

Warranty Information

The MVVS Company gives 36-month warranty applying to manufacture and material defects of the electric motors.

Warranty does not apply to:

- Damages due to an accident.
- Damages due to unprofessional handling or disassembling the product.
- Damages due to use of an unbalanced or damaged propeller.
- Damages due to usage of unoriginal spare parts or accessories.
- Damages due to intaking foreign objects or substances, such as water, chemicals, dust, etc.
- Damages due to incorrect use, such as application of incorrect supply voltage.
- Damages due to incorrect assembly (provision of sufficient cooling).

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Certificate of Warranty

Sell-by date:

Seller:

Buyer's name and address:



MVVS 6.5/910 (H/P), 6.5/1250 (H), 8.0/680 and 8.0/950 (H/P)

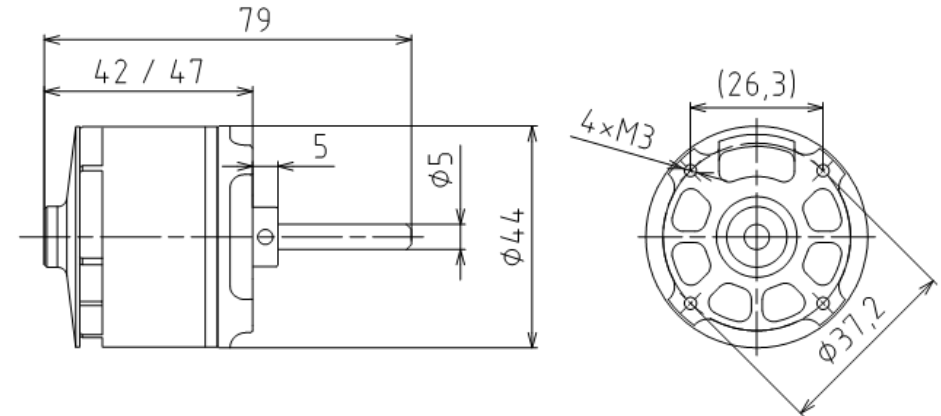
User's Manual 1.2

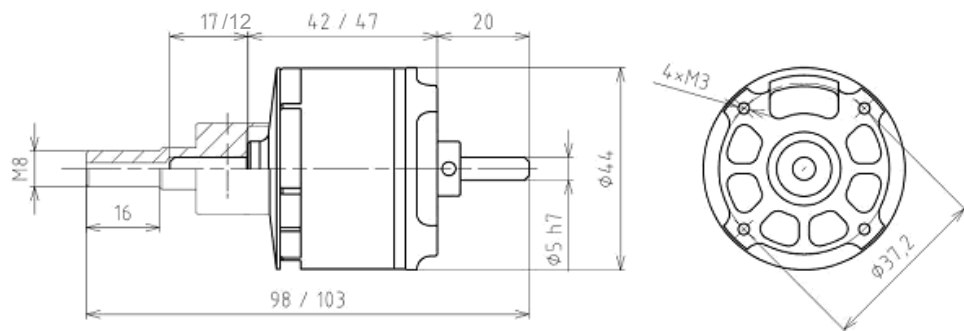
Congratulations on buying the MVVS series 6.5 – 8.0 AC sensor-free electric motor designed for driving aircraft models or helicopters. Owing to used materials, brand-name unified parts and high production precision this product features high quality, long service life and top performance parameters.

Specification

	6,5/910	6,5/1250	8,0/680	8,0/950
RPM per Volt	910	1250	680	950
Stator diameter	36 mm	36 mm	36 mm	36 mm
Stator length	15 mm	15 mm	20 mm	20 mm
Shaft diameter	5 mm	5 mm	5 mm	5 mm
Nominal voltage	12 V	12 V	16 V	16 V
Number of poles	16	16	16	16
Working voltage	12 – 22 V	10 – 22 V	12 – 18 V	12 – 22 V
Recommended amperage load	30 – 40 A	35 – 45 A	30 – 40 A	35 – 45 A
Maximum load	60 A / 30s	70 A / 20s	60 A / 30s	70 A / 20s
Number of cells	3 – 4 Li-xx	3 Li-xx	4 – 5 Li-xx	3 – 4 Li-xx
	6 Li-xx heli	4 Li-xx heli		6 Li-xx heli
Weigh	185g	180g	225g	216g

