+ Perfectly balanced in the hands
+ Microfibre cloth handrests for maximum comfort in use
+ File Manager for exchanging data and backing up models
+ Integral Linux system for every imaginable expansion

ATOM
tray version

ATOM
handheld version

More Info!

PowerBox

Accessories

NEW!

Switch Collection

We can supply a wide range of different switches for installation in your **PowerBox ATOM/CORE**. They include several special types, and are intended for various positions on the transmitter.

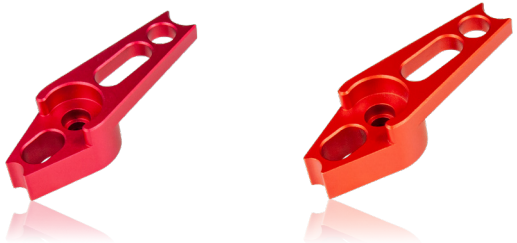
You can choose between two-position and three-position switches with short or long toggles, momentary and part-momentary switches, and there is also the option of a safety switch.

For the console transmitter version there are also 2- or 3-position stick switches and stick switches with push-button, which you can order when you order your **PowerBox ATOM/CORE**, or have retrofitted at a later date. Stick switches are not intended for self-installation.

Find the complete switch collection in the Online Shop!

Linear encoder long

The **ATOM/CORE** long linear encoder enables especially tray version pilots to operate the lateral linear encoder from above.



Linear encoder ATOM / CORE	Order No.
red	8145
orange	8146

All cases can be used for ATOM and CORE!

Case "CORE" tray version

High-quality aluminium case for your **CORE** Radio System tray version. Can be used for **ATOM** and **CORE.**

Order No.	8118

Case "CORE" handheld version

High-quality aluminium case for your **CORE** Radio System handheld version. Can be used for **ATOM** and **CORE.**

Order No.	8117

Softbag "ATOM"

can be used for **ATOM** and **CORE.**

Order No.	8318

PowerBox

Radio Conversion

All parts also available separately!

Conversion set tray version

for **PowerBox ATOM/CORE** to convert the handheld version to a tray radio.

Tray version	Order No.
Conversion set ATOM	8312
Conversion set CORE	8112
Radio neck strap ATOM	8311
Radio neck strap CORE	8111
Hand rests ATOM	8347
Hand rests CORE	8147
Holders for tray version ATOM/CORE	8149

The set includes:

+ 2 hand rests ATOM (microfibre) or CORE (Alcantara)
+ 2 holders
+ Radio neck strap for tray version ATOM or CORE
+ 2 stick extensions
+ Mounting screws

Conversion set handheld version

for **PowerBox ATOM/CORE** to convert the tray version to a handheld radio.

The set includes:

+ 2 hand rests ATOM (microfibre) or CORE (Alcantara)
+ 2 pedestals
+ Radio neck strap for handheld version ATOM or CORE
+ 2 control sticks for handheld version
+ Mounting screws

handheld version	Order No.
Conversion set ATOM	8313
Conversion set CORE	8113
Radio neck strap ATOM	8310
Radio neck strap CORE	8110
Hand rests ATOM	8348
Hand rests CORE	8148

PowerBox

Receiver

PBR-14D

Order No.	8244

A **14-channel receiver** with two redundant receive sections. One special feature is the integral electronic 20A switch. The battery is connected to the MPX high-current socket, which ensures that reliable power is available for all fourteen servo sockets.
The unit features two **P²BUS** interfaces for servo and telemetry data. If the unit is combined with the **PBR-26XS**, the internal receive sections can be expanded by one additional receive section.

+ 14 channel 2.4GHz Receiver
+ Two independent redundant receiver circuits
+ Extreme interference rejectionand and ultra-long range
+ Option of iGyro SAT
+ Two integral telemetry / servo bus (P²BUS)
+ Built in electronic switch, activated by integral button, MicroSwitch or MicroMag
+ Powerful real-time telemetry
+ Auxiliary output as serial interface (FastTrack, S.BUS and SRXL)
+ Parameters for all functions can be set from the transmitter
+ Dimensions 62 x 42 x 13 mm
+ Weight 29 g

PBR-10SL

Order No.	8255

The **PBR-10SL** is an ultra-slim 10-channel receiver for models with limited internal space. It features one receive section and a **P²BUS** interface for servo data and telemetry data, plus an additional output which can be set to operate either as the SRXL-Bus or channel 8. It is also possible to connect the **iGyro SAT**, allowing the integral iGyro function to be used. The internal receive section can be expanded with the **PBR-26XS** to form a redundant receiving system.

+ 10 channel 2.4 GHz Receiver
+ Slim design for tight fuselage
+ Extreme interference rejection
+ Ultra-long range
+ 6-axis iGyro option of iGyro SAT
+ Integral telemetry/servo bus (P²BUS)
+ Reception quality and battery voltage permanently available via telemetry
+ High-performance real-time telemetry
+ Data output switchable as FastTrack, PWM,S.BUS, SRXL or PPM12
+ Parameters for all functions can be set from the transmitter
+ Dimensions 60 x 18 x 10 mm
+ Weight 12 g

PBR-9D

Order No.	8210

The **PBR-9D** is a nine-channel receiver with two redundant receiver circuits.The unit features a P²BUS interface for servo and telemetry data, and an auxiliary output which can be configured either as SRXL bus or as channel 10. If the unit is combined with the **PBR-26XS**, the internal receive sections can be expanded by one additional receive section.

+ 9 channel 2.4 GHz Receiver
+ Two independent redundant receiver circuits
+ Extreme interference rejection
+ Ultra-long range
+ 6-axis iGyro option of iGyro SAT
+ Integral telemetry/servo bus (P²BUS)
+ High-performance real-time telemetry
+ Reception quality and airborne battery voltage available via telemetry as standard
+ Auxiliary output can be configured as Channel 10 or as serial interface (S.BUS or SRXL)
+ Dimensions 57 x 27 x 12 mm
+ Weight 17 g

PBR-7S

Order No.	8220

The **PBR-7S** is a seven-channel receiver with a single receiver circuit. The unit features a **P²BUS** interface for servo and telemetry data, and an auxiliary output which can be configured either as SRXL bus or as channel 8. If the unit is combined with the **PBR-26XS,** the internal receive section can be expanded to form a redundant receiving system.

+ 7 channel 2.4 GHz Receiver
+ Extreme interference rejection
+ Ultra-long range
+ 6-axis iGyro option of iGyro SAT
+ Integral telemetry/servo bus (P²BUS)
+ High-performance real-time telemetry
+ Reception quality and airborne battery voltage available via telemetry as standard
+ Auxiliary output can be configured as Channel 8 or as serial interface (S.BUS or SRXL)
+ Parameters for all functions can be set from the transmitter
+ Dimensions 52 x 22 x 12 mm
+ Weight 12 g

PBR-5S

Order No.	8230

The **PBR-5S** is a five-channel receiver with a single receiver circuit. The unit features a P²BUS interface for servo and telemetry data, while its minuscule size makes it the natural choice for small models.

+ 5 channel 2.4 GHz Micro-Receiver
+ Extreme interference rejection
+ Ultra-long range
+ Integral telemetry/servo bus (P²BUS)
+ High-performance real-time telemetry
+ Reception quality and airborne battery voltage available via telemetry as standard
+ Parameters for all functions can be set from the transmitter
+ Output 5 selectable as FastTrack, PWM,S.BUS, SRXL or PPM12
+ Dimensions 44 x 20 x 12 mm
+ Weight 7 g

PBR-26D

Order No.	8240

The **PBR-26D** is a satellite receiver featuring two redundant receiver circuits. The unit features a **P²BUS** interface for servo and telemetry data, and an auxiliary output which can be configured either as SRXL bus or S-BUS. This unit is designed to be connected to our **PowerBox** power supply systems or a flybarless system.

+ 26 channel 2.4GHz Receiver
+ Two independent redundant receiver circuits
+ Extreme interference rejection
+ Ultra-long range
+ No servo outputs; intended as receiver unit for PowerBox or FBL systems
+ 6-axis iGyro option of iGyro SAT
+ Integral telemetry and servo bus (P²BUS)
+ High-performance real-time telemetry
+ Reception quality and airborne battery voltage available via telemetry as standard
+ Parameters for all functions can be set from the transmitter
+ Dimensions 48 x 25 x 10 mm
+ Weight 10 g

PBR-26XS

Order No.	8242

The **PBR-26XS** is an extremely small satellite receiver fitted with one receive section. The receiver features a P²BUS interface for servo data and telemetry data, and can be connected to any **PowerBox** power supply. It is possible to set the output to FastTrack-Out, S.BUS, SRXL or PPM. If you select the FastTrack-Out option, the **PBR-26XS** can be employed as an expansion to the receive sections in existing receivers.

+ 26 channel 2.4 GHz receiver
+ Extreme interference rejection
+ Extreme range
+ The ideal receiving unit for PowerBox or FBL systems
+ High-performance real-time telemetry
+ Integral telemetry and servo bus (P²BUS)
+ Parameter settings for all functions from the transmitter
+ Reception quality and battery voltage permanently available via telemetry
+ Data output selectable as FastTrack, PWM,S.BUS, SRXL or PPM12
+ Dimensions 46 x 13 x 4 mm
+ Weight 3 g

PBR-5XS

INDOOR RECEIVER

Order No.	8232

The **PBR-5XS** is an ideal 5-channel receiver for indoor model aircraft. The unit has no case or sockets, reducing its weight to 2 g. The servo leads have to be soldered directly to the circuit board. The voltage of a flight battery can be measured directly at the receiver, and sent to the transmitter via telemetry. Installation is significantly eased by the receiver's integral chip aerial.

+ 5 channel
+ 2.4 GHz Receiver for ATOM/CORE radio system
+ Range of more than 1000m
+ Chipantenne
+ Telemetry
+ Direct monitoring of flight battery voltage
+ Extreme resistance to interference
+ Dimensions 32 x 19 x 4 mm
+ Weight 2 g

PBR-12X

Order No.	8260

The **PBR-12X** is ideal for use in any model where space is limited, but where a large number of channels is required. The square arrangement of the servo sockets allows the **PBR-12X** to fit even in very narrow fuselages, such as those of, F5J- and F3B-gliders.

+ 12 channel
+ Electronic switch
+ MR30 high-current input
+ Two serial inputs for the receiving system
+ Automatic RC system detection
+ Telemetry data for PowerBox P²BUS, Jeti Ex-BUS, Spektrum and Futaba S.BUS2
+ Transfer of voltage, current, capacity, lost frames and holds
+ User-variable servo frame rate: 10 ms, 12 ms, 14 ms, 16 ms, 18 ms
+ All features can be controlled from PowerBox and Jeti transmitters
+ All systems can control unit via PowerBox-USB
+ Servo feedback current suppression
+ Machined and anodised aluminium switch case
+ Dimensions 22 x 23 x 42 mm
+ Weight 15 g


Aerotec


SAVOX
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PowerBox

DigiSwitch V2

Der **PowerBox DigiSwitch V2** is the second generation of the **PowerBox DigiSwitch**, which is well-known throughout the world. For almost fifteen years the **PowerBox DigiSwitch** has represented the standard for small to medium-sized models thanks to its compact format and versatility.

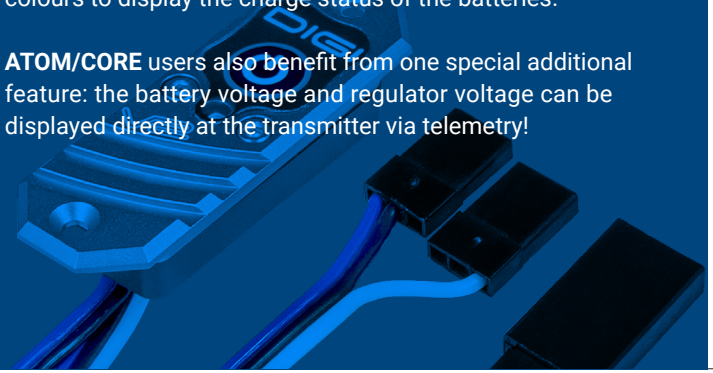
By using the latest components, we have been able to reduce the size of the **PowerBox DigiSwitch V2** by about 20 %.

The introduction of a top-quality aluminium case, machined and anodised, has brought a substantial increase in the unit's cooling efficiency, with the result that the maximum continuous current capacity of the **PowerBox DigiSwitch V2** is around 20 % higher. In fact, the peak load capacity is twice as high: the **PowerBox DigiSwitch V2** can handle more than 10A for several seconds!

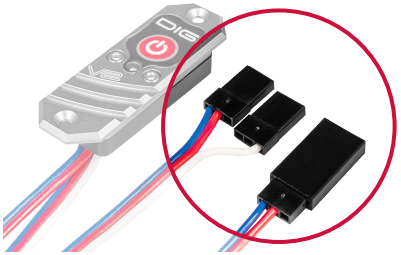
The **PowerBox DigiSwitch V2** offers four user-selectable output voltages: for normal servos it can be set to a regulated 6.0 V, regulated voltages of 7.0 V and 7.6 V are available for HV servos, as is an option for non-regulated voltage.

Power to the unit can be drawn from four different battery types: LiPo, Li-Ion, LiFePo, NiMH. Ultra-bright RGB LEDs are fitted to indicate battery voltage; they light up in various colours to display the charge status of the batteries.

ATOM/CORE users also benefit from one special additional feature: the battery voltage and regulator voltage can be displayed directly at the transmitter via telemetry!



JR/JR Connectors



MPX/JR Connectors

Features

+ High-performance electronic switch
+ Ultra-light unit, compact format
+ Regulated output voltage
+ User-selectable output voltage: 6.0 V / 7.0 V / 7.6 V or non regulated
+ RGB LED voltage indicator for the battery
+ Telemetry support for ATOM/CORE systems
+ Supports 4 different battery types:
  2S LiPo, 2S Li-Ion, 2S LiFePo und 5S NiMH
+ Regulator monitoring
+ Suppression of servo feedback currents

Technical Data

Operating voltage	4.0 V - 9.0 V
Power supply	2S LiPo, 2S Li-Ion, 2S LiFePo, 5S NiMH
Current drain Power-on state	23 mA
Current drain Standby	4 µA
Maximum load current	10 A
Output voltage	6.0 V / 7.0 V / 7.6 V / unregulated
Dimensions	50 x 18 x 11 mm
Weight	15 g
Temperature range	-30°C to +75°C

DigiSwitch V2	Order No.
JR/JR Connectors	6430
MPX/JR Connectors	6432

PowerBox

Sensor V3

The **PowerBox Sensor V3** is the third generation of the **PowerBox Sensor**, which is well-known throughout the world. For almost twenty years the PowerBox Sensor has represented the standard for small to medium-sized models thanks to its compact format and versatility.

By using the latest components, we have been able to reduce the size of the **PowerBox Sensor V3** significantly. For example, the case is now exactly half as deep (11 mm compared with 22 mm). Nevertheless, the PowerBox Sensor V3 still fits neatly in the aperture used by its predecessor.

The introduction of a top-quality aluminium case, machined and anodised, has brought a substantial increase in the unit's cooling efficiency, with the result that the maximum continuous current capacity of the **PowerBox Sensor V3** is around 35 % higher.

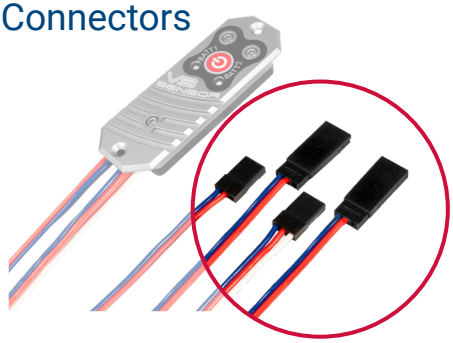
In fact, the peak load capacity is twice as high: the **PowerBox Sensor V3** can handle more than 20 A for several seconds!

The **PowerBox Sensor V3** offers two user-selectable output voltages: for normal servos it can be set to a regulated 6.0 V, while a regulated 7.8 V is available for HV servos – provided that the batteries supply the higher input voltage required.

Power to the unit can be drawn from four different battery types: LiPo, Li-Ion, LiFePo, NiMH. Ultra-bright RGB LEDs are fitted to indicate battery voltage; they light up in various colours to display the charge status of the batteries.

ATOM and **CORE** users also benefit from one special additi nal feature: both battery voltages can be displayed directly on the transmitter by means of telemetry.

JR/JR Connectors



MPX/JR Connectors

Features

+ High-performance battery backer
+ Ultra-light unit, compact format
+ Double regulated output voltage
+ Redundant switch and regulator circuitr
+ User-selectable output voltage: 6.0 V or 7.8 V
+ Separate RGB LED voltage indicators for each battery
+ Telemetry support for ATOM/CORE systems
+ Support for 4 battery types: LiPo, Li-Ion, LiFePo, NiMH
+ Regulator monitoring
+ Suppression of servo feedback currents

Technical Data

Operating voltage	4.0V - 9.0V
Power supply	2S LiPo, 2S Li-Ion, 2S LiFePo, 5S NiMh
Current drain Power-on state	30mA
Current drain Standby	10µA
Maximum load current	Peak 2x 10A
Drop-out voltage	0.25V
Supported telemetry system	P²BUS
Output voltage	6.0V / 7.8V
Dimensions	65 x 26 x 11 mm
Weight	30 g
Termperature range	-30°C to +105°C

PowerBox Sensor V3	Order No.
JR/JR Connectors	6330
MPX/JR Connectors	6332

PowerBox

Source

incl. SensorSwitch and OLED-Display

The **PowerBox Source** is a logical development of the successful BaseLog, taking due account of requests from customers and modern telemetry system requirements. We have managed to reduce the backer's size by optimising the heat-sink design, and as a result the **PowerBox Source** is now also suitable for small models with high power requirements. This small energy package offers enormous performance reserves, and compares very well even with larger battery backer systems.

