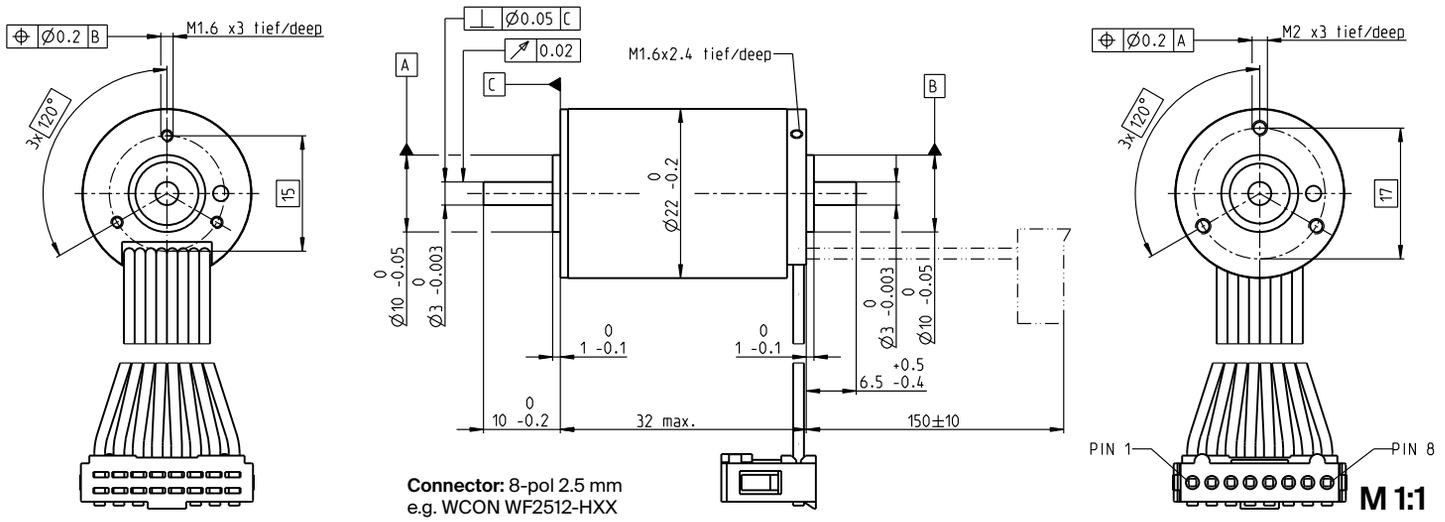
EC-max 22 ∅22 mm, brushless, 12 watt



Connector: 8-pol 2.5 mm
e.g. WCON WF2512-HXX

Stock program
Standard program
Special program (on request)

Motor Data		Part numbers							
		283837	283838	283839	283840	283841			
Values at nominal voltage									
1 Nominal voltage	V	6	12	18	24	36			
2 No load speed	rpm	11900	12100	12100	12100	12100			
3 No load current	mA	301	155	103	77.3	51.6			
4 Nominal speed	rpm	7920	8040	8250	8250	8210			
5 Nominal torque	mNm	11	10.2	10.9	10.8	10.6			
6 Nominal current (max. continuous current)	A	2.61	1.25	0.88	0.657	0.432			
7 Stall torque	mNm	33.9	31.3	35.4	35.1	34.1			
8 Stall current	A	7.36	3.47	2.6	1.94	1.25			
9 Max. efficiency	%	65	63	65	65	65			
Characteristics									
10 Terminal resistance phase to phase	Ω	0.816	3.46	6.93	12.4	28.7			
11 Terminal inductance phase to phase	mH	0.0315	0.121	0.275	0.488	1.09			
12 Torque constant	mNm/A	4.61	9.02	13.6	18.1	27.2			
13 Speed constant	rpm/V	2070	1060	701	526	352			
14 Speed/torque gradient	rpm/mNm	366	406	356	360	372			
15 Mechanical time constant	ms	8.63	9.56	8.39	8.47	8.75			
16 Rotor inertia	gcm²	2.25	2.25	2.25	2.25	2.25			

Specifications

Thermal data

17	Thermal resistance housing-ambient	13.5 K/W
18	Thermal resistance winding-housing	1.72 K/W
19	Thermal time constant winding	1.85 s
20	Thermal time constant motor	567 s
21	Ambient temperature	-40...+100°C
22	Max. winding temperature	+155°C

Mechanical data (preloaded ball bearings)

23	Max. speed		18 000 rpm
24	Axial play at axial load	< 4 N	0 mm
		> 4 N	0.14 mm
25	Radial play		preloaded
26	Max. axial load (dynamic)		3.5 N
27	Max. force for press fits (static)		53 N
	(static, shaft supported)		1400 N
28	Max. radial load, 5 mm from flange		16 N

Other specifications

29	Number of pole pairs	1
30	Number of phases	3
31	Weight of motor	83 g

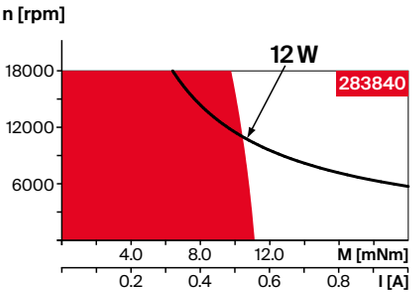
Values listed in the table are nominal.

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. 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

Details on catalog page 52

Gear
420_GP 22 A
422_GP 22 C
423_GP 22 HP
435_KD 32
472/473_GP 22 S

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

Accessories
584_Brake AB 20

Motor Control
547_DEC Module 24/2
547_DEC Module 50/5
550_ESCON Module 24/2
551_ESCON 36/3 EC
551_ESCON Module 50/4 EC-S
551_ESCON Module 50/5
553_ESCON 50/5
557_ESCON2 Nano 24/2
557_ESCON2 Micro 60/5
563_EPOS4 Micro 24/5
564_EPOS4 Module 24/1.5
564_EPOS4 Module 50/5
565_EPOS4 Compact 24/5 3-axes
566_EPOS4 Compact 24/1.5
567_EPOS4 Compact 50/5
569_EPOS4 50/5