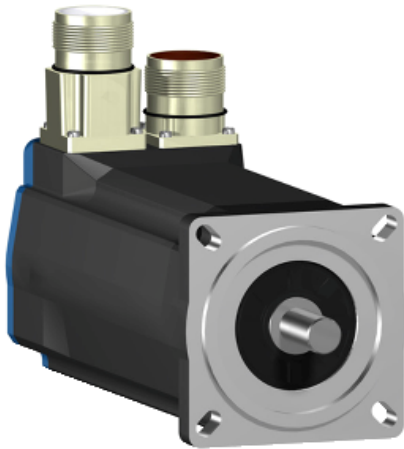


# BSH0701P22A1A

AC servo motor BSH - 1.4 N.m - 3000 rpm -  
untapped shaft - without brake - IP65



## Main

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product or component type | Servo motor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Device short name         | BSH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Maximum mechanical speed  | 8000 rpm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Continuous stall torque   | 1.4 N.m for LXM32.D12N4 at 3 A, 400 V, three phase<br>1.4 N.m for LXM32.D12N4 at 3 A, 480 V, three phase<br>1.4 N.m for LXM05AD10M3X, 200...240 V, three phase<br>1.4 N.m for LXM05BD10M3X, 200...240 V, three phase<br>1.4 N.m for LXM05CD10M3X, 200...240 V, three phase<br>1.4 N.m for LXM15LD13M3, 230 V, single phase<br>1.4 N.m for LXM05AD10M2, 200...240 V, single phase<br>1.4 N.m for LXM05BD10M2, 200...240 V, single phase<br>1.4 N.m for LXM05CD10M2, 200...240 V, single phase<br>1.4 N.m for LXM15LU60N4, 230 V, three phase         |
| Peak stall torque         | 3.5 N.m for LXM32.D12N4 at 3 A, 400 V, three phase<br>3.5 N.m for LXM32.D12N4 at 3 A, 480 V, three phase<br>2.66 N.m for LXM05AD10M3X, 200...240 V, three phase<br>2.66 N.m for LXM05BD10M3X, 200...240 V, three phase<br>2.66 N.m for LXM05CD10M3X, 200...240 V, three phase<br>2.66 N.m for LXM15LD13M3, 230 V, single phase<br>2.66 N.m for LXM05AD10M2, 200...240 V, single phase<br>2.66 N.m for LXM05BD10M2, 200...240 V, single phase<br>2.66 N.m for LXM05CD10M2, 200...240 V, single phase<br>2.66 N.m for LXM15LU60N4, 230 V, three phase |
| Nominal output power      | 700 W for LXM32.D12N4 at 3 A, 400 V, three phase<br>700 W for LXM32.D12N4 at 3 A, 480 V, three phase<br>400 W for LXM05AD10M2, 200...240 V, single phase<br>400 W for LXM05BD10M2, 200...240 V, single phase<br>400 W for LXM05CD10M2, 200...240 V, single phase<br>411 W for LXM15LD13M3, 230 V, single phase<br>400 W for LXM05AD10M3X, 200...240 V, three phase<br>400 W for LXM05BD10M3X, 200...240 V, three phase<br>400 W for LXM05CD10M3X, 200...240 V, three phase<br>411 W for LXM15LU60N4, 230 V, three phase                             |
| Nominal torque            | 1.32 N.m for LXM32.D12N4 at 3 A, 400 V, three phase<br>1.32 N.m for LXM32.D12N4 at 3 A, 480 V, three phase<br>1.3 N.m for LXM05AD10M2, 200...240 V, single phase<br>1.3 N.m for LXM05BD10M2, 200...240 V, single phase<br>1.3 N.m for LXM05CD10M2, 200...240 V, single phase<br>1.31 N.m for LXM15LD13M3, 230 V, single phase<br>1.3 N.m for LXM05AD10M3X, 200...240 V, three phase<br>1.3 N.m for LXM05BD10M3X, 200...240 V, three phase<br>1.3 N.m for LXM05CD10M3X, 200...240 V, three phase                                                     |

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                           | 1.31 N.m for LXM15LU60N4, 230 V, three phase                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Nominal speed             | 5000 rpm for LXM32.D12N4 at 3 A, 400 V, three phase<br>5000 rpm for LXM32.D12N4 at 3 A, 480 V, three phase<br>3000 rpm for LXM05AD10M2, 200...240 V, single phase<br>3000 rpm for LXM05BD10M2, 200...240 V, single phase<br>3000 rpm for LXM05CD10M2, 200...240 V, single phase<br>3000 rpm for LXM05AD10M3X, 200...240 V, three phase<br>3000 rpm for LXM05BD10M3X, 200...240 V, three phase<br>3000 rpm for LXM05CD10M3X, 200...240 V, three phase<br>3000 rpm for LXM15LD13M3, 230 V, single phase<br>3000 rpm for LXM15LU60N4, 230 V, three phase |
| Product compatibility     | LXM05AD10M2 at 200...240 V single phase<br>LXM05BD10M2 at 200...240 V single phase<br>LXM05CD10M2 at 200...240 V single phase<br>LXM15LD13M3 at 230 V single phase<br>LXM15LU60N4 at 230 V three phase<br>LXM05AD10M3X at 200...240 V three phase<br>LXM05BD10M3X at 200...240 V three phase<br>LXM05CD10M3X at 200...240 V three phase<br>LXM32.D12N4 at 400 V three phase<br>LXM32.D12N4 at 480 V three phase                                                                                                                                       |
| Shaft end                 | Untapped                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| IP degree of protection   | IP65 standard<br>IP67 with IP67 kit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Speed feedback resolution | 131072 points/turn x 4096 turns                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Holding brake             | Without                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Mounting support          | International standard flange                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Electrical connection     | Straight connectors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## Complementary

