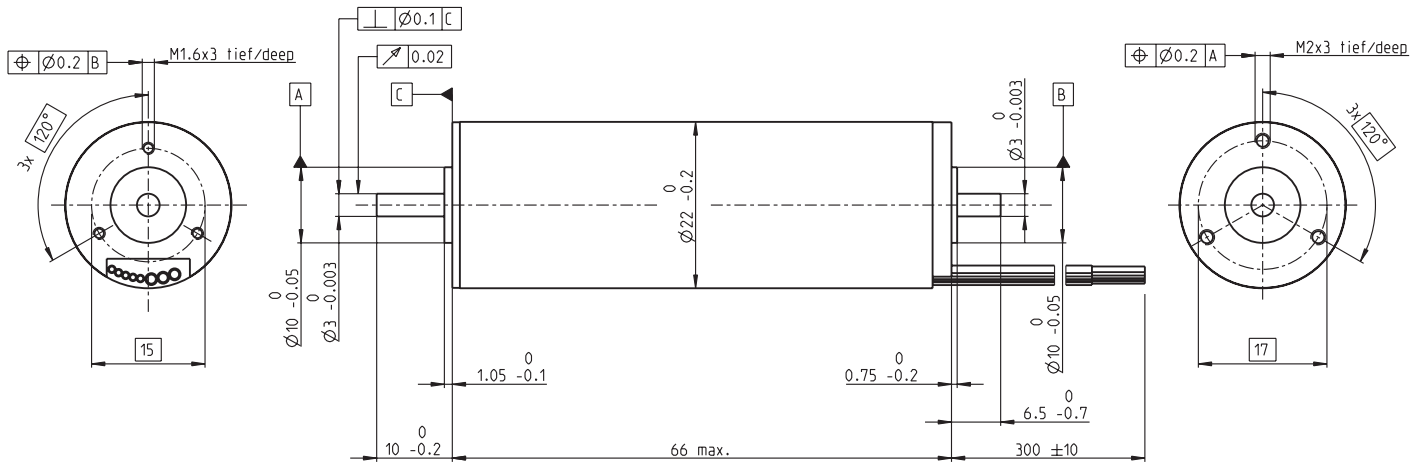


EC-4pole 22 Ø22 mm, brushless, 120 Watt

High Power

maxon EC-4pole



M 1:1

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

Order Number

311535	311536	311537	311538
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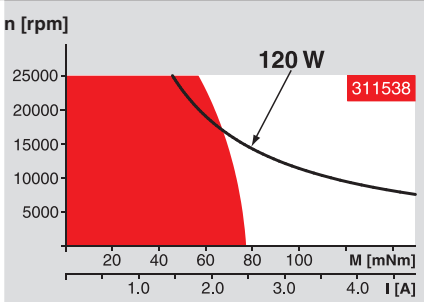
Motor Data (provisional)

Values at nominal voltage		18.0	24.0	36.0	48.0
1 Nominal voltage	V	18.0	24.0	36.0	48.0
2 No load speed	rpm	16800	16500	17800	16900
3 No load current	mA	330	248	183	124
4 Nominal speed	rpm	15600	15700	16700	15700
5 Nominal torque (max. continuous torque)	mNm	59.0	61.8	63.1	64.1
6 Nominal current (max. continuous current)	A	6.06	4.75	3.43	2.46
7 Stall torque	mNm	904	990	1130	1060
8 Starting current	A	88.9	73.1	59.0	39.2
9 Max. efficiency	%	88	89	89	89
Characteristics		0.202	0.329	0.610	1.22
10 Terminal resistance phase to phase	Ω	0.202	0.329	0.610	1.22
11 Terminal inductance phase to phase	mH	0.0173	0.0308	0.0618	0.123
12 Torque constant	mNm / A	10.2	13.5	19.2	27.1
13 Speed constant	rpm / V	940	705	497	352
14 Speed / torque gradient	rpm / mNm	18.7	17.1	15.8	15.9
15 Mechanical time constant	ms	1.75	1.59	1.47	1.49
16 Rotor inertia	gcm ²	8.91	8.91	8.91	8.91

Specifications

Thermal data	
17 Thermal resistance housing-ambient	8.01 K / W
18 Thermal resistance winding-housing	1 K / W
19 Thermal time constant winding	6.36 s
20 Thermal time constant motor	476 s
21 Ambient temperature	-20 ... +100°C
22 Max. permissible winding temperature	+155°C
Mechanical data (preloaded ball bearings)	
23 Max. permissible speed	25000 rpm
24 Axial play at axial load	< 5.0 N: 0 mm > 5.0 N: 0.14 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	4.5 N
27 Max. force for press fits (static)	53 N
(static, shaft supported)	1000 N
28 Max. radial loading, 5 mm from flange	16 N

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**

Other specifications

29 Number of pole pairs	2
30 Number of phases	3
31 Weight of motor	175 g

Values listed in the table are nominal.

- Connection Motor** (Cable AWG 20)
 red Motor winding 1
 white Motor winding 3
 black Motor winding 2
- Connection sensors** (Cable AWG 26)
 red/grey Hall sensor 1
 black/grey Hall sensor 2
 white/grey Hall sensor 3
 green V_{Hall} 4.5 ... 24 VDC
 blue GND

maxon Modular System

Planetary Gearhead
 Ø22 mm
 2.0 - 3.4 Nm
 Page 225

Planetary Gearhead
 Ø32 mm
 1.0 - 6.0 Nm
 Page 234

Spindle Drive
 Ø32 mm
 Page 249 / 250 / 251

Encoder HEDL 5540
 500 Imp.,
 3 channels
 Page 270

Recommended Electronics:

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