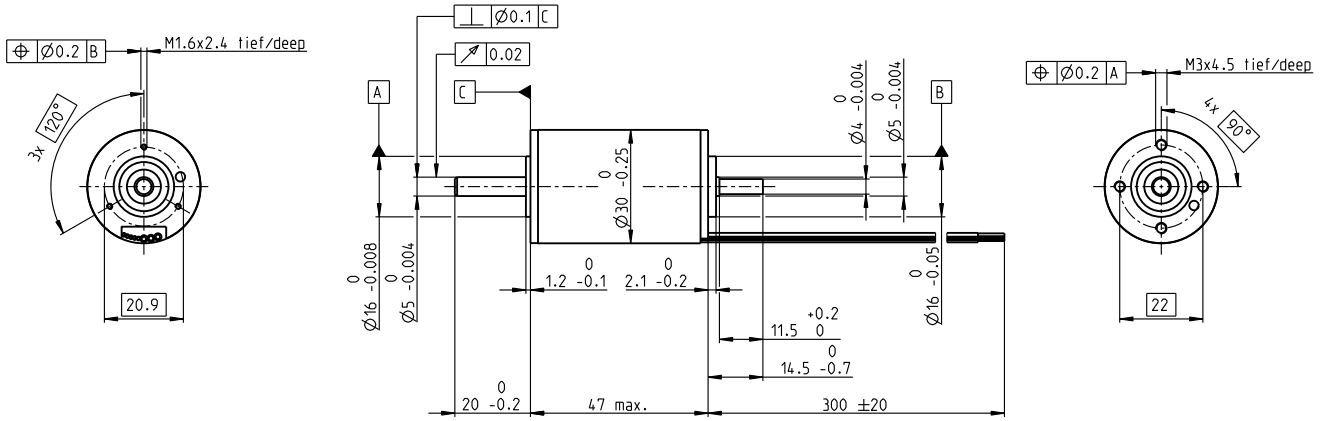


EC-4pole 30 Ø30 mm, brushless, 100 watt

High Power



M 1:2

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

Part Numbers				
309755	309756	309757	309758	

Motor Data					
Values at nominal voltage					
1 Nominal voltage	V	18	24	36	48
2 No load speed	rpm	17500	17500	17500	17500
3 No load current	mA	505	379	253	189
4 Nominal speed	rpm	16300	16300	16400	16400
5 Nominal torque (max. continuous torque)	mNm	72	68.8	74.3	73.4
6 Nominal current (max. continuous current)	A	7.74	5.56	3.98	2.95
7 Stall torque	mNm	1310	1270	1510	1500
8 Stall current	A	133	96.9	77.2	57.4
9 Max. efficiency	%	88.3	88.2	89.1	89.1
Characteristics					
10 Terminal resistance phase to phase	Ω	0.135	0.248	0.466	0.836
11 Terminal inductance phase to phase	mH	0.0166	0.0295	0.0664	0.118
12 Torque constant	mNm/A	9.8	13.1	19.6	26.1
13 Speed constant	rpm/V	974	731	487	365
14 Speed/torque gradient	rpm/mNm	13.4	13.9	11.6	11.7
15 Mechanical time constant	ms	2.57	2.65	2.22	2.24
16 Rotor inertia	gcm ²	18.3	18.3	18.3	18.3

Specifications	Operating Range	Comments
Thermal data 17 Thermal resistance housing-ambient 8.96 K/W 18 Thermal resistance winding-housing 0.74 K/W 19 Thermal time constant winding 4.12 s 20 Thermal time constant motor 968 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 2000 N 25 N	<ul style="list-style-type: none"> Continuous operation Continuous operation with reduced thermal resistance R_{th2} 50% Intermittent operation Assigned power rating

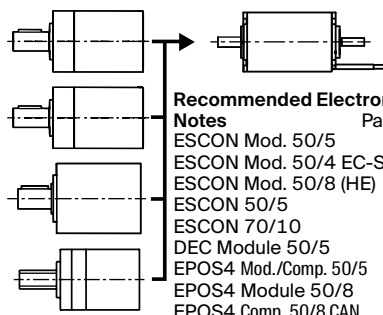
- Other specifications**
- 29 Number of pole pairs
 - 30 Number of phases
 - 31 Weight of motor

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. 57

maxon Modular System Details on catalog page 42

- 2 **Planetary Gearhead**
- 3 Ø32 mm
1.0 - 6.0 Nm
Page 396-397
- 3 **Planetary Gearhead**
- Ø32 mm
4.0 - 8.0 Nm
Page 400
- 4 **Planetary Gearhead**
- Ø42 mm
3.0 - 15.0 Nm
Page 406
- 5 **Screw Drive**
- Ø32 mm
Page 426-434



- Recommended Electronics:**
- Notes Page 42
 - ESCON Mod. 50/5 501
 - ESCON Mod. 50/4 EC-S 501
 - ESCON Mod. 50/8 (HE) 502
 - ESCON 50/5 503
 - ESCON 70/10 503
 - DEC Module 50/5 505
 - EPOS4 Mod./Comp. 50/5 510
 - EPOS4 Module 50/8 511
 - EPOS4 Comp. 50/8 CAN 513
 - EPOS4 50/5 515
 - EPOS4 70/15 515
 - EPOS4 Disk 60/8 516
 - EPOS4 Disk 60/12 517

- ENX 22 EMT**
65 536 turns, Multi Turn,
Page 457
- Encoder 16 EASY/XT**
128 - 1024 CPT, 3 channels
Page 464/466
- Encoder 16 EASY Absolute/XT**
4096 steps, Single Turn
Page 468/470
- Encoder 16 RIO**
1024 - 32 768 CPT, 3 channels
Page 481
- Encoder AEDL 5810**
1024 - 5000 CPT, 3 channels
Page 484
- Encoder HEDL 5540**
500 CPT, 3 channels
Page 491
- Brake AB 20**
24 VDC, 0.1 Nm
Page 532

EC-4pole