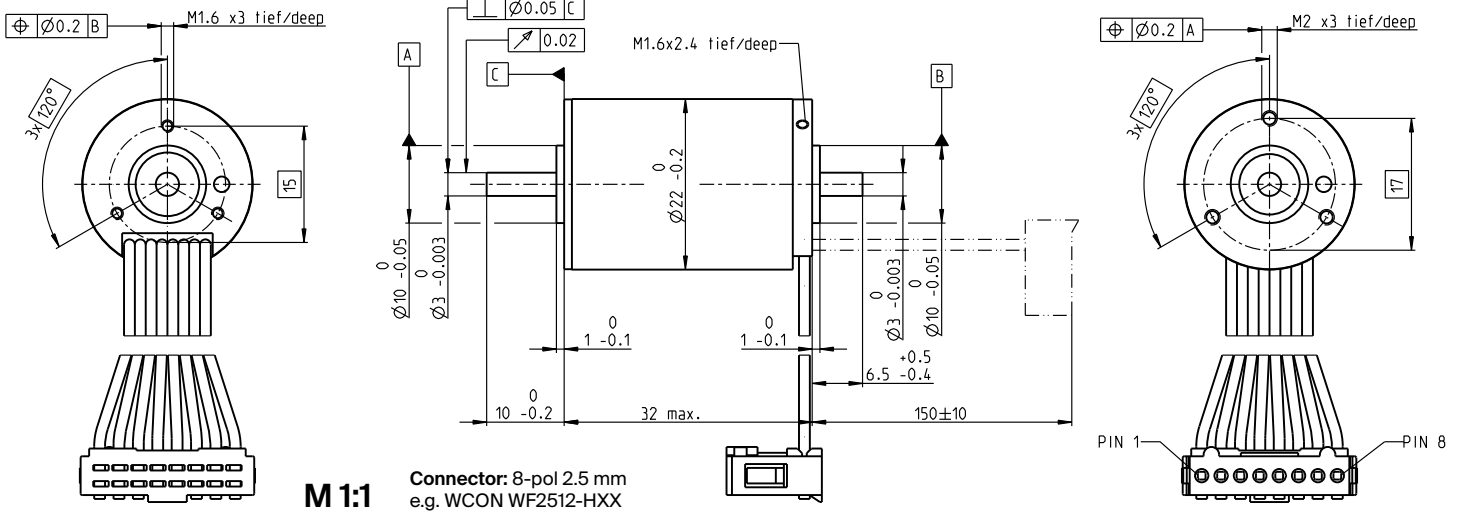


# EC-max 22 Ø22 mm, brushless, 12 watt

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					
283837	283838	283839	283840	283841	

Motor Data							
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	773	51.6
4	Nominal speed	rpm	7920	8040	8250	8250	8210
5	Nominal torque (max. continuous 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	gcm <sup>2</sup>	2.25	2.25	2.25	2.25	2.25

Specifications	Operating Range	Comments
<b>Thermal data</b> 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  <b>Mechanical data (preloaded ball bearings)</b> 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) 53 N 27 Max. force for press fits (static) (static, shaft supported) 1400 N 28 Max. radial load, 5 mm from flange 16 N		<p><span style="display: inline-block; width: 10px; height: 10px; background-color: red; border: 1px solid black; margin-right: 5px;"></span> <b>Continuous operation</b> 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.</p> <p><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> <b>Short term operation</b> The motor may be briefly overloaded (recurring).</p> <p><b>Assigned power rating</b></p>

- 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 <sub>hall</sub> 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

<p>1 3 83 g</p> <p><b>Planetary Gearhead</b> Ø22 mm 0.5-1.0 Nm Page 383</p> <p><b>Planetary Gearhead</b> Ø22 mm 0.5-3.4 Nm Page 386/387</p> <p><b>Koaxdrive</b> Ø32 mm 1.0-4.5 Nm Page 403</p> <p><b>Screw Drive</b> Ø22 mm Page 424/425</p>	<p><b>Recommended Electronics:</b> Notes Page 42</p> <ul style="list-style-type: none"> <li>ESCON Module 24/2 500</li> <li>ESCON 36/3 EC 501</li> <li>ESCON Mod. 50/4 EC-S 501</li> <li>ESCON Module 50/5 501</li> <li>ESCON 50/5 503</li> <li>DEC Module 24/2 505</li> <li>DEC Module 50/5 505</li> <li>EPOS4 Micro 24/5 509</li> <li>EPOS4 Mod./Comp. 24/1.5 510</li> <li>EPOS4 Mod./Comp. 50/5 510</li> <li>EPOS4 Comp. 24/5 3-axes 511</li> <li>EPOS4 50/5 515</li> <li>EPOS2 P 24/5 520</li> </ul>	<p>Details on catalog page 42</p> <p><b>Encoder MR</b> 128/256/512 CPT, 2/3 channels Page 477</p> <p><b>Brake AB 20</b> 24 VDC 0.1 Nm Page 532</p>
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