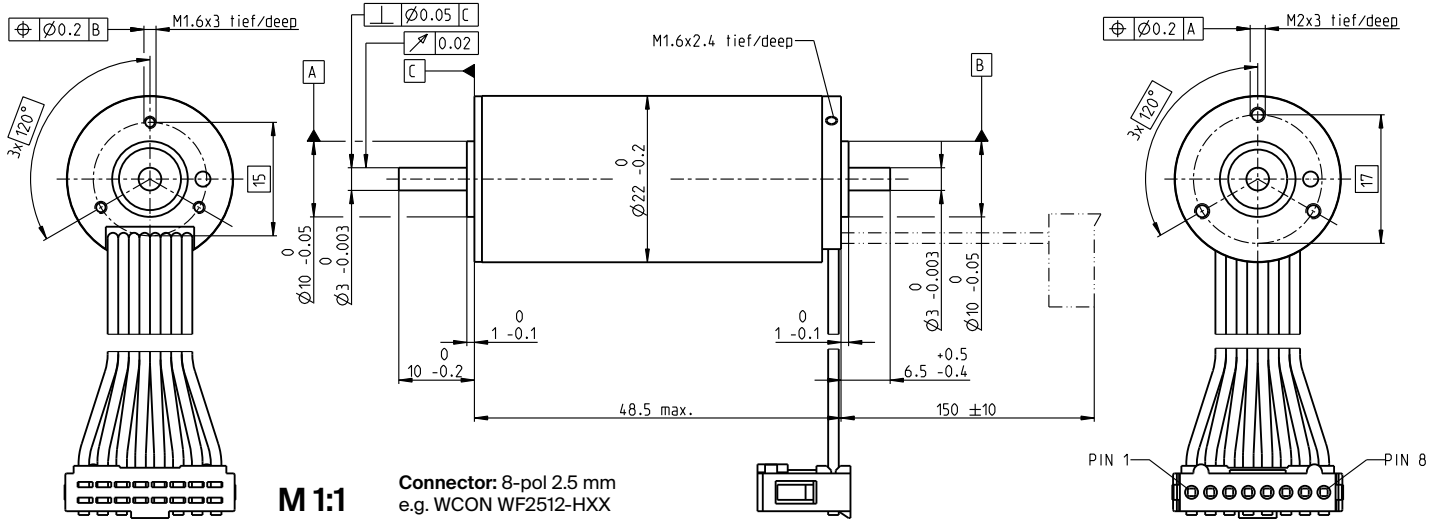


EC-max 22 Ø22 mm, brushless, 25 watt

EC-max



M 1:1

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

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

Part Numbers

283856	283857	283858	283859	283860
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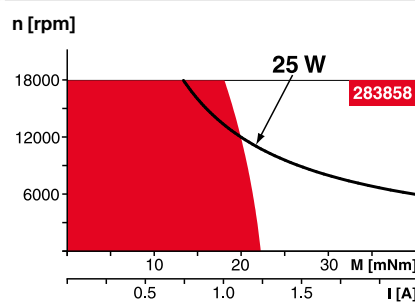
Motor Data

Values at nominal voltage		12	18	24	36	48
1 Nominal voltage	V	12	18	24	36	48
2 No load speed	rpm	12400	12900	12900	12200	12900
3 No load current	mA	226	161	121	73.5	60.4
4 Nominal speed	rpm	9800	10300	10400	9630	10500
5 Nominal torque (max. continuous torque)	mNm	23	21.8	22.7	22.5	23.2
6 Nominal current (max. continuous current)	A	2.71	1.8	1.4	0.872	0.716
7 Stall torque	mNm	114	112	121	111	127
8 Stall current	A	12.6	8.55	6.97	4	3.66
9 Max. efficiency	%	76	75	76	75	77
Characteristics						
10 Terminal resistance phase to phase	Ω	0.955	2.1	3.44	9.01	13.1
11 Terminal inductance phase to phase	mH	0.05	0.103	0.182	0.462	0.729
12 Torque constant	mNm/A	9.1	13	17.4	27.7	34.8
13 Speed constant	rpm/V	1050	732	549	345	274
14 Speed/torque gradient	rpm/mNm	110	118	109	112	103
15 Mechanical time constant	ms	5.14	5.5	5.06	5.23	4.82
16 Rotor inertia	gcm ²	4.45	4.45	4.45	4.45	4.45

Specifications

- Thermal data**
- 17 Thermal resistance housing-ambient 10.2 K/W
 - 18 Thermal resistance winding-housing 1.02 K/W
 - 19 Thermal time constant winding 1.99 s
 - 20 Thermal time constant motor 6.28 s
 - 21 Ambient temperature -40...+100°C
 - 22 Max. winding temperature +155°C
- Mechanical data (preloaded ball bearings)**
- 23 Max. speed 18000 rpm
 - 24 Axial play at axial load < 4 N 0 mm
 - > 4 N 0.14 mm
 - 25 Radial play preloaded 3.5 N
 - 26 Max. axial load (dynamic) 60 N
 - 27 Max. force for press fits (static) (static, shaft supported) 1000 N
 - 28 Max. radial load, 5 mm from flange 16 N

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**

Other specifications

- 29 Number of pole pairs 1
- 30 Number of phases 3
- 31 Weight of motor 110 g

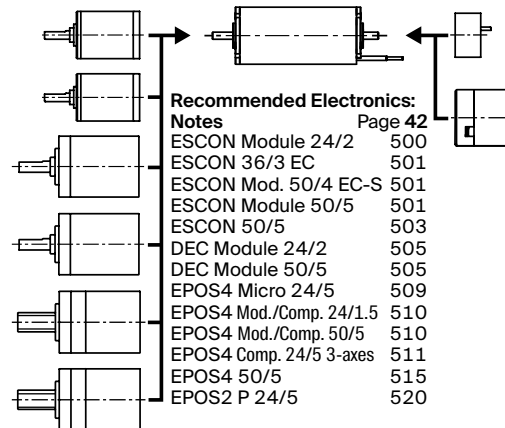
Values listed in the table are nominal.

- 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. 57

maxon Modular System

Details on catalog page 42

- Planetary Gearhead**
Ø22 mm
0.5-1.0 Nm, Page 383
- Planetary Gearhead**
Ø22 mm
0.5-3.4 Nm
Page 384/387
- Planetary Gearhead**
Ø32 mm
1.0-6.0 Nm
Page 398
- Koaxdrive**
Ø32 mm
1.0-4.5 Nm, Page 403
- Screw Drive**
Ø22 mm
Page 424-425
- Screw Drive**
Ø32 mm
Page 426-433



Recommended Electronics:

- Notes** Page 42
- ESCON Module 24/2 500
 - ESCON 36/3 EC 501
 - ESCON Mod. 50/4 EC-S 501
 - ESCON Module 50/5 501
 - ESCON 50/5 503
 - DEC Module 24/2 505
 - DEC Module 50/5 505
 - EPOS4 Micro 24/5 509
 - EPOS4 Mod./Comp. 24/1.5 510
 - EPOS4 Mod./Comp. 50/5 510
 - EPOS4 Comp. 24/5 3-axes 511
 - EPOS4 50/5 515
 - EPOS2 P 24/5 520

- Encoder MR**
128/256/512 CPT,
2/3 channels
Page 477
- Brake AB 20**
24 VDC
0.1 Nm
Page 532