

# BSH0703M12A1A

AC servo motor BSH - 2.8 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   | 2.8 N.m for LXM05AD10M2 at 200...240 V single phase<br>2.8 N.m for LXM05AD10M3X at 200...240 V 3 phases<br>2.8 N.m for LXM05AD14N4 at 380...480 V 3 phases<br>2.8 N.m for LXM05BD10M2 at 200...240 V single phase<br>2.8 N.m for LXM05BD10M3X at 200...240 V 3 phases<br>2.8 N.m for LXM05BD14N4 at 380...480 V 3 phases<br>2.8 N.m for LXM05CD10M2 at 200...240 V single phase<br>2.8 N.m for LXM05CD10M3X at 200...240 V 3 phases<br>2.8 N.m for LXM05CD14N4 at 380...480 V 3 phases          |
| Peak stall torque         | 8.6 N.m for LXM05AD10M2 at 200...240 V single phase<br>8.6 N.m for LXM05AD10M3X at 200...240 V 3 phases<br>8.6 N.m for LXM05AD14N4 at 380...480 V 3 phases<br>8.6 N.m for LXM05BD10M2 at 200...240 V single phase<br>8.6 N.m for LXM05BD10M3X at 200...240 V 3 phases<br>8.6 N.m for LXM05BD14N4 at 380...480 V 3 phases<br>8.6 N.m for LXM05CD10M2 at 200...240 V single phase<br>8.6 N.m for LXM05CD10M3X at 200...240 V 3 phases<br>8.6 N.m for LXM05CD14N4 at 380...480 V 3 phases          |
| Nominal output power      | 400 W for LXM05AD10M2 at 200...240 V single phase<br>400 W for LXM05AD10M3X at 200...240 V 3 phases<br>400 W for LXM05BD10M2 at 200...240 V single phase<br>400 W for LXM05BD10M3X at 200...240 V 3 phases<br>400 W for LXM05CD10M2 at 200...240 V single phase<br>400 W for LXM05CD10M3X at 200...240 V 3 phases<br>750 W for LXM05AD14N4 at 380...480 V 3 phases<br>750 W for LXM05BD14N4 at 380...480 V 3 phases<br>750 W for LXM05CD14N4 at 380...480 V 3 phases                            |
| Nominal speed             | 1500 rpm for LXM05AD10M2 at 200...240 V single phase<br>1500 rpm for LXM05AD10M3X at 200...240 V 3 phases<br>1500 rpm for LXM05BD10M2 at 200...240 V single phase<br>1500 rpm for LXM05BD10M3X at 200...240 V 3 phases<br>1500 rpm for LXM05CD10M2 at 200...240 V single phase<br>1500 rpm for LXM05CD10M3X at 200...240 V 3 phases<br>3000 rpm for LXM05AD14N4 at 380...480 V 3 phases<br>3000 rpm for LXM05BD14N4 at 380...480 V 3 phases<br>3000 rpm for LXM05CD14N4 at 380...480 V 3 phases |
| Maximum mechanical speed  | 8000 rpm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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| Product compatibility       | LXM05AD10M2 at 200...240 V single phase<br>LXM05AD10M3X at 200...240 V 3 phases<br>LXM05AD14N4 at 380...480 V 3 phases<br>LXM05BD10M2 at 200...240 V single phase<br>LXM05BD10M3X at 200...240 V 3 phases<br>LXM05BD14N4 at 380...480 V 3 phases<br>LXM05CD10M2 at 200...240 V single phase<br>LXM05CD10M3X at 200...240 V 3 phases<br>LXM05CD14N4 at 380...480 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             | 6                                                                                                                                                                                                                                                                                                                                                                          |

## Complementary

|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range compatibility                         | Lexium 05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Nominal torque                              | 2.4 N.m for LXM05AD14N4 at 380...480 V 3 phases<br>2.4 N.m for LXM05BD14N4 at 380...480 V 3 phases<br>2.4 N.m for LXM05CD14N4 at 380...480 V 3 phases<br>2.63 N.m for LXM05AD10M2 at 200...240 V single phase<br>2.63 N.m for LXM05AD10M3X at 200...240 V 3 phases<br>2.63 N.m for LXM05BD10M2 at 200...240 V single phase<br>2.63 N.m for LXM05BD10M3X at 200...240 V 3 phases<br>2.63 N.m for LXM05CD10M2 at 200...240 V single phase<br>2.63 N.m for LXM05CD10M3X at 200...240 V 3 phases |
| Maximum current I <sub>rms</sub>            | 8.7 A for LXM05AD10M2<br>8.7 A for LXM05AD10M3X<br>8.7 A for LXM05AD14N4<br>8.7 A for LXM05BD10M2<br>8.7 A for LXM05BD10M3X<br>8.7 A for LXM05BD14N4<br>8.7 A for LXM05CD10M2<br>8.7 A for LXM05CD10M3X<br>8.7 A for LXM05CD14N4                                                                                                                                                                                                                                                             |
| Switching frequency                         | 4 kHz for LEX05                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Torque constant                             | 1.48 N.m/A rms at 120 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Back electromagnetical force (emf) constant | 95 V rms/krpm at 120 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Rotor inertia                               | 0.58 kg.cm <sup>2</sup> without brake                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Stator resistance                           | 10.2 Ohm at 20 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Stator inductance                           | 49.2 mH at 20 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Stator electrical time constant             | 4.82 ms at 20 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Maximum radial force Fr                     | 400 N at 6000 rpm<br>430 N at 5000 rpm<br>460 N at 4000 rpm<br>510 N at 3000 rpm<br>580 N at 2000 rpm<br>730 N at 1000 rpm                                                                                                                                                                                                                                                                                                                                                                   |
| Maximum axial force Fa                      | 0.2 x Fr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Product weight                              | 3.62 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## Environment

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