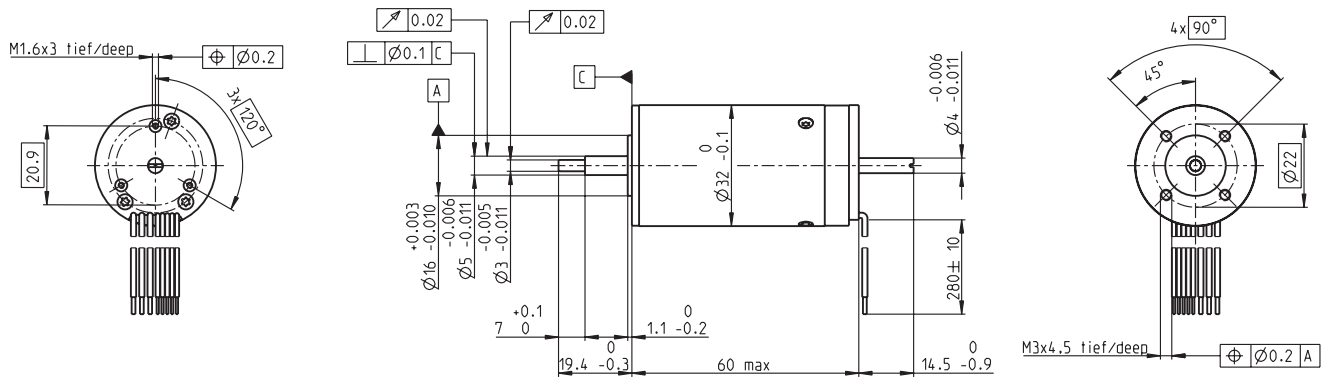


EC 32 Ø32 mm, brushless, 80 Watt, CE approved



M 1:2

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

Order Number

118891	118892	118888	118889	118893	118890	

Motor Data

Values at nominal voltage		12.0	18.0	18.0	24.0	36.0	48.0
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	78	77	76	78	76
Characteristics		0.21	0.481	0.573	1.39	1.83	5.43
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 speed¹⁾: 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) (static, shaft supported): 98 N
 - 28 Max. radial loading, 5 mm from flange: 1200 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)

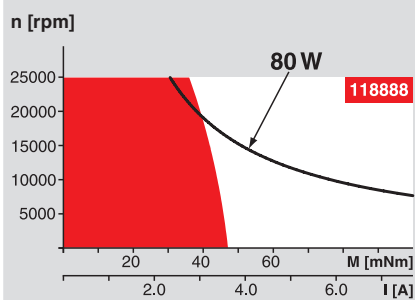
- red: Motor winding 1
- black: Motor winding 2
- white: Motor winding 3

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 p. 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

Planetary Gearhead

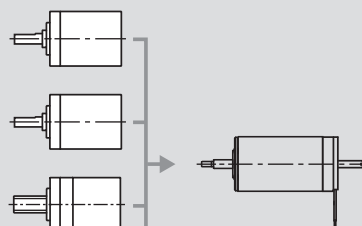
- Ø32 mm
- 0.75 - 4.5 Nm
- Page 230

Planetary Gearhead

- Ø32 mm
- 0.75 - 6.0 Nm
- Page 232 / 234

Spindle Drive

- Ø32 mm
- Page 249 / 250 / 251



Overview on page 16 - 21

Encoder HED_5540

- 500 Imp.,
- 3 channels
- Page 267 / 269

Resolver Res 26

- Ø26 mm
- 10 V
- Page 277

Recommended Electronics:

- DECS 50/5: Page 289
- DEC 50/5: 291
- DEC Module 50/5: 291
- DECV 50/5, DEC 70/10: 297
- DES 50/5: 298
- EPOS2 24/5, EPOS2 50/5: 305
- EPOS2 70/10: 305
- EPOS P 24/5: 308
- Notes: 20