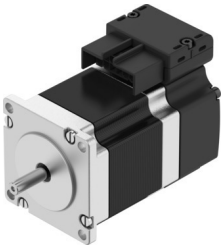
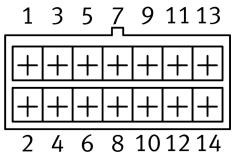
Stepper motor
EMMB-ST-57-M-SS

Part number: 8156138





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
Note on max. installation height	As of 1,000 m: only with derating of -1.0% per 100 m
Storage temperature	-20 °C...70 °C
Relative air humidity	0 - 90% Non-condensing
Conforms to standard	IEC 60034
Temperature class as per EN 60034-1	B
Max. winding temperature	130 °C
Rating class as per EN 60034-1	S1
Motor type to EN 60034-7	IM B5 IM V1 IM V3
Mounting position	optional
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, connector system	Plug pattern L10
Electrical connection 1, number of connections/cores	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 to FN 942017-4 and EN 60068-2-6
Shock resistance	Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27
Approval	RCM trademark
CE mark (see declaration of conformity)	To EU EMC Directive In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity)	To UK instructions for EMC To UK RoHS instructions
Nominal operating voltage DC	48 V

Feature	Value
Number of pole pairs	50
Motor holding torque	1050 Nm
Nominal torque	770 Nm
Peak torque	1100 Nm
Nominal rotary speed	1000 rpm
Max. rotational speed	2600 rpm
Max. mechanical speed	8000 rpm
Stepper angle for complete step	1.8 deg
Stepping angle tolerance	±5%
Nominal power rating of motor	81 W
Continuous stall current	6100 A
Nominal motor current	5100 A
Peak current	8 A
Motor constant	152 Nm/A
Voltage constant, phase	13100 mVmin
Phase winding resistance	170 Ohm
Phase winding inductance	500 mH
Winding longitudinal inductivity Ld (phase)	700 mH
Winding cross inductivity Lq (phase)	500 mH
Electric time constant	2900 ms
Thermal time constant	28 min
Thermal resistance	1600 K/W
Measuring flange	200 x 200 x 15 mm, steel
Total mass moment of inertia of output	0.3 kgcm²
Product weight	810 g
Permissible axial shaft load	15 N
Permissible radial shaft load	75 N
Rotor position sensor	Absolute single-turn encoder
rotor position sensor, manufacturer designation	Festo iC-MHM
rotor position sensor, absolute detectable revolutions	1
Rotor position encoder interface	BiSS-C
Rotor position sensor, encoder measuring principle	Magnetic
rotor position sensor, DC operating voltage	5 V
rotor position sensor, DC operating voltage range	4750 V...5250 V
Rotor pos. enc., sin/cosin p/r	2
rotor position sensor, position values per revolution	65536
Rotor position transducer resolution	16 bit
rotor position sensor, system accuracy of angle measurement	-540 arcsec...540 arcsec
Mean time to failure (MTTF), subcomponent	9666 years, rotor position encoder