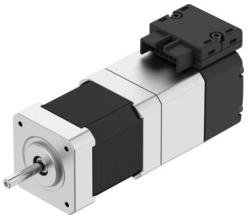
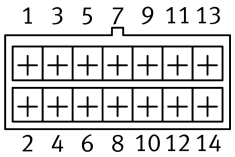
Stepper motor
EMMB-ST-57-L-SSB

Part number: 8156147





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% Non-condensating
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 engine shaft
Interface code, motor out	57A
Electrical connection 1, connection type	Hybrid plug
Electrical connection 1, connection technology	Connection 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 c UL us - recognized (OL)
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

Feature	Value
Certificate issuing authority	UL E342973
Nominal operating voltage DC	48 V
Number of pole pairs	50
Motor holding torque	1.8 Nm
Nominal torque	1.58 Nm
Peak torque	2.1 Nm
Nominal rotary speed	500 rpm
Max. rotational speed	1500 rpm
Max. mechanical speed	8000 rpm
Step angle with full step	1.8 deg
Step angle tolerance	±5%
Motor nominal power	83 W
Continuous stall current	5.8 A
Motor nominal current	5 A
Peak current	8 A
Motor constants	0.32 Nm/A
Voltage constant, phase	22.6 mVmin
Phase winding resistance	0.26 Ohm
Winding inductance phase	0.95 mH
Winding longitudinal inductivity Ld (phase)	1.75 mH
Cross inductivity Lq (phase)	0.95 mH
Electric time constant	3.7 ms
Thermal time constant	32 min
Thermal resistance	1.5 K/W
Measuring flange	200 x 200 x 15 mm, steel
Total output inertia moment	0.504 kgcm²
Product weight	1580 g
Permissible axial shaft load	15 N
Permissible radial shaft load	75 N
Rotor position sensor	Absolute single-turn encoder
Rotor position sensor for manufacturer designation	Festo iC-MHM
Rotor position encoder for absolutely detectable revolutions	1
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	-540 arcsec...540 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. friction work per braking operation	6000 J
Number of emergency stops per hour	1
Brake mass moment of inertia	0.024 kgcm²

Feature	Value
Switching cycles, holding brake	10 million idle actuations (without friction work!)
MTTF, subcomponent	106 years, rotor position encoder