

# Servo motor EMMB-AS-40-01-S30MB

Part number: 8097168

FESTO



 General operating condition

## 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  |
| Note on max. installation height                          | As of 1,000 m: 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   |
| Temperature class as per EN 60034-1                       | F   |
| Max. winding temperature                                  | 155 °C  |
| Rating class as per EN 60034-1                            | S1  |
| Temperature monitoring                                    | Digital motor temperature transmission via Nikon A format   |
| Motor type to EN 60034-7                                  | 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 to DIN SPEC 42955 | N   |
| Balance quality   | G 2.5   |
| Bearing lifetime under nominal conditions                 | 20000 h   |
| Electrical connection 1, connection type                  | Plug  |
| Electrical connection 1, connector system                 | Connection pattern RE   |
| Electrical connection 1, number of connections/cores      | 6   |
| Electrical connection 1, connection pattern               | 00995792  |
| Pollution degree  | 2   |
| Note on materials   | RoHS compliant  |
| Corrosion resistance class CRC                            | 0 - No corrosion stress   |
| LABS (PWIS) conformity                                    | VDMA24364 zone III  |
| Vibration resistance                                      | Transport application test with severity level 2 to FN 942017-4 and EN 60068-2-6  |
| Shock resistance  | Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27   |
| Approval  | c UL us - Recognised (Oil)  |
| CE mark (see declaration of conformity)                   | To EU EMC Directive<br>To EU Low Voltage Directive<br>In accordance with EU RoHS Directive  |
| UKCA marking (see declaration of conformity)              | To UK RoHS instructions<br>To UK regulations for electrical equipment   |

| Feature   | Value                        |
|---|------------------------------|
| Certificate issuing authority                               | UL E342973                   |
| Nominal operating voltage DC                                | 300 V                        |
| Nominal voltage DC  | 300 V                        |
| Type of winding switch                                      | Star inside                  |
| Number of pole pairs  | 5                            |
| Standstill 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                    |
| Nominal power rating of motor                               | 100 W                        |
| Continuous stall current                                    | 1.43 A                       |
| Nominal motor current                                       | 1.3 A                        |
| Peak current  | 3.9 A                        |
| Motor constant  | 0.268 Nm/A                   |
| Voltage constant, phase-to-phase                            | 16.2 mV/min                  |
| Phase-phase winding resistance                              | 7.9 Ohm                      |
| Phase-phase winding inductance                              | 10.5 mH                      |
| Electric time constant                                      | 1.33 ms                      |
| Measuring flange  | 175 x 200 x 10 mm, aluminium |
| Total mass moment of inertia of output                      | 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 encoder, multi-turn |
| rotor position sensor, manufacturer designation             | MAR-MX50AHN00                |
| rotor position sensor, absolute detectable revolutions      | 65536                        |
| Rotor position encoder interface                            | Nikon A-format               |
| Rotor position sensor, encoder measuring principle          | Optical                      |
| rotor position sensor, DC operating voltage                 | 5 V                          |
| rotor position sensor, DC operating voltage range           | 4.75 V ... 5.25 V            |
| rotor position sensor, position values per revolution       | 1048576                      |
| Rotor position transducer resolution                        | 20 bit                       |
| rotor position sensor, system accuracy of angle measurement | -120 arcsec ... 120 arcsec   |
| Brake holding torque  | 0.32 Nm                      |
| Operating voltage DC for brake                              | 24 V                         |
| Power consumption, brake                                    | 5.9 W                        |