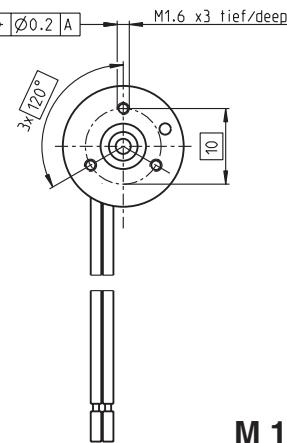
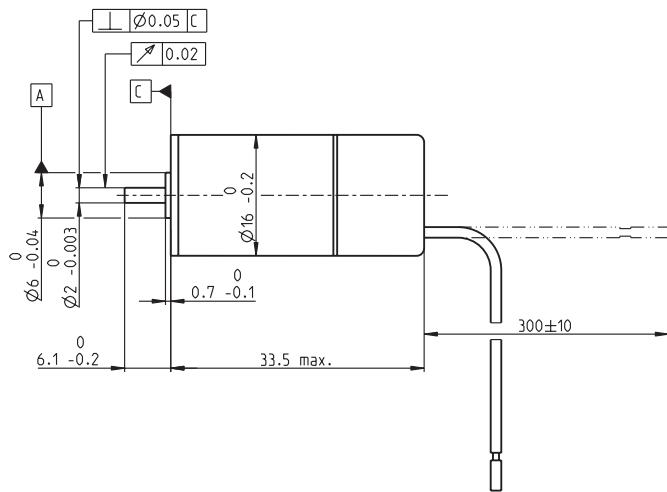
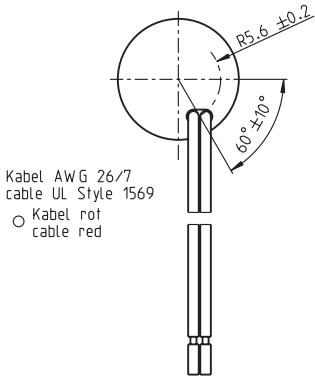


EC-max 16 2-wire Ø16 mm, brushless, 5 Watt, CE approved



M 1:1

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

Order Number

	320816	320817	320818	320819
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Motor Data

Values at nominal voltage

1 Nominal voltage	V	5.0	6.0	9.0	12.0
2 No load speed	rpm	14600	13700	12800	13700
3 No load current	mA	193	149	90.3	74.5
4 Nominal speed	rpm	9260	8140	7230	8240
5 Nominal torque (max. continuous torque)	mNm	2.14	2.11	2.2	2.14
6 Nominal current (max. continuous current)	A	0.927	0.722	0.463	0.365
7 Stall torque	mNm	4.47	6.31	10.1	12.6
8 Starting current	A	1.68	1.7	0.93	1.7
9 Max. efficiency	%	49	47	46	46

Characteristics

35 Control variable		controlled	controlled	controlled	controlled
36 Supply voltage + V _{CC}	V	5 ... 15	5 ... 15	5 ... 15	5 ... 15
12 Torque constant	mNm / A	2.97	3.76	6.03	7.52
13 Speed constant	rpm / V	3220	2540	1580	1270
14 Speed / torque gradient	rpm / mNm	2580	2730	2620	2660
15 Mechanical time constant	ms	11.6	12.2	11.8	11.9
16 Rotor inertia	gcm ²	0.428	0.428	0.428	0.428
39 Speed range	rpm	14600-20000	11300-20000	6730-20000	5220-17400

Specifications

Thermal data

17 Thermal resistance housing-ambient	23.5 K / W
18 Thermal resistance winding-housing	2.57 K / W
19 Thermal time constant winding	0.943 s
20 Thermal time constant motor	390 s
21 Ambient temperature	-40 ... +85°C +100°C
22 Max. temperature of electronics (max. loading capacity of the motor is defined by the electronics)	

Mechanical data (preloaded ball bearings)

23 Max. permissible speed	20000 rpm
24 Axial play at axial load < 2.0 N	0 mm
24 Axial play at axial load > 2.0 N	0.14 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	1.5 N
27 Max. force for press fits (static)	18 N
28 Max. radial loading, 5 mm from flange	6 N

Other specifications

31 Weight of motor	32 g
Direction of rotation	Clockwise (CW)

Values listed in the table are nominal.

Connection (Cable AWG 26/7 UL Style 1569)
red +V_{CC}
black GND

Protective functions

Inverse-polarity protection up to max.	18 VDC
Blockage protection at speed	< 76 rpm
Temperature monitoring	> 104°C
Current limitation	1.6 A ± 15%
Low voltage monitoring	< 4 VDC

Attention: Operating voltage V_{CC} > 18 VDC will destroy the electronics

Option: Sense of rotation: counter-clockwise (CCW)

Operating Range

Comments

320817

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 16 - 21

