

Product datasheet

Specifications



servo motor BSH, Lexium 05,
2.12N.m, 6000rpm, 70mm,
untapped shaft, Sincos single turn,
without brake, IP65, straight

BSH0702T21A1A

! Discontinued

! Discontinued on: 30 Jun 2023

Main

Device short name	BSH
Product or component type	Servo motor
Maximum mechanical speed	8000 rpm
Continuous stall torque	2.2 N.m for LXM32.D30M2 at 10 A, 115 V, single phase 2.12 N.m for LXM05AD17M2, 200...240 V, single phase 2.12 N.m for LXM05BD17M2, 200...240 V, single phase 2.12 N.m for LXM05CD17M2, 200...240 V, single phase 2.2 N.m for LXM32.D18M2 at 6 A, 230 V, single phase 2.12 N.m for LXM05AD17F1, 110...120 V, single phase 2.12 N.m for LXM05AD28M2, 200...240 V, single phase 2.12 N.m for LXM05BD17F1, 110...120 V, single phase 2.12 N.m for LXM05BD28M2, 200...240 V, single phase 2.12 N.m for LXM05CD17F1, 110...120 V, single phase 2.12 N.m for LXM05CD28M2, 200...240 V, single phase 2.12 N.m for LXM15LD17N4 at 6 A, 230 V, three phase 2.12 N.m for LXM15LD21M3, 230 V, three phase 2.12 N.m for LXM05AD42M3X, 200...240 V, three phase 2.12 N.m for LXM05BD42M3X, 200...240 V, three phase 2.12 N.m for LXM05CD42M3X, 200...240 V, three phase
Peak stall torque	6.1 N.m for LXM32.D30M2 at 10 A, 115 V, single phase 7.2 N.m for LXM32.D18M2 at 6 A, 230 V, single phase 4.14 N.m for LXM05AD17F1, 110...120 V, single phase 4.14 N.m for LXM05AD17M2, 200...240 V, single phase 4.14 N.m for LXM05BD17F1, 110...120 V, single phase 4.14 N.m for LXM05BD17M2, 200...240 V, single phase 4.14 N.m for LXM05CD17F1, 110...120 V, single phase 4.14 N.m for LXM05CD17M2, 200...240 V, single phase 6.8 N.m for LXM05AD28M2 at 6 A, 200...240 V, single phase 6.8 N.m for LXM05BD28M2, 200...240 V, single phase 6.8 N.m for LXM05CD28M2, 200...240 V, single phase 4.47 N.m for LXM15LD17N4, 230 V, three phase 5.45 N.m for LXM15LD21M3, 230 V, three phase 6.8 N.m for LXM05AD42M3X, 200...240 V, three phase 6.8 N.m for LXM05BD42M3X, 200...240 V, three phase 6.8 N.m for LXM05CD42M3X, 200...240 V, three phase
Nominal output power	550 W for LXM32.D30M2 at 10 A, 115 V, single phase 600 W for LXM05AD17M2, 200...240 V, single phase 600 W for LXM05BD17M2 at 6 A, 200...240 V, single phase 600 W for LXM05CD17M2, 200...240 V, single phase 570 W for LXM05AD17F1, 110...120 V, single phase 570 W for LXM05BD17F1, 110...120 V, single phase 570 W for LXM05CD17F1, 110...120 V, single phase 600 W for LXM05AD28M2, 200...240 V, single phase 600 W for LXM05BD28M2, 200...240 V, single phase 600 W for LXM05CD28M2, 200...240 V, single phase 950 W for LXM32.D18M2 at 6 A, 230 V, single phase 1000 W for LXM15LD17N4, 230 V, three phase 1000 W for LXM15LD21M3, 230 V, three phase 600 W for LXM05AD42M3X, 200...240 V, three phase 600 W for LXM05BD42M3X, 200...240 V, three phase 600 W for LXM05CD42M3X, 200...240 V, three phase

