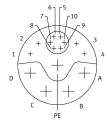
Servo motor EMMT-AS-80-S-HS-RMYB Part number: 8160645

FESTO





Data sheet

Feature	Value
Ambient temperature	-15 °C40 °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	-20 °C70 °C
Relative air humidity	0 - 90 %
Conforms to standard	IEC 60034
Thermal class according to EN 60034-1	F
Max. winding temperature	155 ℃
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	80P
Electrical connection 1, connection type	Hybrid plug
Electrical connection 1, connection technology	M23x1
Electrical connection 1, number of pins/wires	15
Contamination level	2
Note on materials	RoHS-compliant
Corrosion resistance class (CRC)	0 - No corrosion stress

LABS (PWIS) conformity 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 60068-2-2 Gertification RCM compliance mark German Technical Control Board (TUV) cUL us - Recognized (OU) CE marking (see declaration of conformity) As per EU EUM citientive As per EUM citientive As per EU EU
EN 60068-2-6 Shock restitance Shock restitance Reman Technical Control Board (TÜV) CUL us-Recognized (DU) CE marking (see declaration of conformity) As per EU low voltage directive As per EU low soltage directive As per EU low solts for EU low soltage directive As per EU low solts for EU low soltage directive As per EU low solts for EU low solts
Certification RCM compliance mark German Technical Control Board (TÜV) cUL us - Recognized (OL) CE marking (see declaration of conformity) As per EU ENC directive As per EU low voltage directive As per EU low voltage directive As per EU Row Stage directive As per EU Row
German Technical Control Board (TÜV) CULUS - Recognized (OL) CE marking (see declaration of conformity) As per EU EMC directive As per EU Roll's directive UKCA marking (see declaration of conformity) To UK instructions for EMC To UK Roll's instructions To UK instructions for electrical equipment Certificate issuing authority To US 968/INS 464.00/24 UE 5342973 Nominal operating voltage DC 680 V Type of winding switch Star inside Number of pole pairs Stall torque 1.46 Nm Nominal torque 1.3 Nm Peak torque 2.8 Nm Nominal torque 3.900 rpm Ansular acceleration 3000 rpm Ansular acceleration 400000 rad/s² Motor nominal power 408 W Continuous stall current 40.76 A Peak current 40.76 A Motor constants 40.74 Nm/A Standstill torque constant Voltage constant, phase-to-phase 40.89 Nm/A Voltage constant, phase-to-phase 40.89 Nm/A Voltage constant, phase-ephase 4
As per EU now voltage directive As per EU now voltage 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 1.46 Nm Nominal torque 1.3 Nm Peak torque 2.8 Nm Nominal rotary speed 3000 rpm Max. rotational speed 408 W Angular acceleration Motor nominal power Continuous stall current 2 A Motor nominal current 2 A Motor nominal current 5.4 A Motor constants Standstill torque constant Voltage constant, phase-to-phase Phase-phase winding resistance 1.2 4 Ohm Winding inductance phase-phase Winding longitudinal inductivity Ld (phase) Electric time constant 1.6 S N Measuring flange 250 x 250 x 15 mm, steel Total output inertia moment 7.6 S R S P S W Measuring flange 250 x 250 x 15 mm, steel Total output inertia moment 7.6 S R S R S R S R S R S R S R S R S R S
To UK RoHS instructions for electrical equipment Certificate issuing authority TÜV 968/INS 464.00/24 UL E342973 Nominal operating voltage DC 680 V Tuye of winding switch Number of pole pairs 5 Stall torque 1.46 Nm Nominal torque 1.3 Nm Peak torque 2.8 Nm Nominal tortay speed Max. rotational speed 8950 rpm Angular acceleration Notor nominal power Angular acceleration Motor nominal power Continuous stall current Peak current 1.76 A Motor constants 0.74 Nm/A Standstill torque constant Voltage constant, phase-to-phase Winding inductance phase-phase Winding longitudinal inductivity Ld (phase) University and the survey of t
Image: Nominal operating voltage DC 680 V Type of winding switch Star inside Number of pole pairs 5 Stall torque 1.46 Nm Nominal torque 1.3 Nm Peak torque 2.8 Nm Nominal rotary speed 3000 rpm Max. rotational speed 8950 rpm Angular acceleration 100000 rad/s² Motor nominal power 408 W Continuous stall current 2 A Motor nominal current 1.76 A Peak current 5.4 A Motor constants 0.74 Nm/A Standstill torque constant 0.89 Nm/A Voltage constant, phase-to-phase 53.6 m/min Phase-phase winding resistance 12.4 0hm Winding inductance phase-phase 39.8 mH Winding longitudinal inductivity Ld (phase) 25 mH Cross inductivity Ld (phase) 29.8 mH Electric time constant 42 min Thermal resistance 0.95 K/W Measuring flange 250 x 250 x 15 mm, steel Total output inertia moment 0.897 kgcm²
