

# Product datasheet

Specifications



## AC servo motors BRH - 4.2 N.m - 6000 rpm - keyed shaft - without brake - IP56

BRH0851P30A1A

⚠ Discontinued on: 4 Jul 2022

⚠ Discontinued

### Main

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product or component type | Motion servo motors                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Component name            | BRH                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Continuous stall torque   | 1.86 N.m                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Peak stall torque         | 4.61 N.m for LXM05AD17F1<br>4.61 N.m for LXM05AD17M2<br>4.61 N.m for LXM05AD17M3X<br>4.61 N.m for LXM05BD17F1<br>4.61 N.m for LXM05BD17M2<br>4.61 N.m for LXM05BD17M3X<br>4.61 N.m for LXM05CD17F1<br>4.61 N.m for LXM05CD17M2<br>4.61 N.m for LXM05CD17M3X<br>5.34 N.m for LXM05AD22N4<br>5.34 N.m for LXM05BD22N4<br>5.34 N.m for LXM05CD22N4                                                                                                 |
| Nominal output power      | 280 W for LXM05AD17F1<br>280 W for LXM05BD17F1<br>280 W for LXM05CD17F1<br>730 W for LXM05AD17M2<br>730 W for LXM05AD17M3X<br>730 W for LXM05BD17M2<br>730 W for LXM05BD17M3X<br>730 W for LXM05CD17M2<br>730 W for LXM05CD17M3X<br>910 W for LXM05AD22N4<br>910 W for LXM05BD22N4<br>910 W for LXM05CD22N4                                                                                                                                     |
| Nominal speed             | 1500 rpm for LXM05AD17F1<br>1500 rpm for LXM05BD17F1<br>1500 rpm for LXM05CD17F1<br>4500 rpm for LXM05AD17M2<br>4500 rpm for LXM05AD17M3X<br>4500 rpm for LXM05BD17M2<br>4500 rpm for LXM05BD17M3X<br>4500 rpm for LXM05CD17M2<br>4500 rpm for LXM05CD17M3X<br>6000 rpm for LXM05AD22N4<br>6000 rpm for LXM05BD22N4<br>6000 rpm for LXM05CD22N4                                                                                                 |
| Maximum mechanical speed  | 6000 rpm                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Product compatibility     | LXM05AD17F1 at 115 V single phase<br>LXM05AD17M2 at 230 V single phase<br>LXM05AD17M3X at 230 V 3 phases<br>LXM05AD22N4 at 400/480 V 3 phases<br>LXM05BD17F1 at 115 V single phase<br>LXM05BD17M2 at 230 V single phase<br>LXM05BD17M3X at 230 V 3 phases<br>LXM05BD22N4 at 400/480 V 3 phases<br>LXM05CD17F1 at 115 V single phase<br>LXM05CD17M2 at 230 V single phase<br>LXM05CD17M3X at 230 V 3 phases<br>LXM05CD22N4 at 400/480 V 3 phases |

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

|                           |                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Shaft end                 | Keyed                                                                                                                                                                                                                                                                                                                                           |
| IP degree of protection   | IP56                                                                                                                                                                                                                                                                                                                                            |
| Encoder type              | Single turn SinCos Hiperface                                                                                                                                                                                                                                                                                                                    |
| Speed feedback resolution | 16384 points/turn                                                                                                                                                                                                                                                                                                                               |
| Holding brake             | Without                                                                                                                                                                                                                                                                                                                                         |
| Mounting support          | International standard flange                                                                                                                                                                                                                                                                                                                   |
| Electrical connection     | Straight connectors                                                                                                                                                                                                                                                                                                                             |
| Nominal torque            | 1.45 N.m for LXM05AD22N4<br>1.45 N.m for LXM05BD22N4<br>1.45 N.m for LXM05CD22N4<br>1.55 N.m for LXM05AD17M2<br>1.55 N.m for LXM05AD17M3X<br>1.55 N.m for LXM05BD17M2<br>1.55 N.m for LXM05BD17M3X<br>1.55 N.m for LXM05CD17M2<br>1.55 N.m for LXM05CD17M3X<br>1.76 N.m for LXM05AD17F1<br>1.76 N.m for LXM05BD17F1<br>1.76 N.m for LXM05CD17F1 |
| Number of poles           | 10                                                                                                                                                                                                                                                                                                                                              |
| Maximum radial force Fr   | 173 N at 6000 rpm<br>176 N at 5000 rpm<br>181 N at 4000 rpm<br>187 N at 3000 rpm<br>193 N at 2000 rpm<br>226 N at 1000 rpm                                                                                                                                                                                                                      |

## Complementary

|                                 |                                                                                                                                                                                                                                                                                                 |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range compatibility             | Lexium 05                                                                                                                                                                                                                                                                                       |
| Switching frequency             | 8 kHz                                                                                                                                                                                                                                                                                           |
| Maximum current Irms            | 11 A for LXM05AD17F1<br>11 A for LXM05AD17M2<br>11 A for LXM05AD17M3X<br>11 A for LXM05BD17F1<br>11 A for LXM05BD17M2<br>11 A for LXM05BD17M3X<br>11 A for LXM05CD17F1<br>11 A for LXM05CD17M2<br>11 A for LXM05CD17M3X<br>14 A for LXM05AD22N4<br>14 A for LXM05BD22N4<br>14 A for LXM05CD22N4 |
| Torque constant                 | 0.48 N.m/A at 120 °C                                                                                                                                                                                                                                                                            |
| Back emf constant               | 30.5 V/krpm at 120 °C                                                                                                                                                                                                                                                                           |
| Rotor inertia                   | 1.06 kg.cm² without brake<br>1.59 kg.cm² with brake                                                                                                                                                                                                                                             |
| Stator resistance               | 2.1 Ohm                                                                                                                                                                                                                                                                                         |
| Stator inductance               | 8 mH                                                                                                                                                                                                                                                                                            |
| Stator electrical time constant | 3.8 ms                                                                                                                                                                                                                                                                                          |
| Maximum axial force Fa          | 0.2 x Fr                                                                                                                                                                                                                                                                                        |
| Net weight                      | 2.2 kg                                                                                                                                                                                                                                                                                          |

## Contractual warranty

|                      |    |
|----------------------|----|
| Warranty (in months) | 18 |
|----------------------|----|



## Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

[Environmental Data explained >](#)

[How we assess product sustainability >](#)

### Use Longer

| Lifetime extension |    |
|--------------------|----|
| Repair             | No |