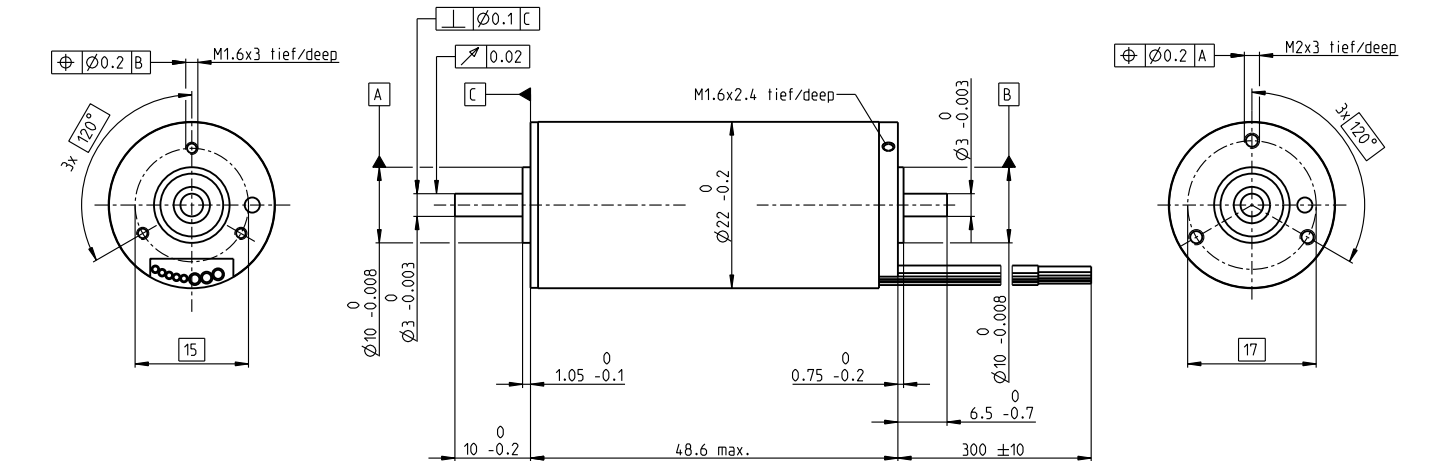


EC-4pole 22 Ø22 mm, brushless, 90 watt

High Power



EC-4pole

M 1:1

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

Part numbers

323217	323218	323219	323220	327739
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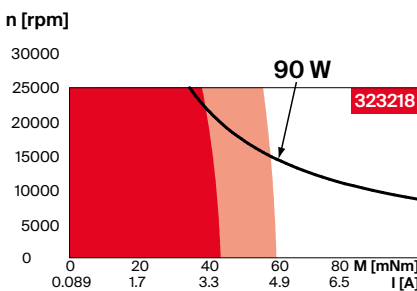
Motor data

Values at nominal voltage								
1	Nominal voltage	V	18	24	36	48	48	
2	No load speed	rpm	16200	16300	16300	16300	6900	
3	No load current	mA	333	164	109	81.8	20.7	
4	Nominal speed	rpm	14900	15000	14900	14900	5550	
5	Nominal torque	mNm	42.6	45.1	43.7	42.6	43.9	
6	Nominal current (max. continuous current)	A	4.32	3.34	2.16	1.58	0.679	
7	Stall torque	mNm	588	639	612	586	234	
8	Stall current	A	55.8	45.5	29.1	20.9	3.55	
9	Max. efficiency	%	85.5	89	88	88	85	
Characteristics								
10	Terminal resistance phase to phase	Ω	0.323	0.527	1.24	2.3	13.5	
11	Terminal inductance phase to phase	mH	0.0283	0.0503	0.113	0.201	1.11	
12	Torque constant	mNm/A	10.5	14	21.1	28.1	66	
13	Speed constant	rpm/V	907	680	453	340	145	
14	Speed/torque gradient	rpm/mNm	27.8	25.5	26.7	27.9	29.7	
15	Mechanical time constant	ms	1.61	1.48	1.55	1.62	1.72	
16	Rotor inertia	gcm ²	5.54	5.54	5.54	5.54	5.54	

Specifications

Thermal data		
17	Thermal resistance housing-ambient	12.2 K/W
18	Thermal resistance winding-housing	1.19 K/W
19	Thermal time constant winding	5.12 s
20	Thermal time constant motor	482 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
	> 3.0 N	0.14 mm
25	Radial play	preloaded
26	Max. axial load (dynamic)	4 N
27	Max. force for press fits (static) (static, shaft supported)	53 N
28	Max. radial load, 5 mm from flange	1000 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 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

Modular system

Gear	Sensor
2 423_GP 22 HP	509_ENX 16 EASY
3 430_GP 32 C	510_ENX 16 EASY XT
	511_ENX 16 EASY Absolute
	512_ENX 16 EASY Absolute XT
	518_ENX 22 EMT
	519_ENX 16 RIO

Details on catalog page 52

Motor Control
547_DEC Module 50/5
551_ESCON 36/3 EC
551_ESCON Module 50/5
551_ESCON Module 50/4 EC-S
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