A small **OLED Display** is included in the set – which provides a display of all battery data even when the backer itself is inaccessible in the model. However, the full capability of the **PowerBox Source** can still be exploited even without the screen: the *Data* socket enables the user to access all settings either using a smartphone or a laptop or PC using our **USB interface.**

ATOM and **CORE** pilots, in particular, can control all aspects of the **PowerBox Source** from the transmitter without any extra accessories.
Reflecting the current state of technology, all battery-relevant data can now be transferred to the transmitter via the telemetry system. The PowerBox Source can transfer telemetry data to Jeti, Graupner, Multiplex and Futaba transmitters as well as the **ATOM/CORE** telemetry system. An additional telecon-verter is not required for Futaba.

The **PowerBox Source** can be set to any of four different output voltages: 5.9V, 7.4V, 7.8V and unregulated; in the latter case the battery voltage is passed through with minimal loss. The MPX inputs and outputs are fitted with retaining clips/lugs to prevent the connectors slipping out when subjected to severe vibration.

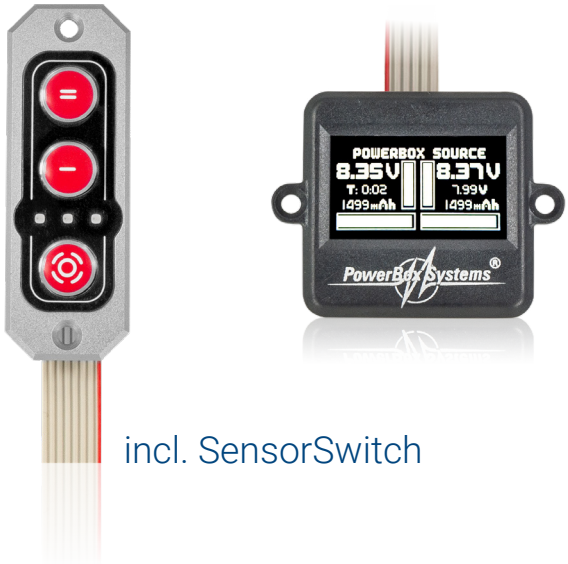
MagSensor

V1.0 ↓ V2.0
updateable

Features

+ High performance
+ Optimised cooling
+ Small size
+ Incl. OLED-Display
+ 4 different output voltages
+ Suitable for use with all battery types
+ Can be controlled by PowerBox ATOM/CORE, switch, or USB interface
+ Supports 6 different telemetry systems: PowerBox P²BUS, Jeti EX-Bus, Futaba S.BUS2, Multiplex M-Link, Graupner Hott, JR DMSS
+ Redundant regulator design
+ Suppression of servo feedback currents
+ Protection against electro-static discharge
+ Integral regulator monitoring
+ Can be updated using the USB Interface

incl. OLED-Display



incl. SensorSwitch

Technical Data

Operating voltage	4.0 V - 9.0 V
Power supply	2S LiPo/Li-Ion, 2S LiFePo, 5S NiCd/NiMH
Current drain Power-on state	85 mA
Current drain Standby	10 µA
Maximum load current	Peak 2x 20 A
Drop-out voltage	0.3 V
Output voltage	5.9 V / 7.4 V / 7.8 V / 8.4 V
Screen	OLED-Display
Dimensions	54 x 88 x 23 mm
Weight	77 g
Weight Sensor Schalter	15 g
Temperature range	-30°C to +85°C

	Order No.
PowerBox Source	3420

PowerBox

EVO

incl. MicroSwitch

The **PowerBox EVO** is an ultra-compact dual power supply featuring 7 channels, regulated output voltage and telemetry. The 7 inputs are assigned to 12 outputs, allowing two servos to be controlled in parallel on each of 3 channels, without requiring additional Y-leads. All servo outputs have integral signal amplification and are protected against servo feed-back currents.

The **PowerBox MicroSwitch** included in the set is not subject to wear, and operates both electronic switches reliably. It is also used to set the output voltage and the battery type.

By default the two high-performance voltage regulators deliver 6.0V, but that value can easily be changed to 7.4V, 7.8V or no regulation at all using the **PowerBox MicroSwitch.** The machined aluminium heat-sink ensures a high continuous load capacity.

The **PowerBox Evo** supports all current telemetry systems: PowerBox, Jeti, Futaba, Multiplex, Graupner, Spektrum and JR, which means that the voltage of both batteries can be monitored conveniently from the transmitter. It is also possible to read off the state of charge of the batteries at any time using the two tri-colour LEDs.

MagSensor

V1.0 ↓ V2.0
updateable

Features

+ 7 channels
+ 10 outputs
+ High-performance battery backer with high continuous load capacity
+ All power electronics duplicated
+ Redundant electronic switch
+ 4 selectable output voltages: 6.0V, 7.4V, 7.8V or unregulated
+ Telemetry data for PowerBox P²BUS, Futaba S.BUS2, Jeti Ex-BUS, Spektrum, SRXL2, Multiplex M-Link, JR X-BUS and Graupner HoTT
+ All features can be controlled from PowerBox and Jeti transmitters
+ Signal amplification for all 12 outputs
+ Voltage indication by means of tri-colour LEDs
+ Supports four battery types: LiPo, Li-Ion, NiMh/NiCd, LiFe
+ Servo feedback current suppression
+ Machined high-performance heat-sink for optimised heat dissipation
+ Machined, anodised aluminium switch case
+ Compact dimensions

Technical Data

Operating voltage	4.0 V - 9.0 V
Power supply	2S LiPo, 2S Li-Ion, 2S LiFePo, 5S NiMH
Current drain Power-on state	66 mA
Current drain Standby	8 µA
Maximum load current	Peak 2x 10 A (<30s 2x 40A)
Drop-out voltage	0.3 V
Output voltage	6.0V / 7.4V / 7.8V / unregulated
Signal input	PWM
Servo sockets	10
Dimensions	89 x 55 x 18 mm
Weight	69 g
Weight MicroSwitch	8 g
Temperature range	-30°C to +105°C

incl. MicroSwitch

optional MicroMag

	Order No.
PowerBox EVO incl. MicroSwitch	4250
MicroMag optional	3585

PowerBox

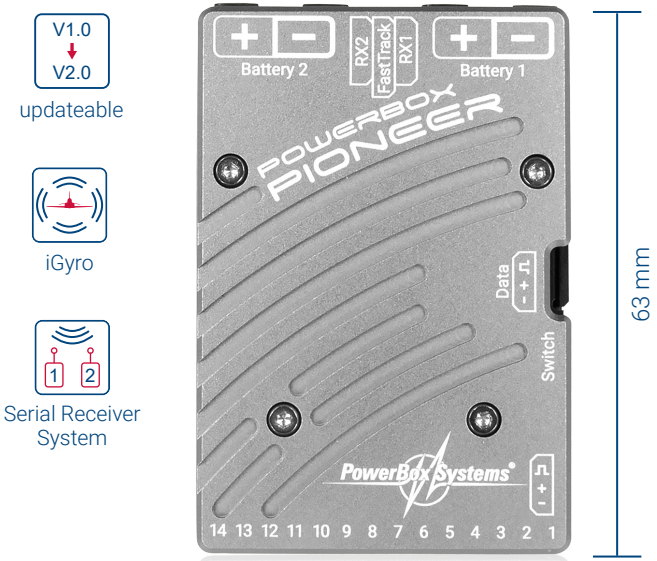
Pioneer

incl. MicroSwitch / MicroMag

The **PowerBox Pioneer** is the latest development of a 14-channel power supply unit without voltage regulation, designed for HV servos. Since the unit has no voltage regulators, nor the large heat-sink surfaces required for them, it offers ultra-compact dimensions. Even so, the **PowerBox Pioneer** still provides redundancy, as is the standard for all power supply units made by **PowerBox-Systems**. The output section and the switch controller are duplicated in order to guarantee maximum security.

A feature which makes the **PowerBox Pioneer** unique in its class is its integral iGyro technology, which requires only the optional **iGyro SAT** as sensor unit. When plugged in, the sensor transforms the power supply unit into a high-performance 9-axis gyro of the latest generation. The integrated iGyro is ultra-simple to use, and can be set up in just a few minutes, ready for the initial trimming flight. The **PowerBox Pioneer** offers any number of facilities for fine-tuning, making it suitable for complex models and perfectionists. Stick priority, lock-in feel and gyro characteristics can be adjusted separately for each axis and for two ranges, to name just the most important of them.
The whole package is rounded off by convenience and ease of operation, as PowerBox and Jeti pilots can set up and control all aspects of the **PowerBox Pioneer** from the transmitter! Optionally – and for Futaba pilots – the **PowerBox Pioneer** can be set up using **Mobile Terminal**, or using a PC in conjunction with the **USB Interface Adapter**.

In performance terms the compact **PowerBox Pioneer** concedes nothing to the larger backers. Many series of tests have been carried out with a 40A load for several minutes, and we guarantee a continuous current capacity of 20A. The elegant aluminium heat-sink ensures the necessary heat dissipation, and even the external switch is supplied in a top-quality anodised aluminium case, machined from solid.



As a further option, the new **PowerBox Pioneer** is also available with the MicroMag magnetic switch. This switch can be installed visible or hidden and switched on with the included magnet.

incl. MicroSwitch / incl. MicroMag

	Order No.
PowerBox Pioneer incl. MicroSwitch	4100
PowerBox Pioneer incl. MicroMag	4102

Features

+ 14 channels
+ High-performance battery backer with high continuous load capacity
+ Duplicated circuitry for the entire power electronics
+ Redundant electronic switch
+ All features can be controlled using **PowerBox** and Jeti transmitters
+ All systems can be operated using **PowerBox USB Interface**
+ Integrated iGyro technology of the latest type, with **iGyro SAT** as gyro sensor
+ 9 independent gyro outputs for:
  3x aileron, 3x elevator, 3x rudder
+ Special regulatory algorithm for fixed-wing models
+ Detects all transmitter mixers
+ Ultra-simple gyro programming in just a few minutes
+ Telemetry data for PowerBox P²BUS,
  Futaba S.BUS2 and Jeti Ex-Tele
+ Transmission of voltage, current, capacity, lost frames and holds
+ User-variable servo frame rate: 10 ms, 12 ms, 14 ms, 16 ms, 18 ms
+ Suppression of servo feedback currents
+ Ultra-modern 32-bit micro-processor ensures swift, accurate signal processing

Technical Data

Operating voltage	4.0 V - 9.0 V
Power supply	2S LiPo, 2S Li-Ion, 2S LiFePo, 5S NiMH
Current drain Power-on state	105 mA
Current drain Standby	30 µA
Maximum load current	Continuous 2x 20 A (<30s 2x 20 A)
Drop-out voltage	0.3 V
Output voltage	unregulated
Signal input	serial
Supported RC systems	PowerBox, Futaba, Jeti, Spektrum
Receiver redundancy	SRS
Servo sockets	14
Signal frame rate	10 ms, 12 ms, 14 ms, 16 ms, 18 ms
Gyro regulation	Heading- and Normal mode
Gyro sensor type	external iGyro SAT
Number of sensor axes	9
Dimensions	63 x 44 x 12 mm
Weight	40 g
Weight MicroSwitch	8 g
Temperature range	-30°C to +75°C

PowerBox

Mercury SR2

incl. SensorSwitch and OLED-Display M

The **PowerBox Mercury SR2** is your first choice when you need a small, high-performance power supply unit with maximum functionality. All the features which are usually the preserve of the larger power supply units are present in the compact **PowerBox Mercury SR2**: iGyro, servo matching, unrestricted channel assignment and even a door sequencer: it really is a complete system!

The **PowerBox Mercury SR2** provides 16 freely assignable outputs with servo matching, i.e. the travel of each channel can be adjusted at five points. If you fly models with large control surfaces, in which individual control surfaces are actuated by two servos, the unique auto-match function can be used to match both servos to each other accurately in a matter of seconds.

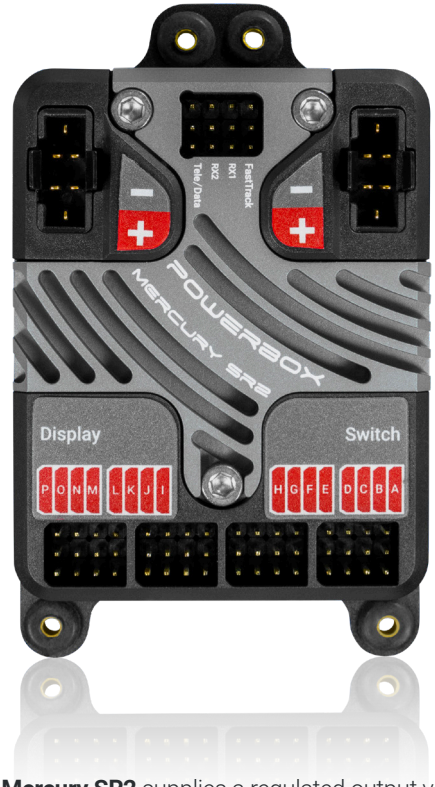
The integral iGyro software requires a sensor unit in the form of an i**Gyro SAT**; with this it can address and adjust three aileron, three elevator and three rudder functions individually. The Setup Assistant simplifies the initial adjustments to the gyro system, reducing the time required to just a few minutes. The first time the system is used, the Assistant gathers basic information regarding wing and tail format and the vector control system - if present. A complex model matrix then works in the background, calcula-ting which servo needs to be connected to which output, at the same time linking the corresponding gyro function.
A wide range of additional Expert settings offers total freedom, enabling you to fine-tune the gyro system to your particular requirements.

In addition the **GPSIII** or **PBS-TAV** (True Airspeed Vario) can also be connected to the FastTrack input, making it possible to vary gyro gain according to airspeed. All GPS or TAV information is even available for telemetry at the transmitter!

Serial Receiver System

MagSensor

Door Sequencer



V1.0 ↓ V2.0 updateable

iGyro

±0 Servo Matching

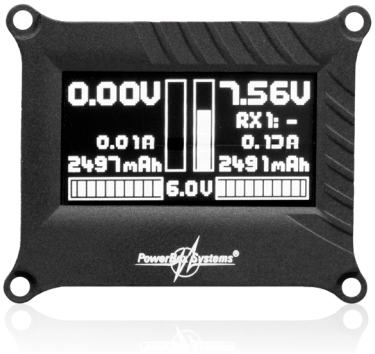
The **PowerBox Mercury SR2** supplies a regulated output voltage which can be set to 6.0V or 7.8V. The two voltage regulators offer generous capacity thanks to the machined aluminium heatsink on the top and bottom surfaces, enabling the unit to cope effortlessly with the current-hungry servos used in 3D machines.

The integral door sequencer is capable of controlling one undercarriage system and up to three wheel doors. If the Setup Assistant is used, it takes just a few minutes to learn the end-points of door travel, while three pre-defined modes cover the vast majority of undercarriage processes. Once initially set up, the timing of the process can be fine-tuned manually to any values you wish.

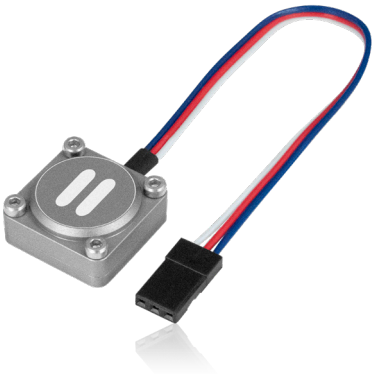
For PowerBox and Jeti pilots it is possible to control and adjust virtually every* aspect of the **PowerBox Mercury SR2** from your transmitter! Full telemetry for battery and receiver data is present for all supported systems.

