

# BSH0551T12A2A

AC servo motor BSH - 0.5 Nm - 8000 rpm - key shaft - without brake - IP50

## Main

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| Product or component type | AC servo motors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Component name            | BSH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Continuous stall torque   | 0.5 N.m for LXM15LD13M3 at 230 V 3 phases<br>0.5 N.m for LXM05CU70M2 at 200...240 V single phase<br>0.5 N.m for LXM05AD10F1 at 110...120 V single phase<br>0.5 N.m for LXM05AD10M2 at 200...240 V single phase<br>0.5 N.m for LXM05AD10M3X at 200...240 V 3 phases<br>0.5 N.m for LXM05BD10F1 at 110...120 V single phase<br>0.5 N.m for LXM05BD10M2 at 200...240 V single phase<br>0.5 N.m for LXM05BD10M3X at 200...240 V 3 phases<br>0.5 N.m for LXM05CD10F1 at 110...120 V single phase<br>0.5 N.m for LXM05CD10M2 at 200...240 V single phase<br>0.5 N.m for LXM05CD10M3X at 200...240 V 3 phases   |
| Peak stall torque         | 1.08 N.m for LXM05CU70M2 at 200...240 V single phase<br>1.24 N.m for LXM15LD13M3 at 230 V 3 phases<br>1.4 N.m for LXM05AD10F1 at 110...120 V single phase<br>1.4 N.m for LXM05AD10M2 at 200...240 V single phase<br>1.4 N.m for LXM05AD10M3X at 200...240 V 3 phases<br>1.4 N.m for LXM05BD10F1 at 110...120 V single phase<br>1.4 N.m for LXM05BD10M2 at 200...240 V single phase<br>1.4 N.m for LXM05BD10M3X at 200...240 V 3 phases<br>1.4 N.m for LXM05CD10F1 at 110...120 V single phase<br>1.4 N.m for LXM05CD10M2 at 200...240 V single phase<br>1.4 N.m for LXM05CD10M3X at 200...240 V 3 phases |
| Nominal output power      | 150 W for LXM05CU70M2 at 200...240 V single phase<br>150 W for LXM05AD10F1 at 110...120 V single phase<br>150 W for LXM05BD10F1 at 110...120 V single phase<br>150 W for LXM05CD10F1 at 110...120 V single phase<br>270 W for LXM05AD10M2 at 200...240 V single phase<br>270 W for LXM05AD10M3X at 200...240 V 3 phases<br>270 W for LXM05BD10M2 at 200...240 V single phase<br>270 W for LXM05BD10M3X at 200...240 V 3 phases<br>270 W for LXM05CD10M2 at 200...240 V single phase<br>270 W for LXM05CD10M3X at 200...240 V 3 phases<br>340 W for LXM15LD13M3 at 230 V 3 phases                         |

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| Nominal speed               | 3000 rpm for LXM05CU70M2 at 200...240 V single phase<br>3000 rpm for LXM05AD10F1 at 110...120 V single phase<br>3000 rpm for LXM05BD10F1 at 110...120 V single phase<br>3000 rpm for LXM05CD10F1 at 110...120 V single phase<br>6000 rpm for LXM05AD10M2 at 200...240 V single phase<br>6000 rpm for LXM05AD10M3X at 200...240 V 3 phases<br>6000 rpm for LXM05BD10M2 at 200...240 V single phase<br>6000 rpm for LXM05BD10M3X at 200...240 V 3 phases<br>6000 rpm for LXM05CD10M2 at 200...240 V single phase<br>6000 rpm for LXM05CD10M3X at 200...240 V 3 phases<br>8000 rpm for LXM15LD13M3 at 230 V 3 phases |
| Maximum mechanical speed    | 8000 rpm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Product compatibility       | LXM05AD10F1 at 110...120 V single phase<br>LXM05AD10M2 at 200...240 V single phase<br>LXM05AD10M3X at 200...240 V 3 phases<br>LXM05BD10F1 at 110...120 V single phase<br>LXM05BD10M2 at 200...240 V single phase<br>LXM05BD10M3X at 200...240 V 3 phases<br>LXM05CD10F1 at 110...120 V single phase<br>LXM05CD10M2 at 200...240 V single phase<br>LXM05CD10M3X at 200...240 V 3 phases<br>LXM05CU70M2 at 200...240 V single phase<br>LXM15LD13M3 at 230 V 3 phases                                                                                                                                                |
| Shaft end                   | Keyed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| IP degree of protection     | IP50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Encoder type                | Absolute multitrans SinCos Hiperface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Encoder feedback resolution | 131072 points/turn x 4096 turns                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Holding brake               | Without                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Mounting support            | International standard flange                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Electrical connection       | Rotatable right-angled connectors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Number of poles             | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## Complementary

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| Range compatibility  | Lexium 05<br>Lexium 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Nominal torque       | 0.41 N.m for LXM15LD13M3 at 230 V 3 phases<br>0.43 N.m for LXM05AD10M2 at 200...240 V single phase<br>0.43 N.m for LXM05AD10M3X at 200...240 V 3 phases<br>0.43 N.m for LXM05BD10M2 at 200...240 V single phase<br>0.43 N.m for LXM05BD10M3X at 200...240 V 3 phases<br>0.43 N.m for LXM05CD10M2 at 200...240 V single phase<br>0.43 N.m for LXM05CD10M3X at 200...240 V 3 phases<br>0.46 N.m for LXM05AD10F1 at 110...120 V single phase<br>0.46 N.m for LXM05CU70M2 at 200...240 V single phase<br>0.46 N.m for LXM05BD10F1 at 110...120 V single phase<br>0.46 N.m for LXM05CD10F1 at 110...120 V single phase |
| Maximum current Irms | 5.4 A for LXM05AD10F1<br>5.4 A for LXM05CU70M2<br>5.4 A for LXM05AD10M2<br>5.4 A for LXM05AD10M3X<br>5.4 A for LXM05BD10F1<br>5.4 A for LXM05BD10M2<br>5.4 A for LXM05BD10M3X<br>5.4 A for LXM05CD10F1<br>5.4 A for LXM05CD10M2<br>5.4 A for LXM05CD10M3X<br>6.2 A for LXM15LD13M3                                                                                                                                                                                                                                                                                                                                |
| Switching frequency  | 8 kHz for LEX05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Torque constant      | 0.28 N.m/A rms at 120 °C<br>0.36 N.m/A rms at 120 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| Back electromagnetical force (emf) constant | 18 V rms/krpm at 120 °C<br>22 V rms/krpm at 120 °C                                                                                                                   |
| Rotor inertia                               | 0.009 kg.cm <sup>2</sup> without brake                                                                                                                               |
| Stator resistance                           | 11 Ohm at 20 °C<br>12.2 Ohm at 20 °C                                                                                                                                 |
| Stator inductance                           | 12 mH at 20 °C<br>20.8 mH at 20 °C                                                                                                                                   |
| Stator electrical time constant             | 1.09 ms at 20 °C<br>1.7 ms at 20 °C                                                                                                                                  |
| Maximum radial force Fr                     | 170 N at 8000 rpm<br>180 N at 7000 rpm<br>190 N at 6000 rpm<br>200 N at 5000 rpm<br>220 N at 4000 rpm<br>240 N at 3000 rpm<br>270 N at 2000 rpm<br>340 N at 1000 rpm |
| Maximum axial force Fa                      | 0.2 x Fr                                                                                                                                                             |
| Product weight                              | 1.16 kg                                                                                                                                                              |

## Environment

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