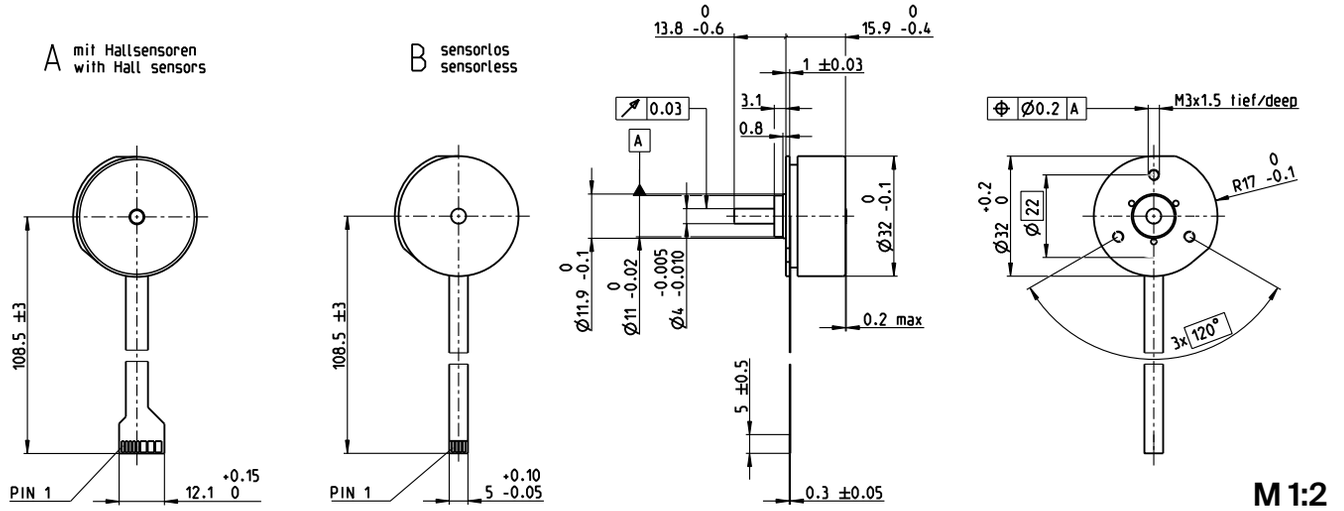
EC 32 flat ∅32 mm, brushless, 15 Watt



Stock program
Standard program
Special program (on request)

Part Numbers				
A with Hall sensors	339267	339268	267121	339269
B sensorless	339271	339272	226006	339273

Motor Data									
	Values at nominal voltage								
1	Nominal voltage	V	9	12	24	48			
2	No load speed	rpm	3720	4610	4530	4780			
3	No load current	mA	74.7	75.7	36.9	19.9			
4	Nominal speed	rpm	2060	2790	2760	2940			
5	Nominal torque (max. continuous torque)	mNm	24.5	25	25.5	24.7			
6	Nominal current (max. continuous current)	A	1.06	1	0.5	0.257			
7	Stall torque[1]	mNm	68.3	82.3	85.3	83.9			
8	Stall current	A	3.06	3.42	1.74	0.904			
9	Max. efficiency	%	71	73	73	73			
	Characteristics								
10	Terminal resistance phase to phase	Ω	2.95	3.51	13.8	53.1			
11	Terminal inductance phase to phase	mH	1.61	1.86	7.72	27.7			
12	Torque constant	mNm/A	22.4	24.1	49	92.8			
13	Speed constant	rpm/V	427	397	195	103			
14	Speed/torque gradient	rpm/mNm	56.3	57.8	54.8	58.8			
15	Mechanical time constant	ms	20.6	21.2	20.1	21.6			
16	Rotor inertia	gcm²	35	35	35	35			

Specifications

Thermal data

17	Thermal resistance housing-ambient	10.8 K/W
18	Thermal resistance winding-housing	4.99 K/W
19	Thermal time constant winding	8.78 s
20	Thermal time constant motor	120 s
21	Ambient temperature	-40...+100°C
22	Max. winding temperature	+125°C

Mechanical data (preloaded ball bearings)

23	Max. speed		10 000 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, 5 mm from flange		14 N

Other specifications

29	Number of pole pairs	4
30	Number of phases	3
31	Weight of motor	57 g

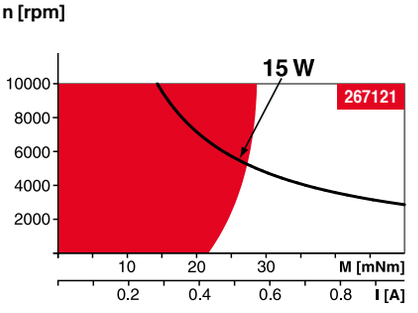
Values listed in the table are nominal.

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 see p. 514	**Part number** 220300	**Part number** 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. 49

[1]Calculation does not include saturation effect (p. 61/168)

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).

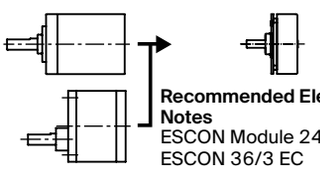
Assigned power rating

maxon Modular System

Details on catalog page 38

Planetary Gearhead
∅32 mm
0.75 - 6 Nm
Page 385/388

Spur Gearhead
∅38 mm
0.1 - 0.6 Nm
Page 395



Recommended Electronics:

Notes	Page 38
ESCON Module 24/2	486
ESCON 36/3 EC	487
ESCON Mod. 50/4 EC-S	487
ESCON Module 50/5	487
ESCON 50/5	489
DEC Module 24/2	491
DEC Module 50/5	491
EPOS4 Micro 24/5	495
EPOS4 Mod./Comp. 24/1.5	496
EPOS4 Mod./Comp. 50/5	496
EPOS4 Comp. 24/5 3-axes	497
EPOS4 50/5	501