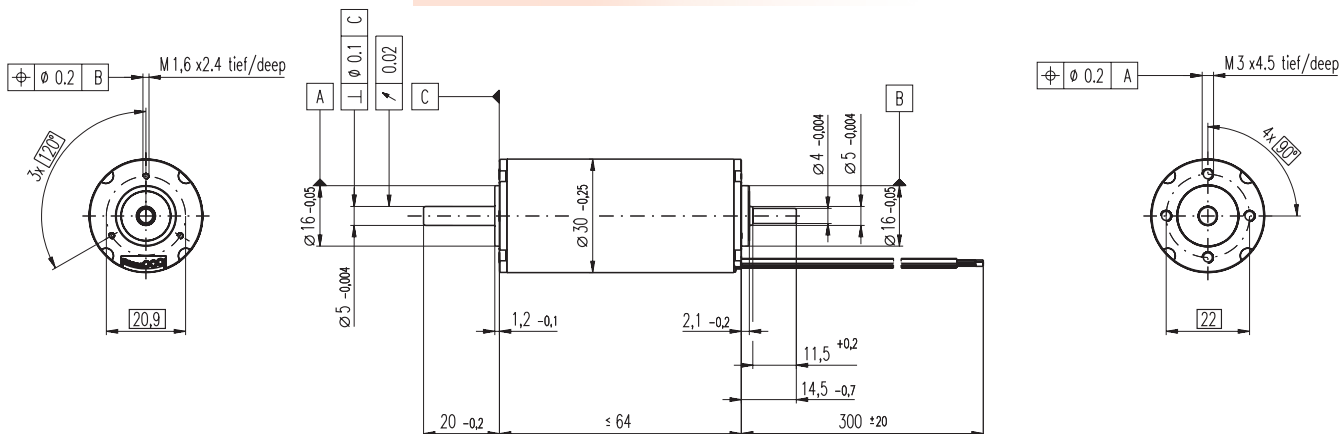


EC-powermax 30 Ø30 mm, brushless, 200 Watt

HighPower



M 1:2

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

Order Number

305013 305014 305015

Motor Data (provisional)

Values at nominal voltage		305013	305014	305015	
1	Nominal voltage	V	24.0	36.0	48.0
2	No load speed	rpm	17000	17000	16500
3	No load current	mA	885	590	422
4	Nominal speed	rpm	16200	16200	15800
5	Nominal torque (max. continuous torque)	mNm	114	119	120
6	Nominal current (max. continuous current)	A	9.21	6.39	4.70
7	Stall torque	mNm	3180	3460	3430
8	Starting current	A	236	171	124
9	Max. efficiency	%	88	89	89
Characteristics					
10	Terminal resistance phase to phase	Ω	0.102	0.210	0.386
11	Terminal inductance phase to phase	mH	0.0163	0.0368	0.0653
12	Torque constant	mNm / A	13.5	20.2	27.6
13	Speed constant	rpm / V	710	473	346
14	Speed / torque gradient	rpm / mNm	5.36	4.92	4.83
15	Mechanical time constant	ms	1.87	1.72	1.68
16	Rotor inertia	gcm ²	33.3	33.3	33.3

Specifications

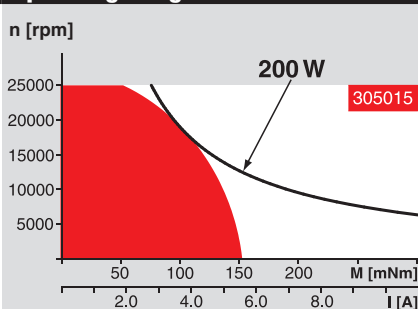
Thermal data		
17	Thermal resistance housing-ambient	5.3 K / W
18	Thermal resistance winding-housing	0.0785 K / W
19	Thermal time constant winding	0.738 s
20	Thermal time constant motor	848 s
21	Ambient temperature	-20 ... +100°C
22	Max. permissible winding temperature	+155°C
Mechanical data (preloaded ball bearings)		
23	Max permissible speed	25000 rpm
24	Axial play at axial load < 6.0 N	0 mm
	> 6.0 N	0.14 mm preloaded
25	Radial play	preloaded
26	Max. axial load (dynamic)	5.5 N
27	Max. force for press fits (static) (static, shaft supported)	100 N
		1300 N
28	Max. radial loading, 5 mm from flange	25 N
Other specifications		
29	Number of pole pairs	2
30	Number of phases	3
31	Weight of motor	271 g

Values listed in the table are nominal.

Connection Motor (Cable AWG 18)
 black Motor winding 2
 white Motor winding 3
 red Motor winding 1

Connection Sensors (Cable AWG 26)
 black/grey Hall sensor 2
 blue GND
 green V_{Hall} 4.5 ... 24 VDC
 red/grey Hall sensor 1
 white/grey Hall sensor 3

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

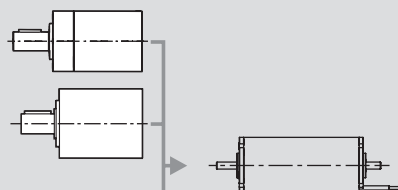
Overview on page 16 - 21

Planetary Gearhead

Ø32 mm
 8 Nm
 Page 242

Planetary Gearhead

Ø42 mm
 3 - 15 Nm
 Page 245



Recommended Electronics:

DECS 50/5	Page 284
DEC 70/10	286
DES 70/10	287
EPOS 70/10	295
EPOS2 50/5	295
Notes	20

Encoder MR
 128 - 1000CTP,
 3 channels
 Page 258

Encoder HEDL 5540
 500CTP,
 3 channels
 Page 266

Brake AB 20
 Ø20 mm
 24 VDC, 0.1 Nm
 Page 306