*with the exception of the door sequence and Setup Assistan

incl. SensorSwitch and OLED-Display M



optional iGyro SAT



Features

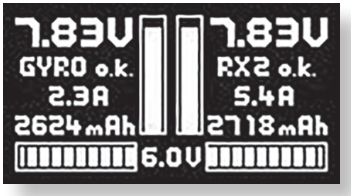
+ 16 outputs
+ High-performance battery backer with high continuous load capacity
+ OLED screen, legible in sunlight
+ Bi-lingual menu system
+ Consistent duplication of all power electronics
+ Redundant electronic switch
+ Door sequencer with Setup Assistant
+ Auto matching function
+ Two selectable output voltages: 6.0V or 7.8V
+ Latest integrated iGyro technology, using the iGyro SAT as gyro sensor
+ Optional GPS III for speed-dependent gyro compensation
+ Telemetry data for PowerBox P²BUS, Futaba S.BUS2, Jeti Ex-BUS, Spektrum SRXL2, Multiplex M-Link, JR X-BUS and Graupner HoTT
+ Transmission of battery, receiver and GPS data
+ Servo feedback current suppression
+ Virtually all features can be controlled from PowerBox and Jeti transmitters
+ Selectable servo frame rate: 12 ms, 14 ms, 16 ms, 18 ms
+ 9 independent gyro outputs for: 3x aileron, 3x elevator, 3x rudder
+ Servo matching for all 16 outputs

Technical Data

Operating voltage	4.0V - 9.0V
Power supply	2S LiPo, 2S Li-Ion, 2S LiFePo, 5S NiCd/NiMH
Current drain Power-on state	100mA
Output voltage	6.0V / 7.8V
Supported RC systems	PowerBox, Futaba, Jeti, Spektrum, M-Link and Hott
Receiver redundancy	SRS
Channels	26
Servo sockets	16, programmable servo outputs 16
iGyro technology	external iGyro SAT
Signal frame rate	12 ms, 14 ms, 16 ms, 18 ms
Number of sensor axes	9
Screen	OLED-Display M
Integral door sequencer	yes
Dimensions	89 x 54 x 19 mm
Weight	124 g
Temperature range	-30°C to +105°C

	Order No.
PowerBox Mercury SR2 incl. OLED-Display M and SensorSwitch	4130
iGyro SAT optional	3610

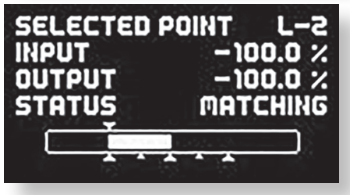
Battery and Receiver Status



Sequencer

Automatching

Servo Matching



Mounting position

Setup Assistant


RED
CORE
CORE


CORE

PowerBox

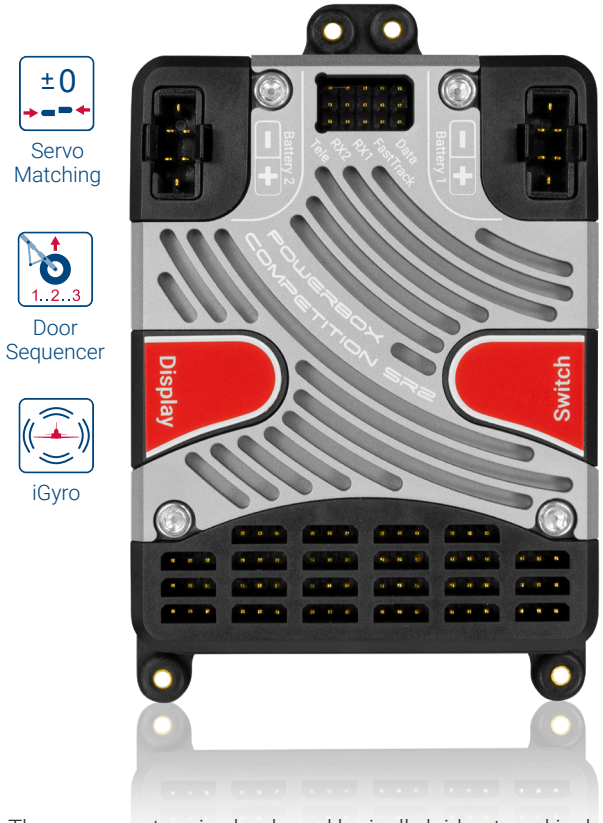
Competition SR2

incl. TFT-Display and SensorSwitch

Here at **PowerBox Systems** we are proud to present our latest development: the **PowerBox Competition SR2**. Incorporating a new external look and the very latest technology, this single unit integrates more than twenty years of experience in the design and construction of airborne electronics.

The most obvious and eye-catching feature is the new full-colour **TFT screen**, which is clearly legible even in full sunshine. The size of the screen has allowed us to include a self-explanatory menu structure which is so simple to use that its operation has raised not a single query from our test-pilots. The heat-sink, machined from solid metal, evenly dissipates the heat generated by the regulators even when the current drain of the servos is at a maximum. This has permitted us to reduce the overall size of the **PowerBox Competition SR2** significantly. At the same time we were able to reduce the overall size of the **PowerBox Competition SR2** substantially. The associated SensorSwitch and **TFT screen** are also housed in a machined aluminium case, matching the quality appearance of the SR2 itself.

However, the full spectrum of the units capabilities only becomes apparent once it is switched on. The main display contains all the essential data - including battery voltage, current, consumed capacity and all receiver-relevant information - which can be viewed at a glance. The screen also displays status messages concerning the **iGyro SAT**, **GPS III** or **PBS-TAV**, if connected to the system.



The menu system is clearly and logically laid out, and includes many new functions as well as the familiar menu points - and all in two languages: German and English! Important new features implemented in the new **PowerBox Competition SR2** include the most efficient and sophisticated iGyro technology ever developed by **PowerBox-Systems**.

Used in conjunction with the optional **iGyro SAT** sensor, the system offers twelve gyro axes which cater for every existing model variant. The highly refined Setup Assistant enables the pilot to set up complex models, such as types with dual thrust vectors, ailerons and tailerons, in just a few minutes. Once the Assistant has been completed, the transmitter channels are assigned, the directions of gyro effect are set, and the servos connected to the outputs. Each gyro axis can also be finely adjusted individually from the transmitter using separate channels. If an initial test-flight shows up a need to fine-tune the iGyro to meet individual requirements, a whole series of Expert settings cover every possible need.

The servo matching feature is now displayed in graphic form on the screen, and the **PowerBox Competition SR2** also allows the servo response to be adjusted using five curve points. A new development is automatic servo matching. It is a very simple matter to assign and select one or two servos in addition to the primary one, and these two or three servos can be matched accurately to each other in just a few seconds with a single button-press!

The **PowerBox Competition SR2** incorporates two independent door sequencers. The standard function is designed for a retractable undercarriage, while the second can be used to implement systems such as a latching canopy control system without any additional devices. The Setup Assistant is capable of setting up the first door sequencer in just a few minutes, and three modes of operation are available. The graphic on-screen display makes additional non-standard settings very easy to set up; the entire sequential process can be observed at a glance.

If you use a PowerBox or Jeti RC system, virtually all* the functions of the **PowerBox Competition SR2** can be controlled and adjusted from the transmitter. The SR2 caters for every aspect of telemetry for battery and receiver data with all supported systems. If a **GPS III** or **PBS-TAV** is connected, then the flight data from them are also available – assuming that the individual system allows this.

*except the sequencers and Setup Assistant

Features

+ 22 channels
+ High-performance battery backer with high continuous load capacity
+ 2.4” TFT screen, legible in sunlight
+ Bi-lingual menu system
+ Consistent duplication of all power electronics
+ Redundant electronic switch
+ Servo matching for all 22 outputs
+ Auto matching function
+ Two independent door sequencers with Setup Assistant
+ The latest integrated iGyro technology, using the iGyro SAT as gyro sensor
+ Twelve independent gyro outputs for: 4x aileron, 4x elevator, 4x rudder
+ Individual gain control for all twelve gyro outputs
+ Special regulatory algorithm for fixed-wing models
+ System detects all transmitter mixers
+ Four selectable output voltages: 6.0V, 7.4V, 7.8V or unregulated
+ Graphic menu diagrams ensure ultra-simple programming
+ Fast basic setup procedure using the sophisticated Assistant
+ Optional GPS III for speed-dependent gyro compensation
+ Telemetry data for PowerBox P²BUS, Futaba S.BUS2, Jeti Ex-BUS, Spektrum SRXL2, Multiplex M-Link, JR X-BUS and Graupner HoTT
+ Transmission of battery, receiver and GPS* data
+ Virtually all features can be controlled from PowerBox and Jeti transmitter
+ Selectable servo frame rate: 10 ms, 12 ms, 14 ms, 16 ms, 18 ms
+ Servo feedback current suppression
+ Latest 32-bit micro-processor for precise, high-speed signal processing
+ High-performance machined heat-sink for optimised heat diffusion
+ Machined, anodised aluminium switch and screen case
+ Compact dimensions
+ Can be updated using the PowerBox USB interface or Mobile Terminal

Technical Data

Operating voltage	4.0 V - 9.0 V
Power supply	2S LiPo, 2S Li-Ion, 2S LiFePo, 5S NiCd/NiMH
Current drain Power-on state	260 mA
Current drain Standby	30 µA
Maximum load current	2x 20 A (<30s)
Drop-out voltage	0.3 V
Output voltage	6.0 V / 7.4 V / 7.8 V / unregulated
Supported RC systems	PowerBox, Futaba, Jeti, Spektrum, M-Link and Hott
Signal input	serial
Receiver redundancy	SRS
Channels	26
Servo sockets	22
Programmable servo outputs	22
Screen	TFT-Display 320x240 Pixel
Servo signal resolution	0.25 µs
Signal frame rate	10 ms, 12 ms, 14 ms, 16 ms, 18 ms
Gyro sensor type	external iGyro SAT
Number of sensor axes	12
Dimensions	107 x 69 x 19 mm
Weight	115 g
Weight SensorSwitch	15 g
Weight TFT-Display	34 g
Temperature range	-30°C to +105°C

incl. TFT-Display and SensorSwitch

	Order No.
PowerBox Competition SR2 incl. Display and SensorSwitch	4450


ROYAL AIR FORCE

PowerBox

Royal SR2

incl. TFT-Display and SensorSwitch

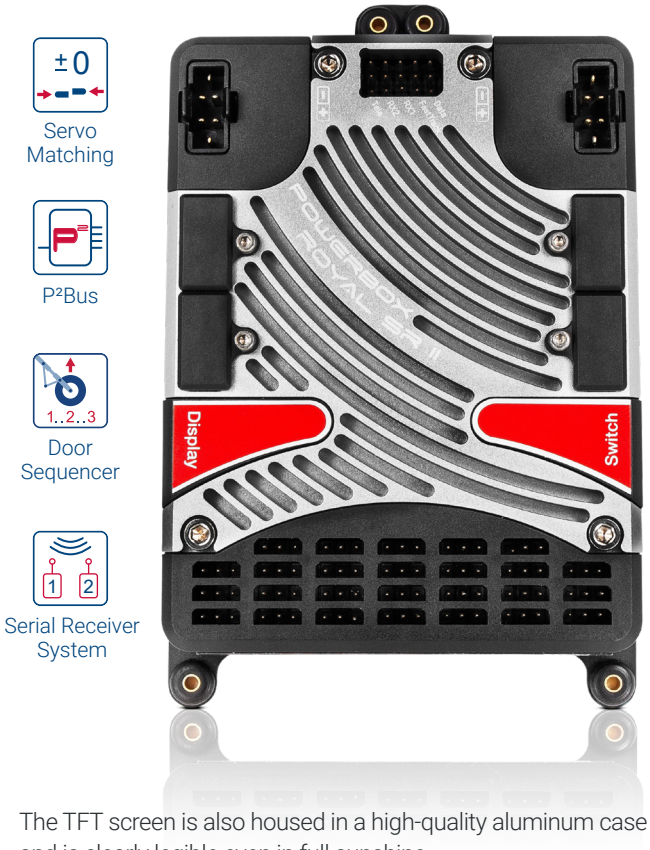
The **PowerBox Royal SR2** once again sets new technical standards, offering a convincing array of features which until now have been the exclusive preserve of professional aviation. **P² servo bus**, 26 channels, 12-axis gyro, two pairs of regulators and a full-color screen - these are just a few of the technical refinements which the **PowerBox Royal SR2** offers the ambitious pilot.

The **PowerBox Royal SR2** is housed in a high-quality, extremely compact case with integral aluminum heat-sink. The large cooling area dissipates the heat generated by the four regulators, which are wired in pairs to provide energy for all 26 servos. Both regulator pairs can be set to any of four different voltages. This makes it possible to combine standard 6V servos with high-performance HV types, without additional regulator modules.

For the first time all the data relating to all the model's servos can be monitored, and their parameters adjusted[1] from the transmitter. This development has been made possible by the introduction of our **P²-BUS** protocol, whose aim was to maintain complete control of all the components in the model. The **PowerBox Royal SR2** has four fully independent **P²-BUS** interfaces, which can be set to two different voltage levels.

These interfaces can be used to connect servos with an integral **P²-BUS,** or conventional servos with the new **P²-ServoBridge**. The **P²-ServoBridge** is an adapterwhich converts the **P²-BUS** into a PWM signal for normal servos; it also has an integral infinitely variable electronic fuse. This has allowed us to implement a bus system in the model which is significantly superior to standard PWM wiring in respect of security and performance.

All data relating to the receivers and power supply system are displayed on the full-color screen, and all settings are available in a carefully structured, bi-lingual menu which is easily understood.



The TFT screen is also housed in a high-quality aluminum case and is clearly legible even in full sunshine.

Connecting the optional **iGyro SAT** converts the **PowerBox Royal SR2** into a 12-axis gyro which has few equals in terms of functionality. The gyro can be set up to suit even the most complicated of models in just a few minutes. After this, the correct gyro gain is set from the transmitter in a test-flight using a rotary control. A whole series of supplementary Expert settings is available to allow the pilot to fine-tune the gyro effect to suit his unique individual preferences.

Naturally a **GPS III** sensor can also be connected to the **PowerBox Royal SR2.** This unit provides automatic gyro gain adjustment in relation to airspeed.

The **PowerBox Royal SR2's** 26 outputs are provided with an ample power supply, and they can also be assigned individually to various functions. All outputs can be allocated direct and gyro channels as well as door sequencer functions.

The **PowerBox Royal SR2** has an automatic ServoMatch function which is a new development. This system makes it possible to match a maximum of three servos to each other automatically in just a fall you have to do is select the servos which are inter-connected mechanically, and start the automatic procedure. Of course, each output can also be adjusted manually using the ServoMatch function and the graphic-based menu.

The final aspect of the system is its pair of integrated door sequencers. In addition to a retractable undercarriage, it is possible - for example - to implement a latched opening canopy control system without additional devices. The first door sequencer can be set up in just a few minutes with the help of a Setup Assistant, and three modes are available. Additional special settings are equally easy to set up thanks to the on-screen diagrams in which the entire timed sequence can be seen at a glance.

The **PowerBox Royal SR2** can be set up and controlled virtually completely[2] from PowerBox and Jeti transmitters! Telemetry for every aspect of battery and receiver data is available for all supported systems. If a **GPS III** is connected to the unit, GPS data are also available – in so far as your radio control system supports this.

[1]The **P² servo bus** system works with all radio control systems – as was the case with the previous **PowerBox Royal SRS**. It is even possible to connect the **P²-ServoBridge** directly to the data port of the **PowerBox Royal SR2** for adjustment. This eliminates the need for an additional USB or Bluetooth adapter in order to adjust the channel assignment or the cut-off current. **P²-BUS** servos and the **P²-ServoBridge** can be adjusted from the transmitter, but only in conjunction with PowerBox transmitters. The telemetry data from the individual servos can also only be transferred if you are using the high-performance telemetry system offered by the **ATOM** and **CORE** radio systems.

[2] With the exception of the sequencer and the Setup Assistant.

Features

+ 26 channels
+ High-performance battery backer with high continuous load capacity
+ Four P²-BUS outputs with full telemetry support for servos
+ 2.4" TFT screen, legible in sunlight
+ Bi-lingual menu system
+ Consistent duplication of all power electronics
+ Redundant electronic switch
+ Servo matching for all 26 outputs
+ Auto matching function
+ Two independent door sequencers with Setup Assistant
+ The latest integrated iGyro technology, using the iGyro SAT as gyro sensor
+ 12 independent gyro outputs for: 4x aileron, 4x elevator, 4x rudder
+ Individual gain control for all twelve gyro outputs
+ Special regulatory algorithm for fixed-wing models
+ System detects all transmitter mixers
+ 4 selectable output voltages: 6.0V, 7.4V, 7.8V or unregulated
+ Two different voltage levels, separately adjustable for left and right side
+ Graphic menu diagrams ensure ultra-simple programming
+ Simplest programming through graphical representation of the menus
+ Fast basic setup procedure using the sophisticated Assistant
+ Optional GPS III for speed-dependent gyro compensation
+ Telemetry data for PowerBox P²BUS, Futaba S.BUS2, Jeti Ex-BUS, Spektrum SRXL2, Multiplex M-Link, JR DMSS and Graupner HoTT
+ Transmission of battery, receiver and GPS data
+ Virtually all features can be controlled from PowerBox and Jeti transmitters
+ Selectable servo frame rate: 10 ms, 12 ms, 14 ms, 16 ms, 18 ms
+ Servo feedback current suppression
+ Latest 32-bit micro-processor for precise, high-speed signal processing
+ High-performance machined heat-sink for optimised heat diffusion
+ Machined, anodised aluminium switch and screen case

Technical Data

Operating voltage	4.0 V - 9.0 V
Current drain Power-on state	300 mA (with TFT)
Maximum load current	Peak 4x 20 A
Signal input	serial
Servo sockets	26
Servo signal resolution	0.5 µs
Gyro regulation	Heading- and Normal mode
Gyro sensor type	external iGyro SAT
Number of sensor axes	12
Dimensions	136 x 82 x 18 mm
Weight	162 g
Weight SensorSwitch	15 g
Weight Display	34 g
Temperature range	-30°C to +105°C

incl. SensorSwitch and TFT-Display

	Order No.
PowerBox Royal SR2 incl. SensorSwitch and TFT-Display	4750
iGyro SAT optional	3610


Matthias Schmidt
CORE
Made in Germany

PowerBox

Competition SHV

incl. TFT-Display and SensorSwitch

The **Competition SHV** is the latest member of the PowerBox product family, and has been developed to take into account the requirements of the latest generation of servos, with their ever-rising power and speed. SHV stands for Super High Voltage, and - as the term indicates - the **Competition SHV** operates with significantly higher voltages than previous 8.4V systems. The unit can cope with input voltages of up to 35V, which is then passed on to the servos in a redundant arrangement. The advantage is obvious: for a given servo power the current carried by the servo cable is correspondingly reduced. For example, a servo drawing a current of 6A using 8.4V technology will only draw 2A using 25.2V technology and a 6S power supply. The lower current drain results in the following scenarios:

1. For a given conductor cross-section, the lower current in the servo cable reduces the voltage drop to the servo. This in turn means more constant servo output power, and the servos operate with consistent torque and speed.

