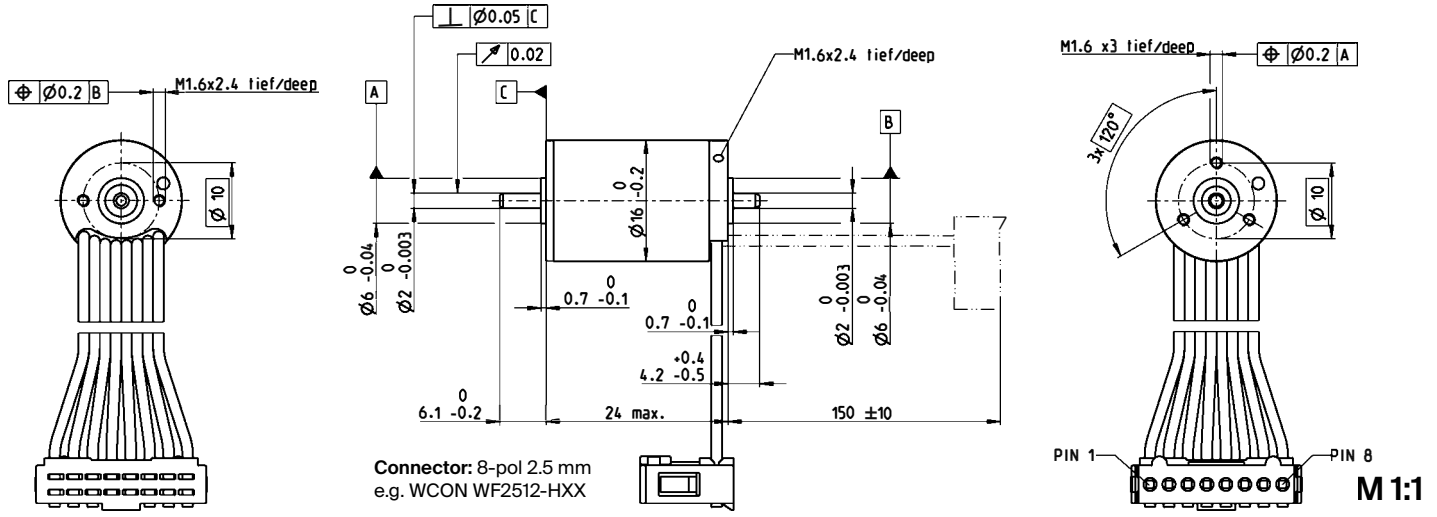


# EC-max 16 $\varnothing$ 16 mm, brushless, 5 watt

EC-max



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

Part Numbers				
283825	283826	283827	283828	

Motor Data					
Values at nominal voltage					
1 Nominal voltage	V	4.5	6	9	12
2 No load speed	rpm	12800	13500	12600	13500
3 No load current	mA	148	120	72.4	60.2
4 Nominal speed	rpm	5170	5690	4920	5840
5 Nominal torque (max. continuous torque)	mNm	3.33	3.2	3.29	3.23
6 Nominal current (max. continuous current)	A	1.18	0.903	0.574	0.456
7 Stall torque	mNm	5.82	5.79	5.64	5.95
8 Stall current	A	1.89	1.49	0.901	0.762
9 Max. efficiency	%	53	53	53	53
Characteristics					
10 Terminal resistance phase to phase	$\Omega$	2.38	4.04	9.99	15.7
11 Terminal inductance phase to phase	mH	0.0396	0.0634	0.163	0.254
12 Torque constant	mNm/A	3.08	3.9	6.26	7.8
13 Speed constant	rpm/V	3100	2450	1530	1220
14 Speed/torque gradient	rpm/mNm	2390	2540	2440	2470
15 Mechanical time constant	ms	10.7	11.4	10.9	11.1
16 Rotor inertia	gcm <sup>2</sup>	0.428	0.428	0.428	0.428

Specifications	Operating Range	Comments
<b>Thermal data</b> 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...+100°C 22 Max. winding temperature +155°C  <b>Mechanical data (preloaded ball bearings)</b> 23 Max. speed 20000 rpm 24 Axial play at axial load < 1.5 N 0 mm > 1.5 N 0.14 mm preloaded 25 Radial play 1 N 26 Max. axial load (dynamic) 18 N 27 Max. force for press fits (static) (static, shaft supported) 600 N 28 Max. radial load, 5 mm from flange 6 N		<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: red; margin-right: 5px;"></span> <b>Continuous operation</b> 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.</li> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> <b>Short term operation</b> The motor may be briefly overloaded (recurring).</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: #f0f0f0; margin-right: 5px;"></span> <b>Assigned power rating</b></li> </ul>

Other specifications	maxon Modular System	Details on catalog page 42
29 Number of pole pairs 30 Number of phases 31 Weight of motor  Values listed in the table are nominal.  <b>Connection (Cable AWG 24)</b> brown Motor winding 1 Pin 1 red Motor winding 2 Pin 2 orange Motor winding 3 Pin 3 yellow V <sub>Hall</sub> 3...24 VDC Pin 4 green GND Pin 5 blue Hall sensor 1 Pin 6 violet Hall sensor 2 Pin 7 grey Hall sensor 3 Pin 8 Wiring diagram for Hall sensors see p. 57	1 3 36 g  <b>Planetary Gearhead</b> Ø16 mm 0.1-0.3 Nm Page 379  <b>Planetary Gearhead</b> Ø16 mm 0.2-0.6 Nm Page 380  <b>Screw Drive</b> Ø16 mm Page 421-423	 <b>Encoder MR</b> 128/256/512 CPT, 2/3 channels Page 477  <b>Recommended Electronics:</b> Notes Page 42 ESCON Module 24/2 500 ESCON 36/3 EC 501 ESCON Mod. 50/4 EC-S 501 DEC Module 24/2 505 EPOS4 Micro 24/5 509 EPOS4 Mod./Comp. 24/1.5 510 EPOS4 Comp. 24/5 3-axes 511