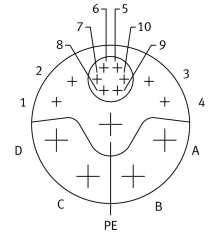


# Servo motor EMMT-AS-80-M-LS-RMYB

Part number: 8160647

**FESTO**



## Data sheet

| Feature   | Value  |
|---|--|
| Ambient temperature   | -15 °C...40 °C   |
| Note on ambient temperature   | Up to 80 °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...70 °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 EnDat® 2.2  |
| Motor type as per EN 60034-7  | IM B5<br>IM V1<br>IM V3  |
| Mounting position   | Any  |
| Degree of protection  | IP40   |
| Note on degree of protection  | IP40 for motor shaft without rotary shaft seal<br>IP65 for motor shaft with rotary shaft seal<br>IP67 for motor housing, incl. connection technology |
| Concentricity, coaxiality, axial runout according to DIN SPEC 42955 | N  |
| Balancing quality   | G 2.5  |
| Detent torque   | <1,0% vom Spitzendrehmoment  |
| Bearing lifetime, under nominal conditions                          | 20000 h  |
| Interface code, motor out   | 80P  |
| Electrical connection 1, connection type                            | Hybrid plug  |
| Electrical connection 1, connection technology                      | M23x1  |
| Electrical connection 1, number of pins/wires                       | 15   |
| Contamination level   | 2  |
| Note on materials   | RoHS-compliant   |
| Corrosion resistance class (CRC)                                    | 0 - No corrosion stress  |

| Feature  | Value  |
|--|--|
| 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  | RCM compliance mark<br>German Technical Control Board (TÜV)<br>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                                | TÜV 968/INS 464.00/24<br>UL E342973  |
| Nominal operating voltage DC                                 | 325 V  |
| Type of winding switch                                       | Star inside  |
| Number of pole pairs   | 5  |
| Stall torque   | 2.6 Nm   |
| Nominal torque   | 2.2 Nm   |
| Peak torque  | 6.4 Nm   |
| Nominal rotary speed   | 3000 rpm   |
| Max. rotational speed  | 6150 rpm   |
| Angular acceleration   | 100000 rad/s <sup>2</sup>  |
| Motor nominal power  | 690 W  |
| Continuous stall current                                     | 4.9 A  |
| Motor nominal current  | 4.1 A  |
| Peak current   | 17.1 A   |
| Motor constants  | 0.54 Nm/A  |
| Standstill torque constant                                   | 0.62 Nm/A  |
| Voltage constant, phase-to-phase                             | 37.3 mVmin   |
| Phase-phase winding resistance                               | 2.04 Ohm   |
| Winding inductance phase-phase                               | 8.9 mH   |
| Winding longitudinal inductivity Ld (phase)                  | 5.4 mH   |
| Cross inductivity Lq (phase)                                 | 6.6 mH   |
| Electric time constant                                       | 6.5 ms   |
| Thermal time constant  | 45 min   |
| Thermal resistance   | 0.78 K/W   |
| Measuring flange   | 250 x 250 x 15 mm, steel   |
| Total output inertia moment                                  | 1.285 kgcm <sup>2</sup>  |
| Product weight   | 3360 g   |
| Permissible axial shaft load                                 | 120 N  |
| Permissible radial shaft load                                | 620 N  |
| Rotor position sensor  | Safety encoder, absolute multi-turn  |
| Rotor position sensor for manufacturer designation           | EQI 1131   |
| Rotor position encoder for absolutely detectable revolutions | 4096   |
| Rotor position sensor interface                              | EnDat® 22  |
| Rotor position sensor measuring principle                    | Inductive  |
| Rotor position encoder for DC operating voltage              | 5 V  |
| Rotor position encoder for DC operating voltage range        | 3.6 V...14 V   |
| Rotor position encoder for positional values per revolution  | 524288   |
| Rotor position sensor resolution                             | 19 bit   |
| Brake holding torque   | 4.5 Nm   |
| Brake DC operating voltage                                   | 24 V   |
| Brake power consumption                                      | 12 W   |

| Feature                          | Value   |
|----------------------------------|---|
|                                  | 1<br>Safety device<br>Safety integrity level 3<br>See user documentation<br>Reliable recording and transmission of single-turn position data<br>Reliable recording and transmission of single-turn position data, only with additional software function in the servo drive<br>Performance Level e, Category 3<br>See user documentation<br>Reliable recording and transmission of single-turn position data<br>Reliable recording and transmission of single-turn position data, only with additional software function in the servo drive |
| Brake mass moment of inertia     | 0.249 kgcm <sup>2</sup>   |
| Switching cycles, holding brake  | 10 million idle actuations (without friction work!)   |
| PFHd, subcomponent               | 15 x 10E-9, encoder   |
| Duration of use Tm, subcomponent | 20 years, rotor position sensor   |
| Energy efficiency                | ENEFF (CN) / Class 2  |