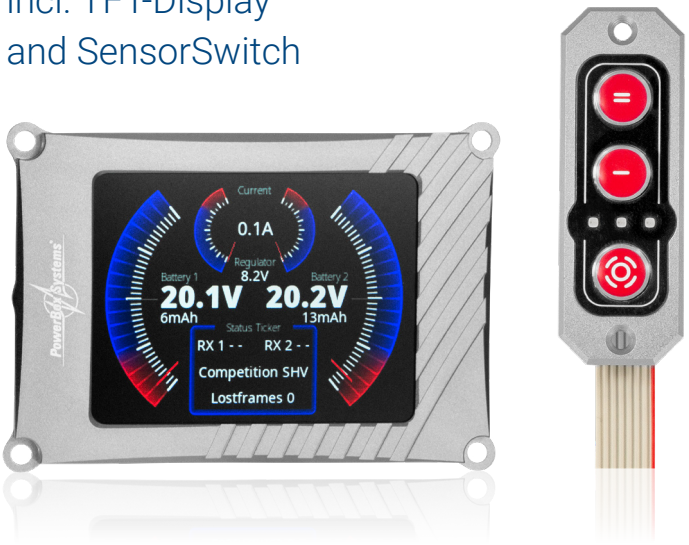
2. Much higher servo performance is possible, since currents increase by a lower factor.

3. For a given servo output it is permissible to use cable of reduced cross-section. in the case of large models this can result in a significant weight-saving.

4. Power supply batteries of significantly lower capacity and nominal current can safely be employed.

The unit is fitted with two redundant DC/DC converters for the two receivers,gyro, additional telemetry sensors and up to four servos; they generate a regulated voltage of 8.4V and can cope with loads of up to 10A.

incl. TFT-Display and SensorSwitch



Features

+ SHV technology: up to 35V input voltage
+ 40A max. current load for all SHV servo outputs
+ Regulated 8.4V / 10A for receivers, peripherals and four servos
+ Consistent duplication of all power electronics
+ Redundant electronic switch
+ 22 channels
+ Optional UAV version
+ High-performance battery backer with high continuous load capacity
+ 2.4" TFT-screen, legible in sunlight
+ Bi-lingual menu system
+ Servo matching for all 22 outputs
+ Auto matching function
+ Two independent door sequencers with Setup Assistant
+ The latest integrated iGyro technology, using the **iGyroSAT** as gyro sensor
+ Twelve independent gyro outputs for: 4x aileron, 4x elevator, 4x rudder
+ Individual gain control for all twelve gyro outputs
+ Special regulatory algorithm for fixed-wing models
+ System detects all transmitter mixers
+ Graphic menu diagrams ensure ultra-simple programming
+ Fast basic setup procedure using the sophisticated Assistant
+ Optional GPS III for speed-dependent gyro compensation
+ Telemetry data for PowerBox P²BUS, Futaba S.BUS2, Jeti Ex-BUS, Spektrum, SRXL2, Multiplex M-Link and Graupner HoTT
+ Transmission of battery, receiver and GPS data
+ Virtually all features can be controlled from PowerBox and Jeti transmitters
+ Selectable servo frame rate: 10 ms, 12 ms, 14 ms, 16 ms, 18 ms
+ Servo feedback current suppression
+ Latest 32-bit micro-processor for precise, high-speed signal processing
+ High-performance machined heat-sink for optimised heat diffusion
+ Machined, anodised aluminium switch and screen case
+ Compact dimensions

Find out more now!

Technical Data

Operating voltage	10.0 V - 35.0 V
Power supply	3S - 8S LiPo or Li-Ion
Current drain Power-on state	170 mA with 20V
Current drain Standby	40 µA
Maximum load current SHV outputs	Duration 2x 20A (<30s 2x 40A)
Maximum load current regulated outputs	Duration 10 A (<30s 14A)
Output voltage	8.0 V
Output voltage SHV	Input voltage – 0.3 V
Signal input	serial
Supported RC systems	PowerBox, Futaba, Jeti, Spektrum, M-Link, JR DMSS and Hott
Receiver redundancy	SR2
Channel	26
Servo sockets	22
Servo signal resolution	0.5 µs
Signal frame rate	10 ms, 12 ms, 14 ms, 16 ms, 18 ms
Gyro regulation	Heading and Normal mode
Gyro sensor type	external iGyro SAT
Number of sensor axes	12
Dimensions	118 x 71 x 19 mm
Weight	137 g
Weight Sensor Schalter	15 g
Temperature range	-30°C to +85°C

	Order No.
PowerBox Competition SHV incl. SensorSwitch and TFT-Display	4810
PowerBox Competition SHV/UAV incl. SensorSwitch and TFT-Display	4811

PowerBox

iESC

The **iESC** is based on the latest generation of controllers for brushless. The **iESC** series is based on the latest generation of brushless motor controllers with 32-bit processor.

Special functions - including telemetry, and direct parameter adjustment from the transmitter - make the **iESC** range stand out strongly from others on the market.

The high-performance micro-processor ensures smooth running of brushless motors with up to 40 poles, while the sophisticated case design provides optimum cooling.

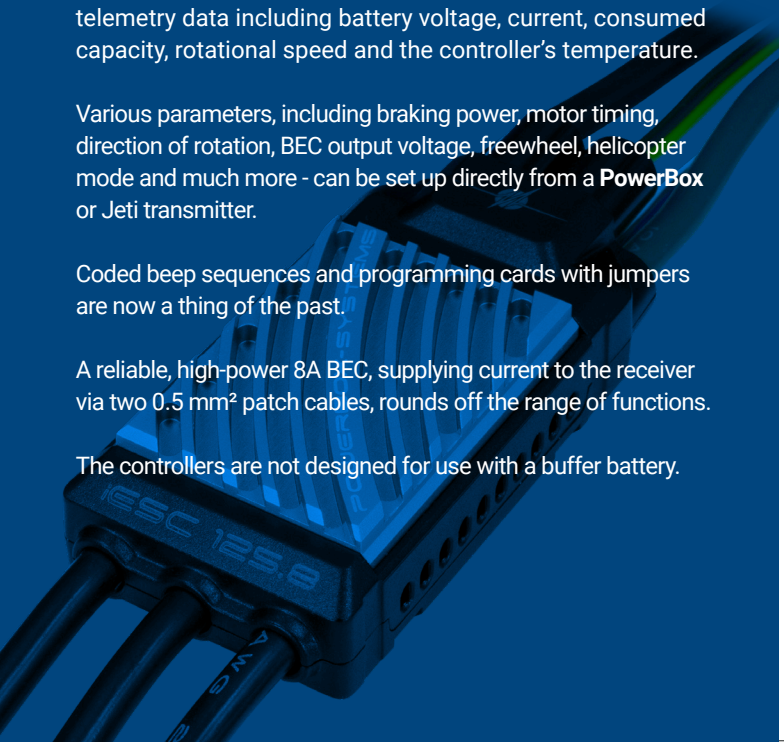
The telemetry system is automatically detected for **PowerBox,** Jeti and Futaba systems. All **iESCs** deliver comprehensive telemetry data including battery voltage, current, consumed capacity, rotational speed and the controller's temperature.

Various parameters, including braking power, motor timing, direction of rotation, BEC output voltage, freewheel, helicopter mode and much more - can be set up directly from a **PowerBox** or Jeti transmitter.

Coded beep sequences and programming cards with jumpers are now a thing of the past.

A reliable, high-power 8A BEC, supplying current to the receiver via two 0.5 mm² patch cables, rounds off the range of functions.

The controllers are not designed for use with a buffer battery.



iESC 65.8

Features

+ High-performance brushless speed controller with 32-bit technology
+ Latest generation of MosFets for reduced power loss and maximum possible reliability
+ Telemetry for PowerBox, Jeti and Futaba radio control systems
+ Fixed-wing and Helicopter modes
+ Adjustable direction of rotation, timing, battery type, freewheel, start-up current and other parameters
+ Adjustable regulatory parameters in helicopter mode
+ Parameters directly adjustable from PowerBox and Jeti transmitters
+ Parameters adjustable using LCD programming device for all systems
+ 8A BEC
+ Power-on self-test checks motor, throttle position and voltage
+ Ingenious case design ensures optimum cooling

iESC 125.8

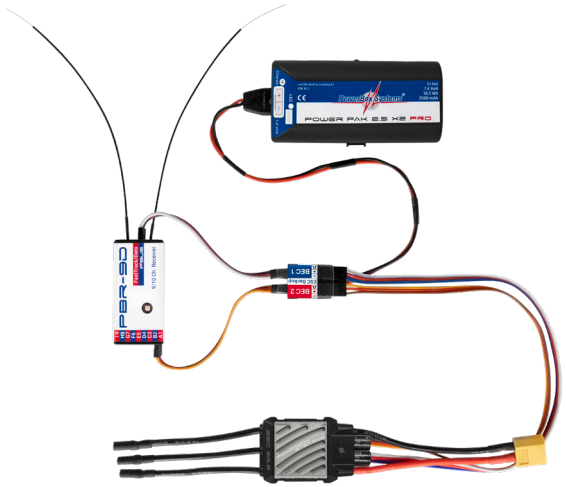
Technical Data

Operating voltage 65.8	3S - 6S
Operating voltage 125.8	3S - 8S
Maximum load current 65.8	65A / 75A Continous / Peak
Maximum load current 125.8	125A / 135A Continous / Peak
Output voltage	6.0V / 7.4V / 8.4V BEC
Signal input	PWM
Supported RC systems	PowerBox, Jeti, Futaba, others without telemetry
Supported telemetry systems	P²-BUS, EX-BUS, S.BUS2
Dimensions 65.8	60 x 36 x 20 mm
Dimensions 125.8	88 x 38 x 22 mm
Weight 65.8	72 g
Weight 125.8	133 g
Temperature range	-20°C to +85°C

	Order No.
PowerBox iESC 65.8	5105
PowerBox iESC 125.8	5110

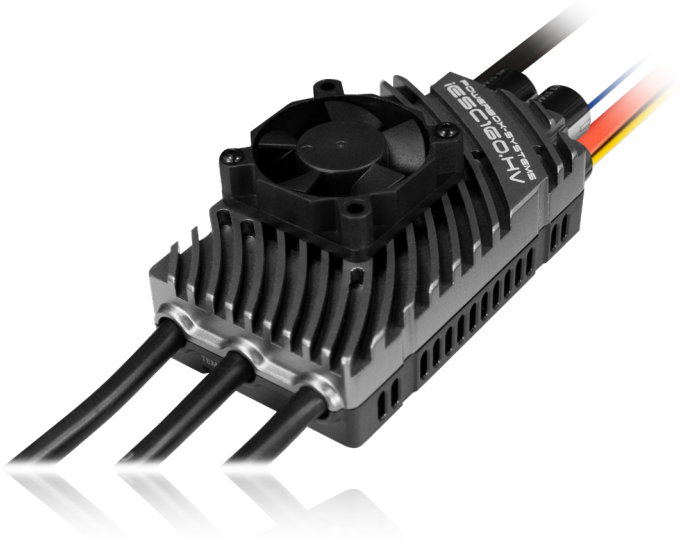
ESC Backup

The **ESC Backup** enables the user to produce a reliable, redundant receiver power supply using an existing speed controllers BEC power supply and an auxiliary battery. The **ESC Backup** has two inputs from the speed controller: one for the PWM output, the other for telemetry – if present.



	Order No.
Order No.	5117

iESC 160.HV



NEW!

The abbreviation HV stands for High Voltage; the **iESC HV** can handle up to 14S batteries, and takes the form of an Opto version.

Technical Data

Operating voltage	6S - 14S
Maximum load current	160A / 180A Continous / Peak
Signal input	PWM
Supported RC systems	PowerBox, Jeti, Futaba, others without telemetry
Supported telemetry systems	P²-BUS, EX-BUS, S.BUS2
Dimensions	97 x 51 x 34 mm
Weight	199 g
Temperature range	-20°C to +85°C

Order No.	5160

Features

+ High-performance brushless speed controller with 32-bit technology
+ Latest generation of MosFets for reduced power loss and maximum reliability
+ Telemetry for PowerBox, Jeti and Futaba radio control systems
+ Fixed-wing and Helicopter modes
+ Adjustable direction of rotation, timing, battery type, freewheel, start-up current and other parameters
+ Adjustable regulatory parameters in helicopter mode
+ Parameters directly adjustable from PowerBox and Jeti transmitters
+ Parameters adjustable using LCD programming device for all systems
+ Integral electronic Anti-Spark circuit
+ HV Opto version
+ Power-on self-test checks motor, throttle position and voltage
+ Ingenious case design ensures optimum cooling

iESC ProgramCard

The **iESC ProgramCard** enables you to adjust all the parameters of **iESC** speed controllers.This enables pilots who do not own a PowerBox or Jeti radio control system to set up iESC speed controllers to meet their requirements.
The **iESC ProgramCard** can also act as a battery checker for up to 8S batteries, and as a measuring device for the receiver's PWM output.

Order No.	5115

PowerBox

iGyro 1e

Plug in, fix in place, fly.

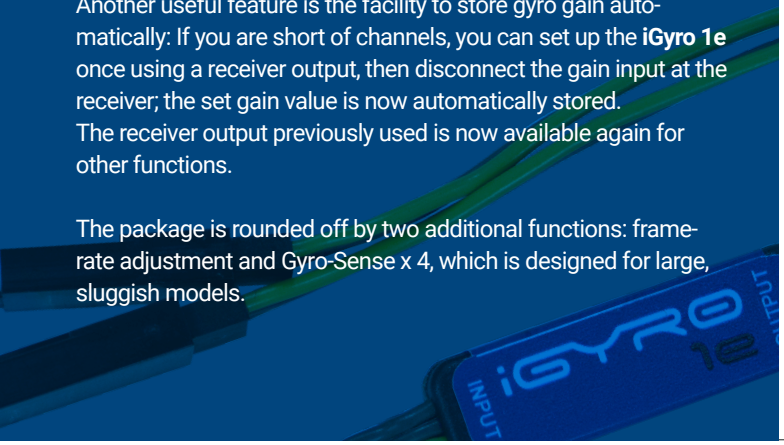
As with the **iGyro 3e**, the impressive feature of the **iGyro 1e** is just how easy it is to use. The device can be used immediately after it is unpacked: plug in, fix in place, fly.

In every respect its performance is as good as the renowned larger iGyro systems, and the little version imparts exactly the same iGyro feeling.

The additional integral features are a world's first in this class: Two outputs can be set up independently of each other, both in terms of gyro effect and control function. This means: it is possible to adjust output 2 separately for the gyro's direction of effect, and the servo's direction of rotation, endpoints and centre. This integral ServoMatch function can be exploited, for example, to use a single channel to control the rudder and steerable nosewheel, but set different gyro functions for both. Typically the nosewheel might be set up with a Heading function, but the rudder with Normal gyro function only. It is also possible to assign the gyro func- tion to two ailerons without having to forfeit differential travel.

Another useful feature is the facility to store gyro gain automatically: If you are short of channels, you can set up the **iGyro 1e** once using a receiver output, then disconnect the gain input at the receiver; the set gain value is now automatically stored.
The receiver output previously used is now available again for other functions.

The package is rounded off by two additional functions: frame-rate adjustment and Gyro-Sense x 4, which is designed for large, sluggish models.



Features

+ Ultra-precise single-axis MEMS sensor
+ Regulatory algorithm designed specifically for fixed-wing model aircraft
+ Single axis shared by two servos, each independently variable
+ Conventional PWM input and output signals
+ Gain input for in-flight sensitivity adjustment
+ Heading or Normal mode, switchable in flight
+ Integral ServoMatch and reverse function
+ Gyro Sense x 4 function for large, sluggish models
+ Variable frame-rate
+ 16-bit processor for fast, high-resolution signal processing
+ Additional features can be set up using the **USB Interface Adapter**
+ Can be updated using the **USB Interface Adapter**

All the components employed in the **iGyro 1e** satisfy the same high quality standards as the large iGyro systems, and the device is **100 % "Made in Germany"**. Although the **iGyro 1e** is an obvious choice for small models,its quality means that it also guarantees the highest standards of precision and security in valuable high-end models.

The **iGyro 1e** can be installed in any model where there is only a need to stabilise one axis, whether the model is a glider, a jet or a power model. The **iGyro 1e's** micro size even allows it to be squeezed into any F3B and F5J glider, and even in an RC model car, which will then maintain its exact heading with great reliability.