Type of winding switch Number of pole pairs Stall torque 1.46 Nm Nominal torque 1.3 Nm Peak torque 2.8 Nm Nominal rotary speed 3000 rpm Max. rotational speed 8950 rpm Angular acceleration 100000 rad/s² Motor nominal power Continuous stall current 2.4 Motor nominal current 1.76 A Peak current 5.4 A Motor constants 0.74 Nm/A Standstill torque constant Voltage constant, phase-to-phase 3.6 m/min Phase-phase winding resistance 1.2.4 Ohm Winding inductance phase-phase 3.9.8 mH Winding longitudinal inductivity Ld (phase) Electric time constant 4.8 ms Thermal time constant Neason in siede 1.40 Nm Measuring flange 250 x 250 x 15 mm, steel Total output inertia moment 1.64 Nm 1.64 Nm 1.76 A 1.7
Number of pole pairs Stall torque 1.46 Nm Nominal torque 2.8 Nm Nominal rotary speed 3000 rpm Max. rotational speed Angular acceleration Motor nominal power Continuous stall current 2.4 Motor nominal current 1.76 A Peak current 5.4 A Motor constants Standstill torque constant Voltage constant, phase-to-phase Winding inductance phase-phase Winding inductance phase-phase Winding longitudinal inductivity Ld (phase) Electric time constant Thermal time constant Neasuring flange Total output inertia moment 1.46 Nm 1.76 A 2.80 Nm/A 4.80 Nm/A 4
Stall torque1.46 NmNominal torque1.3 NmPeak torque2.8 NmNominal rotary speed3000 rpmMax. rotational speed8950 rpmAngular acceleration100000 rad/s²Motor nominal power408 WContinuous stall current2 AMotor nominal current1.76 APeak current5.4 AMotor constants0.74 Nm/AStandstill torque constant0.89 Nm/AVoltage constant, phase-to-phase53.6 mVminPhase-phase winding resistance12.4 OhmWinding inductance phase-phase39.8 mHWinding longitudinal inductivity Ld (phase)25 mHCross inductivity Lq (phase)29.8 mHElectric time constant4.8 msThermal time constant4.8 msThermal tresistance0.95 K/WMeasuring flange250 x 250 x 15 mm, steelTotal output inertia moment0.897 kgcm²
Nominal torque 1.3 Nm Peak torque 2.8 Nm Nominal rotary speed 3000 rpm Max. rotational speed 8950 rpm Angular acceleration 100000 rad/s² Motor nominal power 408 W Continuous stall current 2 A Motor nominal current 1.76 A Peak current 5.4 A Motor constants 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 Winding inductance phase-phase 39.8 mH Winding longitudinal inductivity Ld (phase) 29.8 mH Electric time constant 4.8 ms Thermal time constant 4.9 min Thermal resistance 0.95 K/W Measuring flange 250 x 250 x 15 mm, steel Total output inertia moment 0.897 kgcm²
Peak torque2.8 NmNominal rotary speed3000 rpmMax. rotational speed8950 rpmAngular acceleration100000 rad/s²Motor nominal power408 WContinuous stall current2 AMotor nominal current1.76 APeak current5.4 AMotor constants0.74 Nm/AStandstill torque constant0.89 Nm/AVoltage constant, phase-to-phase53.6 mVminPhase-phase winding resistance12.4 OhmWinding inductance phase-phase39.8 mHWinding longitudinal inductivity Ld (phase)25 mHCross inductivity Lq (phase)29.8 mHElectric time constant4.8 msThermal time constant42 minThermal resistance0.95 K/WMeasuring flange250 x 250 x 15 mm, steelTotal output inertia moment0.897 kgcm²
Nominal rotary speed 3000 rpm Max. rotational speed 8950 rpm Angular acceleration 100000 rad/s² Motor nominal power 408 W Continuous stall current 2 A Motor nominal current 1.76 A Peak current 5.4 A Motor constants 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 Winding inductance phase-phase 39.8 mH Winding longitudinal inductivity Ld (phase) 25 mH Cross inductivity Lq (phase) 29.8 mH Electric time constant 4.8 ms Thermal time constant 4.8 ms Thermal resistance 0.95 K/W Measuring flange 250 x 250 x 15 mm, steel Total output inertia moment 0.897 kgcm²
Max. rotational speed 8950 rpm Angular acceleration 100000 rad/s² Motor nominal power 408 W Continuous stall current 1.76 A Peak current 5.4 A Motor constants 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 Winding inductance phase-phase 39.8 mH Winding longitudinal inductivity Ld (phase) 29.8 mH Electric time constant 4.8 ms Thermal time constant 4.2 min Thermal resistance 0.95 K/W Measuring flange 250 x 250 x 15 mm, steel Total output inertia moment 2.05 ms.
Angular acceleration 100000 rad/s² Motor nominal power 408 W Continuous stall current 2 A Motor nominal current 1.76 A Peak current 5.4 A Motor constants 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 Winding inductance phase-phase 39.8 mH Winding longitudinal inductivity Ld (phase) 25 mH Cross inductivity Lq (phase) 29.8 mH Electric time constant 4.8 ms Thermal time constant 4.9 min Thermal resistance 0.95 K/W Measuring flange 250 x 250 x 15 mm, steel Total output inertia moment 0.897 kgcm²
Motor nominal power Continuous stall current 2 A Motor nominal current 1.76 A Peak current 5.4 A Motor constants O.74 Nm/A Standstill torque constant Voltage constant, phase-to-phase 53.6 mVmin Phase-phase winding resistance 12.4 Ohm Winding inductance phase-phase 39.8 mH Winding longitudinal inductivity Ld (phase) 25 mH Cross inductivity Lq (phase) Electric time constant 4.8 ms Thermal time constant 4.2 min Thermal resistance 0.95 K/W Measuring flange 750 x 250 x 15 mm, steel Total output inertia moment
