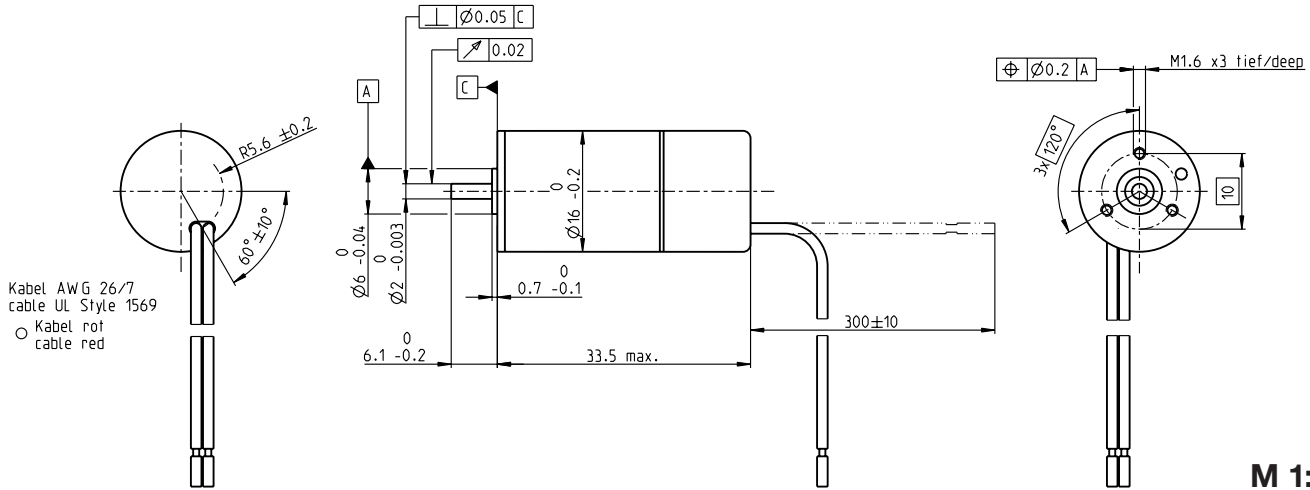


EC-max 16 2-wire Ø16 mm, brushless, 5 Watt



M 1:1

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

Part Numbers

320816	320817	320818	320819
--------	--------	--------	--------

Motor Data

Values at nominal voltage		5	6	9	12
1 Nominal voltage	V	5	6	9	12
2 No load speed	rpm	14400	13700	12800	13800
3 No load current	mA	156	124	82.9	72.7
4 Nominal speed	rpm	8250	7490	6960	8080
5 Nominal torque (max. continuous torque)	mNm	2.25	2.25	2.33	2.26
6 Nominal current (max. continuous current)	A	0.907	0.716	0.467	0.37
7 Stall torque	mNm	4.61	5.25	5.39	5.76
8 Stall current	A	1.7	1.44	0.929	0.801
9 Max. efficiency	%	50	49	49	49
Characteristics		controlled	controlled	controlled	controlled
35 Type of control		controlled	controlled	controlled	controlled
36 Supply voltage +V _{cc}	V	5...15	5...15	5...15	5...15
12 Torque constant	mNm/A	3.06	3.87	6.21	7.73
13 Speed constant	rpm/V	3130	2470	1540	1230
14 Speed/torque gradient	rpm/mNm	2440	2580	2480	2510
15 Mechanical time constant	ms	10.9	11.6	11.1	11.3
16 Rotor inertia	gcm ²	0.428	0.428	0.428	0.428
39 Speed range	rpm	14400-44700	11300-35200	6840-21800	5360-17400

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
22 Max. temperature of electronics (max. loading capacity of the motor is defined by the electronics)	+100°C
Mechanical data (preloaded ball bearings)	
23 Max. speed	20000 rpm
24 Axial play at axial load < 1.5 N	0 mm
> 1.5 N	0.14 mm
25 Radial play preloaded	1 N
26 Max. axial load (dynamic)	18 N
27 Max. force for press fits (static)	6 N
28 Max. radial load, 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.

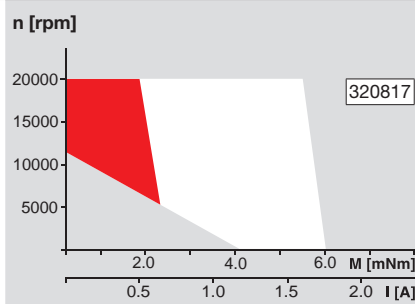
Connection (Cable AWG 26/7 UL Style 1569)
 red +V_{cc}
 black GND

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: Direction of rotation counter-clockwise (CCW)

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

Ø16 mm
 0.1 - 0.3 Nm
 Page 323

