

M110SH99-Txx

HIGH TORQUE Bipolar Stepping motor - 1,8°



Introduction

The M110SH99-Txx is a bipolar stepper motor with terminal-box, optionally equipped with a Push-Pull or Line-Driver incremental encoder.

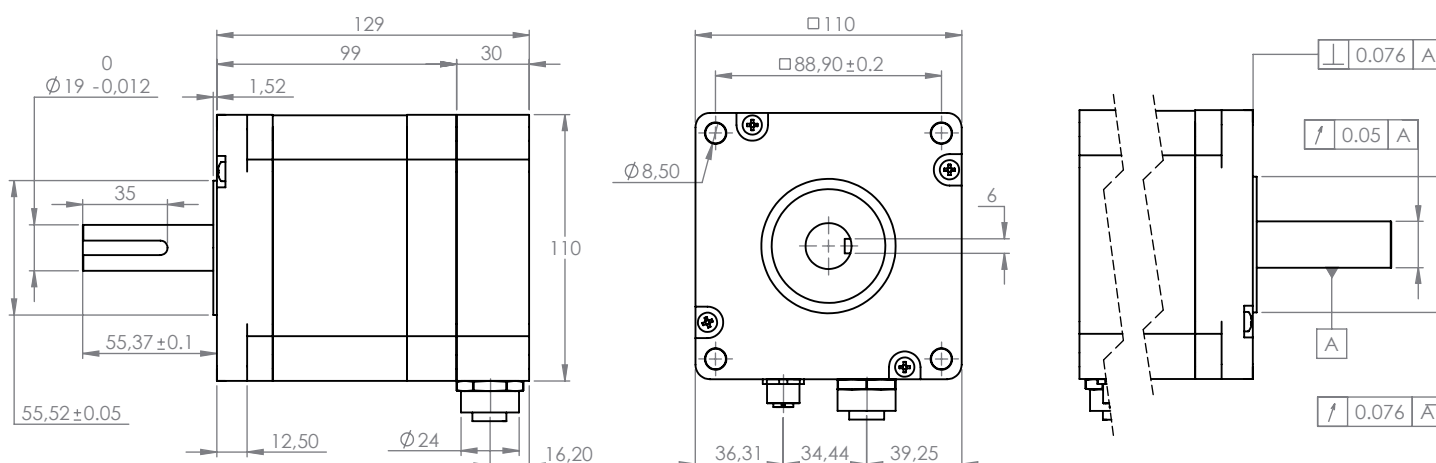
The connection of the motor is made through a 7/8" circular connector, and the connection of the ecoder is made through a M12 circular connector.



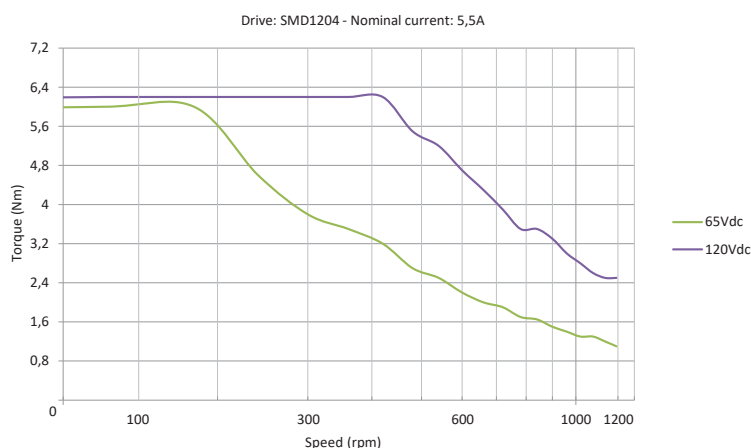
Specifications

Model	Current/ phase	Resistance/ phase	Inductance/ phase	Detent torque	Holding torque	Rotor inertia	Encoder	Weight
M110SH99-T-C	5,5 A	0,9 Ω	12 mH	380 mNm	11,2 Nm	5500 gcm ²	-	5 Kg
M110SH99-TO0512P24C	5,5 A	0,9 Ω	12 mH	380 mNm	11,2 Nm	5500 gcm ²	Push-pull	5 Kg
M110SH99-TO0512L05C	5,5 A	0,9 Ω	12 mH	380 mNm	11,2 Nm	5500 gcm ²	Line-driver	5 Kg

Mechanical dimensions



Speed vs Torque curve



The torque curves are made with AEP torque transducer mod. MRT250NM

Motor characteristics

Step Angle	1,8° ± 5%
Insulation Class	B
Ambient Temperature	-20 °C .. +50 °C
Temperature Rise	80°C max (2 phase ON)
Insulation Resistance	100 M Ω min 500Vdc
Dielectric Strength	820 V _{AC} FOR ONE MINUTE
Shaft Radial Play	0,02mm (con 450g load)
Shaft Axial Play	0,08mm (con 450g load)
Max Radial Force	220N (20mm FROM FRONT FLANGE)
Max Axial Force	60 N

Caution

Insert and tighten firmly the connectors before powering the motor. **Never disconnect any connector when powered.** Installation and maintenance must be carried out by qualified technicians only. The operator must have detailed information to be able to carry out this work.

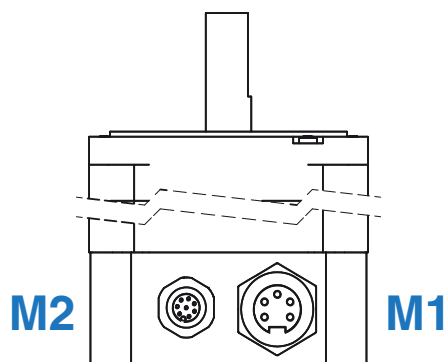
- Unexpected dangers may be encountered
- An incorrect use may destroy this product and the connected equipments.

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Connectors layout



Encoder characteristics

	PUSH-PULL	LINE DRIVER
V _{SUPPLY}	+24 V _{DC}	+5 V _{DC}
I _{MAX} (NO LOAD)	80 mA	
I _{MAX}	60 mA each channel	
F _{OUT MAX}	300 KHz	
COUNT/REV	512	
PROTECTION DEGREE	IP54	
WORKING TEMPERATURE	-20 .. +80 °C	

Motor connector

M1	7/8 5 Pin male		PIN	Description	Cable color matching	
			1	Phase A	BLACK	
			2	Phase A -	BLUE	
			3	GND	YELLOW/GREEN	
			4	Phase B	BROWN	
			5	Phase B -	WHITE	

Push-Pull encoder connector

M2	M12 5 Pin female		PIN	Description	Cable color matching	
			1	V _{IN} (+24V _{DC})	BROWN	
			2	Channel A	WHITE	
			3	Common	BLUE	
			4	Channel B	BLACK	
			5	Channel Z	GREY	

Line-Driver encoder connector

M2	M12 8 Pin male		PIN	Description	Cable color matching	
			1	Channel Z +	WHITE	
			2	V _{IN} (+5V _{DC})	BROWN	
			3	Channel A +	GREEN	
			4	Channel A -	YELLOW	
			5	Channel B +	GREY	
			6	Channel B -	PINK	
			7	Common	BLUE	
			8	Channel Z -	RED	

Ordering code