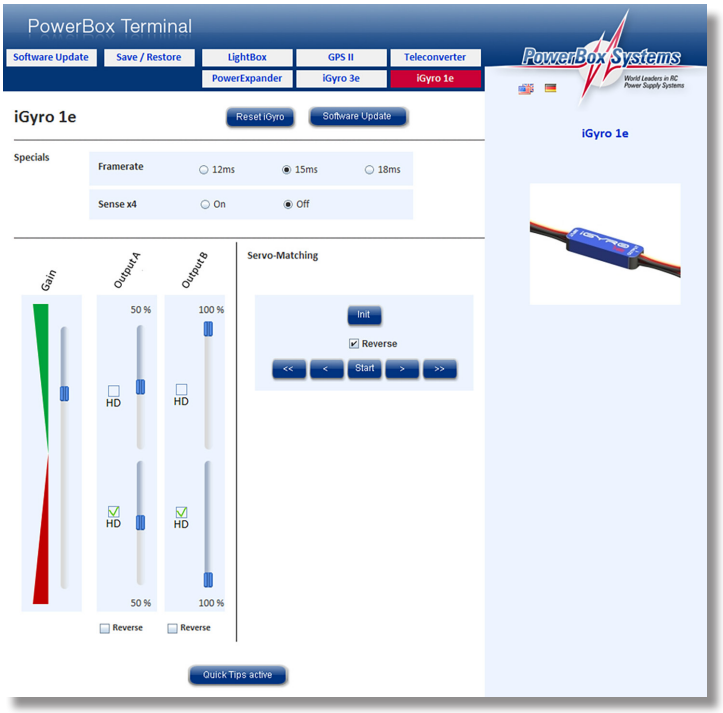
Technical Data

Operating voltage	4.0 V - 9.0 V
Current drain Power-on state	20 mA
Maximum load current	10 A
Signal input	PWM
Servo sockets	2
Servo signal resolution	0.5 µs
Gyro regulation	Heading- and Normal mode
Gyro sensor type	MEMS
Number of sensor axes	1
Dimensions	33 x 10 x 5.5 mm
Weight	7.5 g
Temperature range	-30°C to +75°C

Screenshot PowerBox Terminal

This clearly arranged screen makes it straightforward to set up the seperate outputs or to use the ServoMatch function.

An interactive Help function has now been added:
when this is activated, instructions for the corresponding function appear at the mouse pointer's position!



	Order No.
PowerBox iGyro 1e	3300
USB Interface Adapter	9020

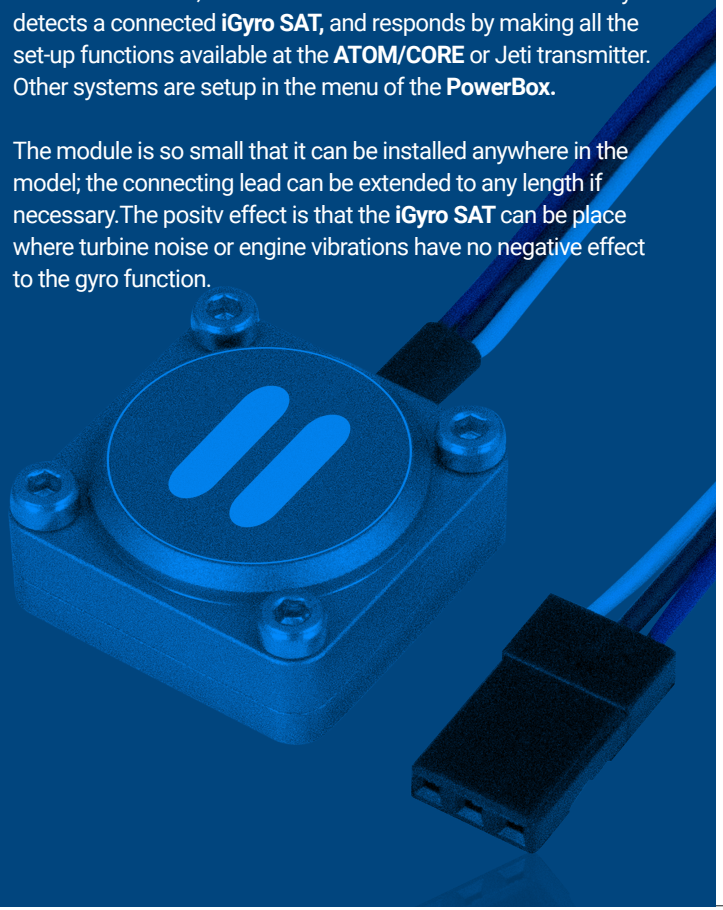
PowerBox

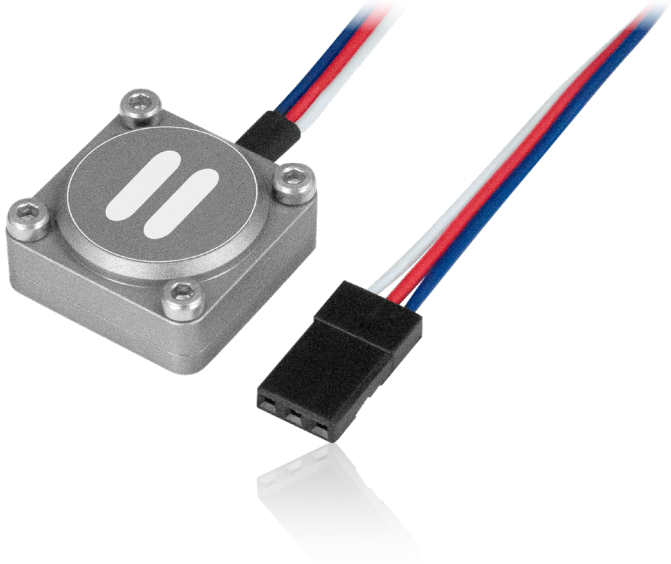
iGyro SAT

The **iGyro SAT** has been developed specifically to complement the new range of PowerBoxes like **Pioneer, Competition SR2**, **Royal SR2, Mercury SR2** and PBR receivers by providing the modeller with a very simple means of adding an iGyro function. The **iGyro SAT** works as a sensor module, passing the data to the **PowerBox** or PBR- receiver via the FastTrack bus, which has been specially developed for the purpose.

When switched on, the **PowerBox** or the receiver automatically detects a connected **iGyro SAT,** and responds by making all the set-up functions available at the **ATOM/CORE** or Jeti transmitter. Other systems are setup in the menu of the **PowerBox.**

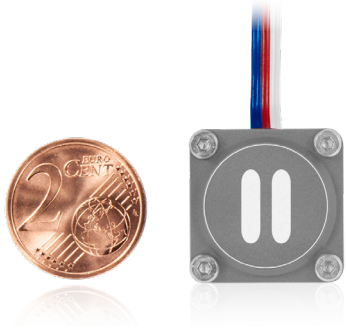
The module is so small that it can be installed anywhere in the model; the connecting lead can be extended to any length if necessary.The positv effect is that the **iGyro SAT** can be place where turbine noise or engine vibrations have no negative effect to the gyro function.





Features

+ Extremely accurate triple-axis MEMS sensor
+ Special regulatory algorithm designed for fixed-wing modellaircraft
+ Outputs the new FastTrack serial bus
+ Plug and Play with all PowerBox receivers
+ Installed orientation can be selected
+ 16-bit processor for fast, high-resolution signal processing
+ Robust aluminium case



Technical Data

Operating voltage	4.0 V - 9.0 V
Current drain Power-on state	20 mA
Maximum load current	20 A
Signal input	Fast Track Bus
Servo sockets	5
Servo signal resolution	0.5 µs
Gyro regulation	Heading- and Normal mode
Gyro sensor type	MEMS
Number of sensor axes	3
Dimensions	20 x 20 x 8 mm
Weight	7 g
Temperature range	-30°C to +85°C

	Order No.
PowerBox iGyro SAT	3610

PowerBox

iGyro 3xtra

The **iGyro 3xtra** ushers in the second generation of the iGyro family. The new **iGyro 3xtra** boasts a completely revised regulatory algorithm and set-up procedure, expanded features and enormously enhanced performance, making it the new "State of the Art". In contrast to its predecessor – the 3e – the new iGyro no longer incorporates delta and V-tail mixers.

Instead, the iGyro has a new, simple learning process enabling it to detect all servo mixer combinations, which can even include differential and unequal travels. The user simply sets up delta control surfaces, V-tails, flaperons and tailerons at the transmitter in the usual way. A sophisticated three-dimensional algorithm then divides up the control commands again into aileron, elevator and rudder for all five inputs individually. This method ensures accurate suppression of the individual axes when control commands are given, or when the heading function is in use.

Another significant innovation is the learning process for the installed position of the gyro: this simply involves movements of the model itself. At the same time the procedure also defines the directions of effect in the iGyro. In the past many pilots have been unsure whether they have actually set the direction of effect correctly, but this doubt is now eliminated.

If you are at the flying field and don't have a smartphone or a laptop with **USB Interface Adapter** to hand, you can very easily adjust the gyro's gain for each axis individually and accurately using the transmitter sticks – without any additional equipment at all!
The hardware has also been subtly improved: the unit now features comprehensive ESD protection to provide a complete shield against static charge problems in the model.

Supplementary features such as gyro characteristics, stick priority and lock-in feel also give experts the means to customise the **iGyro 3xtra** to their exact personal requirements.

Features

+ Extremely accurate triple-axis MEMS sensor
+ New regulatory algorithm for fixed-wing model aircraft with improved performance
+ Optional GPS-controlled speed compensation
+ Freely selectable orientation in the model
+ Automatic detection of orientation in the model
+ Ultra-simple set-up procedure
+ Adjustment of gain on individual axes without additional devices
+ Delta and V-tail mixers accurately detected, including differential travels
+ Exact separation of control inputs when mixed inputs are in use
+ Flap mixer can be superimposed without affecting gyro performance
+ Gain adjustment at the transmitter
+ Selectable Attitude Assist function for precise gyro regulation
+ Two ranges selectable from the transmitter for different gyro functions
+ Selectable five-stage gyro characteristics
+ User-variable stick priority
+ User-variable lock-in feel
+ Input and output with PWM signals
+ Fine-tuning via USB and mobile telephone
+ Can be updated using the PowerBox USB Interface Adapter
+ Robust aluminium case

Technical Data

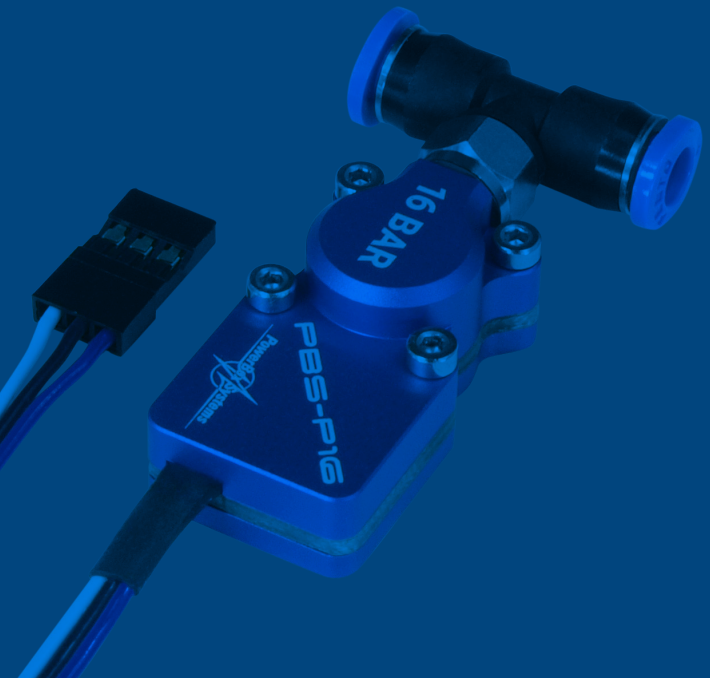
Operating voltage	4.0 V - 9.0 V
Current drain Power-on state	40 mA
Maximum load current	20A
Signal input	PWM
Servo sockets	5
Servo signal resolution	0.5 µs
Gyro regulation	Heading- and Normal mode
Gyro sensor type	MEMS
Number of sensor axes	3
Dimensions	43 x 30 x 15 mm
Weight	36 g incl. 6 Patchleads
Temperature range	-30°C to +75°C

	Order No.
PowerBox iGyro 3xtra	3620
USB Interface Adapter	9020

PowerBox

Sensors

All PowerBox sensors are Plug'n Play.
The telemetry system is recognised automatically!



PBS-T250

The **PBS-T250** is a five-way temperature sensor for measuring cylinder head temperatures. It is designed to work with the **PowerBox ATOM/CORE**, but is also suitable for use with other telemetry systems.

+ Temperature measurement up to 250°C
+ Sockets for 5 temperature sensors
+ Compact design
+ Low weight

Supports the following telemetry systems: PowerBox P²BUS • Jeti EX-Bus • Multiplex M-Link • Graupner • HoTT • Futaba

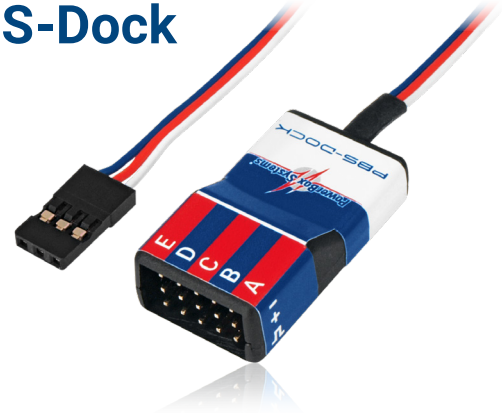
Order No.	6621

Temperature probe 250°C

Temperature probe up to 250°C for the **PBS-T250**.

Order No.	6617

PBS-Dock



The **PBS-Dock** is a five-way distributor for the **P²BUS**, enabling the connection of multiple sensors.

If you wish to connect several sensors to the **P²BUS**, then the **PBS-Dock** is a reliable method of keeping the wiring neat. The **PBS-Dock** contains no electronics, since the **P²BUS** is a genuine bus with addressing. This means that the **PBS-Dock** can also be used as a servo distributor for BUS-capable servos, or as a current distributor for other applications.

+ Connections for five sensors
+ Can be used for P²BUS sensors or other purposes
+ Compact design
+ Low weight

Order No.	6624

PBS-P16

The **PBS-P16** is an ultra-precise pressure sensor for up to 16 Bar. It is designed to work with the PowerBox ATOM/CORE, but is also suitable for use with other telemetry systems.
The robust aluminium case is machined from solid, and contains a small pressure chamber fitted with a digital MEMS pressure sensor. The Festo T-connector is simply installed in the existing 4 mm pressure line to the pressure tank. Other pressure hose connections can easily be screwed into the **PBS-P16's** M5 threaded socket.

+ Pressure measurement up to 16Bar (230psi)
+ Compact size
+ Low weight

Supports the following telemetry systems: PowerBox P²BUS • Jeti EX-Bus • Multiplex M-Link • Graupner • HoTT • Futaba*

Order No.	6622

* Futaba will display the pressure value as a temperature as the system cannot show pressure values.

PBS-V60

The **PBS-V60** is a small, lightweight voltage sensor which we have developed for use with the **PowerBox ATOM/CORE**, but is also suitable for use with other telemetry systems currently on the market. The sensor is simply plugged into the receiver's telemetry input socket. A cable is supplied for connection to the battery; this is simply soldered or plugged into the battery connector or balancer connector.

+ Voltage measurement up to 60V
+ Compact size
+ Low weight

Supports the following telemetry systems: PowerBox P²BUS • Jeti EX-Bus • Multiplex M-Link • Graupner • HoTT • Futaba

Order No.	6620

PBS-Vario

The **PBS-Vario** is an extremely precise climb rate and altitude sensor for use with the **PowerBox ATOM/CORE,** but it is also suitable for other telemetry systems. The **PBS-Vario** is based on the latest generation of MEMS pressure sensor, and is capable of accurately measuring differences in height of 10 cm. A digital filter developed in-house by **PowerBox-Systems** ensures that the measured values are completely devoid of noise and distortion.

+ Climb rate measurement with 0.1 m/s accuracy
+ Altitude measurement with 0.1 m accuracy
+ Temperature measurement
+ Compact size
+ Low weight

Supports the following telemetry systems: PowerBox P²BUS • Jeti EX-Bus • Multiplex M-Link • Graupner • HoTT • Futaba

Order No.	6625

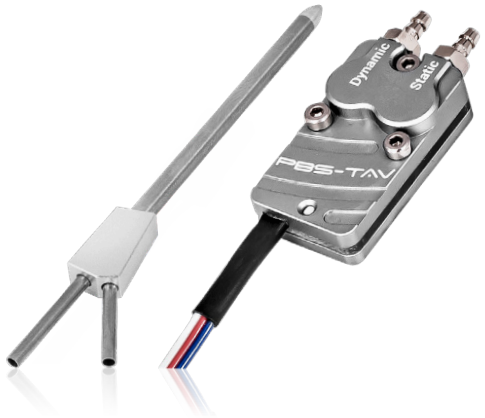
GPS III

The **GPS III** utilizes the proven Helix Radial antenna. This provides an important feature which is unique to the **PowerBox GPS**: it is the only unit to guarantee GPS reception in all flight attitudes. The **GPS III** automatically detects the make of radio control system or **PowerBox/iGyro** to which it is connected, and sets up correct communication completely automatically.

+ Latest generation of GPS
+ Helix antenna for reception regardless of flight attitude
+ Reception even under difficult conditions
+ Fast response to speed changes
+ Automatic system detection
+ LED status indicator
+ Accurate 3D speed
+ Height measurement (altimeter)
+ Distance, optionally as 2D or 3D value
+ Distance covered
+ Geo coordinates
+ Number of satellites, measurement accuracy

Order No.	3525

PBS-TAV incl. **Pitot tube**



The **PBS-TAV** complements the range of PowerBox sensors with a high-quality speed sensor. TAV stands for True Airspeed Vario. Since the speed and height information are presented with unprecedented precision, the climb rate can be calculated from the data with total energy compensation. This means that the vario only indicates "genuine" thermal activity, and any rise and fall due to control commands is excluded from the calculations. The sensor can be connected to various telemetry systems; the system is automatically detected, making the **PBS-TAV** Plug'n'Play.

