

# servo motor EMMT-AS-80-S-HS-RMB

Part number: 5255432

FESTO



## Data sheet

Feature	Value
Ambient temperature	-15 ... 40 °C
Note on ambient temperature	up to 80°C with derating -1.5%/°C
Max. installation height	4,000 m
Note on max. installation height	As of 1,000 m, only with derating of -1.0% per 100 m
Storage temperature	-20 ... 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 to EN 60034-7	IM B5 IM V1 IM V3
Assembly position	Any
Protection class	IP40
Note on degree of protection	IP40 motor shaft without RWDR IP65 motor shaft with RWDR IP67 for motor housing with connection technology
Concentricity, coaxiality, axial runout to DIN SPEC 42955	N
Balance quality	G 2,5
Detent torque	<1.0% of peak torque
Storage lifetime under nominal conditions	20,000 h
Interface code, motor out	80P
Electrical connection 1, connection type	Hybrid plugs
Electrical connection 1, connection technology	M23x1
Electrical connection 1, number of pins/wires	15
Degree of contamination	2
Materials note	Conforms to RoHS
Corrosion resistance classification CRC	0 - No corrosion stress
PWIS conformity	VDMA24364 zone III
Vibration resistance	Transport application test at severity level 2 in accordance with FN 942017-4 and EN 60068-2-6
Shock resistance	Shock test with severity level 2 in accordance with FN 942017-5 and EN 60068-2-27
Authorisation	RCM Mark c UL us - Recognized (OL)
CE mark (see declaration of conformity)	to EU directive for EMC to EU directive low-voltage devices in accordance with EU RoHS directive
UKCA marking (see declaration of conformity)	To UK instructions for electrical equipment To UK instructions for EMC To UK RoHS instructions
Certificate issuing department	UL E342973
Nominal operating voltage DC	680 V
Type of winding switch	Star inside

Feature	Value
Number of pole pairs	5
Standstill torque	1.46 Nm
Nominal torque	1.3 Nm
Peak torque	2.8 Nm
Nominal rotary speed	3,000 1/min
Max. speed	8,950 1/min
Max. mechanical speed	14,000 1/min
Nominal motor power	408 W
Continuous open-circuit current	2 A
Nominal motor current	1.76 A
Peak current	5.4 A
Motor constant	0.74 Nm/A
Standstill torque constant	0.89 Nm/A
Voltage constant, phase-to-phase	53.6 mVmin
Phase-phase winding resistance	12.4 Ohm
Phase-phase winding inductance	39.8 mH
Winding longitudinal inductivity Ld (phase)	25 mH
Winding cross inductivity Lq (phase)	29.8 mH
Electric time constant	4.8 ms
Thermal time constant	42 min
Thermal resistance	0.95 K/W
Measuring flange	250 x 250 x 15 mm, steel
Overall mass moment of inertia at power take-off	0.897 kgcm <sup>2</sup>
Product weight	2,720 g
Permissible axial shaft load	120 N
Permissible radial shaft load	620 N
Rotor position sensor	Absolute multi-turn encoder
Rotor position sensor, manufacturer designation	EQI 1131
Rotor position sensor, absolute detectable revolutions	4,096
Rotary position encoder interface	EnDat 22
Rotary position encoder measuring principle	Inductive
Rotor position sensor, DC operating voltage	5 V
Rotor position sensor, DC operating voltage range	3.6 ... 14 V
Rotor position sensor, position values per revolution	524,288
Rotor position encoder resolution	19 Bit
Rotor position sensor, system accuracy of angle measurement	-120 ... 120 arcsec
Brake holding torque	4.5 Nm
Operating voltage DC for brake	24 V
Brake current consumption	0.5 A
Power consumption, brake	12 W
Brake coil resistance	48 Ohm
Brake coil inductivity	1,000 mH
Brake separation time	≤ 55 ms
Brake closing time	≤ 15 ms
DC brake response delay	≤ 3 ms
Max. brake no-load speed	10,000 1/min
Max. brake friction work	8,200 J
Mass moment of inertia of brake	0.249 kgcm <sup>2</sup>
Switching cycles, holding brake	10 million idle actuations (without friction work)
MTTF, subcomponent	190 years, rotor position sensor