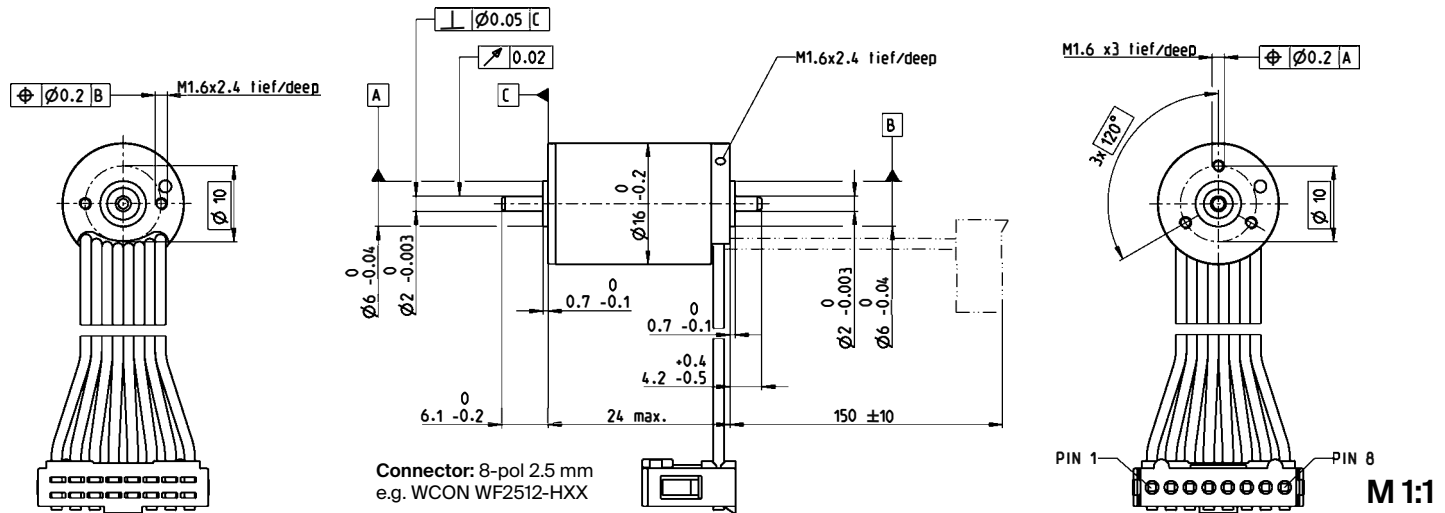


EC-max 16 Ø16 mm, brushless, 5 watt



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

Part numbers

283825 283826 283827 **283828**

Motor Data

Values at nominal voltage					
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	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 20 000 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
 - (static, shaft supported) 600 N
 - 28 Max. radial load, 5 mm from flange 6 N

Other specifications

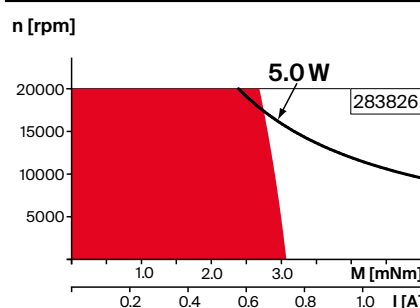
- 29 Number of pole pairs
- 30 Number of phases
- 31 Weight of motor

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. 67

Operating range



Comments

- 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

- 1 Gear
- 3 416_GP 16 A
- 36 g 417_GP 16 C
- 469-471_GP 16 S

- Sensor**
- 509_ENX 16 EASY
 - 510_ENX 16 EASY XT
 - 511_ENX 16 EASY Absolute
 - 512_ENX 16 EASY Absolute XT

- Motor Control**
- 547_DEC Module 24/2
 - 550_ESCON Module 24/2
 - 551_ESCON 36/3 EC
 - 551_ESCON Module 50/4 EC-S
 - 557_ESCON2 Nano 24/2
 - 557_ESCON2 Micro 60/5
 - 563_EPOS4 Micro 24/5
 - 564_EPOS4 Module 24/1.5
 - 565_EPOS4 Compact 24/5 3-axes
 - 566_EPOS4 Compact 24/1.5