IBEX ELECTRONIC SPEED CONTROLLER

INSTRUCTION MANUAL   *FIRMWARE VERSION 1.09*

The IBEX product line represents advanced speed controllers for use exclusively in RC airplane models. With integrated telemetry and various possibilities of optional user configuration, the controllers offer high efficiency, low weight and precise motor control.

FEATURES

- Small dimensions combined with high power motor control.
- Over- and undervoltage protection, overtemperature protection, motor-stall protection.
- Configurable current limiter.
- Optically isolated throttle input.
- Safety shutdown when the throttle impulse is lost.
- Configurable acceleration, timing, electromagnetic brake, motor reversing etc.
- Low acoustic noise due to high frequency switching.
- Automatic telemetry detection: Duplex EX, Hott, MSB, PowerBox P^{2}Bus, S.Bus2. Alternative firmware with Spektrum SRXL2 telemetry support.
- Telemetry (RC system dependent): voltage, current, power, capacity, temperature, RPM, energy.
- Telemetry min/max values are logged.
- Configuration through the transmitter, MAV Manager PC software or external terminal (JETIBOX/ SMART-BOX).
- Firmware updates via USB interface.
- Languages: CZ/DE/EN/FR/IT.

	IBEX-80x	IBEX-120x	IBEX-130x	IBEX-160x	IBEX-200x	IBEX-220x
Dimensions	72x37x15mm	58x53x24mm	58x53x28mm	65x57x31mm	81x63x36mm	81x63x36mm
Weight incl. cables	90g	140g	140g	195g	315g	315g
Continuous current	80A	120A	130A	160A	200A	220A
Peak current	120A/10s	160A/10s	180A/10s	210A/15s	260A/15s	280A/15s
Supply voltage	8 – 51V	10 – 59V (max. 64V)	10 – 51V	10 – 51V	12 – 59V (max. 64V)	10 – 51V
LiPo cells	3 – 12	4 – 14	4 – 12	4 – 12	4 – 14	4 – 12
LiFe cells	3 – 14	4 – 16	4 – 14	4 – 14	4 – 16	4 – 14
Battery/motor cables	4mm^2/2.5mm^2	4mm^2/4mm^2	4mm^2/4mm^2	4mm^2/6mm^2	6mm^2/8mm^2	6mm^2/8mm^2
Anti-spark circuit	No	Yes	Yes	No	Yes	Yes
Recommended connectors	G4 (75A) XT90 (90A)	G5.5 (150A)	G5.5 (150A)	G5.5 / G8	G8 (170A)	G8 (170A)
Temperature range	-10÷110°C					
PWM frequency	20kHz					
Operating current	50mA				60mA	
Standby current	4mA				10mA	
Propeller positioning	With additional Hall-sensor					
Telemetry	Duplex EX, Multiplex MSB, Futaba S.Bus2, Graupner Hott, PowerBox P^{2}Bus, Spektrum SRXL2™					
Status LED	Yes					
Active Freewheeling	Yes					
BEC	No					
Optical solation	Throttle input only				Complete	
Maximum RPM	> 300 000 eRPM (2-pole motor)					

SAFETY INFORMATION

- Operate the IBEX controller always in dry environment and within the device limits stated in this guide. Never expose the device to excessive heat or cold outside the working area.
- Provide sufficient airflow to prevent controller overheating.
- Never exceed the maximum allowed operating voltage of the controller/motor.
- Do not increase the cable length between the controller and motor. In case you need to lengthen the wires between the controller and battery to more than 40cm (in total), solder some high capacity low-ESR capacitors (220-470uF) every 30cm in parallel to the power wires.
- Always use high quality connectors in good condition. Replace them if any visible sign of wearing appears.
- Always remove the propeller prior to making any changes in drive setup.
- Never disconnect the ESC from the battery while the motor is spinning.
- Do not remove the cover and heat sink from the device and do not try to implement any changes or modifications. This can lead to a total destruction and to the denial of any warranty claims.
- Always check the polarity of the connection. Never inverse the polarity – this could lead to total destruction.

Warranty

We grant a warranty of 24 months from the day of purchase under the assumption that they have been operated in conformity with these instructions at recommended voltages and that they were not damaged mechanically. Warranty and post warranty service is provided by the manufacturer.
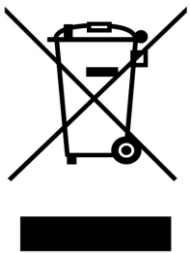
Distributor

Manufacturer

MAV Sense s.r.o.

E-mail: info@mavsense.com | Website: www.mavsense.com

ACTUAL AND COMPLETE USER MANUAL:

Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)

This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.

For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.

Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

Please contact your local authority for further details of your nearest designated collection point.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on Disposal in other Countries outside the European Union

This symbol is only valid in the European Union.

If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.