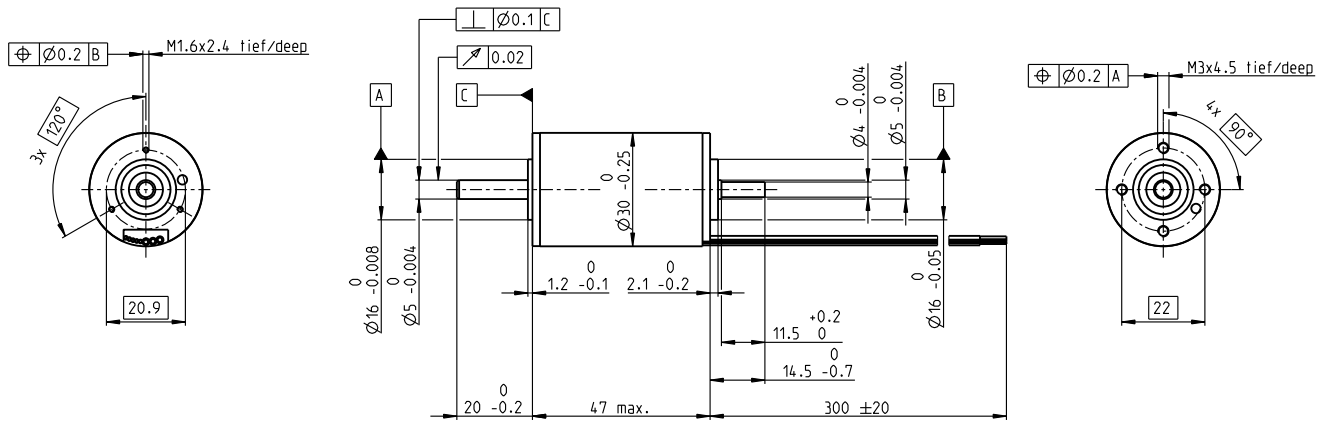


EC-4pole 30 Ø30 mm, brushless, 100 Watt

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	17800	17800	17800	17800
3 No load current	mA	719	539	360	270
4 Nominal speed	rpm	16700	16800	16900	16900
5 Nominal torque (max. continuous torque)	mNm	64.9	61.9	67	66.1
6 Nominal current (max. continuous current)	A	7.38	5.3	3.8	2.82
7 Stall torque	mNm	1280	1240	1480	1470
8 Stall current	A	133	96.9	77.2	57.4
9 Max. efficiency	%	86	86	87	87
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	9.58	12.8	19.2	25.5
13 Speed constant	rpm/V	997	748	499	374
14 Speed/torque gradient	rpm/mNm	14.1	14.5	12.1	12.2
15 Mechanical time constant	ms	2.7	2.78	2.33	2.35
16 Rotor inertia	gcm ²	18.3	18.3	18.3	18.3

Specifications

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 < 8.0 N	0 mm
	> 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
	2000 N
28 Max. radial load, 5 mm from flange	25 N

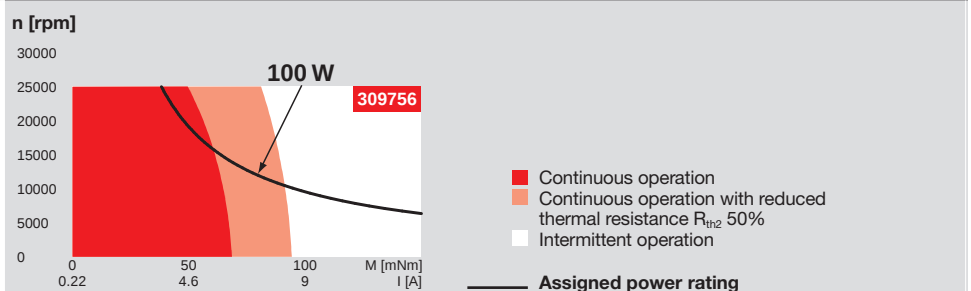
Other specifications

29 Number of pole pairs	2
30 Number of phases	3
31 Weight of motor	210 g

Values listed in the table are nominal.

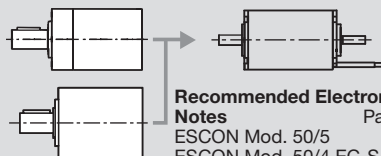
Connection motor (Cable AWG 18)
black Motor winding 2
white Motor winding 3
red Motor winding 1
Connection sensors (Cable AWG 26)
black/grey Hall sensor 2
blue GND
green V_{Hall} 3...24 VDC
red/grey Hall sensor 1
white/grey Hall sensor 3
Wiring diagram for Hall sensors see p. 35

Operating Range



maxon Modular System

Planetary Gearhead
Ø32 mm
8 Nm
Page 345
Planetary Gearhead
Ø42 mm
3 - 15 Nm
Page 350



Recommended Electronics:

Notes	Page 26
ESCON Mod. 50/5	417
ESCON Mod. 50/4 EC-S	417
ESCON 50/5	418
ESCON 70/10	418
DEC Module 50/5	420
EPOS2 50/5	425
EPOS2 70/10	425
EPOS4 Module 50/8	431
EPOS4 Comp. 50/8 CAN	431
MAXPOS 50/5	435

Overview on page 20-27

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