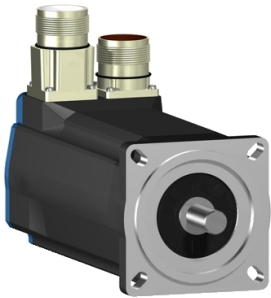


# Product datasheet

Specifications



## AC servo motor BSH - 2.2 N.m - 3000 rpm - untapped shaft - with brake - IP65

BSH0702P22F2A

⚠ Discontinued on: 9 Feb 2023

⚠ Discontinued

EAN Code: 3389118136410

### 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.D12N4 at 3 A, 400 V, three phase 2.2 N.m for LXM32.D12N4 at 3 A, 480 V, three phase 2.12 N.m for LXM05AD10M2, 200...240 V, single phase 2.12 N.m for LXM05AD10M3X, 200...240 V, three phase 2.12 N.m for LXM05BD10M2, 200...240 V, single phase 2.12 N.m for LXM05BD10M3X, 200...240 V, three phase 2.12 N.m for LXM05CD10M2, 200...240 V, single phase 2.12 N.m for LXM05CD10M3X, 200...240 V, three phase 2.2 N.m for LXM15LD13M3, 230 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 at 3 A, 200...240 V, single phase 2.2 N.m for LXM15LD10N4, 480 V, three phase 2.12 N.m for LXM05AD17M3X, 200...240 V, three phase 2.12 N.m for LXM05AD14N4, 380...480 V, three phase 2.12 N.m for LXM05BD17M3X, 200...240 V, three phase 2.12 N.m for LXM05BD14N4, 380...480 V, three phase 2.12 N.m for LXM05CD17M3X, 200...240 V, three phase 2.12 N.m for LXM05CD14N4, 380...480 V, three phase 2.2 N.m for LXM15LD10N4, 230 V, three phase 2.2 N.m for LXM15LD10N4, 400 V, three phase
Peak stall torque	7.6 N.m for LXM32.D12N4 at 3 A, 400 V, three phase 7.6 N.m for LXM32.D12N4 at 3 A, 480 V, three phase 5.63 N.m for LXM15LD13M3, 230 V, single phase 4.57 N.m for LXM05AD10M2, 200...240 V, single phase 5.63 N.m for LXM05AD17M2, 200...240 V, single phase 4.57 N.m for LXM05BD10M2, 200...240 V, single phase 5.63 N.m for LXM05BD17M2, 200...240 V, single phase 4.57 N.m for LXM05CD10M2, 200...240 V, single phase 5.63 N.m for LXM05CD17M2, 200...240 V, single phase 4.85 N.m for LXM15LD10N4, 230 V, three phase 4.85 N.m for LXM15LD10N4, 400 V, three phase 4.85 N.m for LXM15LD10N4 at 3 A, 480 V, three phase 4.57 N.m for LXM05AD10M3X, 200...240 V, three phase 5.63 N.m for LXM05AD17M3X, 200...240 V, three phase 5.63 N.m for LXM05AD14N4, 380...480 V, three phase 4.57 N.m for LXM05BD10M3X, 200...240 V, three phase 5.63 N.m for LXM05BD17M3X, 200...240 V, three phase 5.63 N.m for LXM05BD14N4, 380...480 V, three phase 4.57 N.m for LXM05CD10M3X, 200...240 V, three phase 5.63 N.m for LXM05CD17M3X, 200...240 V, three phase 5.63 N.m for LXM05CD14N4, 380...480 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 output power	<p>850 W for LXM32.D12N4 at 3 A, 400 V, three phase</p> <p>850 W for LXM32.D12N4 at 3 A, 480 V, three phase</p> <p>1000 W for LXM15LD10N4, 400 V, three phase</p> <p>597 W for LXM15LD13M3, 230 V, single phase</p> <p>600 W for LXM05AD10M2, 200...240 V, single phase</p> <p>600 W for LXM05AD17M2, 200...240 V, single phase</p> <p>600 W for LXM05BD10M2, 200...240 V, single phase</p> <p>600 W for LXM05BD17M2, 200...240 V, single phase</p> <p>600 W for LXM05CD10M2, 200...240 V, single phase</p> <p>600 W for LXM05CD17M2, 200...240 V, single phase</p> <p>1300 W for LXM15LD10N4, 480 V, three phase</p> <p>597 W for LXM15LD10N4 at 3 A, 230 V, three phase</p> <p>600 W for LXM05AD10M3X, 200...240 V, three phase</p> <p>600 W for LXM05AD14N4, 380...480 V, three phase</p> <p>600 W for LXM05AD17M3X, 200...240 V, three phase</p> <p>600 W for LXM05BD10M3X, 200...240 V, three phase</p> <p>600 W for LXM05BD14N4, 380...480 V, three phase</p> <p>600 W for LXM05BD17M3X, 200...240 V, three phase</p> <p>600 W for LXM05CD10M3X, 200...240 V, three phase</p> <p>600 W for LXM05CD14N4, 380...480 V, three phase</p> <p>600 W for LXM05CD17M3X, 200...240 V, three phase</p>
Nominal torque	<p>1.64 N.m for LXM32.D12N4 at 3 A, 400 V, three phase</p> <p>1.64 N.m for LXM32.D12N4 at 3 A, 480 V, three phase</p> <p>1.9 N.m for LXM05AD10M2, 200...240 V, single phase</p> <p>1.9 N.m for LXM05AD17M2, 200...240 V, single phase</p> <p>1.9 N.m for LXM05BD10M2, 200...240 V, single phase</p> <p>1.9 N.m for LXM05BD17M2, 200...240 V, single phase</p> <p>1.9 N.m for LXM05CD10M2, 200...240 V, single phase</p> <p>1.9 N.m for LXM05CD17M2, 200...240 V, single phase</p> <p>1.9 N.m for LXM15LD13M3, 230 V, single phase</p> <p>1.55 N.m for LXM15LD10N4, 480 V, three phase</p> <p>1.65 N.m for LXM15LD10N4, 400 V, three phase</p> <p>1.9 N.m for LXM05AD10M3X at 3 A, 200...240 V, three phase</p> <p>1.9 N.m for LXM05AD14N4, 380...480 V, three phase</p> <p>1.9 N.m for LXM05AD17M3X, 200...240 V, three phase</p> <p>1.9 N.m for LXM05BD10M3X, 200...240 V, three phase</p> <p>1.9 N.m for LXM05BD14N4, 380...480 V, three phase</p> <p>1.9 N.m for LXM05BD17M3X, 200...240 V, three phase</p> <p>1.9 N.m for LXM05CD10M3X, 200...240 V, three phase</p> <p>1.9 N.m for LXM05CD14N4, 380...480 V, three phase</p> <p>1.9 N.m for LXM05CD17M3X, 200...240 V, three phase</p> <p>1.9 N.m for LXM15LD10N4, 230 V, three phase</p>
Nominal speed	<p>5000 rpm for LXM32.D12N4 at 3 A, 400 V, three phase</p> <p>5000 rpm for LXM32.D12N4 at 3 A, 480 V, three phase</p> <p>3000 rpm for LXM05AD10M2, 200...240 V, single phase</p> <p>3000 rpm for LXM05BD10M2, 200...240 V, single phase</p> <p>3000 rpm for LXM05CD10M2, 200...240 V, single phase</p> <p>3000 rpm for LXM05AD10M3X, 200...240 V, three phase</p> <p>3000 rpm for LXM05AD14N4, 380...480 V, three phase</p> <p>3000 rpm for LXM05BD10M3X, 200...240 V, three phase</p> <p>3000 rpm for LXM05BD14N4, 380...480 V, three phase</p> <p>3000 rpm for LXM05CD10M3X, 200...240 V, three phase</p> <p>3000 rpm for LXM05CD14N4, 380...480 V, three phase</p> <p>3000 rpm for LXM15LD13M3 at 3 A, 230 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 LXM05AD17M3X, 200...240 V, three phase</p> <p>3000 rpm for LXM05BD17M3X, 200...240 V, three phase</p> <p>3000 rpm for LXM05CD17M3X, 200...240 V, three phase</p> <p>8000 rpm for LXM15LD10N4, 480 V, three phase</p> <p>3000 rpm for LXM15LD10N4, 230 V, three phase</p> <p>6000 rpm for LXM15LD10N4, 400 V, three phase</p>

