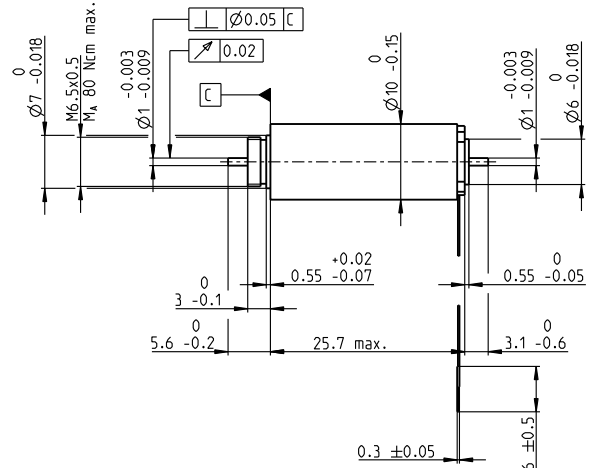
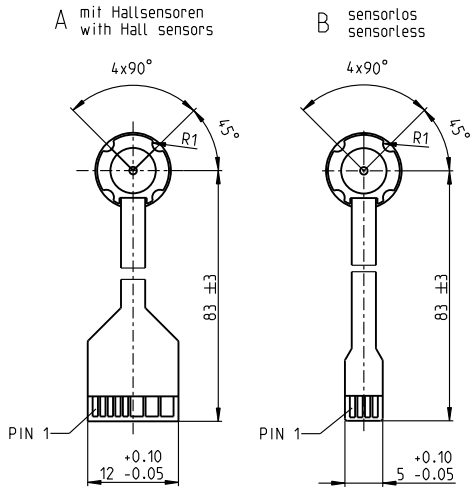


EC 10 Ø10 mm, brushless, 8 Watt

EC



M 1:1

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

Part Numbers

A with Hall sensors	315170	315171	315172	315173
B sensorless	315174	315175	315176	315177

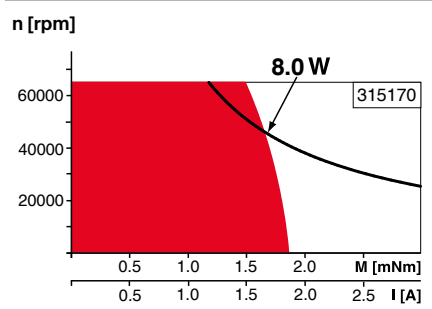
Motor Data

Values at nominal voltage		6	9	12	18
1 Nominal voltage	V	6	9	12	18
2 No load speed	rpm	49200	52500	53200	57100
3 No load current	mA	160	118	90.4	67.3
4 Nominal speed	rpm	41700	45600	46600	50900
5 Nominal torque (max. continuous torque)	mNm	1.74	1.63	1.62	1.61
6 Nominal current (max. continuous current)	A	1.66	1.11	0.843	0.6
7 Stall torque	mNm	12	13	13.7	15.6
8 Stall current	A	10.4	8.05	6.46	5.27
9 Max. efficiency	%	77	78	78	79
Characteristics					
10 Terminal resistance phase to phase	Ω	0.575	1.12	1.86	3.42
11 Terminal inductance phase to phase	mH	0.00998	0.0198	0.0342	0.0671
12 Torque constant	mNm/A	1.15	1.61	2.12	2.97
13 Speed constant	rpm/V	8340	5920	4500	3220
14 Speed/torque gradient	rpm/mNm	4180	4110	3940	3700
15 Mechanical time constant	ms	3.03	2.97	2.85	2.68
16 Rotor inertia	gcm ²	0.0691	0.0691	0.0691	0.0691

Specifications

- Thermal data**
- 17 Thermal resistance housing-ambient: 39.8 K/W
 - 18 Thermal resistance winding-housing: 5.1 K/W
 - 19 Thermal time constant winding: 1.51 s
 - 20 Thermal time constant motor: 221 s
 - 21 Ambient temperature: -40...+100°C
 - 22 Max. winding temperature: +125°C
- Mechanical data (preloaded ball bearings)**
- 23 Max. speed: 65 000 rpm
 - 24 Axial play at axial load < 0.2 N: 0 mm
 - > 0.2 N: max. 0.14 mm
 - 25 Radial play preloaded: 0.16 N
 - 26 Max. axial load (dynamic): 12 N
 - 27 Max. force for press fits (static) (static, shaft supported): 250 N
 - 28 Max. radial load, 5 mm from flange: 2 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
- 30 Number of phases
- 31 Weight of motor

Values listed in the table are nominal.

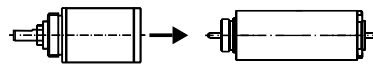
Connection	with Hall sensors	sensorless
Pin 1	V _{Hall} 4.5...24 VDC	Motor winding 1
Pin 2	Hall sensor 3	Motor winding 2
Pin 3	Hall sensor 1	Motor winding 3
Pin 4	Hall sensor 2	N.C.
Pin 5	GND	
Pin 6	Motor winding 3	
Pin 7	Motor winding 2	
Pin 8	Motor winding 1	
Adapter	Part number	Part number
see p. 514	220300	220310
Connector	Part number	Part number
TE	1-84953-1	84953-4
Molex	52207-1133	52207-0433
Pin for design with Hall sensors: FPC, 11-pol, Pitch 1.0 mm, top contact style Wiring diagram for Hall sensors see page 47		

maxon Modular System

Details on catalog page 36

Planetary Gearhead

- Ø10 mm
- 0.01 - 0.15 Nm
- Page 361



Recommended Electronics:

Notes	Page 36
ESCON Module 24/2	486
ESCON 36/3 EC	487
ESCON Mod. 50/4 EC-S	487
DEC Module 24/2	491