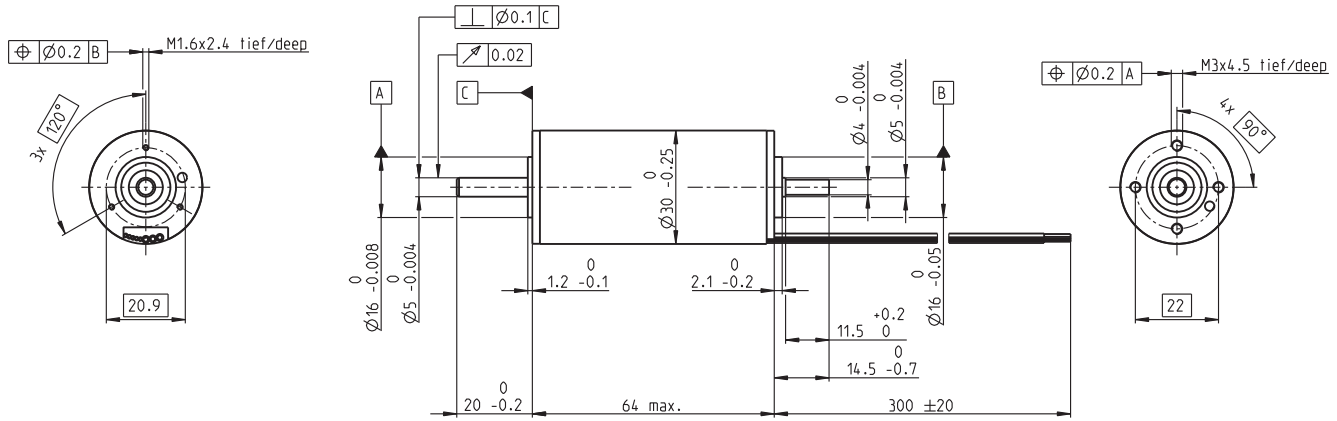


EC-4pole 30 Ø30 mm, brushless, 200 Watt

High Power

EC-4pole



M 1:2

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

Part Numbers

305013 305014 305015

Motor Data

Values at nominal voltage				
1	Nominal voltage	V	24	36
2	No load speed	rpm	16700	16700
3	No load current	mA	723	482
4	Nominal speed	rpm	16100	16100
5	Nominal torque (max. continuous torque)	mNm	95.6	95.2
6	Nominal current (max. continuous current)	A	7.61	5.06
7	Stall torque	mNm	3240	3520
8	Stall current	A	236	171
9	Max. efficiency	%	90	90
Characteristics				
10	Terminal resistance phase to phase	Ω	0.102	0.21
11	Terminal inductance phase to phase	mH	0.016	0.037
12	Torque constant	mNm/A	13.7	20.6
13	Speed constant	rpm/V	697	465
14	Speed/torque gradient	rpm/mNm	5.17	4.75
15	Mechanical time constant	ms	1.80	1.66
16	Rotor inertia	gcm ²	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 < 4.0 N	0 mm
	> 4.0 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
28	Max. radial load, 5 mm from flange	1300 N

Other specifications

- 29 Number of pole pairs
- 30 Number of phases
- 31 Weight of motor

Values listed in the table are nominal.

Connection motor (Cable AWG 18)

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

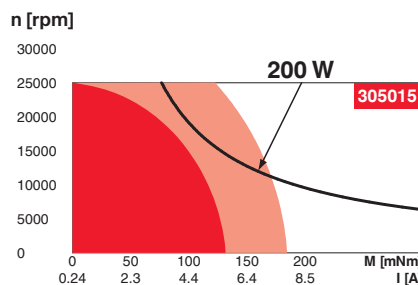
Connection sensors (Cable AWG 26)

- 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. 47

Operating Range

Comments



- Continuous operation
- Continuous operation with reduced thermal resistance R_{th2} 50%
- Intermittent operation

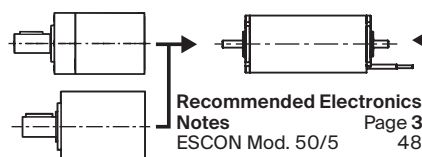
— Assigned power rating

maxon Modular System

Details on catalog page 36

- 2 Planetary Gearhead
- 3 Ø32 mm
- 300 g 4 - 8 Nm

Planetary Gearhead
Ø42 mm
3 - 15 Nm
Page 397-398



Recommended Electronics:

Notes Page 36

- ESCON Mod. 50/5 487
- ESCON Mod. 50/4 EC-S 487
- ESCON Mod. 50/8 (HE) 488
- ESCON 50/5 489
- ESCON 70/10 489
- DEC Module 50/5 491
- EPOS4 Mod./Comp. 50/5 496
- EPOS4 Module 50/8 497
- EPOS4 Comp. 50/8 CAN 499
- EPOS4 50/5 501
- EPOS4 70/15 501

Encoder 16 EASY/XT

128 - 1024 CPT, 3 channels
Page 449/451

Encoder 16 EASY Absolute/XT

4096 steps, Single Turn
Page 453/455

Encoder 16 RIO

1024 - 32768 CPT, 3 channels
Page 466

Encoder AEDL 5810

1024 - 5000 CPT, 3 channels
Page 469

Encoder HEDL 5540

500 CPT, 3 channels
Page 476

Brake AB 20

24 VDC, 0.1 Nm
Page 517