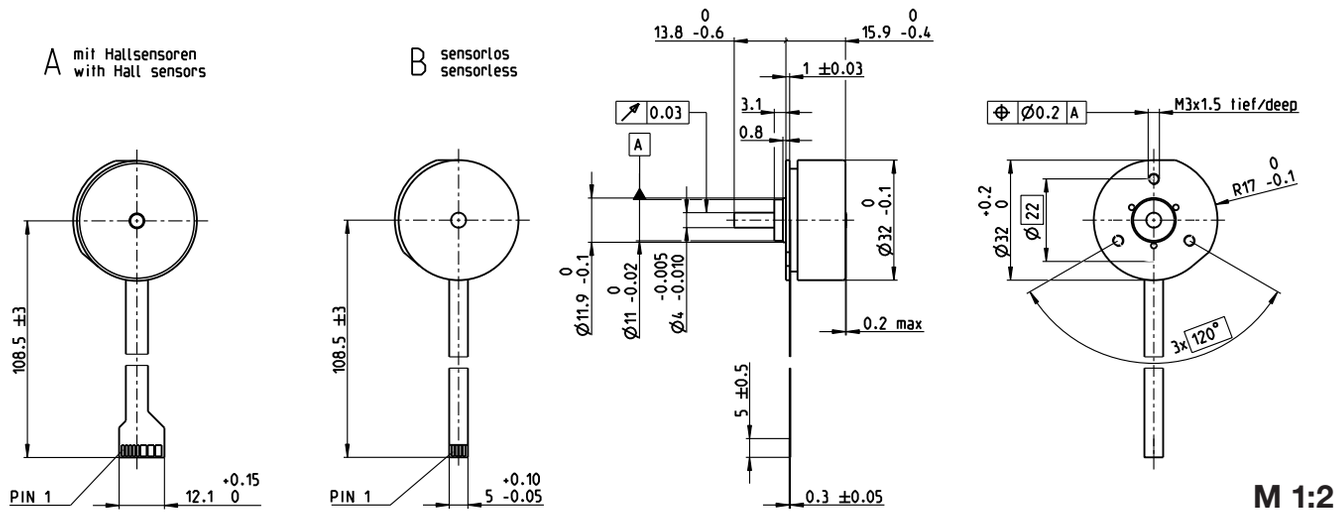
EC 32 flat ∅32 mm, brushless, 15 Watt



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	2090	2810	2760	2940			
5	Nominal torque (max. continuous torque)	mNm	24.6	25.1	25.5	24.7			
6	Nominal current (max. continuous current)	A	1.06	1	0.5	0.257			
7	Stall torque	mNm	70	84.1	85.8	84.1			
8	Stall current	A	3.13	3.49	1.75	0.906			
9	Max. efficiency	%	72	73	74	73			
	Characteristics								
10	Terminal resistance phase to phase	Ω	2.87	3.43	13.7	53			
11	Terminal inductance phase to phase	mH	1.61	1.87	7.73	27.8			
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	54.9	56.6	54.5	58.7			
15	Mechanical time constant	ms	20.1	20.7	20	21.5			
16	Rotor inertia	gcm²	35	35	35	35			

Specifications

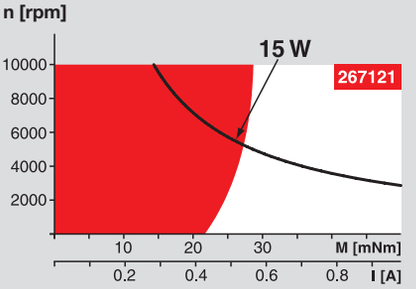
	Thermal data		
17	Thermal resistance housing-ambient		10.8 K/W
18	Thermal resistance winding-housing		4.99 K/W
19	Thermal time constant winding		8.78 s
20	Thermal time constant motor		120 s
21	Ambient temperature		-40…+100°C
22	Max. winding temperature		+125°C
	Mechanical data (preloaded ball bearings)		
23	Max. speed		10000 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		46 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. 437	220300	220310
Connector	**Part number**	**Part number**
Tyco	1-84953-1	84953-4
Molex	52207-1133	52207-0433
Molex	52089-1119	52089-0419

Pin for design with Hall sensors:
FPC, 11-pol, Pitch 1.0 mm, top contact style
Wiring diagram for Hall sensors see p. 37

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).

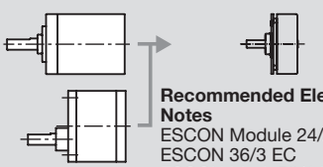
Assigned power rating

maxon Modular System

Overview on page 20–27

Planetary Gearhead
∅32 mm
0.75 - 6 Nm
Page 340–343

Spur Gearhead
∅38 mm
0.1 - 0.6 Nm
Page 348



Recommended Electronics:

Notes	Page **26**
ESCON Module 24/2	416
ESCON 36/3 EC	417
ESCON Mod. 50/4 EC-S	417
ESCON Module 50/5	417
ESCON 50/5	418
DEC Module 24/2	420
DEC Module 50/5	420
EPOS2 24/2, 50/5	424
EPOS2 Module 36/2	424
MAXPOS 50/5	435