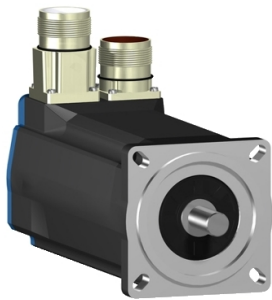


Product datasheet

Specifications



AC servo motor BSH - 1.1 N.m - 3000 rpm - untapped shaft - with brake - IP65

BSH0703P21F1A

 **Discontinued on:** 9 Feb 2023

 **Discontinued**

EAN Code: 3389118137301

Main

Device short name	BSH
Product or component type	Servo motor
Maximum mechanical speed	8000 rpm
Continuous stall torque	2.83 N.m for LXM15LD21M3, 230 V, single phase 1.1 N.m for LXM15LU60N4, 480 V, three phase 1.1 N.m for LXM15LU60N4, 400 V, three phase 1.5 N.m for LXM15LU60N4, 230 V, three phase 2.23 N.m for LXM15LD13M3, 230 V, three phase 2.4 N.m for LXM15LD10N4, 230 V, three phase 2.4 N.m for LXM15LD10N4, 400 V, three phase 2.4 N.m for LXM15LD10N4, 480 V, three phase 2.83 N.m for LXM15LD17N4, 230 V, three phase 2.83 N.m for LXM15LD17N4, 400 V, three phase 2.83 N.m for LXM15LD17N4, 480 V, three phase 2.83 N.m for LXM15LD21M3, 230 V, three phase 2.8 N.m for LXM05AD17M2, 200...240 V, single phase 2.8 N.m for LXM05AD17M3X, 200...240 V, three phase 2.8 N.m for LXM05AD22N4, 380...480 V, three phase 2.8 N.m for LXM05AD28M2, 200...240 V, single phase 2.8 N.m for LXM05BD17M2, 200...240 V, single phase 2.8 N.m for LXM05BD17M3X at 6 A, 200...240 V, three phase 2.8 N.m for LXM05BD22N4 at 6 A, 380...480 V, three phase 2.8 N.m for LXM05BD28M2, 200...240 V, single phase 2.8 N.m for LXM05CD17M2, 200...240 V, single phase 2.8 N.m for LXM05CD17M3X, 200...240 V, three phase 2.8 N.m for LXM05CD22N4, 380...480 V, three phase 2.8 N.m for LXM05CD28M2, 200...240 V, single phase 3.1 N.m for LXM32.D18N4 at 6 A, 400 V, three phase 3.1 N.m for LXM32.D18N4 at 6 A, 480 V, three phase