Dimensioned Sketch





Area of Application

Motor Type	Model	Accumulator / Propeller
6,5 / 910	FUN-FLY 1,2 – 1,6 kg	3 Li-xx / 14x7 ^{cc}
	FUN-FLY 1,3 – 1,7 kg	4 Li-xx / 12x8 ^{cc}
	Acrobat 2 kg	4 Li-xx / 11x8 ^{cc}
	Trainer 2,7 kg 3,0 kg	3 Li-xx / 13x8 ^{cc} 4 Li-xx / 11x7 ^{cc}
	Quick model 1,4 kg	4 Li-xx / 8,5x6 ^{cc}
6,5 / 910 H/P	6S: MSH Protos, LAheli Siper II (in general heli "class" 500). Heli up to 2,0 kg.	
6,5 / 1250	3D Acrobat 1,5 – 1,6 kg	3 Li-xx / 12x6 ^{cc}
	Dynamical acrobat 1,8 – 2,4 kg	3 Li-xx / 11x7 ^{cc}
	Trainer 3 kg	3 Li-xx / 10,5x7 ^{cc}
6,5 / 1250 H	4S: Siiper II (in general heli "class" 500). Heli up to 2,0 kg.	
8,0 / 680	FUN-FLY 1,6 – 2,2 kg	4 Li-xx / 15x8 ^{cc}
	Acrobat 2,6 kg	5 Li-xx / 13x8 ^{cc}
	Trainer 3,5 kg	4 Li-xx / 14x10 ^{cc}
	Trainer 4,0 kg	5 Li-xx / 12x8 ^{cc}
8,0 / 950	3D acrobat 2 – 2,2 kg	4 Li-xx / 15x8 ^{cc}
	Dynamical acrobat 2,5 – 3 kg	4 Li-xx / 12x8 ^{cc}
	Trainer 3,5 kg	4 Li-xx / 11x7 ^{cc}
	Slow model 3,5 kg	3 Li-xx / 14x8 ^{cc}
8,0 / 950 H/P	6S: MSH Protos, LAheli Siper II, Logo 500 (in general heli class 500). Heli up to 2,5 kg.	

Safety Instructions

- 1) Use the motor for designed purposes only.
- 2) When operating models, follow regulations and laws effective in your country.
- 3) The manufacturer is not responsible for possible damages caused by operation of models and devices driven by the MVVS motors.
- 4) Use only original spare parts.
- 5) Never interfere into the motor structure.
- 6) Before every flight check tightness of the propeller screw or chuck. If the propeller cone is used, check its fixation as well. When mounting the cone, always follow appropriate instructions.
- 7) Check attachment to the motor bed regularly. Never start up loosened motor!
- 8) Use well balanced propellers only! Immediately replace damaged propellers or propellers that touched the ground!

- 9) Never stand so that parts of your body are in the plane with the rotating propeller. Apply the same principle for bystanders.
- 10) Never wear loose drifty clothing (tie, scarf, etc) when operating the model.
- 11) Never try to stop the motor with any part of your body.
- 12) Before starting the motor secure the model from setting in motion.
- 13) Keep all small objects in the safe distance from the running motor and never throw any objects into it.
- 14) When operating the motor, pay attention to keep possible bystanders, especially children, at least 10 m away.
- 15) Never rectify the axis bent during an accident but provide its replacement. Do not start the motor immediately after an accident but check it first. The contaminated motor should be delivered to the manufacturer for repair.

Motor Installation into a model

It is possible to mount the motors in two ways into the model. You can place the motor to the front of the model or on the motor firewall (to model originally intended for combustion engines). The mounting holes span you see on the drawing attached. In addition, drill at least 6 holes at least 8 mm in diameter for cooling air supply, so that to be positioned directly opposite to inlets in the face of the installed motor.

Use at least 4 screws M3 for fixation, so that they penetrate min. 5mm and max. 7mm into the motor. In case shorter screws are used, there is a danger of thread extraction. If longer screws are used, there is a danger of motor seizure or mechanical damage. For motors designed to be driven by a combustion engine use the bed for rear assembly supplied as an accessories with the motor. Never forget about holes for cooling air outlet, which is the necessary condition for correct cooling function!

Solder on the electric wires to regulator and isolate the wiring.

Use adapter supplied with the motor or high-quality chuck adapters of 5mm inside diameter for gripping the propeller. If an unsuitable or poor-quality adapter is used, the rotating propeller may slip off and cause serious injury! Mount the supplied adapter, that the one of the fixing screws is bear on the flat part on the shaft.

Drive Optimisation

By means of correct choice especially of propeller, accumulator and controller parameters it is possible to change driving unit properties within wide range and thus flight behaviour and attained flight time. Use data mentioned in tables as guidance for your decision-making. In case other propeller is used than that mentioned it is necessary to check max. current using a clip-on ammeter. Use the controller that will supply current values mentioned in specifications with reserve. We recommend use of the 55 – 65A controller. The regulator advance should be set to 20° or higher and frequency to 8 kHz. As to supply accumulators do not exceed max. discharging currents because there is a danger of destruction.

Do not overload the motor unnecessarily because there is a danger of damage or deterioration of performance parameters. If the motor operates within the range recommended in technical specifications, its lifetime is limited by mechanical endurance only.

Motor Maintenance

AC electric motors are not maintenance-demanding. The same applies to MVVS motors as well, as maintenance only involves keeping the motor in dry and clean condition. If no accident happens, motor service life is only limited by lifetime of bearings in hundreds of hours, depending on flying style and loading. Wear of bearings shows by increased noise and radial allowance. Every accident may decrease bearing lifetime significantly. We recommend entrusting the manufacturer with replacement of bearings.

If you decide to replace parts by yourselves, then always use original parts and MVVS tools only. Please note that there is necessary to hold the airspace between the fixing ring and bearing of 0.1mm +/- 0.05mm, if you decided to disassemble the motor by yourself. **Check regularly the screws of prop driver and fixing screws of they are tighten enough. Change the prop driver after the motor crash. There is recommended to exchange the shaft after the more serious crash.**

Note: It is possible to shorten the outgoing shaft if necessary.