The **Pitot tube** included in the set is of very compact design, and can be installed in the fuselage or wing either permanently, or – using the optional **Pitot slide** – in a retractable form.

+ Precise measurement of speed, altitude, rate of climb and distance
+ Two separate, highly accurate pressure sensors based on the latest MEMS sensor technology
+ Vario with and without Total Energy Compensation
+ Highly accurate vario function: 0.1 m/s
+ Altitude measurement accurate to 10 cm

Order No.	6626

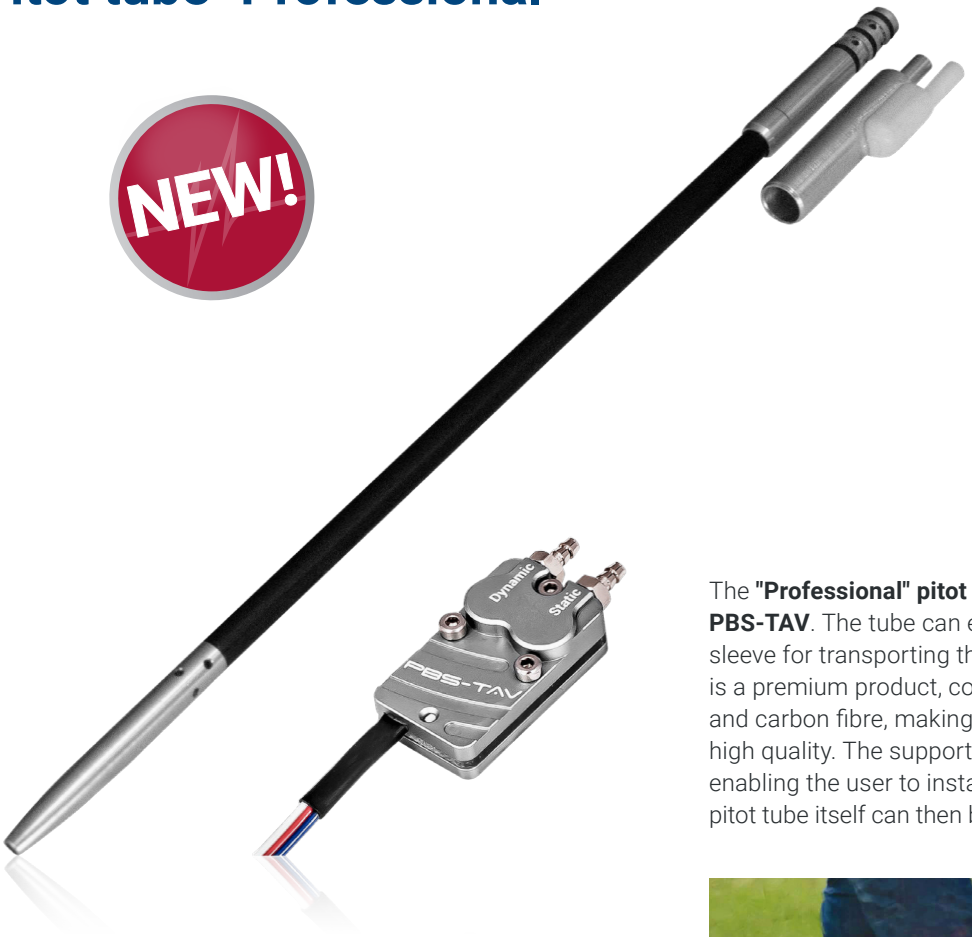
Pitot slide

We developed the **Pitot slide** in order to avoid damage to the projecting **Pitot tube** in transit. It enables the user to push the **Pitot tube** into the model for transport, and then withdraw it again prior to flying. The integral magnets secure the slide in both positions.

Important information:
The **Pitot slide** only fits for the **Pitot tube** from order no. 6626.

Order No.	6618

PBS-TAV incl.
Pitot tube "Professional"



The **"Professional" pitot tube** is the perfect complement to the **PBS-TAV**. The tube can easily be withdrawn from the support sleeve for transporting the model. The **"Professional" pitot tube** is a premium product, consisting of machined aluminium parts and carbon fibre, making it very light in weight and of extremely high quality. The support sleeve is also available separately, enabling the user to install the system in several models – the pitot tube itself can then be switched from one model to another.

	Order No.
PBS-TAV incl. Pitot tube "Professional"	6630
Pitot tube "Professional" incl. support sleeve	6627
Pitot tube "Professional" single	6628
Pitot tube "Professional" support sleeve	6629

PowerBox

Smoke Systems

The mechanical system and electronics are manufactured on our own premises, and the unit's high standard of quality is evident from its long effective life: the **PowerBox Smokepump** is the world's most durable smoke oil pump, as has been demonstrated in several long-term tests.

The mechanical pump system is assembled entirely from high-quality alu-minium and brass parts. All our pumps are subjected to a running-in procedure during manufacture, ensuring that the gears mesh perfectly, and that the pump is 100 % leak-free. Tight manufacturing tolerances eliminate the need for a separate cut-off valve with the **Smokepump**. The electronic circuit is infinitely variable within the range 0 % – 100 %, allowing the pilot to fine-tune the flow rate to match the exact requirements of the model. The **Smokepump** can be powered either by a **PowerBox** or a separate battery.

The new feature of the **Smokepump Jet** is the expanded soft-ware which enables the pump to operate in pulse mode. The duration of the pulses, and the length of the resultant stripes of smoke, is variable, giving you a very special display effect!

If a separate battery is used, the electronic circuit switches to a „standby" mode if the receiver fails to pick up a signal. This means that it is not necessary to provide a separate switch to isolate the **Smokepump** from the battery when you switch the model off.

The **Smokepump** is available in a Standard v ersion and a Jet version, the later with higher throughput and twin outlets.

The maximum flow rate of the **Smokepump** (Order No. 8010) is around 750 ml/min, while the **Smokepump Jet** (Order No. 8015) is capable of around 950 ml/min. The set includes all the necessary connecting leads and a length of heat-resistant hose. The standard set also contains a **Y-piece** which can be used to connect both silencers of an opposed-twin (boxer) engin.

Smokepump

Technical Data

Operating Voltage	4.0 V - 9.0 V
Current drain Power-on state	ca. 1.5 A at 100 %
Current drain Standby	10 µA
Max. flow rate	max. 750 ml/min
Smoke medium	Smoke Oil BlueMax or 3W Smoke Oil
Weight	125 g
Dimensions	79 x 31 mm
Temperature range	-30°C to +75°C

Features

+ Durable metal-geared pump
+ Infinitely variable flow rate from 0 % – 100 %
+ No external cut-off valve required
+ High maximum flow rate
+ Can be operated directly from the receiver power supply
+ Stand-by cut-off when used with separate battery
+ Compact design with Mounting facility
+ Low current drain

Smokepump Jet

Technical Data

Operating Voltage	4.0 V - 9.0 V
Current drain Power-on state	ca. 1.8 A at 100 %
Current drain Standby	10 µA
Max. flow rate	max. 950 ml/min
Smoke medium	Smoke Oil BlueMax or 3W Smoke Oil
Weight	128 g
Dimensions	79 x 31 mm
Temperature range	-30°C to +75°C

	Order No.
PowerBox Smokepump	8010
PowerBox Smokepump Jet	8015

Accessories kit

Patchleads, Y-piece, heat-resistant, rubber hose

Order No.	8050

Smoke Oil BlueMax

5 Litre

BlueMax Smoke Oil has been specially developed for use in model aircraft, and guarantees maximum smoke development combined with moderate oil consumption. The oil is pharmaceutically pure, with a neutral odour, free of sulphur and aromatic hydrocarbons.

Important for transport purposes:
PowerBox Smoke Oil is classed as a non-hazardous material in accordance with 67/548/EWG.

Order No.	8080

PowerBox

Battery Systems

New energy for the best of models – with the new **PowerPak** range! The PowerPak series boasts a whole array of new and innovative features. Various versions of the **PowerPak** are available like **8.4V** packs for receiver power supplies, and a **12.6V** pack for turbine batteries.

The **ECO** version is fitted with an integral fully-featured balancer circuit and a charge socket. **PowerPak ECO** batteries can be charged using any suitable LiPo/Li-Ion charger. The balancer circuit ensures that individual cells are not overcharged, as even Li-Ion cells are extremely vulnerable to this state. Unbalanced cells can drift apart in condition, leading to loss of capacity, and accurate balancing also effectively eliminates this danger.

Like all **PowerBox Battery** types, the **PRO** version features a fully integrated charge circuit and balancer unit. To charge these packs all you need is to connect the integral charge socket to a 110V/220V mains PSU or a 12V car adapter. Battery voltage, battery current and charge time are constantly monitored by the integral electronics, completely eliminating the possibility of operating errors.

The internal voltage monitor circuit indicates the battery's state of charge using the integral LED or an external plug-in LED.

Every version of the **PowerPak** is fitted inside a robust case, and is supplied complete with a standardised mounting frame. This enables the modeller to swap batteries quickly, or simply shift the pack from one model to another.

For even greater flexibility, **PowerPaks** do not feature a fixed connecting lead. Instead, each pack is supplied with a lead to suit JR/Futaba or MPX connectors.

PowerPak 2.5x2 ECO

To charge the **ECO** version you will need a charger intended for Li-Ion or LiPo batteries.

PowerPak 2.5x2 PRO

To charge the **PRO** version you can use either the separately available **110/220V** mains PSU or the **12V** car adapter.

PowerPak 2.5x3 PRO

PowerPak 5.0x2 PRO

For even greater flexibility, **PowerPaks** do not feature a fixed connecting lead. Instead, each pack is supplied with a lead to suit JR / Futaba or MPX connectors.

Features

+ Integral charge/security electronics (PRO version)
+ Can be charged using mains PSU or 12 V adapter (PRO version)
+ Integral voltage monitor using external LED (PRO version)
+ Packs assembled using the latest generation of high-current Li-Ion batteries
+ Two different versions: **ECO** and **PRO**
+ Two different output voltages: 8.4 V and 12.6 V
+ Maximum discharge current 30 A
+ For use as receiver power supplies or turbine batteries
+ Integral balancer
+ Integral charge socket
+ Rugged case protects cells from external influences
+ Packs are held securely in the standard mounting frame with quick-release latch
+ Batteries can remain in the model for charging
+ Easy, swift battery swapping
+ Economical cell exchange service

All our battery packs are subject to a certified production process, including legally prescribed certification in accordance with UN38.3. It is therefore possible to ship these items.

If after a few years the cells in a **PowerPak** should become exhausted, we offer – as usual – an economic cell exchange which includes a check of the electronic.

	Order No.
PowerPak 2.5x2 ECO	2520
PowerPak 2.5x2 PRO	2525
PowerPak 2.5x3 PRO	2535
PowerPak 5.0x2 PRO	2555

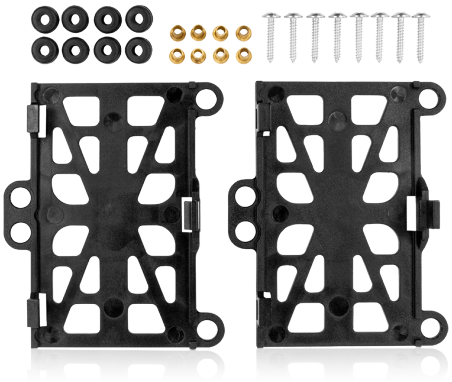
Technical Data

	PowerPak 2.5x2 ECO/PRO	PowerPak 2.5x3	PowerPak 5.0x2
Capacity	2500 mAh	2500 mAh	5000 mAh
Nominal voltage	7.4 V	11.1 V	7.4 V
Final charge voltage	8.4 V	12.6 V	8.4 V
Charge voltage (PRO)	9 V - 17 V	13.5 V - 17 V	9 V - 17 V
Weight	125 g (ECO + PRO)	191 g	235 g
Weight, mounting frame	8 g	8 g	8 g
Temperature range, discharge	0°C to 60°C	0°C to 60°C	0°C to 60°C
Temperature range, charge	0°C to 40°C	0°C to 40°C	0°C to 40°C

Charging PowerPak ECO

Order No.	1763/60

Mounting frame



Order No.	2500

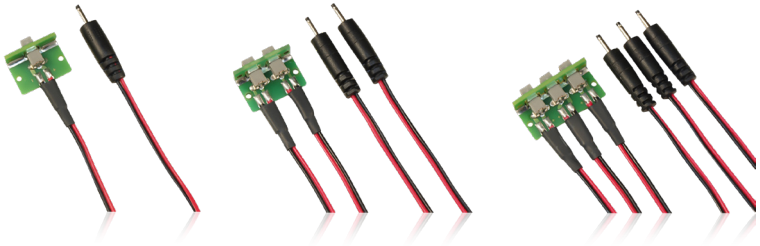
Battlife Guard

For gentle storage of 2S and 3S Li-Ion and LiPo batteries.

+ For 2S or 3S Li-Ion/LiPo batteries
+ Storage voltage: 3.8 V per cell
+ Automatic switch-off
+ Virtually zero idle current
+ Visual LED indicato

	Order No.
Battlife Guard for 2S LiPo/Li-Ion Batteries	2560
Battlife Guard for 3S LiPo/Li-Ion Batteries	2561

Charging extension



30 cm	Order No.	50 cm	Order No.
for one battery	5480	for one battery	5455
for two batteries	5460	for two batteries	5465
for three batteries	5470	for three batteries	5475

Charger and 12V Car Adapter

	Order No.
110/220 V Charger	5400
12V Car Adapter	5450

PowerBox

P²-ServoBridge

The **P²-ServoBridge** is the key component in an entirely new servo bus technology which presents unprecedented possibilities. If a servo bus is employed, only one cable is required for several servos. The servos are individually addressed, and therefore each servo knows which signal is intended for it. Earlier servo bus systems simplified the wiring in the model; for example, saving multiple plug / socket connections in the wings.

The new feature of the **PowerBox P²-Bus** is that it works bidirectionally! This means: not only can accurate digital signals be fed to the servos, but important telemetry data - such as current, voltage, temperature and other information - can also be fed back to the **ATOM** or **CORE** transmitter. Targeted alarm settings at the transmitter alert the user to defects in good time, so they can be corrected without the need to analyse reams of data.

But even that's not all: the parameters of the **P²-ServoBridge** can be altered directly from the transmitter. The integral electronic fuse can be adjusted to suit the particular servo, precisely to the milli-second and milli-amp. A micro-controller decodes the bus signal, monitors the current accurately and at high speed at the servo itself, and switches the servo off reliably if the set thresholds are exceeded.

This technology eliminates all the disadvantages inherent in simple resettable fuses (polyfuses) - such as temperature dependence or ageing effects. A range of pre-set profiles enables any modeller to find the correct setting for a particular servo even without a knowledge of electronics.

The adhesive pad supplied is used to attach the **P²-ServoBridge** to the bottom or side of the servo case, where it also monitors the servo temperature.

In addition to the **P²-BUS**, the **P²-ServoBridge** works with other bus systems such as S.BUS or SRXL, and even with conventional PWM servo signals. This means that the device can also be used for accurate over-voltage power-off – for example, with retract servos – even when bus wiring is not used.

The input signal is detected automatically, and the fuse is pre-set to suit standard servos with an output torque of up to 30 kg/cm, so in most applications the **P²-ServoBridge** can be used as a Plug'n Play device.

Features

+ Automatic detection of the bus system in use
+ Can be used with P²-BUS, S.BUS2, SRXL/UDI or PWM
+ Telemetry data for PowerBox, Jeti and Futaba radio control systems
+ Current, voltage and temperature acquired at the servo itself
+ Adjustable at the transmitter with PowerBox and Jeti radio control systems
+ Unrestricted choice of bus channel
+ Variable PWM frame rate: 12 ms, 14 ms, 16 ms and 18 ms
+ Accurately adjustable electronic fuse
+ Automatic fuse reset function
+ Facility to set two separate cut-off currents and times
+ Fuse immune to wear or ageing effects
+ Fuse not temperature-dependent
+ LED display of power-off processes
+ Can be updated via USB interface
+ Compact design: 35 x 12 x 5 mm
+ Low weight: 4 g

Technical Data

Operating voltage	4.0 V - 10.0 V
Current drain Power-on state	10 mA
Maximum load current	20 A
Signal input	P²-BUS, S.BUS2, EX-BUS, SRXL, PWM
Supported RC systems	PowerBox, Jeti, Futaba, all with PWM
Channel	26
Servo sockets	1
Servo signal resolution	0.5 µs
Signal frame rate	12 ms, 14 ms, 16 ms, 18 ms
Supported telemetry systems	P²-BUS, S.BUS2, EX-BUS
Dimensions	35 x 12 x 5 mm
Weight	4 g
Temperature range	-30°C to +85°C

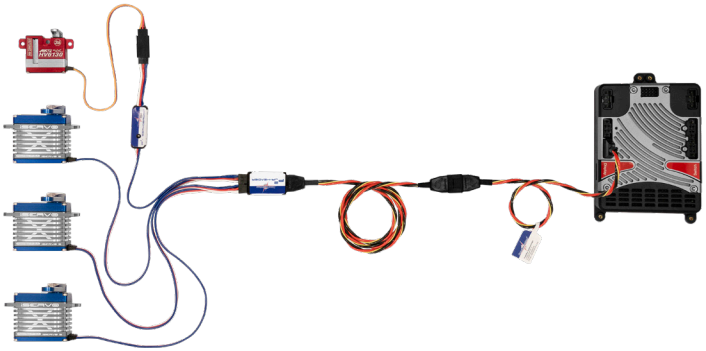
	Order No.
P²-ServoBridge	9250
PowerBus Cable	9126/30

P²-JR Header

The **P²-JR Header** is an adapter from a **P²-BUS** cable terminating in a MPX plug to four UNI servo leads. A typical use for the adapter is in a wing, where up to four Servos or the **P²-Bridge** can be connected.

