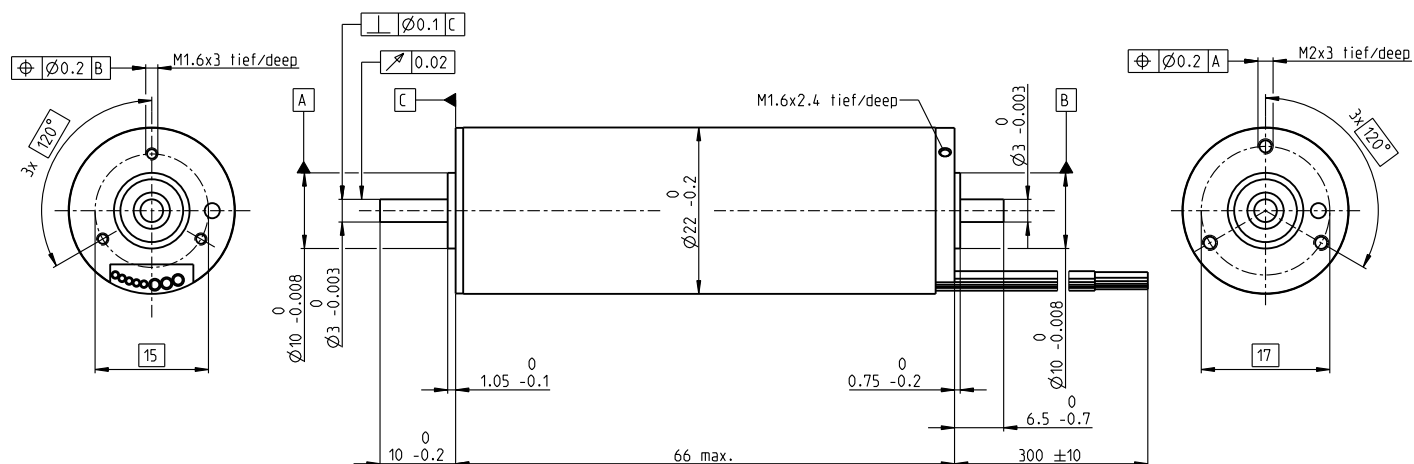


EC-4pole 22 Ø22 mm, brushless, 120 watt

High Power

EC-4pole



M 1:1

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

Part Numbers

311535	311536	311537	311538
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Motor data

Values at nominal voltage					
1 Nominal voltage	V	18	24	36	48
2 No load speed	rpm	16800	16900	17800	16900
3 No load current	mA	298	223	166	112
4 Nominal speed	rpm	15700	15800	16800	15800
5 Nominal torque	mNm	54	54.6	54	54.5
6 Nominal current (max. continuous current)	A	5.55	4.21	2.95	2.1
7 Stall torque	mNm	874	954	1090	1020
8 Stall current	A	86	70.4	56.8	37.7
9 Max. efficiency	%	89	89	90	90
Characteristics					
10 Terminal resistance phase to phase	Ω	0.209	0.341	0.634	1.27
11 Terminal inductance phase to phase	mH	0.017	0.031	0.062	0.123
12 Torque constant	mNm/A	10.2	13.5	19.2	27.1
13 Speed constant	rpm/V	940	705	497	352
14 Speed/torque gradient	rpm/mNm	19.4	17.7	16.4	16.6
15 Mechanical time constant	ms	1.81	1.65	1.53	1.54
16 Rotor inertia	gcm ²	8.91	8.91	8.91	8.91

Specifications

- Thermal data**
- 17 Thermal resistance housing-ambient 10.7 K/W
 - 18 Thermal resistance winding-housing 0.7 K/W
 - 19 Thermal time constant winding 4.66 s
 - 20 Thermal time constant motor 936 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 < 3.0 N 0 mm
- 24 Axial play at axial load > 3.0 N 0.14 mm
- 25 Radial play preloaded 4 N
- 26 Max. axial load (dynamic) 53 N
- 27 Max. force for press fits (static) (static, shaft supported) 600 N
- 28 Max. radial load, 5 mm from flange 16 N

Other specifications

- 29 Number of pole pairs 2
- 30 Number of phases 3
- 31 Weight of motor 175 g

Values listed in the table are nominal.

Connection motor (Cable AWG 20)

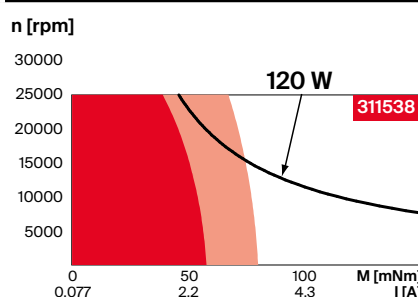
- red Motor winding 1
- white Motor winding 3
- black Motor winding 2

Connection sensors (Cable AWG 26)

- red/grey Hall sensor 1
- black/grey Hall sensor 2
- white/grey Hall sensor 3
- green V_{Hall} 3...24 VDC
- blue GND

Wiring diagram for Hall sensors see p. 67

Operating range



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

Modular system

- Gear**
- 2 423_GP 22 HP
 - 3 430_GP 32 C
 - 175 g 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

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
- 563_EPOS4 Micro 24/5
- 564_EPOS4 Module 50/5
- 565_EPOS4 Compact 24/5 3-axes
- 567_EPOS4 Compact 50/5
- 569_EPOS4 50/5
- 570_EPOS4 Disk 60/8