Product datasheet Characteristics

BSH1001P22F1A

AC servo motor BSH - 2.7 N.m - 3000 rpm - untapped shaft - with brake - IP65



| Product or component type | Servo motor | | | | | | |
|---------------------------|---|--|--|--|--|--|--|
| Device short name | BSH | | | | | | |
| Maximum mechanical speed | 6000 rpm 3.39 N.m for LXM15LD21M3, 230 V, single phase | | | | | | |
| Continuous stall torque | 3.39 N.m for LXM15LD21M3, 230 V, single phase 2.7 N.m for LXM15LD10N4, 230 V, three phase 3.39 N.m for LXM15LD10N4, 400 V, three phase 3.39 N.m for LXM15LD10N4, 480 V, three phase 3.39 N.m for LXM15LD21M3, 230 V, three phase 3.39 N.m for LXM15LD17N4, 230 V, three phase 3.39 N.m for LXM15LD17N4, 400 V, three phase 3.39 N.m for LXM15LD17N4, 480 V, three phase 3.4 N.m for LXM05AD17M3X, 200240 V, three phase 3.4 N.m for LXM05AD22N4, 380480 V, three phase 3.4 N.m for LXM05BD17M3X, 200240 V, three phase 3.4 N.m for LXM05BD22N4, 380480 V, three phase 3.4 N.m for LXM05CD17M3X, 200240 V, three phase 3.4 N.m for LXM05CD22N4, 380480 V, three phase 3.4 N.m for LXM05CD22N4, 380480 V, three phase 3.5 N.m for LXM32.D18N4 at 6 A, 400 V, three phase 3.6 N.m for LXM32.D18N4 at 6 A, 480 V, three phase | | | | | | |
| Peak stall torque | 7.08 N.m for LXM15LD21M3, 230 V, single phase 6.19 N.m for LXM15LD10N4, 230 V, three phase 6.19 N.m for LXM15LD10N4, 400 V, three phase 6.19 N.m for LXM15LD10N4, 480 V, three phase 7.08 N.m for LXM15LD21M3, 230 V, three phase 7.08 N.m for LXM15LD17N4, 230 V, three phase 7.08 N.m for LXM15LD17N4, 400 V, three phase 7.08 N.m for LXM15LD17N4, 480 V, three phase 7.10 N.m for LXM05AD17N4, 480 V, three phase 7.1 N.m for LXM05AD17M3X, 200240 V, three phase 7.1 N.m for LXM05AD22N4, 380480 V, three phase 7.1 N.m for LXM05BD17M3X, 200240 V, three phase 7.1 N.m for LXM05BD22N4, 380480 V, three phase 7.1 N.m for LXM05CD17M3X, 200240 V, three phase 7.1 N.m for LXM05CD17M3X, 200240 V, three phase 7.1 N.m for LXM05CD17M3X, 200240 V, three phase 9.6 N.m for LXM32.D18N4 at 6 A, 400 V, three phase 9.6 N.m for LXM32.D18N4 at 6 A, 480 V, three phase | | | | | | |
| Nominal output power | 1300 W for LXM15LD17N4, 400 V, three phase 1500 W for LXM15LD10N4, 480 V, three phase 950 W for LXM15LD21M3, 230 V, single phase 1300 W for LXM15LD10N4, 400 V, three phase 1500 W for LXM15LD17N4, 480 V, three phase 500 W for LXM05AD17M3X, 200240 V, three phase 500 W for LXM05BD17M3X, 200240 V, three phase 500 W for LXM05CD17M3X, 200240 V, three phase | | | | | | |

