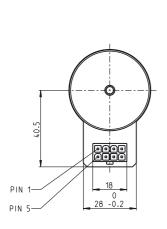
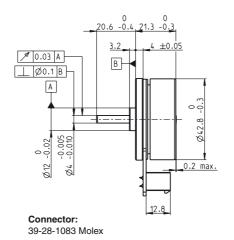
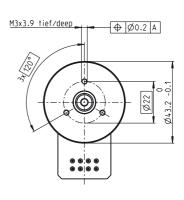
### EC 45 flat Ø42.8 mm, brushless, 50 Watt





**Article Numbers** 



M 1:2

Stock program
Standard program

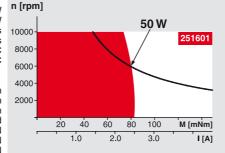
Standard program
Special program (on request)

with Ha	all sensors	339285	251601	339286	339287		
Motor Data			2 2 2				
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	5220	5250	3480	2360		
5 Nominal torque (max. continuous torque)	mNm	95.2	82.7	69.5	90.5		
6 Nominal current (max. continuous current)	Α	3.46	2.32	1.41	0.828		
7 Stall torque	mNm	925	741	382	459		
8 Starting current	Α	38.9	23.3	8.5	4.83		
9 Max. efficiency	%	85	83	79	82		
Characteristics							
10 Terminal resistance phase to phase	Ω	0.463	1.03	2.82	7.46		
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	8.75	12	7.05		
15 Mechanical time constant	ms	9.89	12.4	16.9	9.97		
16 Rotor inertia	gcm <sup>2</sup>	135	135	135	135		

#### 

Mechanical data (preloaded ball bearings)

23	Max. permissible 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 loading, 7.5 mm from flange	21 N
	3,	



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.

Comments

#### 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	110 g

Values listed in the table are nominal.

#### Connection

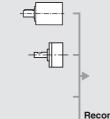
Pin 1 Hall sensor 1\*
Pin 2 Hall sensor 2\*
Pin 3 V<sub>Hall</sub> 4.5...18 VDC
Pin 4 Motor winding 3
Pin 5 Hall sensor 3\*
Pin 6 GND
Pin 7 Motor winding 1
Pin 8 Motor winding 2
\*Internal pull-up  $(7...13 \text{ k}\Omega)$  on pin 3
Wiring diagram for Hall sensors see p. 29

#### Cable

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

## maxon Modular System Planetary Gearhead Ø42 mm

3 - 15 Nm Page 243 **Spur Gearhead** Ø45 mm 0.5 - 2.0 Nm Page 244



# **-**

Notes

Recommended Electronics: ESCON 50/5 Page 292 DECS 50/5 297

DECS 50/5 297
DEC 24/3 298
DEC Module 50/5 299
EPOS2 24/2 312
EPOS2 Module 36/2 312
EPOS2 24/5 313
EPOS2 P 24/5 316
EPOS3 70/10 EtherCAT 319

Option

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

Overview on page 16 - 21