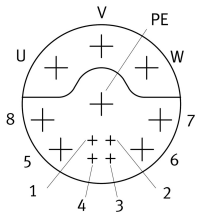
Servo motor
EMMH-AS-138-HA-HS-S1MB-T

Part number: 8215371





Data sheet

Feature	Value
Ambient temperature	-30 °C...40 °C
Note on ambient temperature	Up to 80°C with derating -2%/°C
Max. installation height	3000 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 - 100%
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 B14 IM V18
Mounting position	Any
Degree of protection	IP69K
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	138C
Electrical connection 1, connection type	Hybrid plug
Electrical connection 1, connector system	M21x1
Electrical connection 1, number of connections/cores	15
Pollution degree	2
Note on materials	RoHS compliant
Corrosion resistance class CRC	4 - Very high corrosion stress (except laser marking)
LABS (PWIS) conformity	VDMA24364 zone III
Suitable for use with food	Approved for direct contact with food
Vibration resistance	As per EN 60068-2-6

Feature	Value
Shock resistance	As per EN 60068-2-29 15 g/11 ms to EN 60068-2-27
Approval	RCM 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	UL E342973
Nominal operating voltage DC	680 V
Type of winding switch	Star inside
Number of pole pairs	5
Standstill torque	18.1 Nm
Nominal torque	9 Nm
Peak torque	59 Nm
Nominal rotary speed	1500 rpm
Max. rotational speed	4550 rpm
Max. mechanical speed	5000 rpm
Angular acceleration	100000 rad/s²
Nominal power rating of motor	1410 W
Continuous stall current	11.9 A
Nominal motor current	6.2 A
Peak current	42.8 A
Motor constant	1.48 Nm/A
Standstill torque constant	1.52 Nm/A
Voltage constant, phase-to-phase	98.3 mVmin
Phase-phase winding resistance	0.34 Ohm
Phase-phase winding inductance	3.8 mH
Winding longitudinal inductivity Ld (phase)	1.7 mH
Winding cross inductivity Lq (phase)	1.9 mH
Electric time constant	11.2 ms
Thermal time constant	111 min
Thermal resistance	0.73 K/W
Measuring flange	300 x 300 x 30 mm, steel
Mass moment of inertia of rotor	19 kgcm²
Total mass moment of inertia of output	21.3 kgcm²
Product weight	24500 g
Permissible axial shaft load	262 N
Permissible radial shaft load	1310 N
Rotor position sensor	Absolute encoder, multi-turn
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
Brake holding torque	20 Nm
Operating voltage DC for brake	24 V
Brake current consumption	0.68 A

Feature	Value
Power consumption, brake	16.4 W
Brake coil resistance	35.3 Ohm
Brake coil inductivity	3200 mH
Brake separation time	90 ms
Brake closing time	81 ms
DC brake response delay	10 ms
Max. brake no-load speed	10000 rpm
Max. friction per braking process	1980 J
Number of emergency stops per hour	1
Total brake friction	1980 kJ
Mass moment of inertia of brake	2.3 kgcm²
Switching cycles holding brake	10 million idle actuations (without friction work!)
Mean time to failure (MTTF), subcomponent	190 years, rotor position encoder
Energy efficiency	ENEFF (CN) / Class 2