

# BSH1001P12A1A

AC servo motor BSH - 2.7 Nm - 6000 rpm - key shaft - without brake - IP50

## Main

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| Product or component type | AC servo motors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Component name            | BSH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Continuous stall torque   | 2.7 N.m for LXM15LD10N4 at 230 V 3 phases<br>3.39 N.m for LXM15LD10N4 at 400 V 3 phases<br>3.39 N.m for LXM15LD10N4 at 480 V 3 phases<br>3.39 N.m for LXM15LD21M3 at 230 V single phase<br>3.39 N.m for LXM15LD21M3 at 230 V 3 phases<br>3.39 N.m for LXM15LD17N4 at 230 V 3 phases<br>3.39 N.m for LXM15LD17N4 at 400 V 3 phases<br>3.39 N.m for LXM15LD17N4 at 480 V 3 phases<br>3.4 N.m for LXM05AD17M3X at 200...240 V 3 phases<br>3.4 N.m for LXM05AD22N4 at 380...480 V 3 phases<br>3.4 N.m for LXM05BD17M3X at 200...240 V 3 phases<br>3.4 N.m for LXM05BD22N4 at 380...480 V 3 phases<br>3.4 N.m for LXM05CD17M3X at 200...240 V 3 phases<br>3.4 N.m for LXM05CD22N4 at 380...480 V 3 phases  |
| Peak stall torque         | 6.19 N.m for LXM15LD10N4 at 230 V 3 phases<br>6.19 N.m for LXM15LD10N4 at 400 V 3 phases<br>6.19 N.m for LXM15LD10N4 at 480 V 3 phases<br>7.08 N.m for LXM15LD21M3 at 230 V single phase<br>7.08 N.m for LXM15LD21M3 at 230 V 3 phases<br>7.08 N.m for LXM15LD17N4 at 230 V 3 phases<br>7.08 N.m for LXM15LD17N4 at 400 V 3 phases<br>7.08 N.m for LXM15LD17N4 at 480 V 3 phases<br>7.1 N.m for LXM05AD17M3X at 200...240 V 3 phases<br>7.1 N.m for LXM05AD22N4 at 380...480 V 3 phases<br>7.1 N.m for LXM05BD17M3X at 200...240 V 3 phases<br>7.1 N.m for LXM05BD22N4 at 380...480 V 3 phases<br>7.1 N.m for LXM05CD17M3X at 200...240 V 3 phases<br>7.1 N.m for LXM05CD22N4 at 380...480 V 3 phases |
| Nominal output power      | 500 W for LXM05AD17M3X at 200...240 V 3 phases<br>500 W for LXM05BD17M3X at 200...240 V 3 phases<br>500 W for LXM05CD17M3X at 200...240 V 3 phases<br>850 W for LXM15LD10N4 at 230 V 3 phases<br>900 W for LXM05AD22N4 at 380...480 V 3 phases<br>900 W for LXM05BD22N4 at 380...480 V 3 phases<br>900 W for LXM05CD22N4 at 380...480 V 3 phases<br>950 W for LXM15LD21M3 at 230 V single phase<br>950 W for LXM15LD21M3 at 230 V 3 phases<br>950 W for LXM15LD17N4 at 230 V 3 phases<br>1300 W for LXM15LD10N4 at 400 V 3 phases<br>1300 W for LXM15LD17N4 at 400 V 3 phases<br>1500 W for LXM15LD10N4 at 480 V 3 phases<br>1500 W for LXM15LD17N4 at 480 V 3 phases                                 |