Product compatibility	LXM05AD10M2 at 200...240 V single phase LXM05AD17M2 at 200...240 V single phase LXM05BD10M2 at 200...240 V single phase LXM05BD17M2 at 200...240 V single phase LXM05CD10M2 at 200...240 V single phase LXM05CD17M2 at 200...240 V single phase LXM15LD13M3 at 230 V single phase LXM05AD10M3X at 200...240 V three phase LXM05BD10M3X at 200...240 V three phase LXM05CD10M3X at 200...240 V three phase LXM05AD14N4 at 380...480 V three phase LXM05BD14N4 at 380...480 V three phase LXM05CD14N4 at 380...480 V three phase LXM15LD10N4 at 400 V three phase LXM05AD17M3X at 200...240 V three phase LXM05BD17M3X at 200...240 V three phase LXM05CD17M3X at 200...240 V three phase LXM32.D12N4 at 400 V three phase LXM32.D12N4 at 480 V three phase LXM15LD10N4 at 230 V three phase LXM15LD10N4 at 480 V three phase
Shaft end	Untapped
IP degree of protection	IP65 standard IP67 with IP67 kit
Speed feedback resolution	131072 points/turn x 4096 turns
Holding brake	With
Mounting support	International standard flange
Electrical connection	Rotatable right-angled connectors

