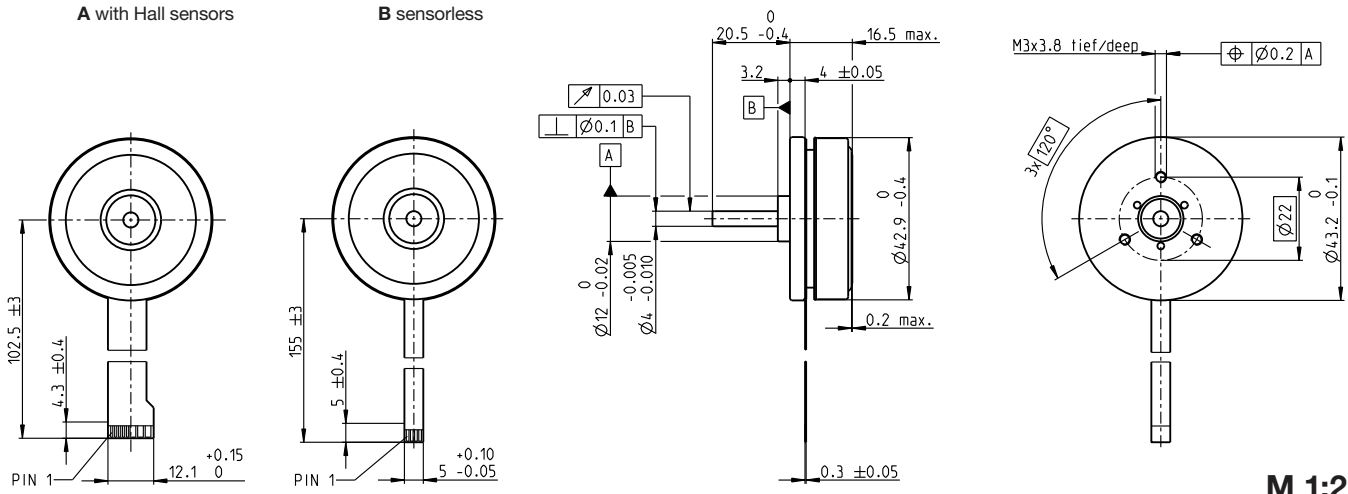


EC 45 flat $\varnothing 42.9$ mm, brushless, 30 Watt



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

		Part Numbers					
A with Hall sensors		200142		339281		339282	
B sensorless			200189		339283		339284

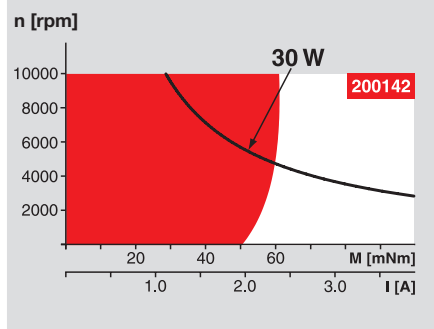
Motor Data

Values at nominal voltage							
1 Nominal voltage	V	12	12	24	24	36	36
2 No load speed	rpm	4370	4350	4360	4380	4750	4760
3 No load current	mA	163	163	81.4	73	61.6	55.3
4 Nominal speed	rpm	2940	2800	2940	2900	3290	3270
5 Nominal torque (max. continuous torque)	mNm	55	54.7	54.8	55.2	66	66.6
6 Nominal current (max. continuous current)	A	2.02	2.02	1.01	1.01	0.847	0.849
7 Stall torque	mNm	255	219	253	243	380	369
8 Stall current	A	10	8.58	4.97	4.77	5.38	5.22
9 Max. efficiency	%	76	75	76	77	80	81
Characteristics							
10 Terminal resistance phase to phase	Ω	1.2	1.4	4.83	5.03	6.69	6.89
11 Terminal inductance phase to phase	mH	0.56	0.56	2.24	2.24	4.29	4.29
12 Torque constant	mNm/A	25.5	25.5	51	51	70.6	70.6
13 Speed constant	rpm/V	374	374	187	187	135	135
14 Speed/torque gradient	rpm/mNm	17.6	20.5	17.7	18.5	12.8	13.2
15 Mechanical time constant	ms	17.1	19.9	17.2	17.9	12.4	12.8
16 Rotor inertia	gcm ²	92.5	92.5	92.5	92.5	92.5	92.5

Specifications

- Thermal data**
- 17 Thermal resistance housing-ambient: 6.69 K/W
 - 18 Thermal resistance winding-housing: 3.92 K/W
 - 19 Thermal time constant winding: 11.4 s
 - 20 Thermal time constant motor: 295 s
 - 21 Ambient temperature: -40...+100°C
 - 22 Max. winding temperature: +125°C
- Mechanical data (preloaded ball bearings)**
- 23 Max. speed: 10000 rpm
 - 24 Axial play at axial load < 5.0 N: 0 mm
 - > 5.0 N: typ. 0.14 mm
 - 25 Radial play: preloaded
 - 26 Max. axial load (dynamic): 4.8 N
 - 27 Max. force for press fits (static) (static, shaft supported): 53 N
 - 28 Max. radial load, 5 mm from flange: 1000 N
 - 18 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: 8
 - 30 Number of phases: 3
 - 31 Weight of motor: 75 g

maxon Modular System

Overview on page 20-27

Values listed in the table are nominal.

Connection	with Hall sensors	sensorless
Pin 1	V _{Hall} 4.5...18 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*	neutral point
Pin 5	GND	
Pin 6	Motor winding 3	
Pin 7	Motor winding 2	
Pin 8	Motor winding 1	

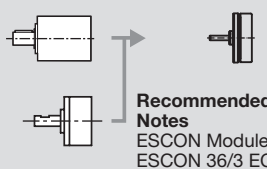
*Internal pull-up (7...13 k Ω) on pin 1
Wiring diagram for Hall sensors see p. 37

Adapter	Part number	Part number
see p. 437	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

- Planetary Gearhead**
 $\varnothing 42$ mm
3 - 15 Nm
Page 351
- Spur Gearhead**
 $\varnothing 45$ mm
0.5 - 2.0 Nm
Page 353



Recommended Electronics:

Notes	Page 26
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
EPOS2 24/2, Module 36/2	424
EPOS2 24/5, 50/5	425
EPOS2 P 24/5	428
MAXPOS 50/5	435

Encoder MILE
256 - 2048 CPT,
2 channels
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Option
With Cable and Connector
(Motor length +1.3 mm,
Ambient temperature -20...+100°C)