# **Product datasheet**





servo motor BSH, Lexium 05, 2.12N.m, 6000rpm, 70mm, keyed shaft, Sincos single turn, with brake, IP65, straight

BSH0702T31F1A

! Discontinued on: 30 Jun 2023

EAN Code: 3389118136748

#### Main

<u> </u>							
Device short name	BSH						
Product or component type	Servo motor						
Maximum mechanical speed	8000 rpm						
Continuous stall torque	2.12 N.m for LXM05AD17M2, 200240 V, single phase						
•	2.12 N.m for LXM05BD17M2, 200240 V, single phase						
	2.12 N.m for LXM05CD17M2, 200240 V, single phase						
	2.12 N.m for LXM05AD17F1, 110120 V, single phase						
	2.12 N.m for LXM05AD28M2, 200240 V, single phase						
	2.12 N.m for LXM05BD17F1, 110120 V, single phase						
	2.12 N.m for LXM05BD28M2, 200240 V, single phase						
	2.12 N.m for LXM05CD17F1, 110120 V, single phase						
	2.12 N.m for LXM05CD28M2, 200240 V, single phase						
	2.12 N.m for LXM15LD17N4, 230 V, three phase						
	2.12 N.m for LXM15LD21M3, 230 V, three phase						
	2.12 N.m for LXM05AD42M3X, 200240 V, three phase						
	2.12 N.m for LXM05BD42M3X, 200240 V, three phase						
	2.12 N.m for LXM05CD42M3X, 200240 V, three phase						
Peak stall torque	4.14 N.m for LXM05AD17F1, 110120 V, single phase						
	4.14 N.m for LXM05AD17M2, 200240 V, single phase						
	4.14 N.m for LXM05BD17F1, 110120 V, single phase						
	4.14 N.m for LXM05BD17M2, 200240 V, single phase						
	4.14 N.m for LXM05CD17F1, 110120 V, single phase						
	4.14 N.m for LXM05CD17M2, 200240 V, single phase						
	6.8 N.m for LXM05AD28M2, 200240 V, single phase						
	6.8 N.m for LXM05BD28M2, 200240 V, single phase						
	6.8 N.m for LXM05CD28M2, 200240 V, single phase						
	5.45 N.m for LXM15LD21M3, 230 V, three phase						
	6.8 N.m for LXM05AD42M3X, 200240 V, three phase						
	6.8 N.m for LXM05BD42M3X, 200240 V, three phase						
	6.8 N.m for LXM05CD42M3X, 200240 V, three phase						
	4.14 N.m for LXM15LD17N4, 230 V, three phase						
Nominal output power	600 W for LXM05AD17M2, 200240 V, single phase						
	600 W for LXM05BD17M2, 200240 V, single phase						
	600 W for LXM05CD17M2, 200240 V, single phase						
	570 W for LXM05AD17F1, 110120 V, single phase						
	570 W for LXM05BD17F1, 110120 V, single phase						
	570 W for LXM05CD17F1, 110120 V, single phase						
	600 W for LXM05AD28M2, 200240 V, single phase						
	600 W for LXM05BD28M2, 200240 V, single phase						
	600 W for LXM05CD28M2, 200240 V, single phase						
	1000 W for LXM15LD17N4, 230 V, three phase						
	1000 W for LXM15LD21M3, 230 V, three phase						
	600 W for LXM05AD42M3X, 200240 V, three phase						
	600 W for LXM05BD42M3X, 200240 V, three phase						
	600 W for LXM05CD42M3X, 200240 V, three phase						

