

Servo motor
EMMT-AS-80-
 Part number: 4595815

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 IM V1 IM V3 |
| Mounting position | Any |
| Degree of protection | IP40 IP65 |
| Note on degree of protection | IP40 for motor shaft without rotary shaft seal IP65 for motor shaft with rotary shaft seal 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 |
| Featherkey shaft design | DIN 6885 A 6 x 6 x 22 |
| 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 German Technical Control Board (TÜV) c UL us - Recognized (OL) |
| CE marking (see declaration of conformity) | As per EU EMC directive As per EU low voltage directive As per EU RoHS directive |
| UKCA marking (see declaration of conformity) | To UK instructions for EMC To UK RoHS instructions To UK instructions for electrical equipment |
| Certificate issuing authority | TÜV 968/INS 464.00/24 UL E342973 |
| Nominal operating voltage DC | 325 V...680 V |
| Type of winding switch | Star inside |
| Number of pole pairs | 5 |
| Stall torque | 1.43 Nm...4.3 Nm |
| Nominal torque | 1.24 Nm...3.4 Nm |
| Peak torque | 2.8 Nm...13.5 Nm |
| Nominal rotary speed | 3000 rpm |
| Max. rotational speed | 5650 rpm...8950 rpm |
| Angular acceleration | 100000 rad/s ² |
| Motor nominal power | 390 W...1070 W |
| Continuous stall current | 2 A...6.8 A |
| Motor nominal current | 1.7 A...5.5 A |
| Peak current | 5.4 A...27.3 A |
| Motor constants | 0.46 Nm/A...1 Nm/A |
| Standstill torque constant | 0.57 Nm/A...1.17 Nm/A |
| Voltage constant, phase-to-phase | 34.3 mVmin...70.7 mVmin |
| Phase-phase winding resistance | 1.13 Ohm...12.4 Ohm |
| Winding inductance phase-phase | 5.2 mH...39.8 mH |
| Winding longitudinal inductivity Ld (phase) | 3.1 mH...25 mH |
| Cross inductivity Lq (phase) | 3.9 mH...29.8 mH |
| Electric time constant | 4.8 ms...7.2 ms |
| Thermal time constant | 42 min...51 min |
| Thermal resistance | 0.65 K/W...0.95 K/W |
| Total output inertia moment | 0.597 kgcm ² ...2.43 kgcm ² |
| Product weight | 2020 g...4750 g |
| Permissible axial shaft load | 120 N |
| Permissible radial shaft load | 620 N |
| Rotor position sensor | Absolute encoder, single-turn Absolute encoder, multi-turn Safety encoder, absolute multi-turn |
| Rotor position sensor interface | EnDat® 22 |
| Rotor position sensor measuring principle | Inductive |
| Rotor position sensor resolution | 18 bit...19 bit |
| Brake holding torque | 4.5 Nm...7 Nm |
| Brake DC operating voltage | 24 V |
| Brake power consumption | 12 W...15 W |

| Feature | Value |
|----------------------------------|---|
| | 1 Safety device Safety integrity level 3 See user documentation Reliable recording and transmission of single-turn position data Reliable recording and transmission of single-turn position data, only with additional software function in the servo drive Performance Level e, Category 3 See user documentation Reliable recording and transmission of single-turn position data 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 ² ...0.459 kgcm ² |
| 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 |
| MTTF, subcomponent | 190 years, rotor position sensor |
| Energy efficiency | ENEFF (CN) / Class 2 |