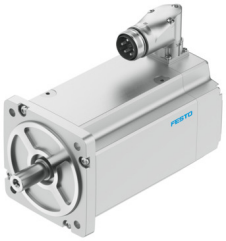
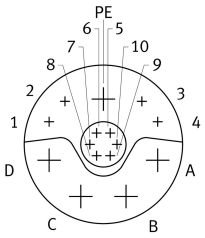
# Servo motor
# EMMT-AS-150-MKR-HV-R3MY

Part number: 8148314






## 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 | IP21 |
| Note on degree of protection | IP21 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% of peak torque |
| Bearing lifetime, under nominal conditions | 20000 h |
| Featherkey shaft design | DIN 6885<br>A 8 x 7 x 36 |
| Interface code, motor out | 150A |
| Electrical connection 1, connection type | Hybrid plug |
| Electrical connection 1, connection technology | M40x1 |
| Electrical connection 1, number of pins/wires | 15 |
| Contamination level | 2 |

| Feature | Value |
|---|---|
| Note on materials | RoHS compliant |
| Corrosion resistance class (CRC) | 0 - No corrosion stress |
| LABS (PWIS) conformity | VDMA24364 Zone III |
| Vibration resistance | as per EN 60068-2-6 |
| Shock resistance | as per EN 60068-2-29<br>15 g/11 ms as per 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 |
| 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/FSP 2317.01/25<br>UL E342973 |
| Nominal operating voltage DC | 680 V |
| Type of winding switch | Star inside |
| Number of pole pairs | 5 |
| Stall torque | 33 Nm |
| Nominal torque | 13.5 Nm |
| Peak torque | 60 Nm |
| Nominal rotary speed | 3500 rpm |
| Max. rotational speed | 5051 rpm |
| Max. mechanical speed | 10000 rpm |
| Angular acceleration | 100000 rad/s² |
| Motor nominal power | 4948 W |
| Continuous stall current | 24 A |
| Motor nominal current | 10.2 A |
| Peak current | 50 A |
| Motor constants | 1.32 Nm/A |
| Standstill torque constant | 1.54 Nm/A |
| Voltage constant, phase-to-phase | 92.9 mVmin |
| Phase-phase winding resistance | 0.211 Ohm |
| Winding inductance phase-phase | 3.3 mH |
| Winding longitudinal inductivity Ld (phase) | 1.65 mH |
| Cross inductivity Lq (phase) | 1.65 mH |
| Electric time constant | 15.6 ms |
| Thermal time constant | 45 min |
| Thermal resistance | 0.46 K/W |
| Measuring flange | 450 x 450 x 30 mm, steel |
| Total output inertia moment | 38.7 kgcm² |
| Product weight | 18700 g |
| Permissible axial shaft load | 217 N |
| Permissible radial shaft load | 1085 N |
| Rotor position sensor | Safety encoder, absolute multi-turn |
| Rotor position sensor for manufacturer designation | EQI 1331 |
| 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 |
| Rotor position encoder system accuracy angle measurement | -65 arcsec...65 arcsec |

| Feature | Value |
|---|---|
| | Safety device |
| Maximum SIL | Security integrity level 3<br>See user documentation |
| Safety sub-functions up to SIL2 | Reliable acquisition and transmission of single-turn position data |
| Safety sub-functions up to SIL3 | Reliable recording and transmission of single-turn position data, only with additional software function in the servo drive |
| Maximum PL and category | Performance level e, category 3<br>See user documentation |
| Safety sub-function up to PL d, Cat. 3 | Reliable acquisition and transmission of single-turn position data |
| Safety sub-function up to PL e, Cat. 3 | Reliable recording and transmission of single-turn position data, only with additional software function in the servo drive |
| PFHd, subcomponent | 15 x 10E-9, encoder |
| Duration of use Tm, subcomponent | 20 years, rotor position encoder |
| MTTF, subcomponent | 190 years, rotor position encoder |