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

Nominal torque	<p>2.07 N.m for LXM32.D30M2 at 10 A, 115 V, single phase</p> <p>1.9 N.m for LXM05AD17M2, 200...240 V, single phase</p> <p>1.9 N.m for LXM05BD17M2 at 6 A, 200...240 V, single phase</p> <p>1.9 N.m for LXM05CD17M2, 200...240 V, single phase</p> <p>1.83 N.m for LXM05AD17F1, 110...120 V, single phase</p> <p>1.83 N.m for LXM05BD17F1, 110...120 V, single phase</p> <p>1.83 N.m for LXM05CD17F1, 110...120 V, single phase</p> <p>1.9 N.m for LXM05AD28M2, 200...240 V, single phase</p> <p>1.9 N.m for LXM05BD28M2, 200...240 V, single phase</p> <p>1.9 N.m for LXM05CD28M2, 200...240 V, single phase</p> <p>1.8 N.m for LXM32.D18M2 at 6 A, 230 V, single phase</p> <p>1.66 N.m for LXM15LD17N4, 230 V, three phase</p> <p>1.66 N.m for LXM15LD21M3, 230 V, three phase</p> <p>1.9 N.m for LXM05AD42M3X, 200...240 V, three phase</p> <p>1.9 N.m for LXM05BD42M3X, 200...240 V, three phase</p> <p>1.9 N.m for LXM05CD42M3X, 200...240 V, three phase</p>
Nominal speed	<p>2500 rpm for LXM32.D30M2 at 10 A, 115 V, single phase</p> <p>3000 rpm for LXM05AD17F1, 110...120 V, single phase</p> <p>3000 rpm for LXM05BD17F1 at 6 A, 110...120 V, single phase</p> <p>3000 rpm for LXM05CD17F1, 110...120 V, single phase</p> <p>3000 rpm for LXM05AD17M2, 200...240 V, single phase</p> <p>3000 rpm for LXM05BD17M2, 200...240 V, single phase</p> <p>3000 rpm for LXM05CD17M2, 200...240 V, single phase</p> <p>3000 rpm for LXM05AD28M2, 200...240 V, single phase</p> <p>3000 rpm for LXM05BD28M2, 200...240 V, single phase</p> <p>3000 rpm for LXM05CD28M2, 200...240 V, single phase</p> <p>5000 rpm for LXM32.D18M2 at 6 A, 230 V, single phase</p> <p>3000 rpm for LXM05AD42M3X, 200...240 V, three phase</p> <p>3000 rpm for LXM05BD42M3X, 200...240 V, three phase</p> <p>3000 rpm for LXM05CD42M3X, 200...240 V, three phase</p> <p>6000 rpm for LXM15LD17N4, 230 V, three phase</p> <p>6000 rpm for LXM15LD21M3, 230 V, three phase</p>
Product compatibility	<p>LXM05AD17F1 at 110...120 V single phase</p> <p>LXM05AD17M2 at 200...240 V single phase</p> <p>LXM05AD28M2 at 200...240 V single phase</p> <p>LXM05BD17F1 at 110...120 V single phase</p> <p>LXM05BD17M2 at 200...240 V single phase</p> <p>LXM05BD28M2 at 200...240 V single phase</p> <p>LXM05CD17F1 at 110...120 V single phase</p> <p>LXM05CD17M2 at 200...240 V single phase</p> <p>LXM05CD28M2 at 200...240 V single phase</p> <p>LXM32.D30M2 at 115 V single phase</p> <p>LXM32.D18M2 at 230 V single phase</p> <p>LXM15LD21M3 at 230 V three phase</p> <p>LXM05AD42M3X at 200...240 V three phase</p> <p>LXM05BD42M3X at 200...240 V three phase</p> <p>LXM05CD42M3X at 200...240 V three phase</p> <p>LXM15LD17N4 at 230 V three phase</p>
Shaft end	Untapped
IP degree of protection	<p>IP65 standard</p> <p>IP67 with IP67 kit</p>
Speed feedback resolution	131072 points/turn
Holding brake	Without
Mounting support	International standard flange
Electrical connection	Straight connectors

Complementary

Range compatibility	<p>Lexium 05</p> <p>Lexium 32</p> <p>Lexium 15</p>
supply voltage max	480 V
Network number of phases	Three phase
Continuous stall current	4.9 A
maximum continuous power	1.51 W