Nominal torque	1.9 N.m for LXM05AD17M2, 200240 V, single phase
	1.9 N.m for LXM05BD17M2, 200240 V, single phase 1.9 N.m for LXM05CD17M2, 200240 V, single phase
	1.83 N.m for LXM05AD17F1, 110120 V, single phase
	1.83 N.m for LXM05BD17F1, 110120 V, single phase
	1.83 N.m for LXM05CD17F1, 110120 V, single phase
	1.9 N.m for LXM05AD28M2, 200240 V, single phase
	1.9 N.m for LXM05BD28M2, 200240 V, single phase 1.9 N.m for LXM05CD28M2, 200240 V, single phase
	1.66 N.m for LXM15LD17N4, 230 V, three phase
	1.66 N.m for LXM15LD21M3, 230 V, three phase
	1.9 N.m for LXM05AD42M3X, 200240 V, three phase
	1.9 N.m for LXM05BD42M3X, 200240 V, three phase
	1.9 N.m for LXM05CD42M3X, 200240 V, three phase
Nominal speed	3000 rpm for LXM05AD17F1, 110120 V, single phase
	3000 rpm for LXM05BD17F1, 110120 V, single phase
	3000 rpm for LXM05CD17F1, 110120 V, single phase
	3000 rpm for LXM05AD17M2, 200240 V, single phase 3000 rpm for LXM05BD17M2, 200240 V, single phase
	3000 rpm for LXM05CD17M2, 200240 V, single phase
	3000 rpm for LXM05AD28M2, 200240 V, single phase
	3000 rpm for LXM05BD28M2, 200240 V, single phase
	3000 rpm for LXM05CD28M2, 200240 V, single phase
	3000 rpm for LXM05AD42M3X, 200240 V, three phase
	3000 rpm for LXM05BD42M3X, 200240 V, three phase
	3000 rpm for LXM05CD42M3X, 200240 V, three phase 6000 rpm for LXM15LD17N4, 230 V, three phase
	6000 rpm for LXM15LD21M3, 230 V, three phase
Product compatibility	LXM05AD17F1 at 110120 V single phase
	LXM05AD17M2 at 200240 V single phase LXM05AD28M2 at 200240 V single phase
	LXM05BD17F1 at 110120 V single phase
	LXM05BD17M2 at 200240 V single phase
	LXM05BD28M2 at 200240 V single phase
	LXM05CD17F1 at 110120 V single phase
	LXM05CD17M2 at 200240 V single phase
	LXM05CD28M2 at 200240 V single phase
	LXM15LD21M3 at 230 V three phase LXM05AD42M3X at 200240 V three phase
	LXM05BD42M3X at 200240 V three phase
	LXM05CD42M3X at 200240 V three phase
	LXM15LD17N4 at 230 V three phase
Shaft end	Keyed
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 05
Kange compatibility	Lexium 05 Lexium 15
supply voltage max	480 V
Network number of phases	Three phase
Continuous stall current	4.9 A
maximum continuous power	1.51 W
Maximum permanent current	19.9 A
Second shaft	Without second shaft end
Shaft diameter	11 mm
Shaft length	23 mm
•	

Key width	18 mm
Feedback type	Single turn SinCos Hiperface
Holding torque	2 N.m holding brake
Motor flange size	70 mm
Number of motor stacks	2
Torque constant	0.42 N.m/A at 120 °C
Back emf constant	28 V/krpm at 120 °C
Number of motor poles	6
Rotor inertia	0.482 kg.cm²
Stator resistance	1.5 Ohm at 20 °C
Stator inductance	6.6 mH at 20 °C
States inductance	6.5 mH at 20 °C
	0.7 mil at 20 0
Stator electrical time constant	4.47 ms at 20 °C
	4.5 ms at 20 °C
Maximum radial force Fr	390 N at 6000 rpm
maxima radia roco r	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

# **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	3.25 kg

## **Contractual warranty**

Warranty 18 months

## Sustainability Screen Premium

**Green Premium**<sup>TM</sup> **label** is Schneider Electric's commitment to delivering products with best-inclass environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO<sub>2</sub> products.

**Guide to assessing product sustainability** is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

Learn more about Green Premium >

Guide to assess a product's sustainability >





Transparency RoHS/REACh

## Well-being performance



Mercury Free



Rohs Exemption Information

Yes

### **Certifications & Standards**

Eu Rohs Directive	Pro-active compliance (Product out of EU RoHS legal scope)
China Rohs Regulation	China RoHS declaration
Environmental Disclosure	Product Environmental Profile
Weee	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
Circularity Profile	No need of specific recycling operations

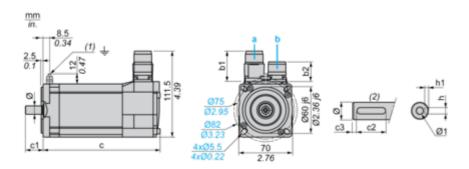
3 Sept 2024

### BSH0702T31F1A

#### **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 Rotatable angled connectors connectors		•	, , ,	c (with	c1	1 c2	сЗ	h	h1	Ø	Ø1 for	
b1	b2	b1	b2	brake)	brake)							screws
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.

Straigh	ctors	Rotatal angled connec	tors	c (without brake)		c1	c2	с3	h	h1	Ø	Ø1 for screws
b1	b2	b1	b2	brano,								
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> 0	0.43 k6	M4 x 0.39

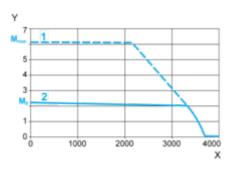
### BSH0702T31F1A

#### Performance Curves

### 115 V Single-Phase Supply Voltage

#### **Torque/Speed Curves**

Servo motor with LXM32•D30M2 servo drive

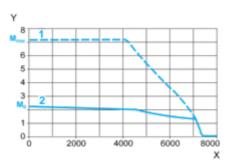


- X Speed in rpm
- Y Torque in Nm
- 1 Peak torque
- 2 Continuous torque

#### 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