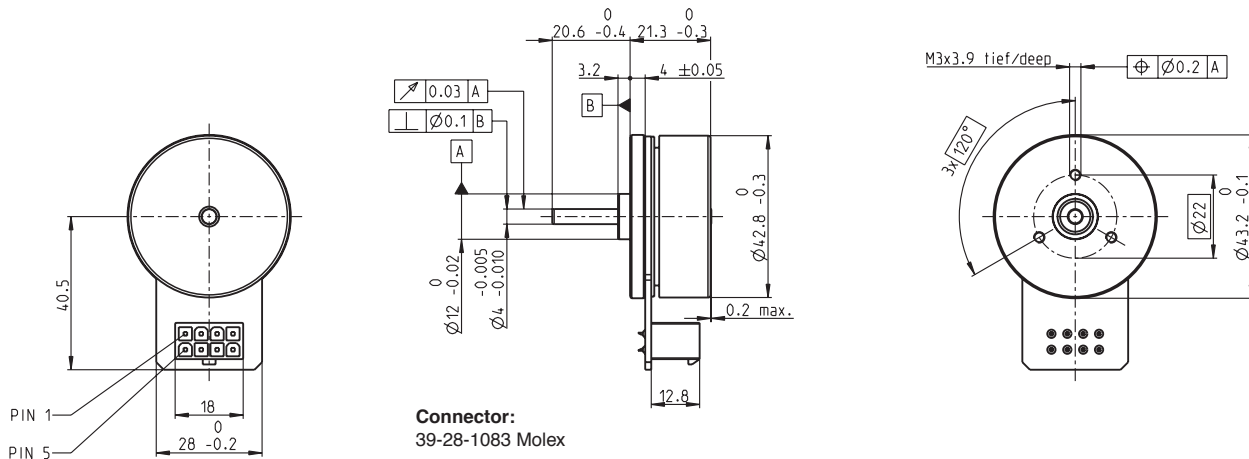


EC 45 flat Ø42.8 mm, brushless, 50 Watt

Connector:
39-28-1083 Molex

M 1:2

- Stock program
 Standard program
 Special program (on request)

Part Numbers

	with Hall sensors	339285	251601	339286	339287				
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Motor Data

Values at nominal voltage									
1	Nominal voltage	V	18	24	24	36			
2	No load speed	rpm	6720	6710	4730	3360			
3	No load current	mA	247	185	106	42.3			
4	Nominal speed	rpm	5190	5240	3480	2360			
5	Nominal torque (max. continuous torque)	mNm	97.1	83.4	69.6	90.5			
6	Nominal current (max. continuous current)	A	3.52	2.33	1.41	0.828			
7	Stall torque	mNm	975	780	402	484			
8	Stall current	A	38.8	23.3	8.47	4.81			
9	Max. efficiency	%	85	83	79	82			
Characteristics									
10	Terminal resistance phase to phase	Ω	0.464	1.03	2.83	7.48			
11	Terminal inductance phase to phase	mH	0.322	0.572	1.15	5.15			
12	Torque constant	mNm/A	25.1	33.5	47.5	101			
13	Speed constant	rpm/V	380	285	201	95			
14	Speed/torque gradient	rpm/mNm	7.02	8.77	12	7.07			
15	Mechanical time constant	ms	9.92	12.4	17	10			
16	Rotor inertia	gcm ²	135	135	135	135			

Specifications

Thermal data		
17	Thermal resistance housing-ambient	4.53 K/W
18	Thermal resistance winding-housing	4.75 K/W
19	Thermal time constant winding	17.7 s
20	Thermal time constant motor	227 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 < 4.0 N	0 mm
	> 4.0 N	0.14 mm
25	Radial play	preloaded
26	Max. axial load (dynamic)	3.8 N
27	Max. force for press fits (static)	53 N
	(static, shaft supported)	1000 N
28	Max. radial load, 5 mm from flange	20 N

Other specifications

29	Number of pole pairs	8
30	Number of phases	3
31	Weight of motor	110 g

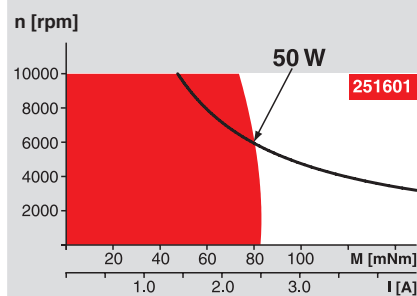
Values listed in the table are nominal.

Connection

Pin 1	Hall sensor 1*
Pin 2	Hall sensor 2*
Pin 3	V _{Hall} 4.5...18 VDC
Pin 4	Motor winding 3
Pin 5	Hall sensor 3*
Pin 6	GND
Pin 7	Motor winding 1
Pin 8	Motor winding 2
*Internal pull-up (7...13 kΩ) on pin 3	
Wiring diagram for Hall sensors see p. 35	

Cable

Connection cable Universal, L = 500 mm	339380
Connection cable to EPOS, L = 500 mm	354045

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

maxon Modular System

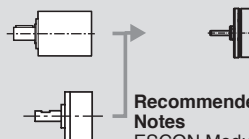
Overview on page 20–25

Planetary Gearhead

Ø42 mm
3 - 15 Nm
Page 316

Spur Gearhead

Ø45 mm
0.5 - 2.0 Nm
Page 317

**Recommended Electronics:**

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ESCON Module 24/2	378
ESCON 36/3 EC	379
ESCON Mod. 50/4 EC-S	379
ESCON Module 50/5	379
ESCON 50/5	380
DEC Module 24/2	382
DEC Module 50/5	382
EPOS2 24/2	386
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EPOS2 24/5, 50/5	387
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EPOS3 70/10 EtherCAT	393
MAXPOS 50/5	396

Encoder MILE
256 - 2048 CPT,
2 channels
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Option

With Cable and Connector
(Ambient temperature -20...+100°C)