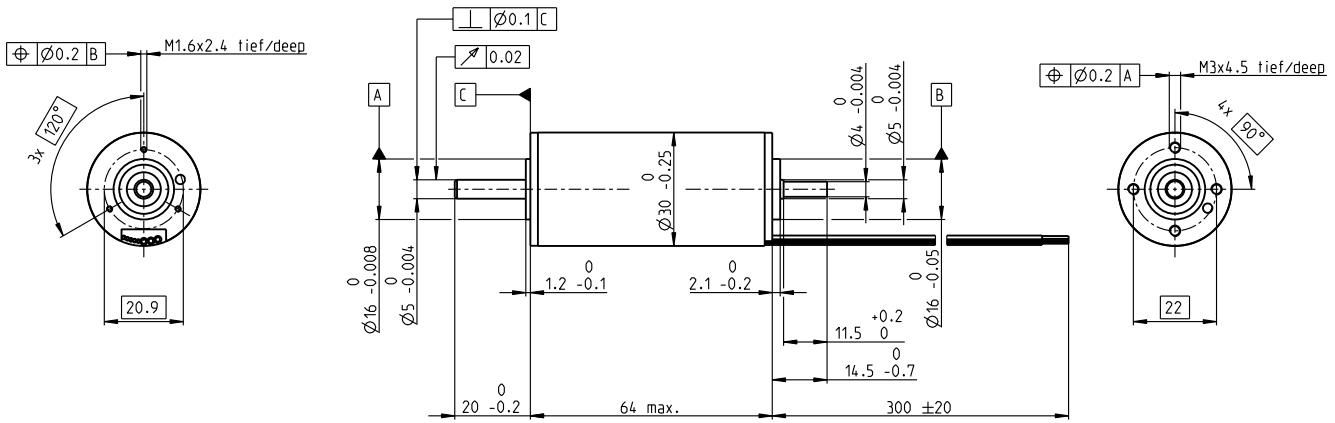


EC-4pole 30 Ø30 mm, brushless, 200 Watt

High Power



M 1:2

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

Part Numbers

305013	305014	305015
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Motor Data

Values at nominal voltage		24	36	48
1 Nominal voltage	V	24	36	48
2 No load speed	rpm	16700	16700	16500
3 No load current	mA	728	485	356
4 Nominal speed	rpm	16100	16200	16000
5 Nominal torque (max. continuous torque)	mNm	94.6	94.2	92.9
6 Nominal current (max. continuous current)	A	7.58	5.03	3.68
7 Stall torque	mNm	3220	3510	3430
8 Stall current	A	236	171	124
9 Max. efficiency	%	89	90	90
Characteristics				
10 Terminal resistance phase to phase	Ω	0.102	0.21	0.386
11 Terminal inductance phase to phase	mH	0.016	0.037	0.065
12 Torque constant	mNm/A	13.6	20.5	27.6
13 Speed constant	rpm/V	700	466	346
14 Speed/torque gradient	rpm/mNm	5.21	4.78	4.83
15 Mechanical time constant	ms	1.82	1.67	1.69
16 Rotor inertia	gcm ²	33.3	33.3	33.3

Specifications

Thermal data	
17 Thermal resistance housing-ambient	7.4 K/W
18 Thermal resistance winding-housing	0.21 K/W
19 Thermal time constant winding	2.11 s
20 Thermal time constant motor	1180 s
21 Ambient temperature	-20...+100°C
22 Max. winding temperature	+155°C

Mechanical data (preloaded ball bearings)	
23 Max. speed	25000 rpm
24 Axial play at axial load < 8.0 N	0 mm
24 Axial play at axial load > 8.0 N	0.14 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	5.5 N
27 Max. force for press fits (static) (static, shaft supported)	73 N
27 Max. force for press fits (static) (static, shaft supported)	1300 N
28 Max. radial load, 5 mm from flange	25 N

Other specifications

29 Number of pole pairs	2
30 Number of phases	3
31 Weight of motor	300 g

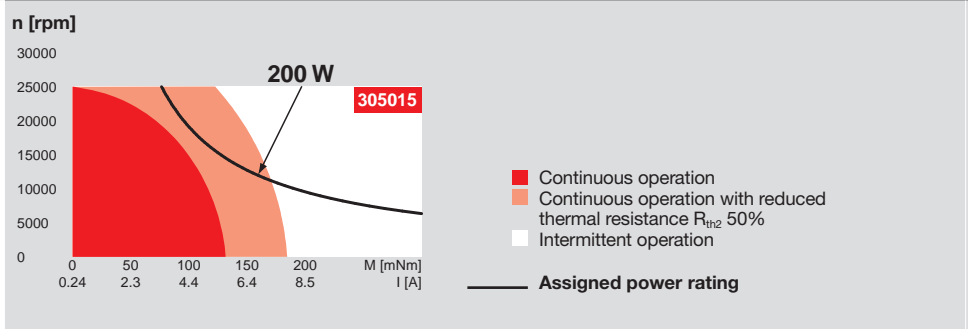
Values listed in the table are nominal.

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} 3...24 VDC
red/grey	Hall sensor 1
white/grey	Hall sensor 3

Wiring diagram for Hall sensors see p. 35

Operating Range

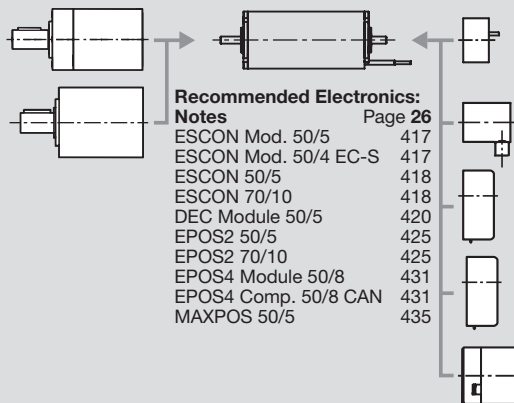


maxon Modular System

Overview on page 20–27

Planetary Gearhead
 Ø32 mm
 8 Nm
 Page 345

Planetary Gearhead
 Ø42 mm
 3 - 15 Nm
 Page 350



Encoder MR

128 - 1000 CPT,
 3 channels
 Page 392

Encoder 2RMHF

3000 - 5000 CPT,
 3 channels
 Page 397

Encoder HEDL 5540

500 CPT,
 3 channels
 Page 404

Encoder AEDL 5810

1024 - 5000 CPT,
 3 channels
 Page 407

Brake AB 20

24 VDC
 0.1 Nm
 Page 444