| | 850 W for LXM15LD10N4, 230 V, three phase 900 W for LXM05AD22N4, 380480 V, three phase 900 W for LXM05BD22N4, 380480 V, three phase 900 W for LXM05CD22N4, 380480 V, three phase 950 W for LXM15LD17N4, 230 V, three phase 950 W for LXM15LD21M3, 230 V, three phase 1100 W for LXM32.D18N4 at 6 A, 400 V, three phase 1100 W for LXM32.D18N4 at 6 A, 480 V, three phase |
|---|--|
| Nominal torque | 3 N.m for LXM15LD21M3, 230 V, single phase 2.5 N.m for LXM15LD10N4, 480 V, three phase 2.5 N.m for LXM15LD17N4, 480 V, three phase 2.7 N.m for LXM15LD10N4, 230 V, three phase 2.7 N.m for LXM15LD10N4, 400 V, three phase 2.7 N.m for LXM15LD17N4, 400 V, three phase 2.92 N.m for LXM05AD22N4, 380480 V, three phase 2.92 N.m for LXM05AD22N4, 380480 V, three phase 2.92 N.m for LXM05BD22N4, 380480 V, three phase 3 N.m for LXM15LD17N4, 230 V, three phase 3 N.m for LXM15LD21M3, 230 V, three phase 3 N.m for LXM05AD17M3X, 200240 V, three phase 3.16 N.m for LXM05BD17M3X, 200240 V, three phase 3.16 N.m for LXM05CD17M3X, 200240 V, three phase 2.7 N.m for LXM05CD17M3X, 200240 V, three phase 2.7 N.m for LXM32.D18N4 at 6 A, 480 V, three phase 2.7 N.m for LXM32.D18N4 at 6 A, 480 V, three phase |
| Nominal speed | 3000 rpm for LXM15LD10N4, 230 V, three phase 3000 rpm for LXM15LD21M3, 230 V, single phase 3000 rpm for LXM05AD22N4, 380480 V, three phase 3000 rpm for LXM05BD22N4, 380480 V, three phase 3000 rpm for LXM05CD22N4, 380480 V, three phase 3000 rpm for LXM15LD17N4, 230 V, three phase 3000 rpm for LXM15LD21M3, 230 V, three phase 3000 rpm for LXM05AD17M3X, 200240 V, three phase 1500 rpm for LXM05AD17M3X, 200240 V, three phase 1500 rpm for LXM05CD17M3X, 200240 V, three phase 1500 rpm for LXM05CD17M3X, 200240 V, three phase 4500 rpm for LXM15LD10N4, 400 V, three phase 4500 rpm for LXM15LD17N4, 400 V, three phase 6000 rpm for LXM15LD17N4, 480 V, three phase 6000 rpm for LXM15LD17N4, 480 V, three phase 4000 rpm for LXM32.D18N4 at 6 A, 400 V, three phase 4000 rpm for LXM32.D18N4 at 6 A, 480 V, three phase |
| Product compatibility | LXM15LD21M3 at 230 V single phase LXM15LD10N4 at 400 V three phase LXM05AD17M3X at 200240 V three phase LXM05BD17M3X at 200240 V three phase LXM05CD17M3X at 200240 V three phase LXM15LD10N4 at 230 V three phase LXM15LD10N4 at 480 V three phase LXM15LD21M3 at 230 V three phase LXM15LD21M3 at 230 V three phase LXM15LD17N4 at 230 V three phase LXM05AD22N4 at 380480 V three phase LXM05BD22N4 at 380480 V three phase LXM05CD22N4 at 380480 V three phase LXM15LD17N4 at 400 V three phase LXM15LD17N4 at 400 V three phase LXM15LD17N4 at 480 V three phase LXM32.D18N4 at 480 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 x 4096 turns |
| Holding brake | With |
| Mounting support Electrical connection | International standard flange Straight connectors |
| Electrical connection | Straight connectors |
| Complementary | |
| Range compatibility | Lexium 05 Lexium 15 Lexium 32 |
| Supply voltage max | 480 V |
| | |

