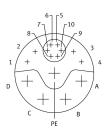
## Servo motor EMMT-AS-80-S-HS-RMYB Part number: 8160645





## **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
Note on max. installation height	As of 1,000 m: only with derating of -1.0% per 100 m
Storage temperature	-20 °C70 °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	optional
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	Ν
Balance quality	G 2.5
Detent torque	<1,0% vom Spitzendrehmoment
Bearing lifetime under nominal conditions	20000 h
Interface code, motor out	80P
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

## **FESTO**

LABS (WIS) conformity     VDMA2 364 zone III       Vibration resistance     Inapport application test with severity level 2 to FN 942017-4 and EN 40068-2-6       Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27     Rec transition of conformity (UI version and the severity level 2 to FN 942017-5 and EN 60068-2-27       Approval     Rec Mixed mark (see declaration of conformity)     To Lie Dec University       CE mark (see declaration of conformity)     To Lie Dev Volage Directive in accordance with EU A015 Directive in accordance with EU A015 Directive in accordance with EU A015 Directive in the Regulators for celetrical equipment       CE marking Gee declaration of conformity)     TUV SecIIIIS 646.00/24       TUP SecIIIIS 646.00/24     Lie SA19973       Nominal operating witch     Start inside       Number of pole pairs     5       Standstill torque     1.46 Nm       Number of pole pairs     5       Standstill torque     1.36 Nm       Naminal torque     1.36 Nm       Ansular acceleration     100000 rand/52       Nominal torque constant     2.76 A       Arguer and Start an	Feature	Value
60068-2-6       Shock reskinnce       Approval       RCM trademark       RCM trademark       RCM trademark       CE mark (see declaration of conformity)       Certificate issuing authority       UL regulations for electrical equipment       Certificate issuing mathority       Number of pole pairs       Sea declaration       Number of pole pairs       Sea declaration       Nominal torque       Angura zecleration       Nominal power rating of motor       Angura zecleration       Nominal power rating of motor       Angura zecleration       Nominal power rating of motor       Sea declaration <td>LABS (PWIS) conformity</td> <td>VDMA24364 zone III</td>	LABS (PWIS) conformity	VDMA24364 zone III
Approval     ECM trademark for the term       CE mark (see declaration of conformity)     ED EVEX Directive for accordance with U RoTS Directive in accordance with UE ROTS Directive       CE mark (see declaration of conformity)     To UK montations for EMC to the ROTS Directive in accordance with UE ROTS Directive       CE marking (see declaration of conformity)     To UK ROTS Districtions for EMC to UK ROTS Districtions To UK regulatoris for electrical equipment       Certificate issuing authority     UU E SA2973       Nominal operating voltage DC     660 V       Type of vinding switch     Star inside       Number of pole pairs     5       Standstill torque     1.46 Mm       Nominal torque     2.8 Nm       Nominal torque     2.8 Nm       Nominal torque     2.8 Nm       Nominal torque     2.8 Nm       Nominal torque auton     0.00000 rad/3 <sup>2</sup> Angular acceleration     408 W       Continuous stall current     2.76 A       Peak current     2.4 Nm       Nominal program rating of motor     0.89 Nm/A       Voltage constant     0.89 Nm/A       Motor constant     0.74 Nm/A       Standstill torque constant     0.74 Nm/A	Vibration resistance	
