



Instructions for use

and technical data for brushless, sensorless electric motors of the series:

BASIC / BASIC-XL

1. Because of the high packing density of the motors the thread depth for the mounting screws is **max. 3 mm!**
2. External lead-through connectors are twisted winding wires that can break when bent several times!
3. The rpm values of the motors are proportional to the DC voltage at the controller. Approved rpm is **max. 65,000 rpm.**
4. The maximal power throughput depends strongly on the rpm and on cooling:
BASIC: at 65,000 rpm approx. 700 Watt
at 37,500 rpm approx. 350 Watt
BASIC-XL: at 65,000 rpm approx. 1,300 Watt
at 37,500 rpm approx. 650 Watt

Especially with **LIPO-accumulators** make sure there is good cooling!

BASIC motors are, like other products customary in the market, **not capable of continuous partial power!** This means:

5. Because of the monolithic neodyme rotor the otherwise very high efficiency of approx. 90% can sink below 70% because of eddy current losses in partial power operation!

ATTENTION: This can DESTROY the motor through overheating!

Our tip:

Particularly in applications with a high proportion of partial power operation (helicopter, RC car, etc.) carefully observe temperature changes!

For optimal results in these application areas we recommend partial power optimized motors from our 10-15-19-22 program.

1. All efficiency figures η contain losses of **motor and controller**, e.g. an overall efficiency of 90% contains a controller loss of approx. 3%. Dies corresponds to a motor efficiency of approx. 93%.
2. We offer the **BASIC** motor series with 7 types of **load rpm per Volt**:
2100-2400-2700-3100-3600-4200-5300
3. And the **BASIC-XL** motor series with 10 types of **load rpm per Volt**:
1200-1600-1800-2000-2400-2800-3100-3600-4200-5000

The technical data are shown on the motor sticker, or you can print the respective measurement diagrams from:

www.lehner-motoren.de

Important notes:

Since the sensorless/brushless motor control, which we first brought to market in 1996, meanwhile seems to have prevailed, there are now many similar motor controllers made by various manufacturers. Depending on design and software version they can behave quite differently (for example, start, timing, start protection, etc.)

Our rpm/power data have been determined using BK controllers. Please check the compatibility with the respective controller manufacturer.



— We wish you ongoing fun and success with our motors.