Peak stall torque	5.99 N.m for LXM15LD21M3, 230 V, single phase 7.16 N.m for LXM05AD17M2, 200...240 V, single phase 10.3 N.m for LXM05AD28M2, 200...240 V, single phase 7.16 N.m for LXM05BD17M2, 200...240 V, single phase 10.3 N.m for LXM05BD28M2, 200...240 V, single phase 7.16 N.m for LXM05CD17M2, 200...240 V, single phase 10.3 N.m for LXM05CD28M2, 200...240 V, single phase 3.3 N.m for LXM15LU60N4, 480 V, three phase 3.3 N.m for LXM15LU60N4, 400 V, three phase 3.3 N.m for LXM15LU60N4, 230 V, three phase 6 N.m for LXM15LD13M3, 230 V, three phase 5.3 N.m for LXM15LD10N4, 230 V, three phase 5.3 N.m for LXM15LD10N4, 400 V, three phase 5.3 N.m for LXM15LD10N4, 480 V, three phase 7.71 N.m for LXM15LD17N4, 230 V, three phase 7.71 N.m for LXM15LD17N4, 400 V, three phase 7.71 N.m for LXM15LD17N4, 480 V, three phase 9.28 N.m for LXM15LD21M3 at 6 A, 230 V, three phase 7.16 N.m for LXM05AD17M3X at 6 A, 200...240 V, three phase 8.75 N.m for LXM05AD22N4, 380...480 V, three phase 7.16 N.m for LXM05BD17M3X, 200...240 V, three phase 8.75 N.m for LXM05BD22N4, 380...480 V, three phase 7.16 N.m for LXM05CD17M3X, 200...240 V, three phase 8.75 N.m for LXM05CD22N4, 380...480 V, three phase 11.3 N.m for LXM32.D18N4 at 6 A, 400 V, three phase 11.3 N.m for LXM32.D18N4 at 6 A, 480 V, three phase
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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	750 W for LXM05AD17M2, 200...240 V, single phase 750 W for LXM05AD28M2, 200...240 V, single phase 750 W for LXM05BD17M2, 200...240 V, single phase 750 W for LXM05BD28M2, 200...240 V, single phase 750 W for LXM05CD17M2, 200...240 V, single phase 750 W for LXM05CD28M2, 200...240 V, single phase 750 W for LXM15LD21M3, 230 V, single phase 1250 W for LXM15LD10N4, 400 V, three phase 1300 W for LXM15LD17N4, 400 V, three phase 1400 W for LXM15LD17N4, 480 V, three phase 1500 W for LXM15LD10N4, 480 V, three phase 350 W for LXM15LU60N4, 230 V, three phase 700 W for LXM15LD13M3, 230 V, three phase 700 W for LXM15LU60N4, 400 V, three phase 750 W for LXM05AD17M3X, 200...240 V, three phase 750 W for LXM05AD22N4, 380...480 V, three phase 750 W for LXM05BD17M3X, 200...240 V, three phase 750 W for LXM05BD22N4 at 6 A, 380...480 V, three phase 750 W for LXM05CD17M3X at 6 A, 200...240 V, three phase 750 W for LXM05CD22N4, 380...480 V, three phase 750 W for LXM15LD10N4, 230 V, three phase 750 W for LXM15LD17N4, 230 V, three phase 750 W for LXM15LD21M3, 230 V, three phase 950 W for LXM15LU60N4, 480 V, three phase 1300 W for LXM32.D18N4 at 6 A, 400 V, three phase 1300 W for LXM32.D18N4 at 6 A, 480 V, three phase
Nominal torque	2.4 N.m for LXM05AD17M2, 200...240 V, single phase 2.4 N.m for LXM05AD28M2, 200...240 V, single phase 2.4 N.m for LXM05BD17M2, 200...240 V, single phase 2.4 N.m for LXM05BD28M2, 200...240 V, single phase 2.4 N.m for LXM05CD17M2, 200...240 V, single phase 2.4 N.m for LXM05CD28M2, 200...240 V, single phase 2.4 N.m for LXM15LD21M3, 230 V, single phase 1.12 N.m for LXM15LU60N4, 230 V, three phase 1.12 N.m for LXM15LU60N4, 400 V, three phase 1.12 N.m for LXM15LU60N4, 480 V, three phase 1.8 N.m for LXM15LD10N4, 480 V, three phase 1.96 N.m for LXM15LD17N4, 480 V, three phase 2 N.m for LXM15LD10N4, 400 V, three phase 2 N.m for LXM15LD17N4, 400 V, three phase 2.23 N.m for LXM15LD13M3, 230 V, three phase 2.4 N.m for LXM05AD17M3X, 200...240 V, three phase 2.4 N.m for LXM05AD22N4, 380...480 V, three phase 2.4 N.m for LXM05BD17M3X at 6 A, 200...240 V, three phase 2.4 N.m for LXM05BD22N4 at 6 A, 380...480 V, three phase 2.4 N.m for LXM05CD17M3X, 200...240 V, three phase 2.4 N.m for LXM05CD22N4, 380...480 V, three phase 2.4 N.m for LXM15LD10N4, 230 V, three phase 2.4 N.m for LXM15LD17N4, 230 V, three phase 2.4 N.m for LXM15LD21M3, 230 V, three phase 2.44 N.m for LXM32.D18N4 at 6 A, 400 V, three phase 2.44 N.m for LXM32.D18N4 at 6 A, 480 V, three phase

