

Servo motor EMMT-AS-60-

Part number: 4808568

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 5 x 5 x 22 |
| Interface code, motor out | 60P |
| 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 | 0.64 Nm...1.66 Nm |
| Nominal torque | 0.56 Nm...1.4 Nm |
| Peak torque | 1.6 Nm...5.6 Nm |
| Nominal rotary speed | 3000 rpm |
| Max. rotational speed | 6800 rpm...15000 rpm |
| Angular acceleration | 100000 rad/s ² |
| Motor nominal power | 180 W...440 W |
| Continuous stall current | 1.6 A...3.8 A |
| Motor nominal current | 1.4 A...3.2 A |
| Peak current | 5.4 A...18.3 A |
| Motor constants | 0.4 Nm/A...0.45 Nm/A |
| Standstill torque constant | 0.49 Nm/A...0.53 Nm/A |
| Voltage constant, phase-to-phase | 29.9 mVmin...32 mVmin |
| Phase-phase winding resistance | 2.68 Ohm...11.7 Ohm |
| Winding inductance phase-phase | 12 mH...38 mH |
| Winding longitudinal inductivity Ld (phase) | 5 mH...15.5 mH |
| Cross inductivity Lq (phase) | 6 mH...19 mH |
| Electric time constant | 2.1 ms...3 ms |
| Thermal time constant | 40 min...44 min |
| Thermal resistance | 1 K/W...1.5 K/W |
| Measuring flange | 250 x 250 x 15 mm, steel |
| Total output inertia moment | 0.169 kgcm ² ...0.49 kgcm ² |
| Product weight | 1180 g...2230 g |
| Permissible axial shaft load | 70 N |
| Permissible radial shaft load | 350 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 | 2.5 Nm |
| Brake DC operating voltage | 24 V |
| Brake power consumption | 11 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 | 0.074 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 |