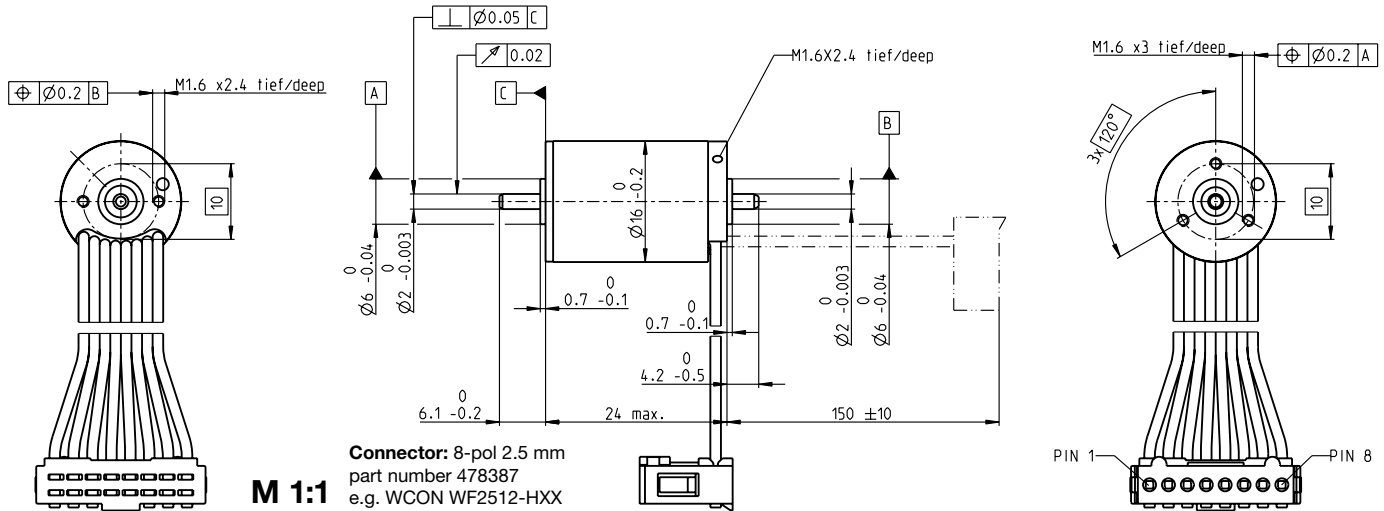


EC-max 16 Ø16 mm, brushless, 5 Watt



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

Part Numbers

283825 283826 283827 283828

Motor Data

Values at nominal voltage			4.5	6	9	12			
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	Ω		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 ²		0.428	0.428	0.428	0.428			

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...+100°C
 - 22 Max. winding temperature +155°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) (static, shaft supported) 600 N
 - 28 Max. radial load, 5 mm from flange 6 N

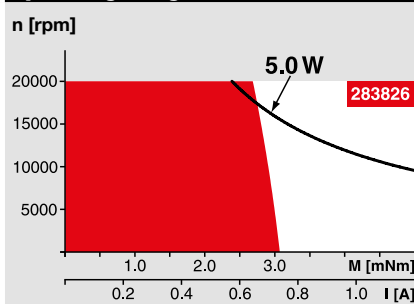
Other specifications

- 29 Number of pole pairs 1
- 30 Number of phases 3
- 31 Weight of motor 36 g

Values listed in the table are nominal.

- Connection** (Cable AWG 24)
- | | | |
|--------|------------------------------|-------|
| brown | Motor winding 1 | Pin 1 |
| red | Motor winding 2 | Pin 2 |
| orange | Motor winding 3 | Pin 3 |
| yellow | V _{Hall} 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. 41

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 28–36

Planetary Gearhead

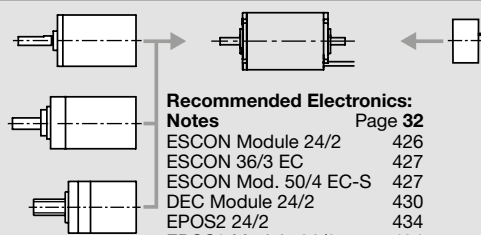
Ø16 mm
0.1 - 0.3 Nm
Page 320

Planetary Gearhead

Ø16 mm
0.2 - 0.6 Nm
Page 321

Spindle Drive

Ø16 mm
Page 361–363



Encoder MR
128/256/512 CPT,
2/3 channels
Page 403

Recommended Electronics:

- | Notes | Page 32 |
|----------------------|---------|
| ESCON Module 24/2 | 426 |
| ESCON 36/3 EC | 427 |
| ESCON Mod. 50/4 EC-S | 427 |
| DEC Module 24/2 | 430 |
| EPOS2 24/2 | 434 |
| EPOS2 Module 36/2 | 434 |
| EPOS4 Mod./CB 24/1.5 | 441 |
| MAXPOS 50/5 | 447 |