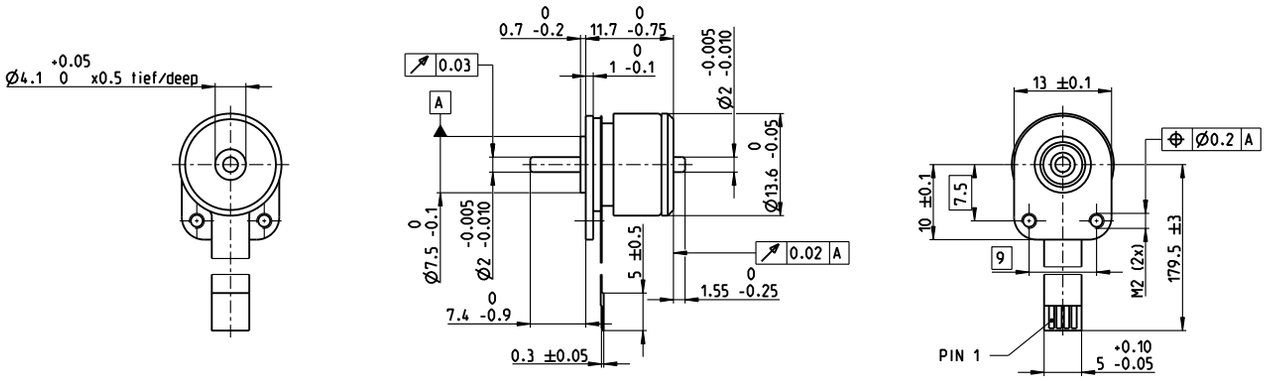
EC 14 flat ∅13.6 mm, brushless, 1.5 watt



M 1:1

Stock program
Standard program
Special program (on request)

Part Numbers

	sensorless	339251	339252	236679	339253
Motor Data					
Values at nominal voltage					
1 Nominal voltage	V	6	12	18	24
2 No load speed	rpm	20000	20100	19900	20000
3 No load current	mA	156	78.1	51.7	38.9
4 Nominal speed	rpm	9600	9680	9390	9590
5 Nominal torque (max. continuous torque)	mNm	1.8	1.83	1.74	1.81
6 Nominal current (max. continuous current)	A	0.794	0.402	0.256	0.199
7 Stall torque[1]	mNm	3.79	3.87	3.6	3.8
8 Stall current	A	1.5	0.764	0.474	0.374
9 Max. efficiency	%	49	49	48	49
Characteristics					
10 Terminal resistance phase to phase	Ω	4.01	15.7	38	64.1
11 Terminal inductance phase to phase	mH	0.107	0.428	0.962	1.71
12 Torque constant	mNm/A	2.53	5.06	7.6	10.1
13 Speed constant	rpm/V	3770	1890	1260	942
14 Speed/torque gradient	rpm/mNm	5980	5860	6270	5960
15 Mechanical time constant	ms	68.9	67.5	72.3	68.6
16 Rotor inertia	gcm²	1.1	1.1	1.1	1.1

Specifications

Thermal data

17 Thermal resistance housing-ambient		11.6 K/W
18 Thermal resistance winding-housing		11.3 K/W
19 Thermal time constant winding		1.37 s
20 Thermal time constant motor		49.2 s
21 Ambient temperature		-40...+100°C
22 Max. winding temperature		+125°C

Mechanical data (preloaded ball bearings)

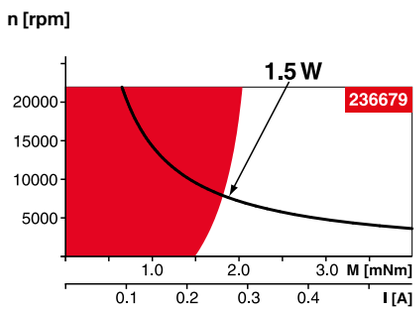
23 Max. speed		22000 rpm
24 Axial play at axial load	< 1.5 N	0 mm
	> 1.5 N	0.14 mm
25 Radial play		preloaded
26 Max. axial load (dynamic)		1.3 N
27 Max. force for press fits (static)		18 N
(static, shaft supported)		200 N
28 Max. radial load, 5 mm from flange		3.4 N

Other specifications

29 Number of pole pairs	4
30 Number of phases	3
31 Weight of motor	8 g

Values listed in the table are nominal.

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

Connection

Pin 1	Motor winding 1
Pin 2	Motor winding 2
Pin 3	Motor winding 3
Pin 4	⅄ neutral point
Adapter	**Part number**
see p. 529	220310
Connector	**Part number**
TE	84953-4
Molex	52207-0433

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

Recommended Electronics:
Notes Page **46**
ESCON Mod. 50/4 EC-S 501