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| Nominal speed               | 1500 rpm for LXM05AD17M3X at 200...240 V 3 phases<br>1500 rpm for LXM05BD17M3X at 200...240 V 3 phases<br>1500 rpm for LXM05CD17M3X at 200...240 V 3 phases<br>3000 rpm for LXM15LD10N4 at 230 V 3 phases<br>3000 rpm for LXM15LD21M3 at 230 V single phase<br>3000 rpm for LXM15LD21M3 at 230 V 3 phases<br>3000 rpm for LXM15LD17N4 at 230 V 3 phases<br>3000 rpm for LXM05AD22N4 at 380...480 V 3 phases<br>3000 rpm for LXM05BD22N4 at 380...480 V 3 phases<br>3000 rpm for LXM05CD22N4 at 380...480 V 3 phases<br>4500 rpm for LXM15LD10N4 at 400 V 3 phases<br>4500 rpm for LXM15LD17N4 at 400 V 3 phases<br>6000 rpm for LXM15LD10N4 at 480 V 3 phases<br>6000 rpm for LXM15LD17N4 at 480 V 3 phases |
| Maximum mechanical speed    | 6000 rpm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Product compatibility       | LXM05AD17M3X at 200...240 V 3 phases<br>LXM05AD22N4 at 380...480 V 3 phases<br>LXM05BD17M3X at 200...240 V 3 phases<br>LXM05BD22N4 at 380...480 V 3 phases<br>LXM05CD17M3X at 200...240 V 3 phases<br>LXM05CD22N4 at 380...480 V 3 phases<br>LXM15LD10N4 at 230 V 3 phases<br>LXM15LD10N4 at 400 V 3 phases<br>LXM15LD10N4 at 480 V 3 phases<br>LXM15LD17N4 at 400 V 3 phases<br>LXM15LD17N4 at 480 V 3 phases<br>LXM15LD17N4 at 230 V 3 phases<br>LXM15LD21M3 at 230 V single phase<br>LXM15LD21M3 at 230 V 3 phases                                                                                                                                                                                       |
| Shaft end                   | Keyed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| IP degree of protection     | IP50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Encoder type                | Absolute multiturn SinCos Hiperface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Encoder feedback resolution | 131072 points/turn x 4096 turns                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Holding brake               | Without                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Mounting support            | International standard flange                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Electrical connection       | Straight connectors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Number of poles             | 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## Complementary

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| Range compatibility                         | Lexium 05<br>Lexium 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Nominal torque                              | 2.5 N.m for LXM15LD10N4 at 480 V 3 phases<br>2.5 N.m for LXM15LD17N4 at 480 V 3 phases<br>2.7 N.m for LXM15LD10N4 at 230 V 3 phases<br>2.7 N.m for LXM15LD10N4 at 400 V 3 phases<br>2.7 N.m for LXM15LD17N4 at 400 V 3 phases<br>2.92 N.m for LXM05AD22N4 at 380...480 V 3 phases<br>2.92 N.m for LXM05BD22N4 at 380...480 V 3 phases<br>2.92 N.m for LXM05CD22N4 at 380...480 V 3 phases<br>3 N.m for LXM15LD21M3 at 230 V single phase<br>3 N.m for LXM15LD21M3 at 230 V 3 phases<br>3 N.m for LXM15LD17N4 at 230 V 3 phases<br>3.16 N.m for LXM05AD17M3X at 200...240 V 3 phases<br>3.16 N.m for LXM05BD17M3X at 200...240 V 3 phases<br>3.16 N.m for LXM05CD17M3X at 200...240 V 3 phases |
| Maximum current I <sub>rms</sub>            | 12 A for LXM15LD21M3<br>12 A for LXM15LD10N4<br>12 A for LXM15LD17N4<br>12 A for LXM05AD17M3X<br>12 A for LXM05AD22N4<br>12 A for LXM05BD17M3X<br>12 A for LXM05BD22N4<br>12 A for LXM05CD17M3X<br>12 A for LXM05CD22N4                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Switching frequency                         | 4 kHz for LEX05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Torque constant                             | 0.89 N.m/A rms at 120 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Back electromagnetical force (emf) constant | 60 V rms/krpm at 120 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Rotor inertia                               | 1.4 kg.cm <sup>2</sup> without brake                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Stator resistance                           | 3.8 Ohm at 20 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Stator inductance                           | 17.6 mH at 20 °C<br>19 mH at 20 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Stator electrical time constant             | 4.63 ms at 20 °C<br>5 ms at 20 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Maximum radial force Fr                     | 530 N at 5000 rpm<br>570 N at 4000 rpm<br>630 N at 3000 rpm<br>720 N at 2000 rpm<br>900 N at 1000 rpm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Maximum axial force Fa                      | 0.2 x Fr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Product weight                              | 4.2 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

## Environment

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| RoHS EUR conformity date | 0850      |
| RoHS EUR status          | Compliant |