Servo motor
EMMT-AS-80-L-HS-RSB

Part number: 5255447

General operating condition

Data sheet

Feature	Value
Ambient temperature	-40 °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	-40 °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 V1 IM V3
Mounting position	Any
Degree of protection	IP40
Note on degree of protection	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
Interface code, motor out	80P
Electrical connection 1, connection type	Hybrid plug
Electrical connection 1, connection technology	M23x1
Electrical connection 1, number of pins/wires	15
Electrical connection for input 1, connection pattern	00995913
Contamination level	2
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 low voltage directive As per EU RoHS directive

Feature	Value
UKCA marking (see declaration of conformity)	To UK RoHS instructions To UK instructions for electrical equipment
Certificate issuing authority	UL E342973
Nominal operating voltage DC	680 V
Type of winding switch	Star inside
Number of pole pairs	5
Stall torque	3.5 Nm
Nominal torque	2.9 Nm
Peak torque	9.9 Nm
Nominal rotary speed	3000 rpm
Max. rotational speed	8540 rpm
Max. mechanical speed	14000 rpm
Angular acceleration	≤100000 rad/s²
Motor nominal power	910 W
Continuous stall current	4.3 A
Motor nominal current	3.5 A
Peak current	17.5 A
Motor constants	0.82 Nm/A
Standstill torque constant	0.93 Nm/A
Voltage constant, phase-to-phase	56 mVmin
Phase-phase winding resistance	2.69 Ohm
Winding inductance phase-phase	12.6 mH
Winding longitudinal inductivity Ld (phase)	7.5 mH
Cross inductivity Lq (phase)	9.45 mH
Electric time constant	7 ms
Thermal time constant	48 min
Thermal resistance	0.68 K/W
Measuring flange	250 x 250 x 15 mm, steel
Total output inertia moment	1.993 kgcm²
Product weight	4120 g
Permissible axial shaft load	120 N
Permissible radial shaft load	620 N
Rotor position sensor	Absolute encoder, single-turn
Rotor position sensor for manufacturer designation	ECI 1118
Rotor position encoder for absolutely detectable revolutions	1
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	262144
Rotor position sensor resolution	18 bit
Rotor position encoder system accuracy angle measurement	-120 arcsec ... 120 arcsec
Brake holding torque	7 Nm
Brake DC operating voltage	24 V
Brake current consumption	0.63 A
Brake power consumption	15 W
Brake coil resistance	38.4 Ohm
Brake coil inductivity	900 mH
Brake separation time	≤45 ms
Brake closing time	≤30 ms
DC brake response delay	≤4 ms
Max. brake no-load speed	10000 rpm
Max. friction work per braking operation	12000 J

Feature	Value
Number of emergency stops per hour	1
Total brake friction work	2400 kJ
Brake mass moment of inertia	0.459 kgcm²
Switching cycles, holding brake	10 million idle actuations (without friction work!)
MTTF, subcomponent	190 years, rotor position sensor
Energy efficiency	ENEFF (CN) / Class 2