German Technical Control Board (TUV)       CE mark (see declaration of conformity)     To EU EW Charge (0.)       CE marking (see declaration of conformity)     To EU EW Charge Directive In accordance with EU RoHS Directive       CE marking (see declaration of conformity)     To EU EW Charge Directive In accordance with EU RoHS Directive       Certificate issuing authority     UV 968/INIS 646.00/24       UU Regulations for EMC To UK RoHS INSTACTIONS       Nominal operating voltage DC     680 V       Ymp of winding switch     Star inside       Nomber of policy pairs     5       Standstill torque     1.46 Mm       Nominal orque     2.8 Nn       Nominal torque     2.80 Nn       Nominal orque     2.80 Nn       Nominal proget rating of motor     408 W       Continuous stall current     1.76 A       Nominal motor current     1.76 A       Noninal motor current     2.4 Nmin       Phase-thopase to phase     3.3 Mmin       Standstill torque constant     0.80 Nm/A       Notare constant     0.40 Nmin       Notare constant     2.4 A Nmin       Phase-thopase winding inductance     3.8 Mmin       Phas	Shock resistance	Shock test with severity level 2 to FN 942017-5 and EN 60068-2-27
To ELL way Voltage Directive In accordance with EU RoHS Directive       CE marking (see declaration of conformity)     To UK Instructions for EWC To UK Regulations for electrical equipment       Certificate issuing authority     TO Yo 96, MINS 64 64, 00/24       UL SA429773     Starinside       Nominal operating voltage DC     680 V       Yupe of winding youtage DC     5       Standstill torque     1.46 Nm       Nominal torque     1.3 Nm       Peak orque     2.8 Nm       Nominal torque     2.8 Nm       Nominal speed     3000 rpm       Anz, rotational speed     8950 rpm       Angular acceleration     100000 rad/s <sup>2</sup> Nominal motor current     2.4 Am/A       Nominal motor current     2.4 Am/A       Nominal motor current     0.42 Nm/A       Voltage constant, phase-to-phase     3.3 m/Min       Voltage constant, phase-to-phase     3.4 Am/A       Voltage constant, phase-to-phase     3.4 Nm/A       Voltage constant, phase-to-phase     3.4 Nm/A       Voltage constant, phase-to-phase     3.5 MVmin       Phase-phase winding inductance     3.6 MVmin       Phase-phase winding indu	Approval	German Technical Control Board (TÜV)
To UK Korls Instructions D UK regulations for electrical equipment       Certificate issuing authority     TUV 964/NS 464.00/24 UL E342973       Nominal operating voltage DC     680 V       Standstill torque     5       Standstill torque     1.46 Nm       Nominal torque     1.3 Nm       Peak torque     2.8 Nm       Nominal torque     0.000 rpm       Max, rotational speed     8950 rpm       Angular acceleration     100000 rad/s <sup>2</sup> Nominal torque cortent     1.76 A       Peak current     5.4 A       Motor constant     0.89 Nm/A       Voltage constant, phase to phase     53.6 mVmin       Phase-phase winding resistance     12.4 Nm       Phase-phase winding resistance     12.4 Nm       Winding longitudinal inductivity Li (phase)     25 mH       Winding constant     4.8 ms       Thermal time constant     4.8 ms       Thermal time co	CE mark (see declaration of conformity)	To EU Low Voltage Directive
InternationalUL E342973Nominal operating voltage DC660 VYope of winding switchStar insideNumber of pole pairs5Standstill torque1.46 NmPeak torque2.8 NmNominal torque3000 rpmMax. rotational speed3000 rpmAnguiar acceleration100000 rad/s <sup>2</sup> Nominal notary speed2.8 NmNominal notary speed408 WContinuous stall current2.4 NmNominal motor current1.76 APeak current5.4 AMotor constant0.74 Nm/AVoltage constant, phase-to-phase53.6 mVminVoltage constant, phase-to-phase53.6 mVminViltage constant2.9 MHWinding longturane39.8 mHWinding longturane39.8 mHWinding longturane2.9 SmHElectric time constant4.8 msThermal tresistance0.95 K/WWinding longturane3.92 SmHElectric time constant4.2 NmThermal tresistance0.95 K/WMeasuring flange250 NERestor pasiton sensorAssolute multi-turn safety encoderProduct weight2720 gPermissible avial shaft load200 NRotor position sensor, encoder interfaceEnDado 2.2Rotor position sensor, encoder interfaceEnDado 2.2Rotor position sensor, encoder interfaceEnDado 2.2Rotor position sensor, encoder interface5.4 NRotor position sensor, encoder interface5.4 NRotor positio	CE marking (see declaration of conformity)	To UK RoHS instructions
