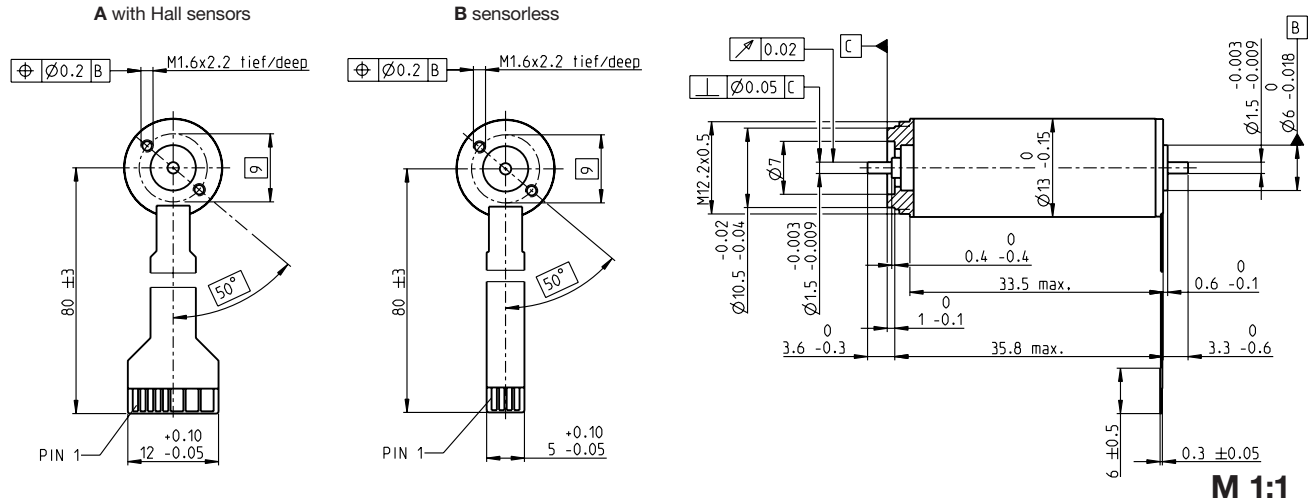


EC 13 Ø13 mm, brushless, 12 Watt

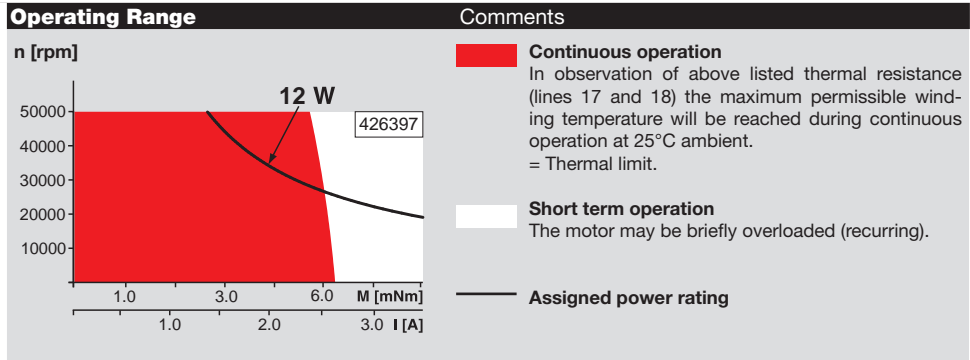


- Stock program
- Standard program
- Special program (on request)

		Part Numbers					
A with Hall sensors		426397	430160	430161	430162	430163	430164
B sensorless		426576	430166	430167	430168	430169	430170

Motor Data								
Values at nominal voltage								
1 Nominal voltage	V	6	9	12	18	24	36	
2 No load speed	rpm	24100	24200	24100	24900	24100	26600	
3 No load current	mA	198	132	98.9	68.9	49.5	38.2	
4 Nominal speed	rpm	18200	19100	18800	20000	19000	21700	
5 Nominal torque (max. continuous torque)	mNm	5.15	5.64	5.13	5.53	5.18	5.38	
6 Nominal current (max. continuous current)	A	2.37	1.72	1.18	0.871	0.598	0.456	
7 Stall torque	mNm	21.7	27.4	23.8	28.8	24.8	30.3	
8 Stall current	A	9.31	7.85	5.1	4.24	2.67	2.38	
9 Max. efficiency	%	74	76	75	77	75	77	
Characteristics								
10 Terminal resistance phase to phase	Ω	0.644	1.15	2.35	4.24	9	15.1	
11 Terminal inductance phase to phase	mH	0.0103	0.0233	0.0413	0.0879	0.165	0.308	
12 Torque constant	mNm/A	2.33	3.49	4.66	6.8	9.32	12.7	
13 Speed constant	rpm/V	4100	2730	2050	1410	1020	751	
14 Speed/torque gradient	rpm/mNm	1130	896	1030	877	990	893	
15 Mechanical time constant	ms	3.86	3.05	3.52	2.99	3.37	3.04	
16 Rotor inertia	gcm ²	0.325	0.325	0.325	0.325	0.325	0.325	

- Specifications**
- Thermal data**
- 17 Thermal resistance housing-ambient 23.9 K/W
 - 18 Thermal resistance winding-housing 1.26 K/W
 - 19 Thermal time constant winding 0.603 s
 - 20 Thermal time constant motor 263 s
 - 21 Ambient temperature -40...+100°C
 - 22 Max. winding temperature +155°C
- Mechanical data (preloaded ball bearings)**
- 23 Max. speed 50000 rpm
 - 24 Axial play at axial load < 1.8 N 0 mm
 - > 1.8 N max. 0.05 mm
 - 25 Radial play preloaded 1.5 N
 - 26 Max. axial load (dynamic) 18 N
 - 27 Max. force for press fits (static) (static, shaft supported) 250 N
 - 28 Max. radial load, 5 mm from flange 4 N
- Other specifications**
- 29 Number of pole pairs 1
 - 30 Number of phases 3
 - 31 Weight of motor 29 g



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. 438	220300	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 35

maxon Modular System Overview on page 20-27

Planetary Gearhead
Ø13 mm
0.2 - 0.35 Nm
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Recommended Electronics:

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ESCON Module 24/2	416
ESCON 36/3 EC	417
ESCON Mod. 50/4 EC-S	417
ESCON Module 50/5	417
ESCON 50/5	418
DEC Module 24/2	420
DEC Module 50/5	420