| Network number of phases | Three phase |
|---------------------------------------|---|
| Continuous stall current | 3.5 A |
| Maximum continuous power | 1.6 W |
| Maximum current Irms | 12 A for LXM15LD21M3 12 A for LXM15LD10N4 12 A for LXM15LD17N4 12 A for LXM05AD17M3X 12 A for LXM05AD22N4 12 A for LXM05BD17M3X 12 A for LXM05BD22N4 12 A for LXM05BD22N4 12 A for LXM05CD17M3X 12 A for LXM05CD17M3X 12 A for LXM05CD17M3X |
| Maximum permanent current | 12 A |
| Switching frequency | 8 kHz |
| Second shaft | Without second shaft end |
| Shaft diameter | 19 mm |
| Shaft length | 40 mm |
| Feedback type | Multiturn SinCos Hiperface |
| Holding torque | 9 N.m holding brake |
| Motor flange size | 100 mm |
| Number of motor stacks | 1 |
| Torque constant | 0.89 N.m/A at 120 °C |
| Back emf constant | 60 V/krpm at 120 °C |
| Number of motor poles | 8 |
| Rotor inertia | 2.018 kg.cm² |
| Stator resistance | 3.8 Ohm at 20 °C |
| Stator inductance | 17.6 mH at 20 °C |
| Stator electrical time constant | 4.63 ms at 20 °C |
| Maximum radial force Fr | 530 N at 5000 rpm 570 N at 4000 rpm 630 N at 3000 rpm 720 N at 2000 rpm 900 N at 1000 rpm |
| Maximum axial force Fa | 0.2 x Fr |
| Brake pull-in power | 18 W |
| Type of cooling | Natural convection |
| Length | 199.5 mm |
| Centring collar diameter | 95 mm |
| Centring collar depth | 3.5 mm |
| Number of mounting holes | 4 |
| Mounting holes diameter | 9 mm |
| Circle diameter of the mounting holes | 115 mm |
| Product weight | 4.8 kg |

Contractual warranty

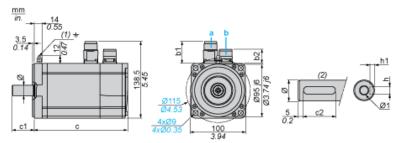
| Warranty | 18 months |
|----------|-----------|

Product datasheet **Dimensions Drawings**

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Servo Motors Dimensions

Example with Straight Connectors



- Power supply for servo motor brake a:
- b: Power supply for servo motor encoder
- (1) (2) Shaft end, keyed slot (optional)

Dimensions in mm

| 5 | Straight c | onnectors | Rotatable | angled co | c (without bral | c (with brak | с1 | c2 | h | h1 | Ø | Ø1 for screws |
|---|------------|-----------|-----------|-----------|-----------------|--------------|----|----|------|----------------------------------|-------|---------------|
| k | o 1 | b2 | b1 | b2 | | | | | | | | |
| 3 | 39.5 | 25.5 | 39.5 | 39.5 | 169 | 200 | 40 | 30 | 6 N9 | 3.5 ^{+0.1} ₀ | 19 k6 | M6 x 16 |

Dimensions in in.

| Straight connector Rotatable angled co | | c (without br | c (with brak | c1 | c2 | h | h1 | Ø | Ø1 for screws | | |
|--|------|---------------|--------------|------|------|------|------|---------|-----------------------------------|---------|-----------|
| b1 | b2 | b1 | b2 | | | | | | | | |
| 1.55 | 1.00 | 1.55 | 1.55 | 6.65 | 7.87 | 1.57 | 1.18 | 0.24 N9 | 0.14 ^{+0.1} ₀ | 0.75 k6 | M6 x 0.63 |

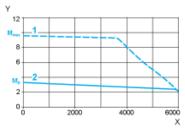
Product datasheet Performance Curves

BSH1001P22F1A

400 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D18N4 servo drive



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

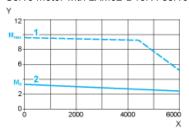
Product datasheet Performance Curves

BSH1001P22F1A

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
- Continuous torque