## Complementary

Range compatibility	Lexium 15 Lexium 05 Lexium 32
supply voltage max	480 V
Network number of phases	Three phase
Continuous stall current	2.9 A
maximum continuous power	1.51 W
Maximum current Irms	11.8 A for LXM15LD13M3 11.8 A for LXM15LD10N4 11.8 A for LXM05AD10M2 11.8 A for LXM05AD17M2 11.8 A for LXM05AD10M3X 11.8 A for LXM05AD17M3X 11.8 A for LXM05AD14N4 11.8 A for LXM05BD10M2 11.8 A for LXM05BD17M2 11.8 A for LXM05BD10M3X 11.8 A for LXM05BD17M3X 11.8 A for LXM05BD14N4 11.8 A for LXM05CD10M2 11.8 A for LXM05CD17M2 11.8 A for LXM05CD10M3X 11.8 A for LXM05CD17M3X 11.8 A for LXM05CD14N4 11.8 A for LXM32.D12N4
Maximum permanent current	11.8 A
Switching frequency	8 kHz
Second shaft	Without second shaft end
Shaft diameter	11 mm
Shaft length	23 mm
Feedback type	Multiturn SinCos Hiperface

Holding torque	2 N.m holding brake
Motor flange size	70 mm
Number of motor stacks	2
Torque constant	0.77 N.m/A at 120 °C
Back emf constant	48 V/krpm at 120 °C
Number of motor poles	3.0
Rotor inertia	0.482 kg.cm²
Stator resistance	4.2 Ohm at 20 °C
Stator inductance	10.65 mH at 20 °C
Stator electrical time constant	4.52 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
Brake pull-in power	10 W
type of cooling	Natural convection
Length	212.5 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	3 kg
Sizing reference	BSH0702P
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

## Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	12.300 cm
Package 1 Width	12.800 cm
Package 1 Length	37.700 cm
Package 1 Weight	3.250 kg
Unit Type of Package 2	S04
Number of Units in Package 2	6
Package 2 Height	30 cm

Package 2 Width	40 cm
Package 2 Length	60 cm
Package 2 Weight	20.150 kg
Unit Type of Package 3	P06
Number of Units in Package 3	24
Package 3 Height	75.000 cm
Package 3 Width	80.000 cm
Package 3 Length	60.000 cm
Package 3 Weight	88.600 kg

## Contractual warranty

Warranty	18 months
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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 >](#)

Environmental footprint	
Carbon footprint (kg.eq.CO2 per CR, Total Life cycle)	1427
Environmental Disclosure	<a href="#">Product Environmental Profile</a>

Use Better

Materials and Substances	
Packaging made with recycled cardboard	Yes
Packaging without single use plastic	No
<a href="#">EU RoHS Directive</a>	Pro-active compliance (Product out of EU RoHS legal scope)
SCIP Number	8c11b0c9-e501-4810-83eb-05fc6605ede4
REACH Regulation	<a href="#">REACH Declaration</a>
PVC free	Yes

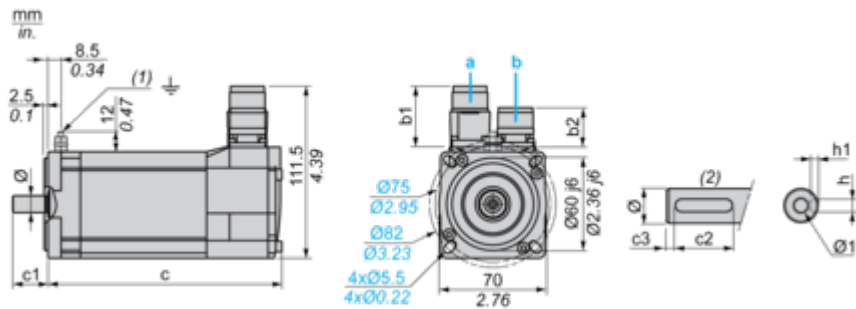
Use Again

Repack and remanufacture	
Circularity Profile	No need of specific recycling operations
Take-back	No
WEEE	 The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

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 <sup>+0.1</sup> <sub>0</sub>	11 k6	M4 x 10

Dimensions in in.

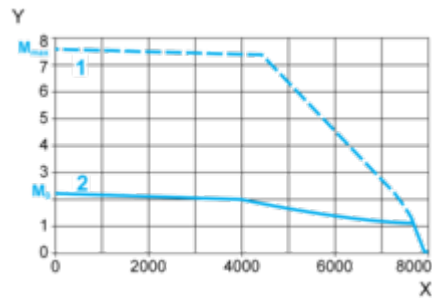
Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)	c1	c2	c3	h	h1	Ø	Ø1 for screws
b1	b2	b1	b2									
1.55	1.00	1.55	1.55	7.36	8.38	0.90	0.70	0.09	0.16 N9	0.01 <sup>+0.004</sup> <sub>0</sub>	0.43 k6	M4 x 0.39

Performance Curves

400 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D12N4 servo drive

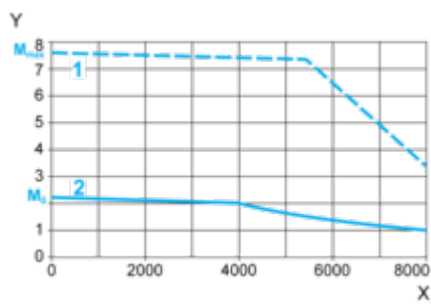


- X Speed in rpm
- Y Torque in Nm
- 1 Peak torque
- 2 Continuous torque

480 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D12N4 servo drive



- X Speed in rpm
- Y Torque in Nm
- 1 Peak torque
- 2 Continuous torque