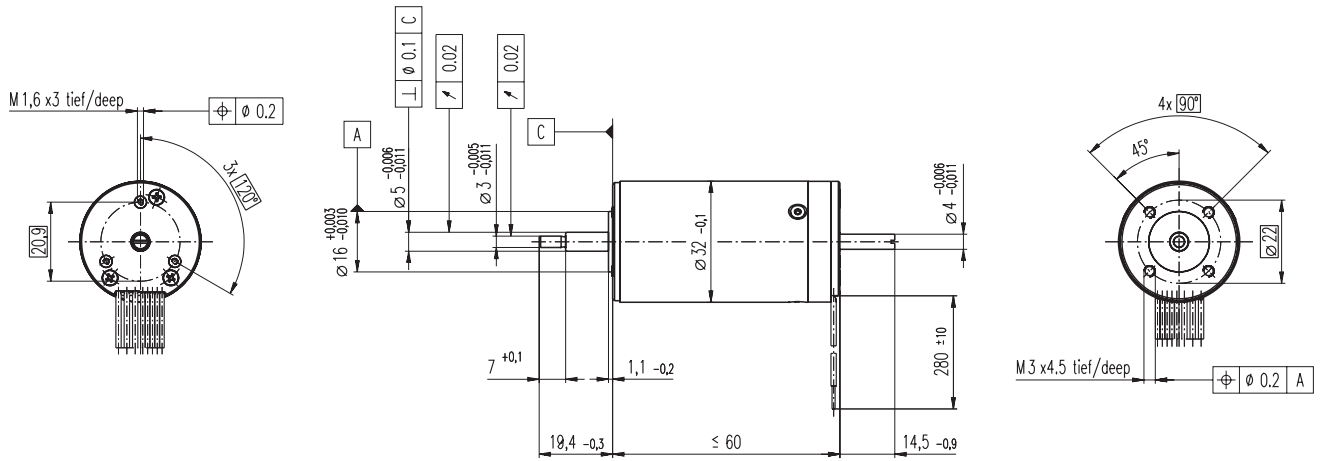


# EC 32 $\varnothing 32$ mm, brushless, 80 Watt, CE approved



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	15100	14300	13000	11000	14700	11300
3	No load current	mA	901	555	487	286	289	148
4	Nominal speed	rpm	13600	12900	11600	9540	13300	9820
5	Nominal torque (max. continuous torque)	mNm	38.3	40.9	42.1	44.5	40.6	43.5
6	Nominal current (max. continuous current)	A	5.91	3.95	3.67	2.41	2.02	1.22
7	Stall torque	mNm	443	460	423	369	472	367
8	Starting current	A	59.2	38.8	32.6	18.0	20.5	9.19
9	Max. efficiency	%	77	78	78	77	78	77
<b>Characteristics</b>								
10	Terminal resistance phase to phase	$\Omega$	0.203	0.464	0.552	1.33	1.76	5.22
11	Terminal inductance phase to phase	mH	0.0300	0.0752	0.0900	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	34.6	31.5	31.4	30.3	31.6	31.2
15	Mechanical time constant	ms	7.24	6.61	6.57	6.34	6.61	6.54
16	Rotor inertia	gcm <sup>2</sup>	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.

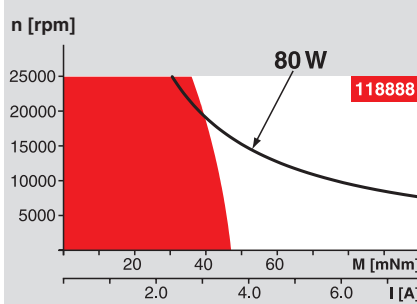
- Connection Motor** (Cable AWG 22)
- red Motor winding 1
  - black Motor winding 2
  - white Motor winding 3

**Connection Sensors** (Cable AWG 26)<sup>1)</sup>

- green V<sub>Hall</sub> 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 26

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

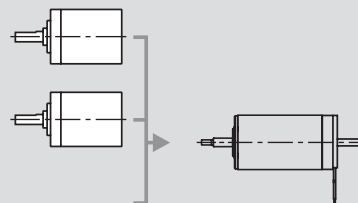
Overview on page 16 - 21

**Planetary Gearhead**

- $\varnothing 32$  mm
- 0.75 - 4.5 Nm
- Page 230

**Planetary Gearhead**

- $\varnothing 32$  mm
- 1.0 - 6.0 Nm
- Page 232



**Recommended Electronics:**

- DEC 50/5 Page 277
- DECV 50/5 278
- DEC 70/10 278
- DES 50/5 279
- EPOS 24/5 286
- EPOS P 24/5 287
- EPOS 70/10 287
- MIP 50 289
- Notes 20**

**Encoder HEDS 5540**

- 500 CPT,
- 3 channels
- Page 255

**Encoder HEDL 5540**

- 500 CPT,
- 3 channels
- Page 257

**Resolver Res 26**

- $\varnothing 26$  mm
- 10 V
- Page 264