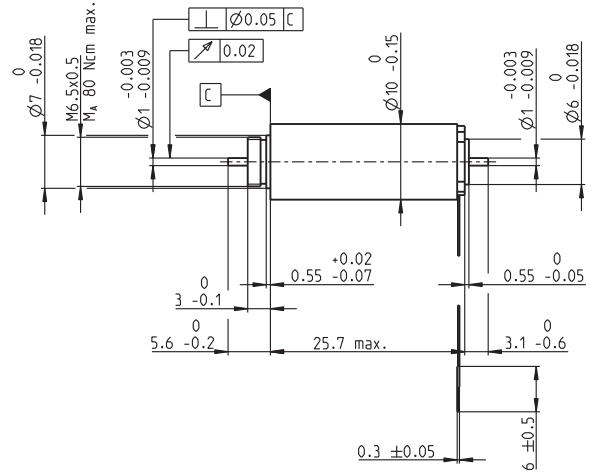
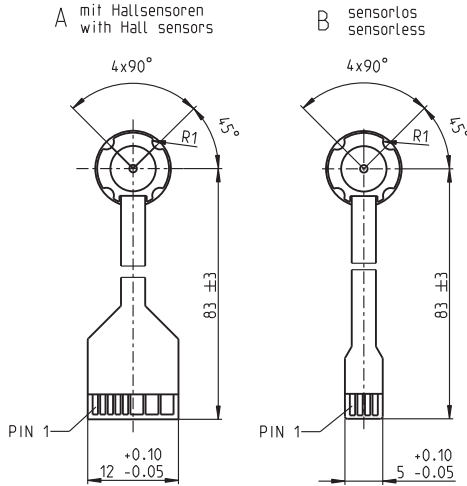


EC 10 Ø10 mm, brushless, 8 Watt



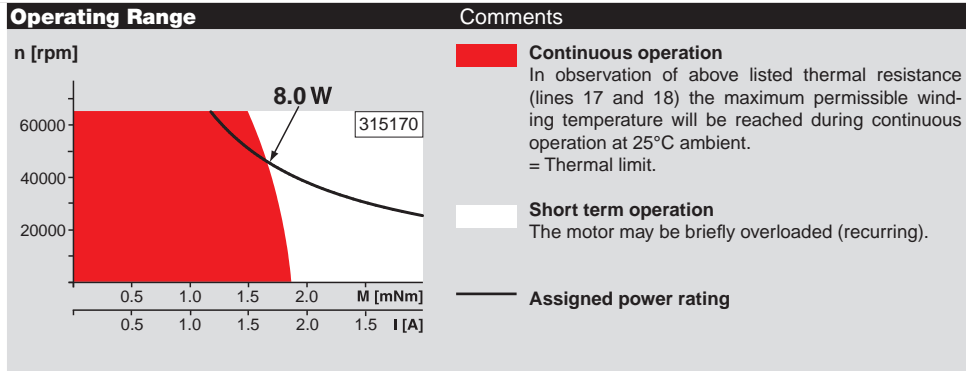
M 1:1

- 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					
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	65000 rpm
24 Axial play at axial load < 0.2 N	0 mm
24 Axial play at axial load > 0.2 N	max. 0.14 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	0.16 N
27 Max. force for press fits (static) (static, shaft supported)	12 N
27 Max. force for press fits (static) (static, shaft supported)	250 N
28 Max. radial load, 5 mm from flange	2 N
Other specifications	
29 Number of pole pairs	1
30 Number of phases	3
31 Weight of motor	13 g



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 see p. 399	Part number 220300	Part number 220310
Connector	Part number	Part number
Tyco	1-84953-1	84953-4
Molex	52207-1133	52207-0433
Molex	52089-1119	52089-0419

Pin for design with Hall sensors:
FPC, 11-pol, Pitch 1.0 mm, top contact style
Wiring diagram for Hall sensors see page 33

maxon Modular System Overview on page 20–25

Planetary Gearhead
Ø10 mm
0.01 - 0.15 Nm
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Recommended Electronics:

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ESCON Module 24/2	378
ESCON 36/3 EC	379
ESCON Mod. 50/4 EC-S	379
DEC Module 24/2	382