Type of winding switchStar insideNumber of pole pairs5Standstill torque1.46 kmNominal torque1.3 NmPeak torque2.8 NmNominal torque speed3000 rpmMax, rotational speed8950 rpmAngular acceleration100000 rad/s²Nominal power rating of motor408 WContinuous stall current2.4 NmNominal power rating of motor408 WContinuous stall current2.4 NmNominal motor current1.76 APeak current5.4 AMotor constant0.74 km/AStandstill torque constant0.74 km/AVoltage constant, phase-to-phase53.6 m/minPhase-phase winding resistance12.4 OhmPhase-phase winding resistance12.8 mLWinding cross inductivity Ld (phase)25 mHWinding fange250 x 250 x 15 mm, steelTotal mass moment of inertia of output0.897 kgcm²Product weight2720 gPermissible axial shaft load620 NRotor position sensorAbsolute multi-turn safety encoderrotor position sensor, absolute detectable revolutions4096Rotor position sensor, cooperating voltage area5.4 Vrotor position sensor, position values per revolution542288Rotor position sensor, cooperating voltage area5.4 Vrotor position sensor, cooperating voltage area5.4 Nm	Certificate issuing authority	
Number of pole pairs5Standstill torque1.46 kmNominal torque1.3 kmNominal rotary speed3000 rpmMax. rotational speed8950 rpmAngular acceleration100000 rad/s²Nominal power rating of motor408 WContinuous stall current2.4 ANominal motor current1.76 APeak current5.4 AMotor constant0.74 Nm/AStandstill torque constant0.89 Nm/AVoltage constant, phase-to-phase53.6 mVminPhase-phase winding resistance12.4 OhmPhase-phase winding resistance25 mHWinding cross inductivity Ld (phase)25 mHElectric time constant4.8 msThermal time constant0.95 K/WMeasuring finge250 x 250 x 15 mm, steelTotal mass moment of inertia of output0.897 kgcm³Premissible axial shaft load620 NReasuring finge250 x 250 x 15 mm, steelTotal mass moment of inertia of output0.897 kgcm³Product weight2720 gPermissible axial shaft load620 NRotor position sensorAbsolute multi-turn safety encoderrotor position sensor, manufacturer designation601 1131Cortor position sensor, Do certaing wintage5 Vrotor position sensor, Do certaing wintage5 Vrotor position sensor, coccer measuring principleInductiverotor position sensor, position values per revolution524288Rotor position sensor, position values per revolution524288 <t< td=""><td>Nominal operating voltage DC</td><td>680 V</td></t<>	Nominal operating voltage DC	680 V
Standstill torque 1.46 Nm   Nominal torque 1.3 Nm   Peak torque 2.8 Nm   Nominal torque 2.8 Nm   Max. rotational speed 8950 rpm   Angular acceleration 100000 rad/s <sup>2</sup> Nominal power rating of motor 408 W   Continuous stall current 2.A   Nomian lower rating of motor 408 W   Continuous stall current 2.A   Nomian lower rating of motor 6.98 Nm/A   Continuous stall current 5.4 A   Motor constant 0.74 Nm/A   Standstill torque constant 0.89 Nm/A   Voltage constant, phase to phase 53.6 m/Vnin   Phase-phase winding resistance 1.24 Ohm   Phase-phase winding resistance 1.24 Ohm   Phase-phase winding inductance 39.8 mH   Winding corsistant 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 mass moment of inertia of output 0.897 kgcm <sup>3</sup> Permissible axial shaft load 620 N   Rotor position sensor Absolute multi-turn safety encoder   rotor position sensor, no.pasclute detectable revolutions 4096   Rotor position sensor, position values per revol	Type of winding switch	Star inside
Nominal torque1.3 NmPeak torque2.8 NmNominal rotary speed3000 rpmMax. rotational speed8950 rpmAngular acceleration100000 rad/s²Nominal power rating of motor408 WContinuous stall current2 ANominal motor current1.76 APeak current5.4 AMotor constant0.74 Nm/AStandstill torque constant0.89 Nm/AVoltage constant, phase-to-phase53.6 m/minPhase-phase winding resistance12.4 OhmPhase-phase winding resistance12.4 OhmPhase-phase winding resistance29.8 mHWinding constant (liptase)25 mHWinding constant to phase)25 mHWinding constant (liptase)29.8 mHWinding constant to phase)25 mHWinding constant4.8 msThermal resistance0.95 K/WMeasuring flange250 x 250 x 15 mm, steelTotal mass moment of Inertia of output0.897 kgcm²Permissible radial shaft load620 NRotor position sensorAbsolute multi-turn safety encoderrotor position sensor, manufacturer designationEQI 1131rotor position sensor, nonder measuring principleInductiverotor position sensor, DC operating voltage range5 Vrotor position sensor,	Number of pole pairs	5