Continuous stall current Motor nominal current 1.76 A Peak current 5.4 A Motor constants 0.74 Nm/A Standstill torque constant Voltage constant, phase-to-phase 53.6 mVmin Phase-phase winding resistance 12.4 Ohm Winding inductance phase-phase 39.8 mH Winding longitudinal inductivity Ld (phase) 25 mH Cross inductivity Lq (phase) 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 Total output inertia moment 0.897 kgcm²
Motor nominal current 1.76 A Peak current 5.4 A Motor constants 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 Winding inductance phase-phase 39.8 mH Winding longitudinal inductivity Ld (phase) 25 mH Cross inductivity Lq (phase) 29.8 mH Electric time constant 4.8 ms Thermal time constant 4.2 min Thermal resistance 0.95 K/W Measuring flange 250 x 250 x 15 mm, steel Total output inertia moment 0.897 kgcm²
Peak current Motor constants 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 Winding inductance phase-phase 39.8 mH Winding longitudinal inductivity Ld (phase) 25 mH Cross inductivity Lq (phase) 29.8 mH Electric time constant 4.8 ms Thermal time constant 4.9 min Thermal resistance 0.95 K/W Measuring flange 250 x 250 x 15 mm, steel Total output inertia moment 0.897 kgcm²
Motor constants 5tandstill torque constant 0.89 Nm/A Voltage constant, phase-to-phase 53.6 mVmin Phase-phase winding resistance 12.4 Ohm Winding inductance phase-phase 39.8 mH Winding longitudinal inductivity Ld (phase) 25 mH 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 Total output inertia moment 0.897 kgcm²
Motor constants 5tandstill torque constant 0.89 Nm/A Voltage constant, phase-to-phase 53.6 mVmin Phase-phase winding resistance 12.4 Ohm Winding inductance phase-phase 39.8 mH Winding longitudinal inductivity Ld (phase) 25 mH 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 Total output inertia moment 0.897 kgcm²
Voltage constant, phase-to-phase 53.6 mVmin Phase-phase winding resistance 12.4 Ohm Winding inductance phase-phase 39.8 mH Winding longitudinal inductivity Ld (phase) 25 mH 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 Total output inertia moment 0.897 kgcm²
Phase-phase winding resistance 12.4 Ohm Winding inductance phase-phase 39.8 mH Winding longitudinal inductivity Ld (phase) 25 mH 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 Total output inertia moment 0.897 kgcm²
Winding inductance phase-phase 39.8 mH Winding longitudinal inductivity Ld (phase) 25 mH 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 Total output inertia moment 39.8 mH 25 mH 29.8 mH 20.8
Winding longitudinal inductivity Ld (phase) 25 mH 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 Total output inertia moment 0.897 kgcm²
Cross inductivity Lq (phase) 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 Total output inertia moment 0.897 kgcm²
Electric time constant Thermal time constant Thermal resistance 0.95 K/W Measuring flange 250 x 250 x 15 mm, steel Total output inertia moment 0.897 kgcm²
Thermal time constant 42 min Thermal resistance 0.95 K/W Measuring flange 250 x 250 x 15 mm, steel Total output inertia moment 0.897 kgcm²
Thermal resistance 0.95 K/W Measuring flange 250 x 250 x 15 mm, steel Total output inertia moment 0.897 kgcm²
Measuring flange 250 x 250 x 15 mm, steel Total output inertia moment 0.897 kgcm²
Total output inertia moment 0.897 kgcm ²
Product weight 2720 g
Permissible axial shaft load 120 N
Permissible radial shaft load 620 N
Rotor position sensor Safety encoder, absolute multi-turn
Rotor position sensor for manufacturer designation EQI 1131
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 V14 V
Rotor position encoder for positional values per revolution 524288
Rotor position sensor resolution 19 bit
Rotor position encoder system accuracy angle measurement -120 arcsec120 arcsec
Brake holding torque 4.5 Nm
Brake DC operating voltage 24 V

Feature	Value
Brake power consumption	12 W
	Safety device Safety integrity level 3 See user documentation Reliable recording and transmission of single-turn position data Reliable recording and transmission of single-turn position data, only with additional software function in the servo drive Performance Level e, Category 3 See user documentation Reliable recording and transmission of single-turn position data Reliable recording and transmission of single-turn position data, only with additional software function in the servo drive
Brake mass moment of inertia	0.249 kgcm ²
Switching cycles, holding brake	10 million idle actuations (without friction work!)
PFHd, subcomponent	15 x 10E-9, encoder
Duration of use Tm, subcomponent	20 years, rotor position sensor