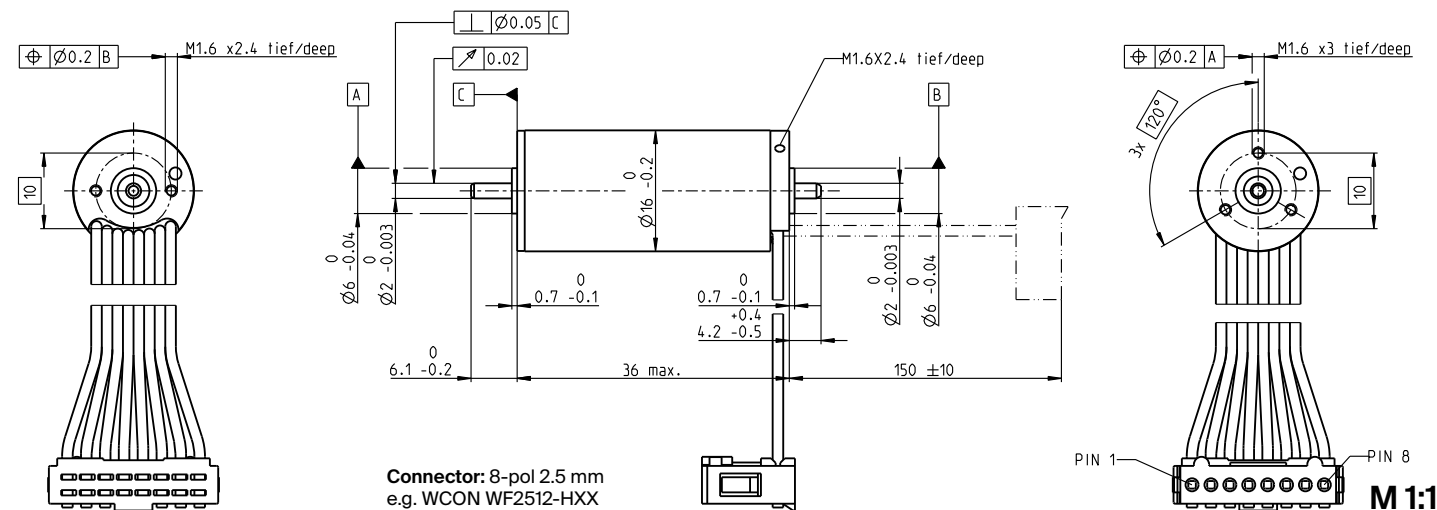


EC-max 16 Ø16 mm, brushless, 8 watt



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

Part numbers					
283831	283832	283833	283834	283835	

Motor Data						
Values at nominal voltage						
1 Nominal voltage	V	6	9	12	18	24
2 No load speed	rpm	12000	11900	11900	11900	11900
3 No load current	mA	130	85.1	64.2	42.6	31.9
4 Nominal speed	rpm	7120	7090	7300	7170	7350
5 Nominal torque	mNm	7.66	7.8	8.02	7.87	8.19
6 Nominal current (max. continuous current)	A	1.76	1.17	0.909	0.593	0.461
7 Stall torque	mNm	19.2	19.8	21.1	20.3	22
8 Stall current	A	4.17	2.82	2.27	1.45	1.17
9 Max. efficiency	%	69	69	70	70	71
Characteristics						
10 Terminal resistance phase to phase	Ω	1.44	3.19	5.3	12.4	20.5
11 Terminal inductance phase to phase	mH	0.034	0.079	0.14	0.317	0.566
12 Torque constant	mNm/A	4.61	7.02	9.32	14	18.7
13 Speed constant	rpm/V	2070	1360	1020	681	510
14 Speed/torque gradient	rpm/mNm	646	619	582	602	556
15 Mechanical time constant	ms	5.75	5.51	5.18	5.36	4.95
16 Rotor inertia	gcm ²	0.85	0.85	0.85	0.85	0.85

Specifications

Thermal data

17 Thermal resistance housing-ambient 177 K/W

18 Thermal resistance winding-housing 1.41 K/W

19 Thermal time constant winding 0.9 s

20 Thermal time constant motor 427 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) 400 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

n [rpm]

8.0W

283833

M [mNm]

I [A]

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			Details on catalog page 52		
1 Gear	Sensor	Motor Control			
3 416_GP 16 A	509_ENX 16 EASY	547_DEC Module 24/2			
52 g 417_GP 16 C	510_ENX 16 EASY XT	550_ESCON Module 24/2			
422_GP 22 C	511_ENX 16 EASY Absolute	551_ESCON 36/3 EC			
469-471_GP 16 S	512_ENX 16 EASY Absolute XT	551_ESCON Module 50/4 EC-S			
472/473_GP 22 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			

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