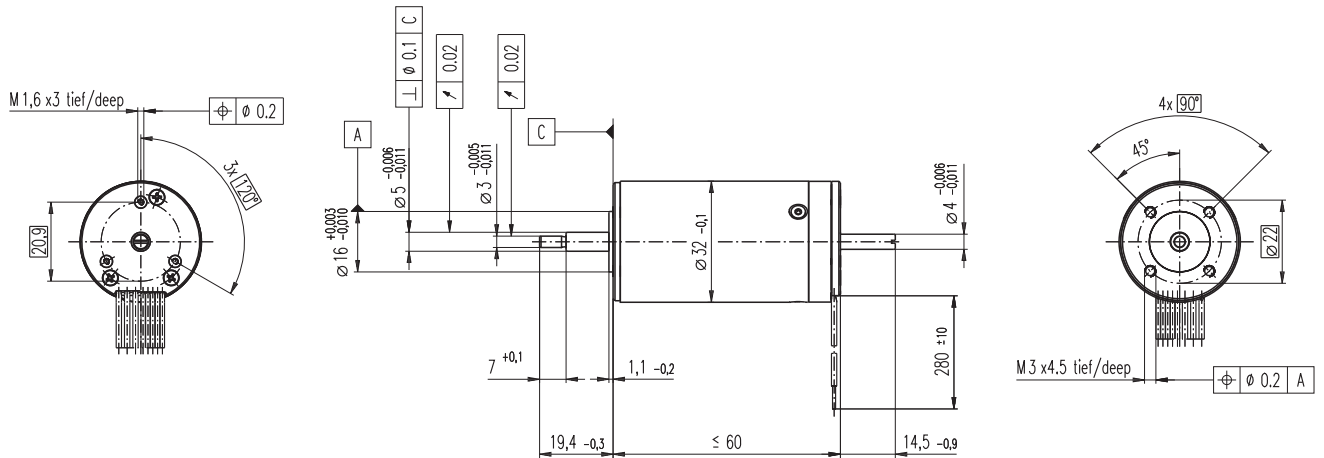


EC 32 Ø32 mm, brushless, 80 Watt, CE approved



M 1:2

- Stock program
- Standard program
- Special program (on request)

Order Number

118891	118892	118888	118889	118893	118890
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Motor Data

Values at nominal voltage		118891	118892	118888	118889	118893	118890	
1	Nominal voltage	V	12.0	18.0	18.0	24.0	36.0	48.0
2	No load speed	rpm	15000	14300	13000	11000	14700	11300
3	No load current	mA	901	555	487	286	289	148
4	Nominal speed	rpm	13600	12800	11600	9510	13200	9790
5	Nominal torque (max. continuous torque)	mNm	37.5	40.1	41.2	43.6	39.7	42.6
6	Nominal current (max. continuous current)	A	5.82	3.88	3.61	2.37	1.98	1.19
7	Stall torque	mNm	428	443	407	355	454	353
8	Starting current	A	57.2	37.4	31.4	17.3	19.7	8.84
9	Max. efficiency	%	77.0	77.6	77.1	76.4	77.7	76.2
Characteristics								
10	Terminal resistance phase to phase	Ω	0.21	0.481	0.573	1.39	1.83	5.43
11	Terminal inductance phase to phase	mH	0.03	0.0752	0.09	0.226	0.285	0.856
12	Torque constant	mNm / A	7.48	11.8	13.0	20.5	23.1	40.0
13	Speed constant	rpm / V	1280	806	737	465	414	239
14	Speed / torque gradient	rpm / mNm	35.8	32.7	32.6	31.5	32.8	32.5
15	Mechanical time constant	ms	7.49	6.86	6.82	6.59	6.87	6.8
16	Rotor inertia	gcm ²	20.0	20.0	20.0	20.0	20.0	20.0

Specifications

- Thermal data**
- 17 Thermal resistance housing-ambient 5.4 K / W
 - 18 Thermal resistance winding-housing 2.5 K / W
 - 19 Thermal time constant winding 15.4 s
 - 20 Thermal time constant motor 1180 s
 - 21 Ambient temperature -20 ... +100°C
 - 22 Max. permissible winding temperature +125°C
- Mechanical data (preloaded ball bearings)**
- 23 Max. permissible speed 25000 rpm
 - 24 Axial play at axial load < 8 N 0 mm
 - > 8 N max. 0.14 mm
 - 25 Radial play preloaded
 - 26 Max. axial load (dynamic) 5.6 N
 - 27 Max. force for press fits (static) 110 N
 - (static, shaft supported) 1200 N
 - 28 Max. radial loading, 5 mm from flange 28 N
- Other specifications**
- 29 Number of pole pairs 1
 - 30 Number of phases 3
 - 31 Weight of motor 270 g

Values listed in the table are nominal.

- Connection motor** (Cable AWG 22)
- red Motor winding 1
 - black Motor winding 2
 - white Motor winding 3

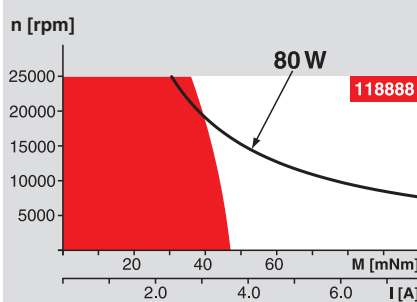
- Connection sensors** (Cable AWG 26)¹⁾

- green V_{Hall} 4.5 ... 24 VDC
- blue GND
- red / grey Hall sensor 1
- black / grey Hall sensor 2
- white / grey Hall sensor 3

Wiring diagram for Hall sensors see page 27

1) Not lead through in combination with resolver.

Operating Range



Comments

Continuous operation
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.

Short term operation
The motor may be briefly overloaded (recurring).

— Assigned power rating

maxon Modular System

Overview on page 16 - 21

Planetary Gearhead

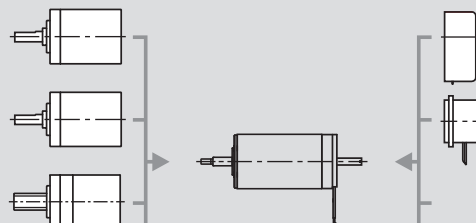
- Ø32 mm
- 0.75 - 4.5 Nm
- Page 232

Planetary Gearhead

- Ø32 mm
- 0.75 - 6.0 Nm
- Page 234 / 236

Spindle Drive

- Ø32 mm
- Page 251 / 252 / 253



Encoder HED_5540

- 500 CPT,
- 3 channels
- Page 269 / 271

Resolver Res 26

- Ø26 mm
- 10 V
- Page 278

Recommended Electronics:

- DECS 50/5 Page 288
- DEC 50/5 289
- DECV 50/5 295
- DEC 70/10 295
- DES 50/5 296
- EPOS2 24/5 303
- EPOS2 50/5 303
- EPOS 70/10 303
- EPOS P 24/5 306
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