

Lexium 32i

Integrated servo drive

Lexium BMI servo motor

PF112240A



Lexium BMI servo motor with power stage

Lexium BMI servo motors - dynamics and power (continued)

Specific features

Lexium BMI servo motors have been developed to comply with the following main specifications:

- The ambient operating temperature is - 0...+ 50°C/+ 32...+ 122°F.
- The maximum operating altitude is 1000 m/3281 ft without derating; 2000 m/6562 ft with a maximum ambient temperature of 45°C/113°F and a continuous power reduction of 1% for every 100 m/328 ft above 1000 m/3281 ft; and 3000 m/9842 ft with a maximum ambient temperature of 40°C/104°F and a continuous power reduction of 1% for every 100 m/328 ft above 1000 m/3281 ft. ■
- The servo motor can withstand 5...80% relative humidity (non-condensing).
- The windings are insulation class F in accordance with standard IEC 60034-1 (maximum temperature for windings is 155°C/311°F).
- Thermal protection is provided and controlled by the Lexium 32i integrated servo drive via the motor temperature control algorithm.
- All mounting positions are permitted:
 - horizontal mounting (IMB5)
 - vertical mounting (IMV1 with shaft end at the top and IMV3 with shaft end at the bottom) in accordance with standard IEC 60034-7

Holding brake

Lexium BMI servo motors can be equipped with an electromagnetic holding brake.

⚠ Do not use the holding brake as a dynamic brake for deceleration, as this will quickly damage the brake.

Integrated encoder

Lexium BMI servo motors are equipped with an absolute encoder.

This encoder performs the following functions:

- It gives the absolute position of the motor so that flows can be synchronized.
- It measures the servo motor speed via the associated Lexium 32i integrated servo drive (this information is used by the drive's speed controller).
- It measures the position information for the Lexium 32i position controller.
- It sends data from the servo motor to the control unit, which provides automatic motor identification when the Lexium 32i starts.

4 encoder models are available:

- High resolution SinCos Hiperface® encoder:
 - single-turn (131,072 points/turn) (1)
 - multi-turn (131,072 points/turn x 4096 turns) (1)

These encoders give an angular shaft position precise to less than ± 1.3 arc minutes.

- Standard resolution SinCos Hiperface® encoder:
 - single-turn (32,768 points/turn) (1)
 - multi-turn (32,768 points/turn x 4096 turns) (1)

These encoders give an angular shaft position precise to less than ± 4.8 arc minutes.

(1) Encoder resolution given for a Lexium 32i integrated servo drive.

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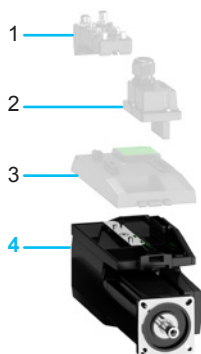
Lexium BMI servo motor according to supply voltage					
Drive	Rotor inertia without brake	Nominal operating point			Stall torque M0/Mmax ⁽¹⁾
		Nominal torque	Nominal speed	Nominal power	
	kgcm ²	Nm	rpm	kW	Nm/Nm
115 V ~ single-phase supply voltage					
BMI0702T	1.13	2.2	1700	0.4	2.3/6.6
BMI0703T	1.67	2.9	1400	0.4	3/8.6
BMI1002T	6.28	5.4	1400	0.75	5.4/14.5
230 V ~ single-phase supply voltage					
BMI0702T	1.13	1.7	4000	0.7	2.3/6.6
BMI0703T	1.67	2.2	3200	0.7	3/8.6
BMI1002T	6.28	4.4	3000	1.3	5.4/14.5
208 V ~ three-phase supply voltage					
BMI0702P	1.13	2.4	1800	0.4	2.5/6.8
BMI0703P	1.67	2.9	1600	0.45	3/8.6
BMI1002P	6.28	5.4	1900	1	5.4/14
BMI1003P	9.37	7.2	1500	1	7.2/19.2
400 V ~ three-phase supply voltage					
BMI0702P	1.13	2.2	3600	0.8	2.5/6.8
BMI0703P	1.67	2.7	3300	0.9	3/8.6
BMI1002P	6.28	5.1	3800	1.9	5.4/14
BMI1003P	9.37	6.8	3000	2	7.2/19.2
480 V ~ three-phase supply voltage					
BMI0702P	1.13	2	4400	0.9	2.5/6.8
BMI0703P	1.67	2.3	3900	0.9	3/8.6
BMI1002P	6.28	4.1	4700	1.9	5.4/14
BMI1003P	9.37	5.6	3700	2.1	7.2/19.2

(1) - M0: Continuous stall torque.
- Mmax: Peak stall torque.

Lexium 32i

Integrated servo drive

Lexium BMI servo motor



Lexium 32i:
 1: Connection module
 2: Connection module for mains supply
 3: Control unit
 4: BMI drive

References

To order a BMI drive (Lexium BMI servo motor + power stage) replace the “●” with the values given in the table below

		BMI	●	●	●	●	●	●	●	●
Flange size	70 mm/2.76 in.		0	7	0					
	100 mm/3.94 in.		1	0	0					
Number of stages	2 stages							2		
	3 stages							3		
Power supply	Single-phase (1) (2)								T	
	Three-phase (3)								P	
Motor shaft and degree of protection	IP54 for shaft (4) and	Smooth							0	
	IP65 for casing	Keyed							1	
	IP65 for the unit	Smooth							2	
		Keyed							3	
Encoder type	Single-turn SinCos Hiperface® 131,072 points/turn 128 sine/cosine periods per turn									1
	Multi-turn SinCos Hiperface® 131,072 points/turn x 4096 turns 128 sine/cosine periods per turn									2
	Single-turn SinCos Hiperface® 32,768 points/turn 16 sine/cosine periods per turn									6
	Multi-turn SinCos Hiperface® 32,768 points/turn x 4096 turns 16 sine/cosine periods per turn									7
Brake	With brake									F
	Without brake									A

(1) Requires a single-phase power supply module for Lexium 32i, reference VW3M9001.

(2) Lexium BMI1003●●●● servo motors are only available with a three-phase power supply.

(3) Requires a three-phase power supply module for Lexium 32i, reference VW3M9002.

(4) Requires horizontal mounting (IMB5) or vertical mounting with shaft end at the top (IMV1).