Features

+ Compact design
+ High current load
+ 4 JR Outputs
+ Dimensions 34 x 19 x 9 mm
+ Weight 5 g



Order No.	9252

PowerBus cabel bulk

The **PowerBus cable** is manufactured specially for **PowerBox-Systems.** The **PowerBus** cable is extremely flexible, and is made up using very thin individual strands in order to pass the maximum current through the given cross-sectional area of 1.5 mm². The in-sulation is made of a special material which is also employed in full-size aviation. It is virtually indestructible, and offers excellent protection even when reduced to just a thin film around the copper conductor. This insulation produces a weight reduction of about 30 % compared with the much cheaper PVC. The insulation is fire resistant, and its heat resistance is much higher than the usual PVC.

To save more weight, the conductors are of different thickness: power is carried by two thick wires (1.5 mm²), while a thin wire of 0.25 mm² is used for the signal. This produces a further weight saving of 27 %.

	Order No.
Wire 2x 1.5 mm² / 1x 0.25 mm² L: 5 m	9006/500
Wire 2x 1.5 mm² / 1x 0.25 mm² L: 10 m	9006/1000

PowerBox

SparkSwitch RS

The **SparkSwitch RS** is a compact, high-performance ignition switch featuring rotational speed (RPM) monitoring and optional voltage regulation for 6V ignition systems. The **SparkSwitch RS** enables the user to switch the ignition on and off conveniently from the transmitter. The switched state can be checked at any time using the external LED or a telemetry status message. These features of the SparkSwitch RS enhance operating safety as well as simplifying the handling of petrol engines. In an emergency – such as the failure of a throttle servo - the **SparkSwitch RS** can be used to stop the engine quickly.

An important feature is galvanic separation between the receiving system and the ignition system. The switching process as well as RPM feedback from the ignition unit are optically isolated from the receiver. This ensures that a fault in the ignition system shielding, or any other defect, cannot cause interference to the sensitive receiving system.

The RPM (rotational speed) monitor input can be connected directly to the Tacho output of the ignition unit – if present. If your ignition system does not include a Tacho socket, we can supply a separate sensor **RPM-Probe** which can be connected in parallel with the Hall sensor. The RPM data can be transferred to any of the current telemetry systems: the SparkSwitch RS automatically detects the system in use, eliminating the need for adjustments using the USB interface.

The **SparkSwitch RS** can be supplied in either of two variants: with or without voltage regulation. The regulated variant reliably reduces the input voltage (max. 9.0V) to 6.0V. The version without voltage regulation passes the full voltage (max. 13.0V) through.

Features

+ Optical separation between the receiving system and the ignition system
+ External LED switch status indicator
+ Regulated (6.0V) or pass-through output voltage
+ RPM monitor for all current telemetry systems
+ Telemetry function for PowerBox, Jeti, Futaba, Graupner, Multiplex, Spektrum, JR
+ Failsafe mode
+ Machined aluminium heat-sink
+ Compact, low-profile format

Technical Data

Operating voltage	4.0V to 12.6V
Current drain Power-on state	20mA
Current drain Standby	0.2µA
Maximum load current	max 2A
Output voltage	6.0V / unregulated
Signal input	PWM
Dimensions	56 x 29 x 10 mm
Weight	15 g
Temperature range	-30°C to +105°C

	Order No.
SparkSwitch RS 6.0 V regulated	6600
SparkSwitch RS unregulated	6601

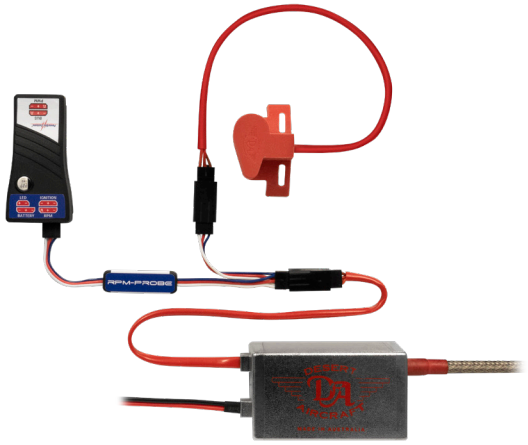
RPM-Probe

Rotational speed sensor for ignition units with an induction pick-up, or ignition units without a rev-count output.

The **RPM probe** is connected directly to the ignition unit's induction sensor or magnet sensor. The unit amplifies and processes the signal in such a way that the output passes accurate rotational speed pulses to the **SparkSwitch RS**, which in turn makes the rotational speed (rpm) available for the radio control system's telemetry system. The connecting lead is simply plugged in between the ignition unit and the induction or Hall sensor. DA engines, in particular, utilise an induction pick-up, and this system collects the signal and amplifies it without placing a load on the signals. The **RPM probe** draws power from the **SparkSwitch RS.**

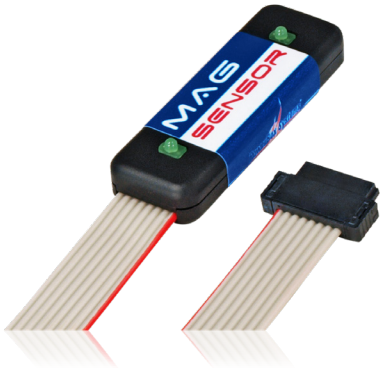
Technical Data

Dimensions	32 x 10 x 4 mm
Weight	7 g
Temperature range	-30°C to +105°C



	Order No.
RPM-Probe	6605

MagSensor



The **MagSensor** represents an alternative method of operating and switching our **PowerBox** battery backers. The circuit is based on modern, zero-contact hallsensors, which respond to a magnetic field by activating the electronic switches in the **PowerBox**. The Hall sensors do not switch the current, but simply pass on the switching signal.

This accessory is suitable for all **PowerBox-Systems**, regardless of age, which are designed to be switched on and off using the **SensorSwitch**. The basic purpose of the **MagSensor** is to switch the dual power circuits on and off, but it can also be used to reset the capacity display fitted to more recent systems, if this is an integral feature of the **PowerBox**. The **SensorSwitch** must still be used for programming servos and carrying out set-up tasks within the PowerBox's programming menu. The particular advantage of the **MagSensor** is that scale pilots can exploit all the advantages of our redundant battery backer systems, but without an exposed On/Off switch.

	Order No.
MagSensor for Evolution, Professional, Cockpit, Competition/SRS, Cockpit SRS	9040
MagSensor for Royal SRS/SR2, Champion SRS, Mercury SRS/SR2, Competition SR2, Source	9045
Spare part magnetic sensor	9041

Magic Jeti Switch

It forms the ideal complement to any **PowerBox system** which is installed in an inaccessible location.

	Order No.
Magic Jeti Switch for Evolution, Professional, Cockpit, Competition, Cockpit SRS, Competition SRS, Baselog	5610
Magic Jeti Switch for Royal SRS/SR2, Champion SRS, Mercury SRS/SR2 and Competition SR2, Source	5612

USB Interface Adapter

to updates **PowerBox** Products

Order No.	9020

Switch Extension

for MicroSwitch and MicroMag
length: 40 cm

Order No.	3580

Display-Extension

for PowerBox Competition SR2,
PowerBox Royal SR2,
PowerBox Mercury SR2,
PowerBox Source
length: 40 cm

Order No.	4776

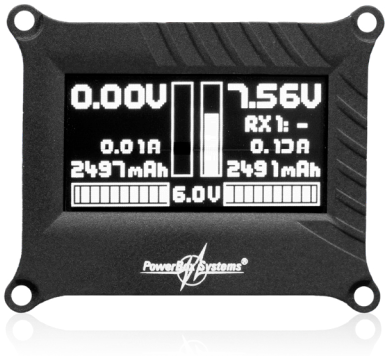
Extension SensorSwitch

for Royal SRS, Champion SRS,
Mercury SRS, Competition SR2,
Mercury SR2, Royal SR2, Source

Extension	Order No.
40 cm	3552
60 cm	3554
80 cm	3556
120 cm	3558
200 cm	3560

OLED-Display M

a screen diagonal of 1.5"
passend for PowerBox
Mercury SR2



Order No.	4767

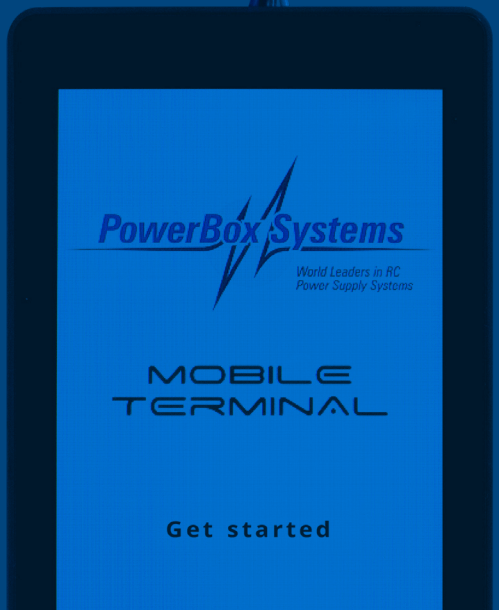
PowerBox

Mobile Terminal

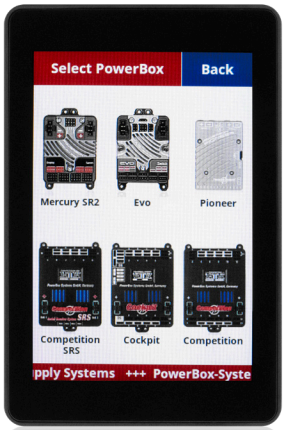
The **Mobile Terminal** is a small, convenient handset which is used to adjust and update all update-capable **PowerBox** products. A powerful 32-bit processor with Wifi and Bluetooth, in conjunction with a touch-screen which is clearly legible in sunlight, make the unit similar to a smartphone in use.

PowerBox devices can be updated directly using the lead supplied in the set.

All the usual settings are available for many products which were formerly set up using PC-Terminal and the **USB interface adapter**. The unit can draw power from a separate battery, or from a PowerBox. The **Mobile Terminal** always has the current software versions available via Wifi. These are automatically downloaded in the background, and stored on the integral SD card.



Category selection



Product selection

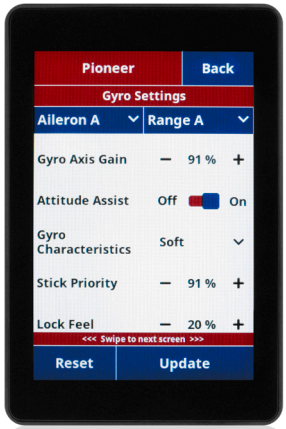
Features

+ High-resolution 320 x 480 pixel screen, legible in sunlight
+ Capacitive touch-screen
+ Integral Wifi for automatic updatesv
+ Provides a means of adjusting and updating all PowerBox products
+ Integral 4GB SD card
+ USB socket
+ Expandable software
+ Bi-lingual: German and English

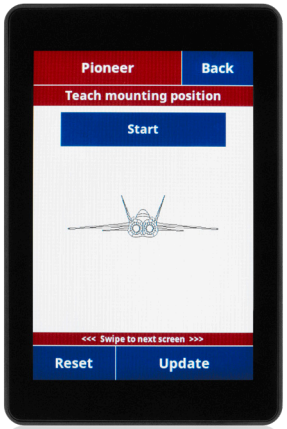
Technical Data

Dimensions	94 x 62 x 15 mm
Weight	80 g

	Order No.
Mobile Terminal	9025

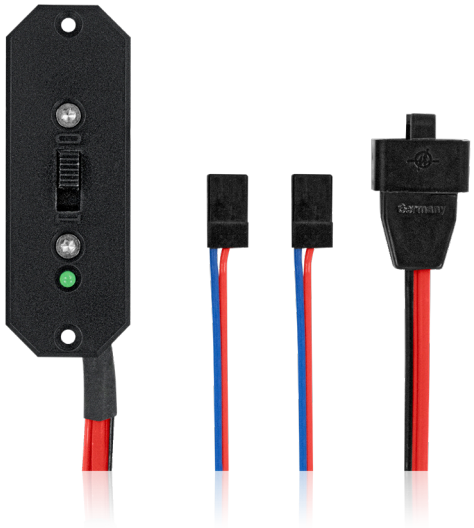


Gyro Settings



Teach mounting position

PowerSwitch



This product was **PowerBox-Systems**' first contribution to a significant improvement in switch security for large model aircraft. Produced since 1992, the **PowerSwitch** has been the subject of continuous development during subsequent years. Since 2001 it has been employed successfully all over the world in unchanged form and technology in large-scale models. It is hand-made by highly skilled operatives, and is entirely ‚Made in Germany'.

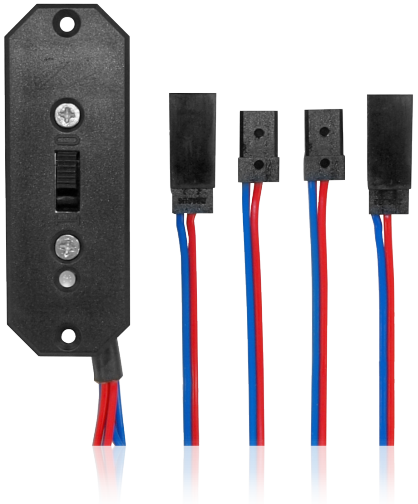
In March 2008 the **PowerSwitch** was further upgraded, and is now supplied with MPX connectors encapsulated using the Hot-Melt process.

The positive wire is switched by means of four silver-plated double floating contacts. This guarantees a one hundred percent switched connection even when subjected to severe vibration.

Two balllocks maintain the switch in the previously selected position even when vibration is severe.

	Order No.
PowerSwitch Connection MPX/JR	6210
PowerSwitch Connection MPX/MPX	6100

PowerBox 12



Like the **PowerSwitch**, this unit employs a high-quality switch with floating contacts, which creates a one hundred percent switched connection even when subjected to severe vibration. All components are soldered to a single circuit board. The cables are fitted with adhesive-lined heat-shrink sleeves to protect them from mechanical damage where they exit the case, enabling the unit to withstand extremely powerful vibration.

The **PowerBox 12** does not feature an integral voltage regulator, but can naturally be used with LiPo and LiFePo batteries provided that the receiving system incorporates servos and receivers approved for HV use.

A tri-colour LED indicates the switched status of the **PowerBox 12**.

	Order No.
PowerBox 12	6110

V-Regulator

The **V-Regulator** is a compact, high-performance voltage regulator which is ideal for any model where standard servos are to be operated in conjunction with a Lithium battery. In this way fairly small to medium-sized fixed-wing model aircraft and helicopters can be equipped, or reequipped, with modern battery technology.

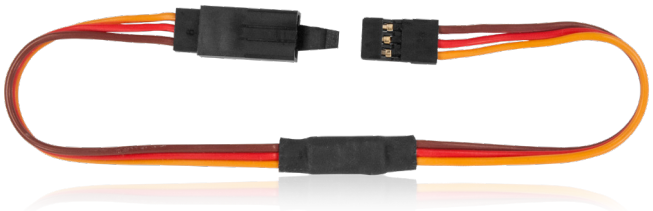
The signal wire is looped through from the input to the output, which means that even a single 6V servo can be operated in a model fitted with a high-voltage system.

A further application is for those electronic ignition systems whose maximum power supply voltage is limited. The regulated output voltage ensures that servos give a constant performance.

The unit effectively filters out servo feedback currents.

	Order No.
V-Regulator 5.3V regulated	5515
V-Regulator 6.0V regulated	5516

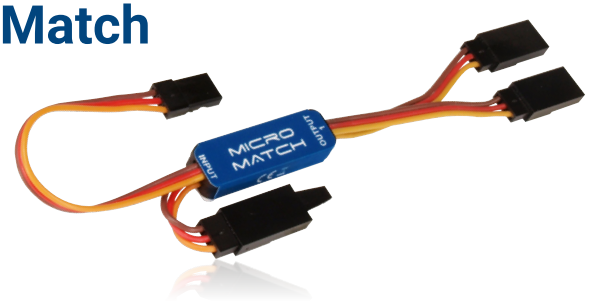
Signal Amplifier



The **Signal Amplifier** is ideal for use in any model where reliable servo control is inhibited by long cables. Many 2.4GHz receivers generate low signal levels, and in this case the **Signal amplifier** ensures smooth, more accurate servo response. This in turn reduces current drain, and increases the effective life of your servos. This in turn reduces current drain, and increases the effective life of your servos.
The **Signal Amplifier** is simply and directly looped into the servo lead, and increases the signal level to a value suitable for any servo.

Order No.	1110

MicroMatch



The **PowerBox MicroMatch** is the ideal solution for models where there is no space for a **PowerBox**, or where the **PowerBox** in use does not include the MicroMatch's functions. The **MicroMatch** provides a very simple method of fine-tuning the servo travels and centre positions of both outputs. Its main application is for systems where two servos operate a single control surface; the unit can match them electronically to run exactly in parallel. This prevents the servos counteracting each other, and allows the torque and speed of both servos to be exploited to the full. A further positive effect is a significant reduction in current drain and servo wear. The **MicroMatch** includes an update facility, allowing for possible future expansions to the range of functions.

