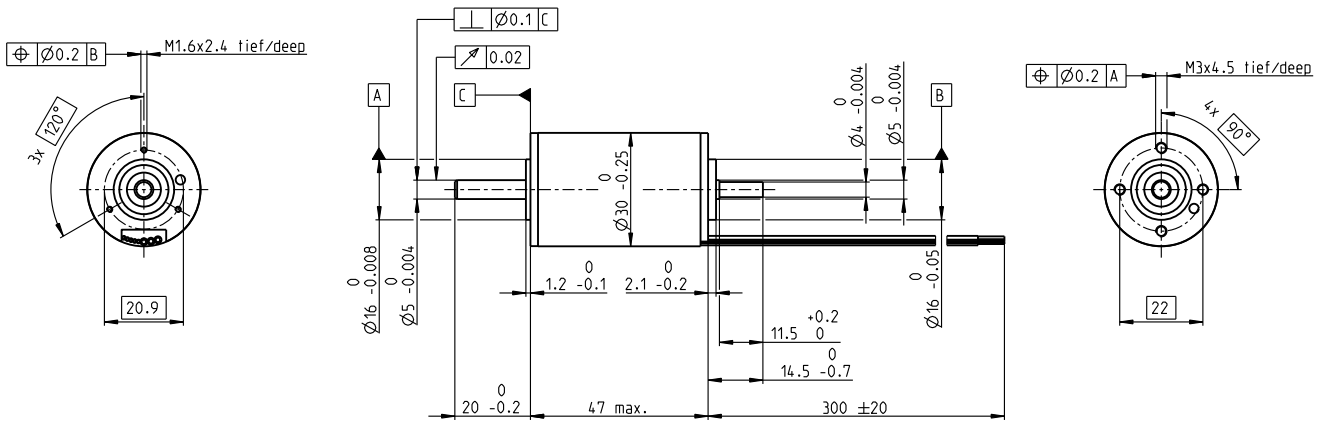


EC-4pole 30 Ø30 mm, brushless, 100 watt

High Power



EC-4pole

M 1:2

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

Part numbers

309755 309756 309757 309758

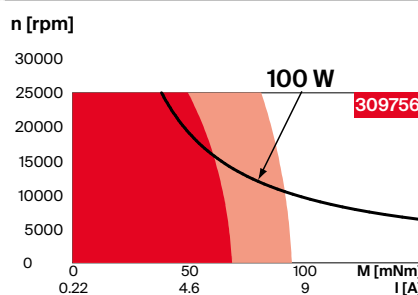
Motor data

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	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

- 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 25 000 rpm
 - 24 Axial play at axial load < 4.0 N 0 mm
 - 24 Axial play at axial load > 4.0 N 0.14 mm
 - 25 Radial play preloaded 5.5 N
 - 26 Max. axial load (dynamic) 73 N
 - 27 Max. force for press fits (static) (static, shaft supported) 2000 N
 - 28 Max. radial load, 5 mm from flange 25 N

Operating range



Comments

- 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. 67

Modular system

- 2 Gear
- 3 430_GP 32 C
- 432_GP 32 HP
- 210 g 436-438_GP 42 A
- 439-441_GP 42 C
- 474-482_GP 32 S

- Sensor
- 509_ENX 16 EASY
- 510_ENX 16 EASY XT
- 511_ENX 16 EASY Absolute
- 512_ENX 16 EASY Absolute XT
- 518_ENX 22 EMT
- 519_ENX 16 RIO

Accessories

- 584_Brake AB 20

Details on catalog page 52

- Motor Control
- 547_DEC Module 50/5
- 551_ESCON Module 50/5
- 551_ESCON Module 50/4 EC-S
- 552_ESCON Module 50/8 HE
- 553_ESCON 50/5
- 553_ESCON 70/10
- 557_ESCON2 Micro 60/5
- 558_ESCON2 Module 60/12
- 559_ESCON2 Compact 60/12
- 564_EPOS4 Module 50/5
- 565_EPOS4 Module 50/8
- 567_EPOS4 Compact 50/5
- 567_EPOS4 Compact 50/8 CAN
- 569_EPOS4 50/5
- 569_EPOS4 70/15
- 570_EPOS4 Disk 60/8
- 571_EPOS4 Disk 60/12