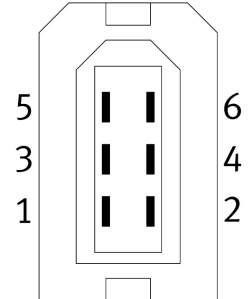


**Servo motor**  
**EMMB-AS-40-01-K-S30MB**  
 Part number: 8097170

**FESTO**



**Data sheet**

| Feature                                                             | Value                                                                                                                                                 |
|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ambient temperature                                                 | -15 °C...40 °C                                                                                                                                        |
| Note on ambient temperature                                         | Up to 60 °C with derating of -1.5% per degree Celsius                                                                                                 |
| Max. installation height                                            | 4000 m                                                                                                                                                |
| Information on max. installation height                             | with 1,000 m and longer only with derating of -1.0% per 100 m                                                                                         |
| Storage temperature                                                 | -20 °C...55 °C                                                                                                                                        |
| Relative air humidity                                               | 0 - 90%                                                                                                                                               |
| Conforms to standard                                                | IEC 60034                                                                                                                                             |
| Thermal class according to EN 60034-1                               | F                                                                                                                                                     |
| Max. winding temperature                                            | 155 °C                                                                                                                                                |
| Rating class according to EN 60034-1                                | S1                                                                                                                                                    |
| Temperature monitoring                                              | Digital motor temperature transmission via Nikon A format                                                                                             |
| Motor type as per EN 60034-7                                        | IM B5<br>IM V1<br>IM V3                                                                                                                               |
| Mounting position                                                   | Any                                                                                                                                                   |
| Degree of protection                                                | IP65                                                                                                                                                  |
| Note on degree of protection                                        | IP40 for motor shaft without rotary shaft seal<br>IP54 for motor shaft with rotary shaft seal<br>IP65 for motor housing without connection technology |
| Concentricity, coaxiality, axial runout according to DIN SPEC 42955 | N                                                                                                                                                     |
| Balancing quality                                                   | G 2.5                                                                                                                                                 |
| Bearing lifetime, under nominal conditions                          | 20000 h                                                                                                                                               |
| Featherkey shaft design                                             | DIN 6885<br>A 3 x 3 x 12                                                                                                                              |
| Electrical connection 1, connection type                            | Plug                                                                                                                                                  |
| Electrical connection 1, connection technology                      | Connection pattern RE                                                                                                                                 |
| Electrical connection 1, number of pins/wires                       | 6                                                                                                                                                     |
| Contamination level                                                 | 2                                                                                                                                                     |
| Note on materials                                                   | RoHS compliant                                                                                                                                        |

| Feature                                                      | Value                                                                                                |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Corrosion resistance class (CRC)                             | 0 - No corrosion stress                                                                              |
| LABS (PWIS) conformity                                       | VDMA24364 Zone III                                                                                   |
| Vibration resistance                                         | Transport application test with severity level 2 as per FN 942017-4 and EN 60068-2-6                 |
| Shock resistance                                             | Shock test with severity level 2 as per FN 942017-5 and EN 60068-2-27                                |
| Certification                                                | c UL us - recognized (OL)                                                                            |
| CE marking (see declaration of conformity)                   | As per EU EMC directive<br>As per EU low voltage directive<br>As per EU RoHS directive               |
| UKCA marking (see declaration of conformity)                 | To UK instructions for EMC<br>To UK RoHS instructions<br>To UK instructions for electrical equipment |
| Certificate issuing authority                                | UL E342973                                                                                           |
| Nominal operating voltage DC                                 | 300 V                                                                                                |
| DC nominal voltage                                           | 300 V                                                                                                |
| Type of winding switch                                       | Star inside                                                                                          |
| Number of pole pairs                                         | 5                                                                                                    |
| Stall torque                                                 | 0.352 Nm                                                                                             |
| Nominal torque                                               | 0.32 Nm                                                                                              |
| Peak torque                                                  | 0.96 Nm                                                                                              |
| Nominal rotary speed                                         | 3000 rpm                                                                                             |
| Max. rotational speed                                        | 6000 rpm                                                                                             |
| Max. mechanical speed                                        | 10000 rpm                                                                                            |
| Motor nominal power                                          | 100 W                                                                                                |
| Continuous stall current                                     | 1.43 A                                                                                               |
| Motor nominal current                                        | 1.3 A                                                                                                |
| Peak current                                                 | 3.9 A                                                                                                |
| Motor constants                                              | 0.268 Nm/A                                                                                           |
| Voltage constant, phase-to-phase                             | 16.2 mV/min                                                                                          |
| Phase-phase winding resistance                               | 7.9 Ohm                                                                                              |
| Winding inductance phase-phase                               | 10.5 mH                                                                                              |
| Electric time constant                                       | 1.33 ms                                                                                              |
| Measuring flange                                             | 175 x 200 x 10 mm, aluminum                                                                          |
| Total output inertia moment                                  | 0.063 kgcm <sup>2</sup>                                                                              |
| Product weight                                               | 770 g                                                                                                |
| Permissible axial shaft load                                 | 60 N                                                                                                 |
| Permissible radial shaft load                                | 120 N                                                                                                |
| Rotor position sensor                                        | Absolute multi-turn encoder                                                                          |
| Rotor position sensor for manufacturer designation           | MAR-MX50AHN00                                                                                        |
| Rotor position encoder for absolutely detectable revolutions | 65536                                                                                                |
| Rotor position sensor interface                              | Nikon A-format                                                                                       |
| Rotor position sensor measuring principle                    | Optical                                                                                              |
| Rotor position encoder for DC operating voltage              | 5 V                                                                                                  |
| Rotor position encoder for DC operating voltage range        | 4.75 V...5.25 V                                                                                      |
| Rotor position encoder for positional values per revolution  | 1048576                                                                                              |
| Rotor position sensor resolution                             | 20 bit                                                                                               |
| Rotor position encoder system accuracy angle measurement     | -120 arcsec...120 arcsec                                                                             |
| Brake holding torque                                         | 0.32 Nm                                                                                              |
| Brake DC operating voltage                                   | 24 V                                                                                                 |
| Brake power consumption                                      | 5.9 W                                                                                                |