Maximum current Irms	20.6 A for LXM15LD21M3 20.6 A for LXM15LD17N4 19.9 A for LXM05AD17F1 19.9 A for LXM05AD17M2 19.9 A for LXM05AD28M2 19.9 A for LXM05AD42M3X 19.9 A for LXM05BD17F1 19.9 A for LXM05BD17M2 19.9 A for LXM05BD28M2 19.9 A for LXM05BD42M3X 19.9 A for LXM05CD17F1 19.9 A for LXM05CD17M2 19.9 A for LXM05CD28M2 19.9 A for LXM05CD42M3X 15 A for LXM32.D30M2 18 A for LXM32.D18M2
Maximum permanent current	19.9 A
Switching frequency	8 kHz
Second shaft	Without second shaft end
Shaft diameter	11 mm
Shaft length	23 mm
Feedback type	Single turn SinCos Hiperface
Motor flange size	70 mm
Number of motor stacks	2
Torque constant	0.45 N.m/A at 120 °C
Back emf constant	28 V/krpm at 120 °C
Rotor inertia	0.41 kg.cm ²
Stator resistance	1.5 Ohm at 20 °C
Stator inductance	6.7 mH at 20 °C
Stator electrical time constant	4.47 ms at 20 °C
Maximum radial force Fr	390 N at 6000 rpm 410 N at 5000 rpm 450 N at 4000 rpm 490 N at 3000 rpm 560 N at 2000 rpm 710 N at 1000 rpm
Maximum axial force Fa	0.2 x Fr
Type of cooling	Natural convection
Length	187 mm
Centring collar diameter	60 mm
Centring collar depth	2.5 mm
Number of mounting holes	4
Mounting holes diameter	5.5 mm
Circle diameter of the mounting holes	82 mm
Net weight	2.89 kg
Sizing reference	BSH0702T
Network number of phases	3
Accuracy error [angular]	1.4 °
Temperature copper hot	120 °C
Temperature magnet hot	100 °C

Temperature magnet rt	20 °C
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Packing Units

Unit Type of Package 1	PCE
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Number of Units in Package 1	1
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Package 1 Height	12.3 cm
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Package 1 Width	12.8 cm
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Package 1 Length	37.7 cm
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Package 1 Weight	2.8 kg
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Contractual warranty

Warranty (in months)	18
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Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)

Use Better



Materials and Substances

EU RoHS Directive

[Compliant By Exemption](#)

Use Longer



Lifetime extension

Repair

No

Use Again



Repack and remanufacture

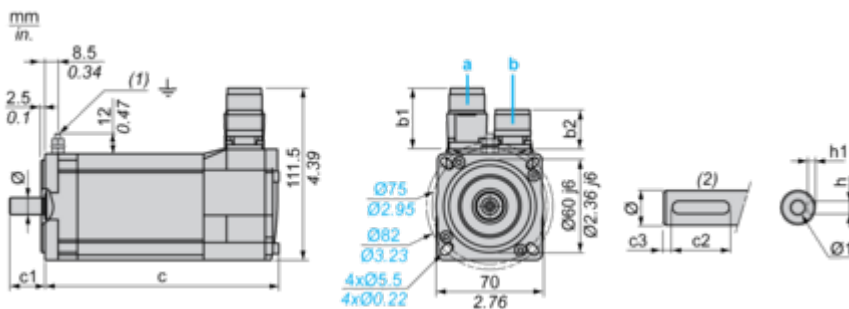
End of life manual availability

No need of specific recycling operations

Dimensions Drawings

Servo Motors Dimensions

Example with Straight Connectors



- a: Power supply for servo motor brake
- b: Power supply for servo motor encoder

(1) M4 screw

(2) Shaft end, keyed slot (optional)

Dimensions in mm

Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)	c1	c2	c3	h	h1	Ø	Ø1 for screws
b1	b2	b1	b2									
39.5	25.5	39.5	39.5	187	213	23	18	2.5	4 N9	2.5 ^{+0.1} ₀	11 k6	M4 x 10

Dimensions in in.

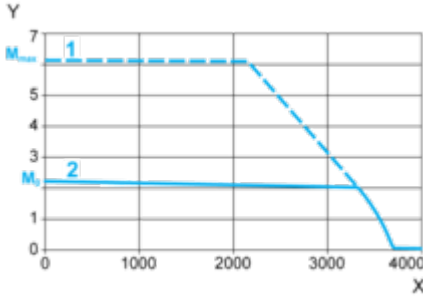
Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)	c1	c2	c3	h	h1	Ø	Ø1 for screws
b1	b2	b1	b2									
1.55	1.00	1.55	1.55	7.36	8.38	0.90	0.70	0.09	0.16 N9	0.01 ^{+0.004} ₀	0.43 k6	M4 x 0.39

Performance Curves

115 V Single-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D30M2 servo drive



X Speed in rpm

Y Torque in Nm

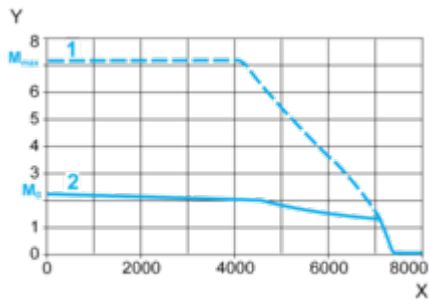
1 Peak torque

2 Continuous torque

230 V Single-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D18M2 servo drive



X Speed in rpm

Y Torque in Nm

1 Peak torque

2 Continuous torque