



BRUSHLESS MOTORS MB SERIES

DESCRIPTION

The applications of motorization in the aeronautical domain contain large and often contradictory requirements: weak mass, high power, low consumption, restricted dimensions, functioning temperature ...

Our Brushless motor range is designed to be adapted in an optimal way to the specific needs of each application. From architecture experienced and tested on our bench tests, a specific answer is brought.

The motor is optimized for the functioning points defined by the customer and adapted to the electronics driver to obtain the best possible performances.

The following data are inspired by concrete examples of applications; consequently, the performances level can change significantly to be adapted to the most particular specificities of a new application.



EXAMPLE OF MOTOR REFERENCES

Example :

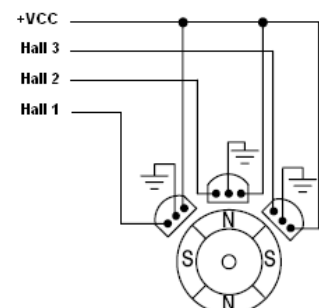
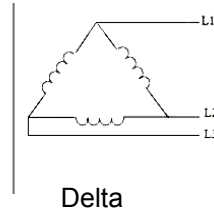
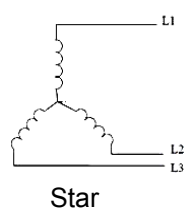
MB38-1-HF

- MB → Brushless Motor
- 38 → External diameter 38.6mm
- 1 → Winding, depends of required performances Torque/Speed/Temperature
- Option → H : Hall effect sensor
→ T : Temperature sensor
→ F : Rotor hooping

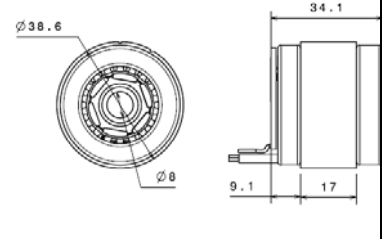
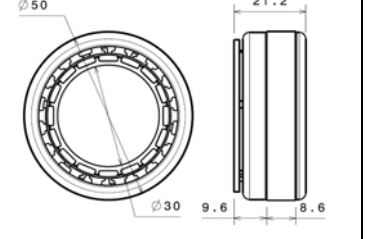
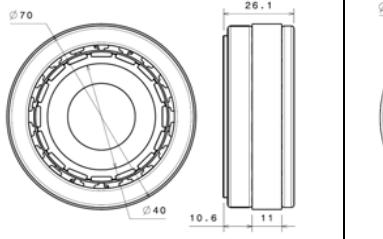
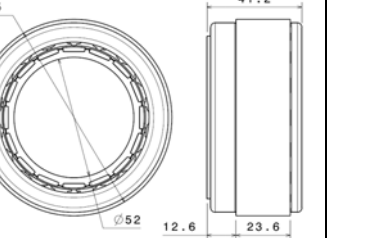
Nota: other options can be added, to be defined with the customer

STANDARD WIRING

- Phase 1 : Green wire
- Phase 2 : Yellow wire
- Phase 3 : Brown wire
- +VCC : Red Wire
- GND : Black wire
- Hall 1 : White wire
- Hall 2 : Blue wire
- Hall 3 : Orange wire



BRUSHLESS MOTORS - MB SERIES

Reference	MB38-1-HF	MB50-1-HT	MB70-1-HT	MB85-1-HT
Dimension:				
Weight: (Rotor+Stator)	152 g	145 g	355 g	752 g
Material :	Stator : Magnetic lamination Rotor : Stainless Steel Magnets : Rare Earth	Stator : Magnetic lamination Rotor : Stainless Steel Magnets : Rare Earth	Stator : Magnetic lamination Rotor : Stainless Steel Magnets : Rare Earth	Stator : Magnetic lamination Rotor : Stainless Steel Magnets : Rare Earth
Motor Characteristics ¹ :	<ul style="list-style-type: none"> - Number of phase: 3 phases - Winding : Star - Number of poles pairs : 3 poles pairs - Resistances phase-phase : 2.7 Ω - Torque constant : 64 mNm/A - Rotor Inertia : 2.5 x10⁻⁶ kgm² - T° maxi of winding : 210°C - Electrical time constant : 0.55 ms 	<ul style="list-style-type: none"> - Number of phase: 3 phases - Winding : Star - Number of poles pairs : 8 poles pairs - Resistances phase-phase : 3.46 Ω - Torque constant : 49 mNm/A - Rotor Inertia : 15.6 x10⁻⁶ kgm² - T° maxi of winding : 180°C - Electrical time constant : 0.34 ms 	<ul style="list-style-type: none"> - Number of phase: 3 phases - Winding : Star - Number of poles pairs : 8 poles pairs - Resistances phase-phase : 0.934 Ω - Torque constant : 88.9 mNm/A - Rotor Inertia : 30.8 x10⁻⁶ kgm² - T° maxi of winding : 180°C - Electrical time constant : 1.03 ms 	<ul style="list-style-type: none"> - Number of phase: 3 phases - Winding : Star - Number of poles pairs : 8 poles pairs - Resistances phase-phase : 0.364 Ω - Torque constant : 151.8 mNm/A - Rotor Inertia : 181.6 x10⁻⁶ kgm² - T° maxi of winding : 180°C - Electrical time constant : 1.42 ms
Electrical Characteristics ¹ :	<u>Values at nominal Voltage</u> <ul style="list-style-type: none"> - Nominal Voltage : 28VDC - No load Speed : 4080 RPM - No load consumption : 0.12 A - Nominal Speed : 2500 RPM - Nominal Torque : 0.133 Nm - Nominal consumption : 2 A - Starting Torque : 0.65 Nm 	<ul style="list-style-type: none"> - Nominal Voltage : 48VDC - No load Speed : 4886 RPM - No load consumption : 0.15 A - Nominal Speed : 4760 RPM - Nominal Torque : 0.03 Nm - Nominal consumption : 0.76 A - Starting Torque : 0.672 Nm 	<ul style="list-style-type: none"> - Nominal Voltage : 48VDC - No load Speed : 3656 RPM - No load consumption : 0.157 A - Nominal Speed : 3457 RPM - Nominal Torque : 0.25 Nm - Nominal consumption : 2.97 A - Starting Torque : 4.55 Nm 	<ul style="list-style-type: none"> - Nominal Voltage : 48VDC - No load Speed : 3061 RPM - No load consumption : 0.204 A - Nominal Speed : 2265 RPM - Nominal Torque : 1 Nm - Nominal consumption : 6.79 A - Starting Torque : 19.9 Nm
Service life:	40 000 FH			
Environment:	Aeronautical type following EUROCAE ED-14D -RTCA DO160-D			
Functioning T°:	-55°C à +90°C			

Note 1 - All the values of the present specification sheet are only given as a rough guide. To obtain more precise information, contact us