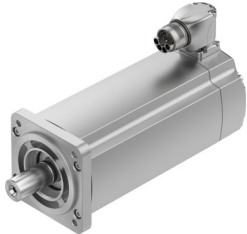


# Servo motor EMMT-AS-80-M-HS-RSB

Part number: 5255439

FESTO



 General operating condition

## Data sheet

| Feature   | Value  |
|---|--|
| Ambient temperature   | -40 °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   | -40 °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 V1<br>IM V3   |
| Mounting position   | Any  |
| Degree of protection  | IP40   |
| Note on degree of protection  | 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% of peak torque   |
| 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   |
| Electrical connection for input 1, connection pattern               | 00995913   |
| Contamination level   | 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 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>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 |

| Feature  | Value  |
|--|--|
| UKCA marking (see declaration of conformity)                 | To UK RoHS instructions<br>To UK instructions for electrical equipment |
| Certificate issuing authority                                | UL E342973   |
| Nominal operating voltage DC                                 | 680 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  | 6800 rpm   |
| Max. mechanical speed  | 14000 rpm  |
| Angular acceleration   | $\leq 100000 \text{ rad/s}^2$  |
| Motor nominal power  | 690 W  |
| Continuous stall current                                     | 2.6 A  |
| Motor nominal current  | 2.2 A  |
| Peak current   | 9 A  |
| Motor constants  | 1 Nm/A   |
| Standstill torque constant                                   | 1.17 Nm/A  |
| Voltage constant, phase-to-phase                             | 70.7 mVmin   |
| Phase-phase winding resistance                               | 7.43 Ohm   |
| Winding inductance phase-phase                               | 31.8 mH  |
| Winding longitudinal inductivity Ld (phase)                  | 19.4 mH  |
| Cross inductivity Lq (phase)                                 | 23.8 mH  |
| Electric time constant                                       | 6.4 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  | Absolute encoder, single-turn  |
| Rotor position sensor for manufacturer designation           | ECl 1118   |
| Rotor position encoder for absolutely detectable revolutions | 1  |
| 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  | 262144   |
| Rotor position sensor resolution                             | 18 bit   |
| Rotor position encoder system accuracy angle measurement     | -120 arcsec ... 120 arcsec   |
| Brake holding torque   | 4.5 Nm   |
| Brake DC operating voltage                                   | 24 V   |
| Brake current consumption                                    | 0.5 A  |
| Brake power consumption                                      | 12 W   |
| Brake coil resistance  | 48 Ohm   |
| Brake coil inductivity                                       | 1000 mH  |
| Brake separation time  | $\leq 55 \text{ ms}$   |
| Brake closing time   | $\leq 15 \text{ ms}$   |
| DC brake response delay                                      | $\leq 3 \text{ ms}$  |
| Max. brake no-load speed                                     | 10000 rpm  |
| Max. friction work per braking operation                     | 8200 J   |

| Feature                            | Value   |
|------------------------------------|---|
| Number of emergency stops per hour | 1   |
| Total brake friction work          | 580 kJ  |
| Brake mass moment of inertia       | 0.249 kgcm <sup>2</sup>                             |
| Switching cycles, holding brake    | 10 million idle actuations (without friction work!) |
| MTTF, subcomponent                 | 190 years, rotor position sensor                    |
| Energy efficiency                  | ENEFF (CN) / Class 2                                |