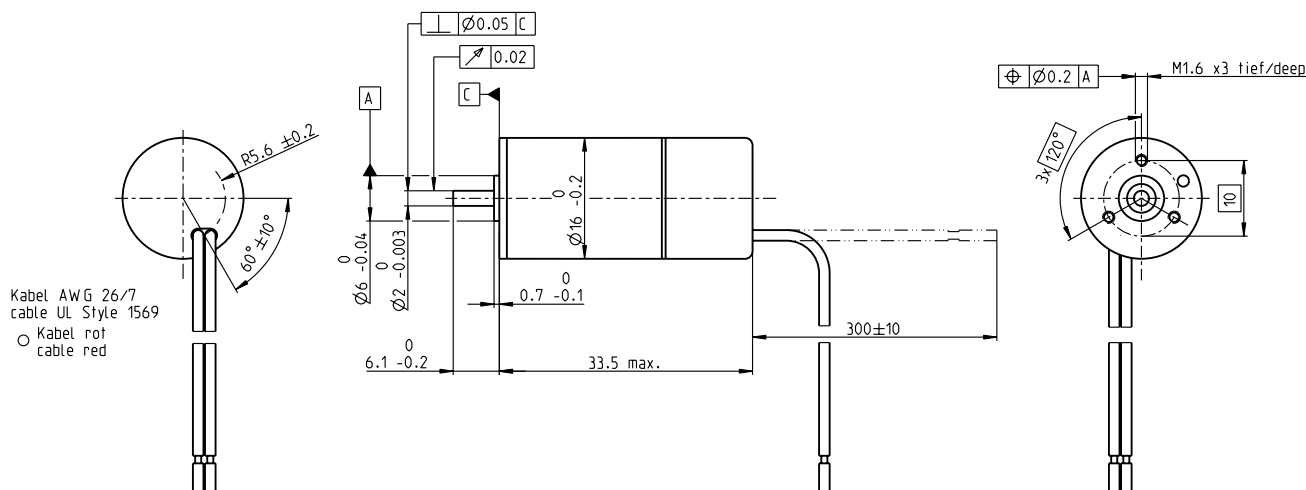


EC-max 16 2-wire Ø16 mm, brushless, 5 watt, with integrated electronics

EC-max



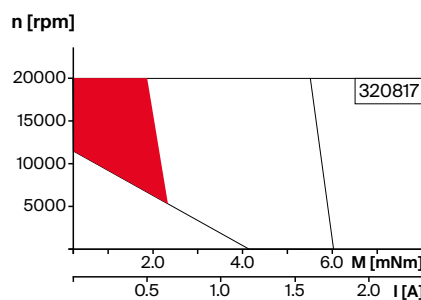
M 1:1

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

Part numbers

Motor Data	320816	320817	320818	320819
Values at nominal voltage				
1 Nominal voltage	V	5	6	9
2 No load speed	rpm	14200	13400	12600
3 No load current	mA	189	149	97.4
4 Nominal speed	rpm	8280	7510	6970
5 Nominal torque	mNm	2.19	2.19	2.28
6 Nominal current (max. continuous current)	A	0.903	0.714	0.465
7 Stall torque	mNm	4.6	5.25	5.39
8 Stall current	A	1.7	1.44	0.929
9 Max. efficiency	%	47.3	46.4	46.2
Characteristics				
35 Type of control		controlled	controlled	controlled
36 Supply voltage +V _{CC}	V	5...15	5...15	5...15
12 Torque constant	mNm/A	3.06	3.87	6.21
13 Speed constant	rpm/V	3130	2470	1540
14 Speed/torque gradient	rpm/mNm	2440	2580	2480
15 Mechanical time constant	ms	10.9	11.6	11.1
16 Rotor inertia	gcm ²	0.428	0.428	0.428
39 Speed range	rpm	14200-20000	11300-20000	6720-20000

Specifications	Operating range	Comments
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	
26 Max. axial load (dynamic)	1 N	
27 Max. force for press fits (static)	18 N	
28 Max. radial load, 5 mm from flange	6 N	



- **Continuous operation**
In observation of above listed thermal resistance (lines 17 and 18) and an ambient temperature of 25°C, the maximum permissible winding temperature will be reached during continuous operation = thermal limit.
- Short term operation**
The motor may be briefly overloaded (recurring).
- **Assigned power rating**

Modular system

Details on catalog page 52

Other specifications	Gear
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)