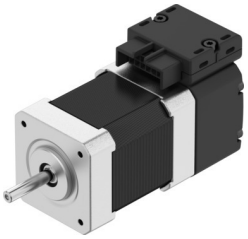
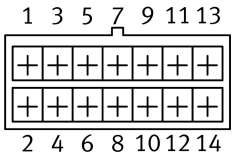
Stepper motor
EMMB-ST-42-L-SM

Part number: 8156133





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
Temperature monitoring	Dig. motor temp. via BiSS-C
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	42A
Electrical connection 1, connection type	Hybrid plug
Electrical connection 1, connector system	Connection pattern L5
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

Feature	Value
Nominal operating voltage DC	48 V
Number of pole pairs	50
Motor holding torque	630 Nm
Nominal torque	470 Nm
Peak torque	630 Nm
Nominal rotary speed	1000 rpm
Max. rotational speed	3200 rpm
Max. mechanical speed	9000 rpm
Stepper angle for complete step	1.8 deg
Stepping angle tolerance	±5%
Nominal power rating of motor	49 W
Continuous stall current	3700 A
Nominal motor current	2900 A
Peak current	4 A
Motor constant	162 Nm/A
Voltage constant, phase	10600 mVmin
Phase winding resistance	600 Ohm
Phase winding inductance	800 mH
Winding longitudinal inductivity Ld (phase)	1450 mH
Winding cross inductivity Lq (phase)	800 mH
Electric time constant	1300 ms
Thermal time constant	16 min
Thermal resistance	2400 K/W
Measuring flange	200 x 200 x 15 mm, steel
Total mass moment of inertia of output	0.084 kgcm²
Product weight	490 g
Permissible axial shaft load	10 N
Permissible radial shaft load	28 N
Rotor position sensor	Absolute multi-turn encoder
rotor position sensor, manufacturer designation	KCD-BC33B-1617-JP4F-GRQ-009
rotor position sensor, absolute detectable revolutions	65536
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	4500 V...5500 V
Rotor pos. enc., sin/cosin p/r	2
rotor position sensor, position values per revolution	131072
Rotor position transducer resolution	17 bit
rotor position sensor, system accuracy of angle measurement	-310 arcsec...310 arcsec
Mean time to failure (MTTF), subcomponent	20 years, rotor position encoder