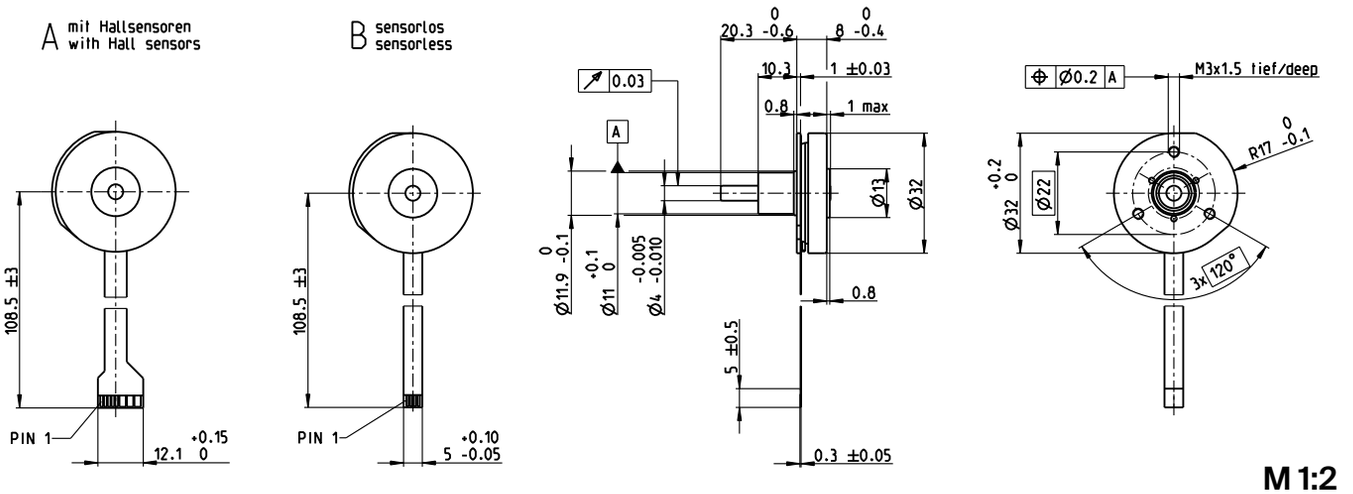
EC 32 flat ∅32 mm, brushless, 6 watt



M 1:2

Stock program
Standard program
Special program (on request)

Part Numbers				
A with Hall sensors	339259	200187	339260	339261
B sensorless	339263	200138	339264	339265

Motor Data						
Values at nominal voltage						
1 Nominal voltage	V	6	9	12	24	
2 No load speed	rpm	9210	8380	7970	9310	
3 No load current	mA	186	107	75.6	46.2	
4 Nominal speed	rpm	3860	3640	3210	4480	
5 Nominal torque (max. continuous torque)	mNm	7.61	8.89	7.98	9.42	
6 Nominal current (max. continuous current)	A	1.37	0.929	0.614	0.401	
7 Stall torque[1]	mNm	15.5	19	15.7	22.8	
8 Stall current	A	2.73	2	1.19	0.995	
9 Max. efficiency	%	55	60	57	62	
Characteristics						
10 Terminal resistance phase to phase	Ω	2.2	4.5	10.1	24.1	
11 Terminal inductance phase to phase	mH	0.378	1.06	2.04	6.19	
12 Torque constant	mNm/A	5.67	9.5	13.2	23	
13 Speed constant	rpm/V	1680	1010	724	416	
14 Speed/torque gradient	rpm/mNm	651	476	551	437	
15 Mechanical time constant	ms	94.8	69.3	80.3	63.6	
16 Rotor inertia	gcm²	13.9	13.9	13.9	13.9	

Specifications

Thermal data

17	Thermal resistance housing-ambient	8.25 K/W
18	Thermal resistance winding-housing	6.21 K/W
19	Thermal time constant winding	3.48 s
20	Thermal time constant motor	22.1 s
21	Ambient temperature	-40...+100°C
22	Max. winding temperature	+125°C

Mechanical data (preloaded ball bearings)

23	Max. speed		12000 rpm
24	Axial play at axial load	< 5.0 N	0 mm
		> 5.0 N	typ. 0.6 mm
25	Radial play		preloaded
26	Max. axial load (dynamic)		4.8 N
27	Max. force for press fits (static)		45 N
	(static, shaft supported)		1000 N
28	Max. radial load, 15 mm from flange		10.5 N

Other specifications

29	Number of pole pairs	4
30	Number of phases	3
31	Weight of motor	32 g

Values listed in the table are nominal.

Connection	with Hall sensors	sensorless
Pin 1	V_{Hall} 3.5...24 VDC	Motor winding 1
Pin 2	Hall sensor 3	Motor winding 2
Pin 3	Hall sensor 1	Motor winding 3
Pin 4	Hall sensor 2	⅄ neutral point
Pin 5	GND	
Pin 6	Motor winding 3	
Pin 7	Motor winding 2	
Pin 8	Motor winding 1	

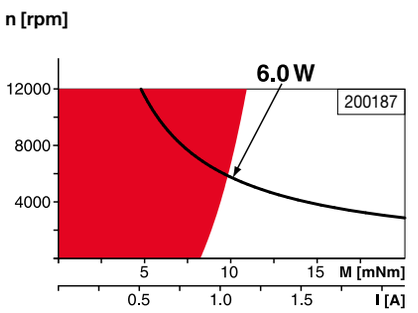
Adapter	Part number	Part number
see p. 529	220300	220310

Connector	Part number	Part number
TE	1-84953-1	84953-4
Molex	52207-1133	52207-0433

Pin for design with Hall sensors:
FPC, 11-pol, Pitch 1.0 mm, top contact style
Wiring diagram for Hall sensors see p. 59

[1]Calculation does not include saturation effect (p. 71/178)

Operating Range



Comments

Continuous operation
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.

Short term operation
The motor may be briefly overloaded (recurring).

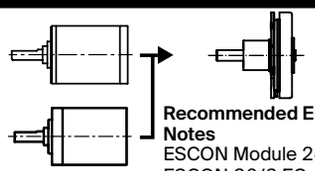
Assigned power rating

maxon Modular System

Details on catalog page 46

Planetary Gearhead
∅22 mm
0.5 - 1.0 Nm
Page 383

Planetary Gearhead
∅22 mm
0.5 - 2.0 Nm
Page 386



Recommended Electronics:

Notes	Page 46
ESCON Module 24/2	500
ESCON 36/3 EC	501
ESCON Mod. 50/4 EC-S	501
DEC Module 24/2	505
EPOS4 Micro 24/5	509
EPOS4 Mod./Comp. 24/1.5	510
EPOS4 Comp. 24/5 3-axes	511