

Motors for heavy electrical vehicles

AMXE160LH4



Designed to meet your targets and your customers' demands

Partnering with ABB you will gain a trusted partner that offers proven e-powertrain products. This allows you to efficiently meet all the most important market demands, such as improved productivity, reduced TCO, increased uptime and improved operator environment.

Your electric vehicle partner

Efficient motors require a deep insight into design, manufacturing and integration. Motors are very different from internal combustion engines, and it is easy to underestimate the development challenges. In ABB, you have an experienced partner that will assist you from early simulations to aftermarket support. Manufacturing, service and support is always close at hand thanks to ABB's global presence.

Optimized for your application

Each motor must be adapted to the actual drive cycle. ABB's platform is based on proven parts that are combined into task-specific solutions. This ensures fast delivery and customization to your needs. Common to all motors are low energy losses throughout the drive cycle.

Motor expertise at play

We know what it takes to make e-mobility work optimally. Torque and speed are adapted to the vehicle type and its duty cycle. Low inertia motors ensure fast control. Compact design and torque density reduce the motor's outer dimensions. Different IP classes and surface treatments enable reliable use in aggressive atmospheres. All these factors are considered, configurable and customized in ABB's motors.

Safe and easy to install and operate

ABB simplicity gives you a competitive edge. Our motors' flanges and shafts are standard or customized on your request. All motors are compact and easy to install. When it comes to vehicle reliability, our century-long experience of combining motor and inverter into packaged solutions is solid proof of our capabilities.

Why ABB?

- Customer centric culture
- Technology pioneer
- Life-cycle support with extensive manufacturing and service footprint
- System design expertise and development support

Features

- Compact and robust design for harsh environments
- Power levels from 50 kW up to 330 kW
- Torque levels up to 790 Nm
- Liquid cooling with up to 65°C coolant temperature
- Up to IP67

Technical data

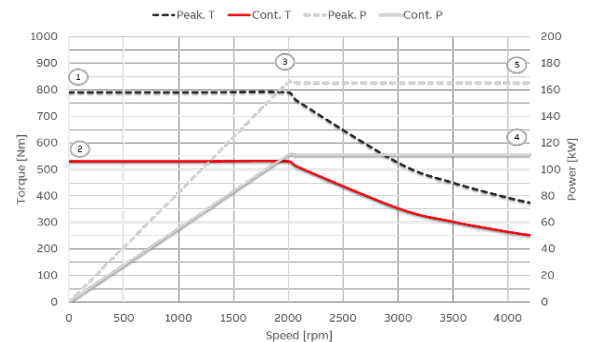
Motor type		Peak torque Nm	Peak power kW	Peak current A	Max speed rpm	Continuous torque Nm	Continuous power kW	Continuous current A	Nominal speed rpm
AMXE160LH 4	3GLX162582	790	83	130	2100	530	56	88	1000
	3GLX162583	790	124	201	3100	530	83	136	1500
	3GLX162584	790	165	245	4200	530	111	169	2000
	3GLX162585	790	207	316	4900	530	139	214	2500
	3GLX162586	790	248	369	5000	530	166	251	3000
	3GLX162587	790	331	444	5000	530	222	301	4000

Specifications are valid with 500 Vac, coolant at 65 °C (inlet) and 50%/50% water and glycol mixture, 15 lpm and in 40 °C ambient temperature unless stated otherwise. Actual performance will vary with drive cycle, cooling and installation details.

Motor specification

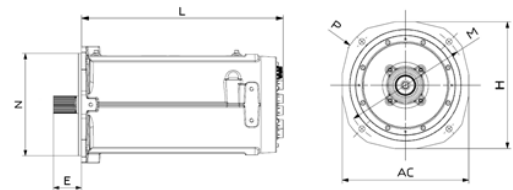
	Specification	AMXE160LH4
Operating conditions	Coolant mixture	Water with glycol (40-60%)
	Coolant temperature	≤ 65 °C
	Volume flow rate	15-25 lpm (nominal 15 lpm)
	Pressure drop	< 1 bar @ 20l/min 65°C
	Operating ambient temperature	-20 °C to +40 °C
	Max coolant pressure	3 bar
Electrical and physical properties	Machine type	3-phase Permanent Magnet Synchronous Motor
	Weight	190 kg
	Inertia	0.156 kg·m ²
	Max speed	5000 rpm
	IP class	IP66 (IP67 except shaft seal)
	Shock loads	+/-10g in xyz direction
	Color	RAL 9005
Interfaces	HV connection LV connection	Amphenol PowerLok X-coded M12 connectors
	Flange	325 mm diameter
	Shaft	DIN5480 – W55x2x26x9g (or acc. to customer specification)
	Cooling connection	2 x G1/2" internal thread ports ISO 1179-1
Options	Non-standard voltage or frequency	Variant code 209
	Sea freight packing	Variant code 531
	Shaft grounding	Variant code 588
	Insulated bearing at N-end	Variant code 701
	Insulated bearings at both ends	Variant code 702
	PowerLok connector with HVIL	Variant code 847
Heavy duty resolver	Variant code 848	

Performance



1. Peak torque during 15s at 65° coolant temperature, can be achieved up to nominal speed 3.
2. Continuous torque (S1 duty) at 65° coolant temperature, can be achieved up to nominal speed 3.
3. Nominal speed.
4. Continuous power (S1 duty) at 65° coolant temperature, can be achieved from speed 3 to max speed.
5. Peak power during 15s at 65° coolant temperature, can be achieved from nominal speed 3.

Main dimensions



Motor type	AC	E	H	L	M	P	N
AMXE160LH4	370	90	370	646	360	400	325