Nominal speed	3000 rpm for LXM15LD13M3, 230 V, three phase 3000 rpm for LXM05AD17M2, 200...240 V, single phase 3000 rpm for LXM05BD17M2, 200...240 V, single phase 3000 rpm for LXM05CD17M2, 200...240 V, single phase 3000 rpm for LXM05AD17M3X, 200...240 V, three phase 3000 rpm for LXM05BD17M3X, 200...240 V, three phase 3000 rpm for LXM05CD17M3X, 200...240 V, three phase 3000 rpm for LXM15LU60N4, 230 V, three phase 8000 rpm for LXM15LD10N4, 480 V, three phase 8000 rpm for LXM15LU60N4, 480 V, three phase 3000 rpm for LXM15LD10N4, 230 V, three phase 6000 rpm for LXM15LD10N4, 400 V, three phase 3000 rpm for LXM05AD28M2, 200...240 V, single phase 3000 rpm for LXM05BD28M2, 200...240 V, single phase 3000 rpm for LXM05CD28M2, 200...240 V, single phase 3000 rpm for LXM15LD21M3, 230 V, single phase 3000 rpm for LXM05AD22N4, 380...480 V, three phase 3000 rpm for LXM05BD22N4 at 6 A, 380...480 V, three phase 3000 rpm for LXM05CD22N4 at 6 A, 380...480 V, three phase 3000 rpm for LXM15LD17N4, 230 V, three phase 3000 rpm for LXM15LD21M3, 230 V, three phase 6000 rpm for LXM15LD17N4, 400 V, three phase 6000 rpm for LXM15LU60N4, 400 V, three phase 7000 rpm for LXM15LD17N4, 480 V, three phase 5000 rpm for LXM32.D18N4 at 6 A, 400 V, three phase 5000 rpm for LXM32.D18N4 at 6 A, 480 V, three phase
Product compatibility	LXM05AD17M2 at 200...240 V single phase LXM05AD28M2 at 200...240 V single phase LXM05BD17M2 at 200...240 V single phase LXM05BD28M2 at 200...240 V single phase LXM05CD17M2 at 200...240 V single phase LXM05CD28M2 at 200...240 V single phase LXM15LD21M3 at 230 V single phase LXM15LU60N4 at 230 V three phase LXM15LD13M3 at 230 V three phase LXM15LU60N4 at 400 V three phase LXM15LU60N4 at 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 LXM15LD10N4 at 230 V three phase LXM15LD10N4 at 480 V three phase LXM15LD21M3 at 230 V three phase LXM15LD17N4 at 230 V three phase LXM05AD22N4 at 380...480 V three phase LXM05BD22N4 at 380...480 V three phase LXM05CD22N4 at 380...480 V three phase LXM15LD17N4 at 400 V three phase LXM15LD17N4 at 480 V three phase LXM32.D18N4 at 400 V three phase LXM32.D18N4 at 480 V three phase
Shaft end	Untapped
IP degree of protection	IP65 standard IP67 with IP67 kit
Speed feedback resolution	131072 points/turn
Holding brake	With
Mounting support	International standard flange
Electrical connection	Straight connectors

Complementary

Range compatibility	Lexium 32 Lexium 05 Lexium 15
supply voltage max	480 V
Network number of phases	Three phase
Continuous stall current	4.1 A

