Servo motor
EMMT-AS-100-L-HS-RMYB

Part number: 8160659

General operating condition

Data sheet

Feature	Value
Ambient temperature	-40 °C ... 40 °C
Note on ambient temperature	Up to 80 °C with derating of -2.25% 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 B5 IM V1 IM V3
Mounting position	Any
Degree of protection	IP40
Note on degree of protection	IP40 for motor shaft without rotary shaft seal IP65 for motor shaft with rotary shaft seal 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	100A
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 German Technical Control Board (TÜV) c UL us - Recognized (OL)

Feature	Value
CE marking (see declaration of conformity)	As per EU EMC directive As per EU low voltage directive As per EU RoHS directive
UKCA marking (see declaration of conformity)	To UK instructions for EMC To UK RoHS instructions To UK instructions for electrical equipment
Certificate issuing authority	TÜV 968/INS 464.00/24 UL E342973
Nominal operating voltage DC	680 V
Type of winding switch	Star inside
Number of pole pairs	5
Stall torque	10.4 Nm
Nominal torque	6.6 Nm
Peak torque	30.5 Nm
Nominal rotary speed	2700 rpm
Max. rotational speed	4530 rpm
Max. mechanical speed	13000 rpm
Angular acceleration	≤100000 rad/s²
Motor nominal power	1870 W
Continuous stall current	6.7 A
Motor nominal current	4.3 A
Peak current	28.6 A
Motor constants	1.54 Nm/A
Standstill torque constant	1.75 Nm/A
Voltage constant, phase-to-phase	106 mVmin
Phase-phase winding resistance	1.49 Ohm
Winding inductance phase-phase	15.7 mH
Winding longitudinal inductivity Ld (phase)	8.7 mH
Cross inductivity Lq (phase)	11.8 mH
Electric time constant	15.8 ms
Thermal time constant	71 min
Thermal resistance	0.46 K/W
Measuring flange	300 x 300 x 20 mm, steel
Total output inertia moment	8.06 kgcm²
Product weight	10100 g
Permissible axial shaft load	200 N
Permissible radial shaft load	1110 N
Rotor position sensor	Safety encoder, absolute multi-turn
Rotor position sensor for manufacturer designation	EQI 1331
Rotor position encoder for absolutely detectable revolutions	4096
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	524288
Rotor position sensor resolution	19 bit
Rotor position encoder system accuracy angle measurement	-65 arcsec ... 65 arcsec
Brake holding torque	18 Nm
Brake DC operating voltage	24 V
Brake current consumption	1 A
Brake power consumption	24 W
Brake coil resistance	24 Ohm
Brake coil inductivity	900 mH
Brake separation time	≤80 ms

Feature	Value
Brake closing time	≤40 ms
DC brake response delay	≤5 ms
Max. brake no-load speed	10000 rpm
Max. brake friction work	15000 J
Number of emergency stops per hour	1
Total brake friction work	3600 kJ
Brake mass moment of inertia	2.15 kgcm²
Switching cycles, holding brake	10 million idle actuations (without friction work!)
Safety device	Safety device
Maximum SIL	Security integrity level 3 See user documentation
Safety sub-functions up to SIL2	Reliable acquisition and transmission of single-turn position data
Safety sub-functions up to SIL3	Reliable recording and transmission of single-turn position data, only with additional software function in the servo drive
Maximum PL and category	Performance level e, category 3 See user documentation
Safety sub-function up to PL d, Cat. 3	Reliable acquisition and transmission of single-turn position data
Safety sub-function up to PL e, Cat. 3	Reliable recording and transmission of single-turn position data, only with additional software function in the servo drive
PFHd, subcomponent	15 x 10E-9, encoder
Duration of use Tm, subcomponent	20 years, rotor position sensor
Energy efficiency	ENEFF (CN) / Class 2