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Nominal rotary speed3000 rpmMax. rotational speed8950 rpmAngular acceleration100000 rad/s²Nominal power rating of motor408 WContinuous stall current2 ANominal motor current1.76 APeak current5.4 AMotor constant0.74 Nm/AStandstill torque constant0.89 Nm/AVoltage constant, phase-to-phase53.6 mVminPhase-phase winding resistance12.4 OhmPhase-phase winding resistance29.8 mHWinding longitudinal inductivity Ld (phase)25 mHWinding cross inductivity Ld (phase)29.8 mHElectric time constant4.2 minThermal time constant0.95 K/WMeasuring flange250 x 250 x 15 mm, steelTotal mass moment of inertia of output0.897 kgcm²Porduct weight270 gPermissible radial shaft load620 NRotor position sensor, absolute detectable revolutions4096Rotor position sensor, absolute detectable revolutions4096Rotor position sensor, DC operating woltage range3.6 V14 Vrotor position sensor, position values per revolution524288Rotor position sensor, position values per revolution </td <td>Nominal torque</td> <td>1.3 Nm</td>	Nominal torque	1.3 Nm
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Peak current5.4 AMotor constant0.74 Nm/AStandstill torque constant0.89 Nm/AVoltage constant, phase-to-phase53.6 mVminPhase-phase winding resistance12.4 OhmPhase-phase winding resistance39.8 mHWinding longitudinal inductivity Ld (phase)25 mHWinding cross inductivity Lq (phase)29.8 mHElectric time constant4.8 msThermal time constant4.8 msThermal time constant0.95 K/WMeasuring flange250 x 250 x 15 mm, steelTotal mass moment of inertia of output0.897 kgcm²Product weight2720 gPermissible radial shaft load620 NRotor position sensorAbsolute multi-turn safety encoderrotor position sensor, manufacturer designationEQI 1131rotor position sensor, necoder measuring principleInductiverotor position sensor, DC operating voltage5 Vrotor position sensor, DC operating voltage5 Vrotor position sensor, DC operating voltage range3.6 V14 Vrotor position sensor, DC operating voltage range3.6 V14 Vrotor position sensor, position values per revolution524288Rotor position sensor, position sensor, position values per revolution524 288Rotor position sensor, position values per revolution19 bitrotor position sensor, position values per revolution19 bitrotor position sensor, position values per revolution524 288Rotor position sensor, position values per revolution19 bit <td></td> <td>2 A</td>		2 A
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Motor constant0.74 Nm/AStandstill torque constant0.89 Nm/AVoltage constant, phase-to-phase53.6 mVminPhase-phase winding resistance12.4 OhmPhase-phase winding resistance39.8 mHWinding longitudinal inductivity Ld (phase)25 mHWinding cross inductivity Ld (phase)29.8 mHElectric time constant4.8 msThermal time constant4.2 minThermal time constant0.95 K/WMeasuring flange250 x 250 x 15 mm, steelTotal mass moment of inertia of output0.897 kgcm²Product weight2720 gPermissible radial shaft load120 NPermissible radial shaft load620 NRotor position sensorAbsolute multi-turn safety encoderrotor position sensor, encoder interfaceEnDat® 22Rotor position sensor, norder interfaceEnDat® 22Rotor position sensor, norder interfaceEnDat® 22Rotor position sensor, on coder interfaceEnDat® 22Rotor position sensor, on coder interfaceEnDat® 22Rotor position sensor, DC operating principleInductiverotor position sensor, DC operating voltage range3.6 V14 Vrotor position sensor, position values per revolution524288Rotor position sensor, position sensor, position values per revolution19 bitrotor position sensor,	Peak current	5.4 A
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Brake holding torque 4.5 Nm		
Uperating voltage U( tor brake 12/ V	Operating voltage DC for brake	24 V

Feature	Value
Power consumption, brake	12 W
Number of emergency stops per hour	1
Mass moment of inertia of brake	0.249 kgcm <sup>2</sup>
Switching cycles holding brake	10 million idle actuations (without friction work!)
Safety device	Safety device
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 sensor