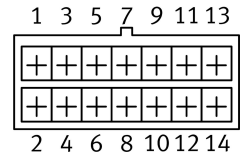
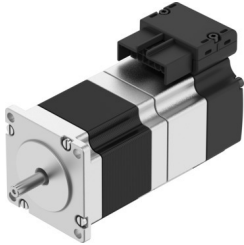


Stepper motor EMMB-ST-57-M-SSB

Part number: 8156141

FESTO



Data sheet

| Feature | Value |
|--|--|
| Ambient temperature | -15 °C...40 °C |
| Note on ambient temperature | up to 80°C with derating -2%/°C |
| 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 | B |
| Max. winding temperature | 130 °C |
| Rating class according to EN 60034-1 | S1 |
| Motor type as per EN 60034-7 | IM B5 IM V1 IM V3 |
| Mounting position | Any |
| Degree of protection | IP20 |
| Note on degree of protection | IP40 for motor shaft without rotary shaft seal |
| Interface code, motor out | 57A |
| Electrical connection 1, connection type | Hybrid plug |
| Electrical connection 1, connection technology | Plug pattern L10 |
| Electrical connection 1, number of pins/wires | 14 |
| 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 |
| CE marking (see declaration of conformity) | As per EU EMC directive As per EU RoHS directive |
| UKCA marking (see declaration of conformity) | To UK instructions for EMC To UK RoHS instructions |
| Nominal operating voltage DC | 48 V |
| Number of pole pairs | 50 |

| Feature | Value |
|--|---|
| Motor holding torque | 1.05 Nm |
| Nominal torque | 0.77 Nm |
| Peak torque | 1.1 Nm |
| Nominal rotary speed | 1000 rpm |
| Max. rotational speed | 2600 rpm |
| Max. mechanical speed | 8000 rpm |
| Step angle with full step | 1.8 deg |
| Step angle tolerance | ±5% |
| Motor nominal power | 81 W |
| Continuous stall current | 6.1 A |
| Motor nominal current | 5.1 A |
| Peak current | 8 A |
| Motor constants | 0.152 Nm/A |
| Voltage constant, phase | 13.1 mVmin |
| Phase winding resistance | 0.17 Ohm |
| Winding inductance phase | 0.5 mH |
| Winding longitudinal inductivity Ld (phase) | 0.7 mH |
| Cross inductivity Lq (phase) | 0.5 mH |
| Electric time constant | 2.9 ms |
| Thermal time constant | 28 min |
| Thermal resistance | 1.6 K/W |
| Measuring flange | 200 x 200 x 15 mm, steel |
| Total output inertia moment | 0.324 kgcm ² |
| Product weight | 1220 g |
| Permissible axial shaft load | 15 N |
| Permissible radial shaft load | 75 N |
| Rotor position sensor | Absolute encoder, single-turn |
| Rotor position sensor for manufacturer designation | Festo iC-MHM |
| Rotor position sensor interface | BiSS-C |
| Rotor position sensor measuring principle | Magnetic |
| Rotor position encoder for DC operating voltage | 5 V |
| Rotor position encoder for DC operating voltage range | 4.75 V...5.25 V |
| Rotor position encoder, sinusoidal/cosinusoidal periods per revolution | 2 |
| Rotor position encoder for positional values per revolution | 65536 |
| Rotor position sensor resolution | 16 bit |
| Rotor position encoder system accuracy angle measurement | -65 arcsec...65 arcsec |
| Brake holding torque | 1.74 Nm |
| Brake DC operating voltage | 24 V |
| Brake current consumption | 0.38 A |
| Brake power consumption | 9 W |
| Brake coil resistance | 63.8 Ohm |
| Brake coil inductivity | 107 mH |
| Brake separation time | 32 ms |
| Brake closing time | 97 ms |
| DC brake response delay | 11 ms |
| Max. brake no-load speed | 8000 rpm |
| Max. brake friction work | 6000 J |
| Brake mass moment of inertia | 0.024 kgcm ² |
| Switching cycles, holding brake | 10 million idle actuations (without friction work!) |
| MTTF, subcomponent | 687 years, rotor position encoder |