



EM3A-04 is a high speed and low inertia 400 W synchronous AC servo motor. High dynamics, high overload possibility and excellent accuracy make this model one of the most popular on the industrial market. The motors are suitable for high speed applications with a maximum speed of 6000 rpm. Feedback system - 17-bit, 20-bit or 23-bit absolute or incremental, optical or magnetic encoder. Products can be provided with a 24VDC holding brake option.

The EM3A series boasts a low inertia design for extremely-fast response times. These motors are highlighted with the perfect combination of compact size and high torque performance, ensuring unparalleled dynamic response and precision positioning when used together with servo drivers ED3L series. Versatile and powerful, these servo drive systems has a wide range of applications, thanks to its top-tier performance, varied power range, and compact form factor. Elevate your technical operations with the EM3A series servo motors and ED3L servo drive system.

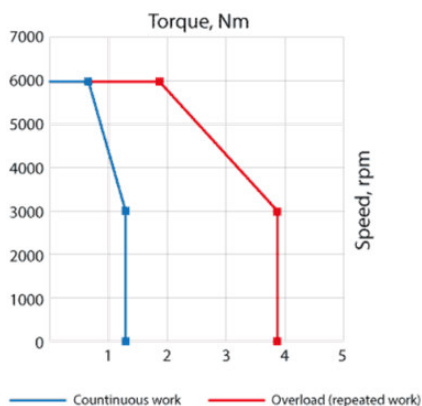
Technical data

Output power	400 W
Rated speed	3000 rpm
Maximum speed	6000 rpm
Rated torque	1.27 Nm
Maximum torque (for motor models EM3A-04AFA and EM3A-04ATA)	3.81 Nm
Maximum torque (for motor models EM3A-04ALA)	4.46 Nm
Rated current	2.9 A
Maximum current (for motor models EM3A-04AFA and EM3A-04ATA)	9.2 A
Maximum current (for motor models EM3A-04ALA)	11.5 A

Technical data

Motor inertia (motor without brake)	0.244 kg*cm ²
Motor inertia (motor with brake)	0.276 kg*cm ²
Allowable radial shaft load	245 N
Allowable axial shaft load	74 N
Optional brake holding torque	≥0.15 Nm
Optional brake voltage	24 VDC
Weight (motor without brake)	1.3 kg
Weight (motor with brake)	1.7 kg
Flange	60 mm

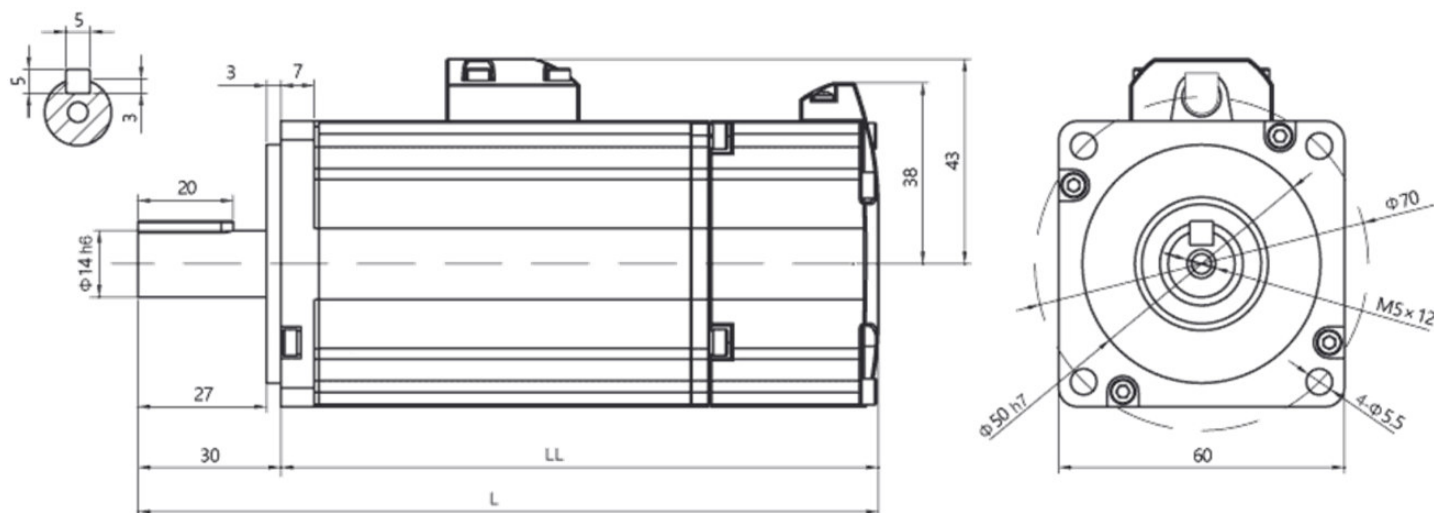
Speed-torque curves



Available motor models

Motor model	Encoder	Brake	Waterproof connector	Servo drive	Input drive supply voltage	Note
EM3A-04ALA221	absolute optic encoder, resolution 23-bit (8 388 608 ppr)	-	-	ED3L-04AMA ED3L-04AEA ED3L-04APA	Single phase AC 200V...240V	Not recommended for new projects
EM3A-04ALA241		✓				
EM3A-04ALA222		-	✓			
EM3A-04ALA242		✓				
EM3A-04ATA221	absolute magnetic encoder, resolution 17-bit (131 072 ppr)	-	-			
EM3A-04ATA241		✓				
EM3A-04ATA222		-	✓			
EM3A-04ATA242		✓				
EM3A-04AFA221	Incremental optic encoder, resolution 20-bit (1 048 576 ppr)	-	-			
EM3A-04AFA241		✓				
EM3A-04AFA222		-	✓			
EM3A-04AFA242		✓				

Dimensions of AC servo motor EM3A-04



Note: The values in parentheses represent the values of motors with brakes

Motor model	L, mm	LL, mm
EM3A-04ALA22x	129	99
EM3A-04ALA24x	158	128
EM3A-04ATA22x EM3A-04AFA22x	148	118
EM3A-04ATA24x EM3A-04AFA24x	177	147