Order No.	6800


LONGSL
URKUNDE


TEAMPILOT


147
PowerBox Systems
URKUNDE

PowerBox

Cable Assortment

The **PowerBox cables** exploit modern Hot-Melt technology to combine proven connector systems used in modelling applications. All the joints in our cables are soldered on our premises, and subsequently checked by a second staff member for correct polarity and quality of workmanship. The connector is then placed in a specially made injection-moulding tool, in which it is encapsulated with a special plastic at a temperature of 220°C and a pressure of 10 bar.

This process permanently seals the soldered joints as well as acting as a strain relief. Neither mechanical stress nor environmental influences – such as damp or heat – can have any adverse effect on this connection. The plastic we use is resistant to vibration, oxidation, acids, alkalis and fuels, and is temperature resistant from -30°C to +90°C.

The cables we supply include types with different conductor cross-sections, adapters, charge leads and three-core servo leads. Cables with a cross-sectional area of up to 1.0 mm² have PVC insulation, while the 1.5 mm² and 2.5 mm² types feature silicone insulation.

We are anxious to protect you, our customers, from plagiarists, and for this reason we have registered the design and other quality characteristics of these products in the Design Register of the Deutsches Patent- und Markenamt (German Patent and Brand Office).
(Reference No. DE 40 2010 000 949.5, Rights Holder: PowerBox-Systems GmbH)

Features

+ Heavy-duty insulation of soldered joints
+ Excellent long-term functional properties
+ Soldered joints immune from oxidation
+ Vibration protection
+ Kink protection
+ Resistant to chemical influences
+ Temperature-resistant from -30°C to +90°C
+ Isolation 0.34 mm² and 1.00 mm² cables: PVC
+ Isolation 1.50 mm² and 2.50 mm² cables: Silicon

PowerBox

MPX/Deans

MPX male

MPX male	Order No.
Cable 0.34 mm² , L 20 cm	1102/20
Cable 1.00 mm² , L 40 cm	1104/40
Cable 1.50 mm² , L 30 cm	1106/30
Cable 2.50 mm² , L 30 cm	1107/30

MPX female

MPX female	Order No.
Cable 0.34 mm² , L 20 cm	1202/20
Cable 1.00 mm² , L 40 cm	1204/40
Cable 1.50 mm² , L 30 cm	1206/30
Cable 2.50 mm² , L 30 cm	1207/30

Deans male

DEANS male	Order No.
Cable 1.00 mm² , L 40 cm	1304/40
Cable 1.50 mm² , L 30 cm	1306/30
Cable 2.50 mm² , L 30 cm	1307/30

Deans female

DEANS female	Order No.
Cable 1.00 mm² , L 40 cm	1404/40
Cable 1.50 mm² , L 30 cm	1406/30
Cable 2.50 mm² , L 30 cm	1407/30

MPX Extension

MPX Extension	Order No.
Cable 1.00 mm² , L 20 cm	1124/20
Cable 1.00 mm² , L 30 cm	1124/30
Cable 1.00 mm² , L 40 cm	1124/40
Cable 1.50 mm² , L 20 cm	1126/20
Cable 1.50 mm² , L 30 cm	1126/30
Cable 1.50 mm² , L 40 cm	1126/40
Cable 1.50 mm² , L 60 cm	1126/40
Cable 2.50 mm² , L 20 cm	1127/20
Cable 2.50 mm² , L 30 cm	1127/30
Cable 2.50 mm² , L 40 cm	1127/40
Cable 2.50 mm² , L 60 cm	1127/40

Deans Extension

DEANS Extension	Order No.
Cable 1.00 mm² , L 20 cm	1344/20
Cable 1.00 mm² , L 30 cm	1344/30
Cable 1.00 mm² , L 40 cm	1344/40
Cable 1.50 mm² , L 20 cm	1346/20
Cable 1.50 mm² , L 30 cm	1346/30
Cable 1.50 mm² , L 40 cm	1346/40
Cable 2.50 mm² , L 20 cm	1347/20
Cable 2.50 mm² , L 30 cm	1347/30
Cable 2.50 mm² , L 40 cm	1347/40

PowerBox

Cable Set fuselage/area

Cable Set Premium „ONE4TWO“

Order No.	1130

Perfect connection between fuselage and wing for 2 Servos.

+ 0.35 mm² cross section
+ Lengths 160 cm
+ Heavy-duty insulation of soldered joints
+ Excellent long-term functional properties

All sets now available as MAXI cable!

	Order No.
Cable Set Premium MAXI "one4two" MPX/MPX, Cable lengths 200 cm	1140
Cable Set Premium MAXI "one4three" SUB-D/SUB-D, Cable lengths 200 cm	1141
Cable Set Premium MAXI "one4one" MR30, Cable lengths 200 cm	1142

ACCESSORIES

Mounting frame

6 pieces incl. screws

	Order No.
Mounting frame for MPX male connector	9011
Mounting frame for MPX female connector	9012

Safetyclip

for MPX connectors

	Order No.
Safetyclip	9010

Cable Set Premium „ONE4THREE“

Order No.	1131

Perfect connection between fuselage and wing for 3 Servos.

+ 0.35 mm² cross section
+ Lengths 160 cm
+ Heavy-duty insulation of soldered joints
+ Excellent long-term functional properties

Cable Set Premium „ONE4ONE“

Order No.	1132

Perfect connection between fuselage and wing for 1 Servo.

+ 2 mm gold-plated contacts for very high current capacity
+ 0.35 mm² cross section
+ Lengths 160 cm
+ Heavy-duty insulation of soldered joints
+ Excellent long-term functional properties

Adapter leads

SRS Adapter leads

Adapter for Competition and Cockpit SRS

Order No.	9190

Adapter leads SRXL

For all systems supporting
Spektrum SRXL2.

Order No.	9192

Adapter lead MPX/JR

MPX female /
JR male, 10 cm

Order No.	1252/10

Adapter wire MPX/JR

MPX male /
JR female
10 cm / 25 cm

Cable 0.50 mm², L 10 cm	1153/10
Cable 0.50 mm², L 25 cm	1153/25

Adapter lead MPX/2xJR

MPX female /
2x JR male, 8 cm

Order No.	1253/08

Adapter lead MPX/2xJR

MPX male /
2x JR female, 8 cm

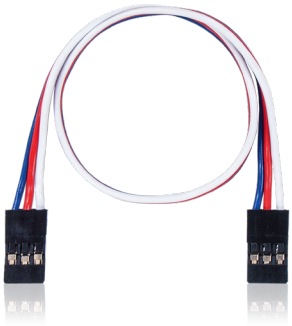
Order No.	1163/08

Solder sleeve

You've just soldered two wires together, only to find that you've forgotten to fit the heat-shrink sleeve. Our new solder sleeves consign this problem to the past! Simply strip the insulation from the two wires, slide the bare ends into the sleeve, and heat with a micro gas torch or heat gun until the solder in the tinned ring runs: the two wires are now reliably soldered together! Job done!

Order No.	1070

Spare Patchleads



6 pieces, 0.25 mm²,
20 cm

Order No.	9155

Adapter lead MPX/EC3

MPX female / EC3
10 cm

Order No.	1286/10

Adapter lead Deans/JR

Deans male
JR female, 10 cm

Order No.	1353/10

Adapter lead Deans/2xJR

Deans male
2x JR female, 8 cm

Order No.	1363/08

PowerBox

Premium Cable

Premium servo cable is manufactured specially for **PowerBox-Systems.** The cable is extremely flexible, and is made up using very thin individual strands in order to pass the maximum current through the given cross-sectional area of 0.35 mm². The insulation is made of a special material which is also employed in full-size aviation. It is virtually indestructible, and offers excellent protection even when reduced to just a thin film around the copper conductor.

This insulation produces a weight reduction of about 30% compared with the conventional PVC.

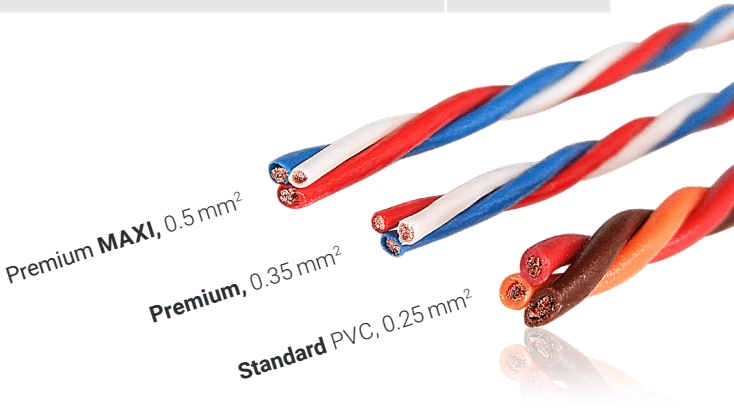
For comparison: the 0.35 mm² **Premium cable** offered here, as well as the 0.5 mm² **Premium MAXI cable**, is lighter than a standard 0.25 mm² PVC cable - despite its larger conductor cross-section!

The insulation is fire resistant, and its heat resistance is much higher than the usual PVC.

The **Premium MAXI servo cable** is the thicker variant of the familiar **Premium cable** with a conductor cross-section of 0.35 mm². In this case 'thicker' means that the current-bearing positive and negative conductors have a cross-sectional area of 0.5 mm², while the signal conductor's cross-section is 0.3 mm² in order to save weight.
This makes the **Premium Plus cable** ideal for installations where relatively long leads have to be deployed in the wing or fuselage for high-performance servos.

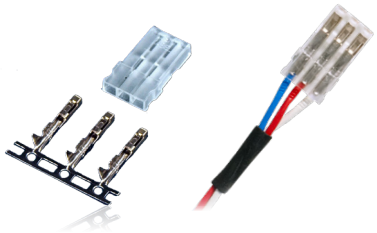
Premium Servo Cable	Order No.
3 x 0.35 mm², L 10 m	1009/1000
3 x 0.35 mm², L 50 m	1009/5000
3 x 0.35 mm², L 100 m	1009/10000
3 x 0.35 mm², L 200 m	1009/20000

Premium MAXI Servo Cable	Order No.
2 x 0.5 mm², 1 x 0.3 mm², L 10 m	1010/1000
2 x 0.5 mm², 1 x 0.3 mm², L 50 m	1010/5000
2 x 0.5 mm², 1 x 0.3 mm², L 100 m	1010/10000
2 x 0.5 mm², 1 x 0.3 mm², L 200 m	1010/20000

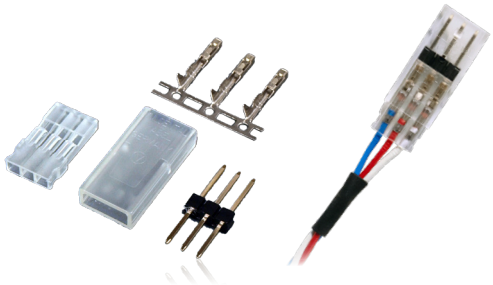


JR Servo Connector

Transparent JR plugs and sockets for crimping. The mating contacts are visible through the housing, making it obvious when the connection is not perfect. Compatible with current crimping tools.



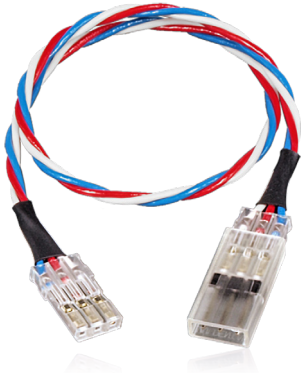
JR female	Order No.
JR connector, 10 pcs, female pin for crimping	1060
JR connector, 50 pcs, female pin for crimping	1060/50



JR male	Order No.
JR connector, 10 pcs, male pin for crimping	1050
JR connector, 50 pcs, male pin for crimping	1050/50

Premium servo extension

Premium servo cable is light, robust and heat-resistant.



Premium servo extension	Order No.
2 piece, L 10 cm	1562/10
2 piece, L 25 cm	1562/25
2 piece, L 50 cm	1562/50
2 piece, L 75 cm	1562/75
2 piece, L 100 cm	1562/100

PowerBox

Teamwear

blue

grey

T-Shirt "classic"

The classic design with the **PowerBox** logo on front and back make it a real eye-catcher on the court! In addition, it scores with perfect wearing comfort thanks to single jersey made of 50% cotton and 50% polyester and extra comfortable, casual fit. Also available in the color grey.

Features

+ Classic design
+ Extra comfortable, casual fit
+ Breathable and skin-friendly
+ Elastic round neck
+ PowerBox logo on front and back side
+ Straight form
+ MIKRALINAR®, single jersey made of 50 % cotton and 50 % polyester washable up to 60°C, pre-shrunk, easy care

AVAILABLE SIZES: S / M / L / XL / XXL / 3XL / 4XL

blue	7210/size
grey	7215/size

T-Shirt "Performance"

The striking print on the front and back makes a clear statement, turning this T-shirt into an absolute must-have. Made from 100 % high-quality cotton, it combines perfect comfort with a modern, stylish look.

Features

+ Design "Performance"
+ Casual, comfortable fit
+ Breathable and skin-friendly
+ Elastic round neck
+ PowerBox logo on front and back side
+ Straight form
+ Material: 100 % cotton
+ Washable up to 60°C

AVAILABLE SIZES: XS / S / M / L / XL / XXL / 3XL / 4XL / 5XL

blue	7216/size

Softshell Jacket

Do you still need the right jacket for your next trip to the airfield? Then you should treat yourself to this softshell jacket, because it convinces with its functionality all along the line: windproof and water-repellent, breathable, it transports moisture and warms at the same time.

Features

+ High-closing turn-down collar
+ Comfortable cut
+ High-quality softshell material, soft inside
+ Breathable, wind- and water-repellent
+ 2 side pockets and one breast pocket with zip
+ Full-length zip with chin guard
+ Logo embroidery on the chest and back
+ Adjustable sleeve ends with velcro
+ Easy-care, quick-drying

AVAILABLE SIZES: S / M / L / XL / XXL / 3XL / 4XL

black	7250/size

PowerBox wins

Modellbau Awards 2024

The excitement was huge again this year!
At the "Modellbau Award" ceremony, hosted by VTH publishing house in Baden-Baden on July 23, 2024, we were thrilled to receive three awards!

1st Place for **„Highest Product Quality“**
1st Place for **„Greatest Power of Innovation“**
2nd Place for **„Best Service Quality“**

A heartfelt thank you to all the readers who voted for us – your trust in us and our products means the world to us and motivates us to continue giving our very best.

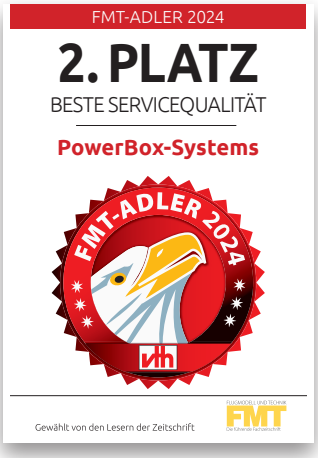
A big thank you also to VTH publishing house and its team for organizing such an outstanding event! And, of course, a massive thank you to our PowerBox-Systems team, who always give their all.

We’ll keep pushing forward and going full throttle – stay tuned for many more innovative new products from PowerBox-Systems!

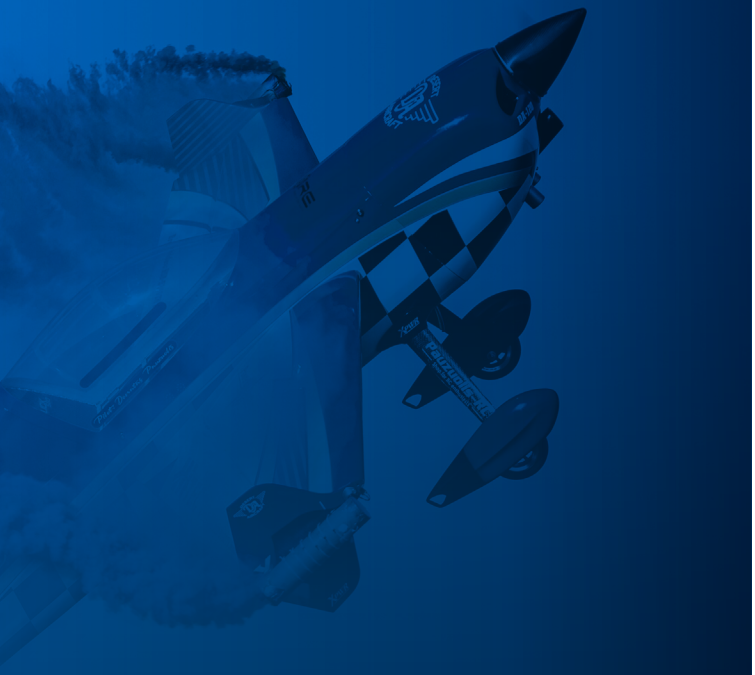
Julia-Sophia Ernst-Hausmann (VTH), Eva-Maria Deutsch, Richard Deutsch and Uwe Puchtinger (VTH) at the award ceremony.

1st Place
Highest Product Quality

1st Place
Greatest Power of Innovation



2nd Place
Best Service Quality



Technical Support:
www.forum.powerbox-systems.com

PowerBox Systems®

Imprint

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

Managing Director: Richard Deutsch
Registered court Augsburg HRB 22348

+49-906-99 99 9-200
sales@powerbox-systems.com
www.powerbox-systems.com

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