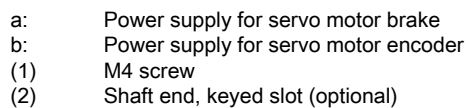
|                                 |                                                                                                                                                                                                                                  |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range compatibility             | Lexium 05<br>Lexium 15<br>Lexium 32                                                                                                                                                                                              |
| Supply voltage max              | 480 V                                                                                                                                                                                                                            |
| Network number of phases        | Three phase                                                                                                                                                                                                                      |
| Continuous stall current        | 1.8 A                                                                                                                                                                                                                            |
| Maximum continuous power        | 1.06 W                                                                                                                                                                                                                           |
| Maximum current Irms            | 5.7 A for LXM05AD10M3X<br>5.7 A for LXM05BD10M2<br>5.7 A for LXM05BD10M3X<br>5.7 A for LXM05CD10M2<br>5.7 A for LXM05CD10M3X<br>5.3 A for LXM15LD13M3<br>5.3 A for LXM15LU60N4<br>5.7 A for LXM05AD10M2<br>5.7 A for LXM32.D12N4 |
| Maximum permanent current       | 5.7 A                                                                                                                                                                                                                            |
| Switching frequency             | 8 kHz                                                                                                                                                                                                                            |
| Second shaft                    | Without second shaft end                                                                                                                                                                                                         |
| Shaft diameter                  | 11 mm                                                                                                                                                                                                                            |
| Shaft length                    | 23 mm                                                                                                                                                                                                                            |
| Feedback type                   | Multiturn SinCos Hiperface                                                                                                                                                                                                       |
| Motor flange size               | 70 mm                                                                                                                                                                                                                            |
| Number of motor stacks          | 1                                                                                                                                                                                                                                |
| Torque constant                 | 0.8 N.m/A at 120 °C                                                                                                                                                                                                              |
| Back emf constant               | 46 V/krpm at 120 °C                                                                                                                                                                                                              |
| Number of motor poles           | 6                                                                                                                                                                                                                                |
| Rotor inertia                   | 0.25 kg.cm²                                                                                                                                                                                                                      |
| Stator resistance               | 10.4 Ohm at 20 °C                                                                                                                                                                                                                |
| Stator inductance               | 38.8 mH at 20 °C                                                                                                                                                                                                                 |
| Stator electrical time constant | 3.73 ms at 20 °C                                                                                                                                                                                                                 |

|                                       |                                                                                                                            |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Maximum radial force Fr               | 360 N at 6000 rpm<br>380 N at 5000 rpm<br>410 N at 4000 rpm<br>460 N at 3000 rpm<br>520 N at 2000 rpm<br>660 N at 1000 rpm |
| Maximum axial force Fa                | 0.2 x Fr                                                                                                                   |
| Type of cooling                       | Natural convection                                                                                                         |
| Length                                | 154 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                                                                                                                      |
| Product weight                        | 2.2 kg                                                                                                                     |

### Contractual warranty

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

### Example with Straight Connectors



| Straight connectors |      | Rotatable angled connectors |      | c (without bracket) | c (with bracket) | c1 | c2 | c3  | h    | h1                               | Ø     | Ø1 for screws |
|---------------------|------|-----------------------------|------|---------------------|------------------|----|----|-----|------|----------------------------------|-------|---------------|
| b1                  | b2   | b1                          | b2   |                     |                  |    |    |     |      |                                  |       |               |
| 39.5                | 25.5 | 39.5                        | 39.5 | 154                 | 180              | 23 | 18 | 2.5 | 4 N9 | 2.5 <sup>+0.1</sup> <sub>0</sub> | 11 k6 | M4 x 10       |

| Straight connect |      | Rotatable angled |      | c (without bracket) | c (with bracket) | c1   | c2   | c3   | h       | h1                                  | Ø       | Ø1 for screws |
|------------------|------|------------------|------|---------------------|------------------|------|------|------|---------|-------------------------------------|---------|---------------|
| b1               | b2   | b1               | b2   |                     |                  |      |      |      |         |                                     |         |               |
| 1.55             | 1.00 | 1.55             | 1.55 | 6.06                | 7.08             | 0.90 | 0.70 | 0.09 | 0.16 N9 | 0.01 <sup>+0.004</sup> <sub>0</sub> | 0.43 k6 | M4 x 0.39     |

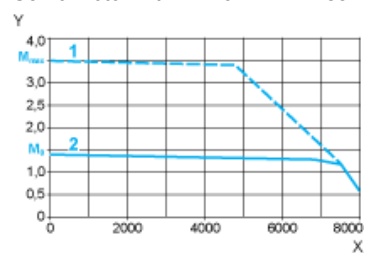
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400 V 3-Phase Supply Voltage

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Torque/Speed Curves

Servo motor with LXM32•D12N4 servo drive

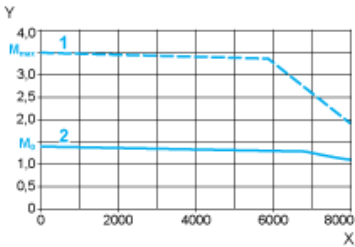


X Speed in rpm  
Y Torque in Nm  
1 Peak torque  
2 Continuous torque

480 V 3-Phase Supply Voltage

Torque/Speed Curves

Servo motor with LXM32•D12N4 servo drive



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