maximum continuous power	1.7 W
Maximum current Irms	15.2 A for LXM15LD13M3 15.2 A for LXM15LD21M3 15.2 A for LXM15LD17N4 15.2 A for LXM15LU60N4 15.2 A for LXM15LD10N4 17 A for LXM05AD17M2 17 A for LXM05AD28M2 17 A for LXM05AD17M3X 17 A for LXM05AD22N4 17 A for LXM05BD17M2 17 A for LXM05BD28M2 17 A for LXM05BD17M3X 17 A for LXM05BD22N4 17 A for LXM05CD17M2 17 A for LXM05CD28M2 17 A for LXM05CD17M3X 17 A for LXM05CD22N4 17 A for LXM32.D18N4
Maximum permanent current	17 A
Switching frequency	8 kHz
Second shaft	Without second shaft end
Shaft diameter	14 mm
Shaft length	30 mm
Feedback type	Single turn SinCos Hiperface
Holding torque	3 N.m holding brake
Motor flange size	70 mm
Number of motor stacks	3
Torque constant	0.78 N.m/A at 120 °C
Back emf constant	49 V/krpm at 120 °C
Number of motor poles	6
Rotor inertia	0.81 kg.cm²
Stator resistance	2.7 Ohm at 20 °C
Stator inductance	13 mH at 20 °C
Stator electrical time constant	4.82 ms at 20 °C
Maximum radial force Fr	400 N at 6000 rpm 430 N at 5000 rpm 460 N at 4000 rpm 510 N at 3000 rpm 580 N at 2000 rpm 730 N at 1000 rpm
Maximum axial force Fa	0.2 x Fr
Brake pull-in power	12 W
Type of cooling	Natural convection
Length	254 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	3.8 kg

Sizing reference	BSH0703P
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	12.3 cm
Package 1 Width	12.8 cm
Package 1 Length	37.7 cm
Package 1 Weight	4.05 kg

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
PVC free	Yes

Use Longer

Lifetime extension	
Repair	No

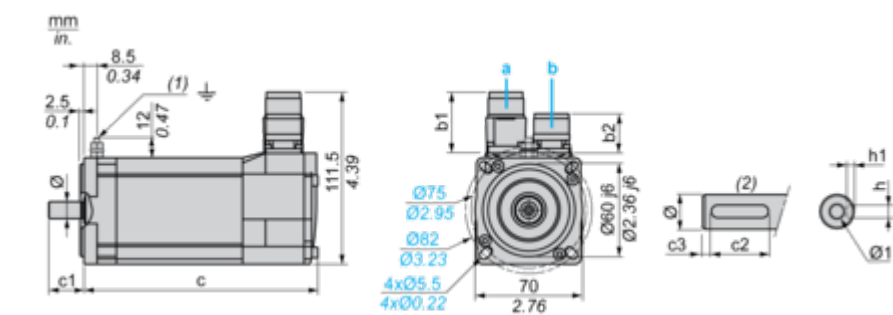
Use Again

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)

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	220	254	30	20	5	5 N9	3 ^{+0.1} ₀	14 k6	M5 x 12.5

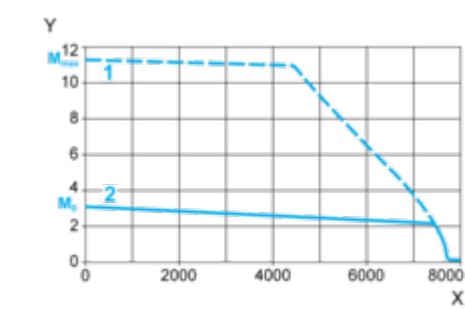
Straight connectors		Rotatable angled connectors		c (without brake)	c (with brake)	c1	c2	c3	h	h1	Ø	Ø1 for screws
b1	b2	b1	b2									
1.55	1.00	1.55	1.55	8.66	10.00	1.18	0.78	0.19	0.20 N9	0.12 ^{+0.004} ₀	0.55 k6	M5 x 0.49

Performance Curves

400 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D18N4 servo drive

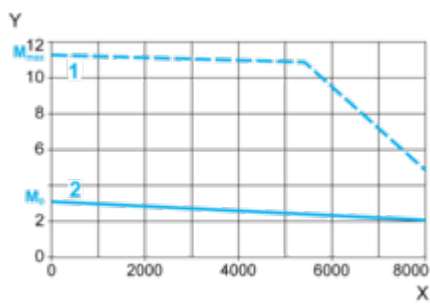


- X Speed in rpm
- Y Torque in Nm
- 1 Peak torque
- 2 Continuous torque

480 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D18N4 servo drive



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