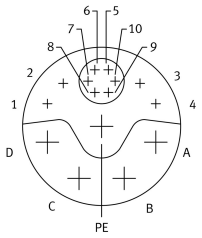
Servo motor
EMMT-AS-100-S-HS-RMY

Part number: 8160654





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
Note on max. installation height	As of 1,000 m: 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
Temperature class as per EN 60034-1	F
Max. winding temperature	155 °C
Rating class as per EN 60034-1	S1
Temperature monitoring	Digital motor temperature transmission via EnDat® 2.2
Motor type to 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 including connection components
Concentricity, coaxiality, axial runout to DIN SPEC 42955	N
Balance 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, connector system	M23x1
Electrical connection 1, number of connections/cores	15
Pollution degree	2
Note on materials	RoHS compliant
Corrosion resistance class CRC	0 - No corrosion stress

Feature	Value
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 German Technical Control Board (TÜV) c UL us - Recognised (Oil)
CE mark (see declaration of conformity)	To EU EMC Directive To EU Low Voltage Directive In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity)	To UK instructions for EMC To UK RoHS instructions To UK regulations 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
Standstill torque	6.3 Nm
Nominal torque	5.1 Nm
Peak torque	13.7 Nm
Nominal rotary speed	2700 rpm
Max. rotational speed	4770 rpm
Max. mechanical speed	13000 rpm
Angular acceleration	100000 rad/s²
Nominal power rating of motor	1450 W
Continuous stall current	4.4 A
Nominal motor current	3.5 A
Peak current	13.7 A
Motor constant	1.45 Nm/A
Standstill torque constant	1.67 Nm/A
Voltage constant, phase-to-phase	101 mVmin
Phase-phase winding resistance	3.35 Ohm
Phase-phase winding inductance	32.4 mH
Winding longitudinal inductivity Ld (phase)	17.8 mH
Winding cross inductivity Lq (phase)	24.3 mH
Electric time constant	14.5 ms
Thermal time constant	74 min
Thermal resistance	0.6 K/W
Measuring flange	300 x 300 x 20 mm, steel
Total mass moment of inertia of output	3.15 kgcm²
Product weight	5500 g
Permissible axial shaft load	200 N
Permissible radial shaft load	1110 N
Rotor position sensor	Absolute multi-turn safety encoder
rotor position sensor, manufacturer designation	EQI 1331
rotor position sensor, absolute detectable revolutions	4096
Rotor position encoder interface	EnDat 22
Rotor position sensor, encoder measuring principle	Inductive
rotor position sensor, DC operating voltage	5 V
rotor position sensor, DC operating voltage range	3.6 V...14 V
rotor position sensor, position values per revolution	524288
Rotor position transducer resolution	19 bit
rotor position sensor, system accuracy of angle measurement	-65 arcsec...65 arcsec
Safety device	Safety device

Feature	Value
Maximum SIL	Safety integrity level 3 See user documentation
Safety sub-functions up to SIL2	Reliable recording 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 recording 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 encoder
Energy efficiency	ENEFF (CN) / Class 2