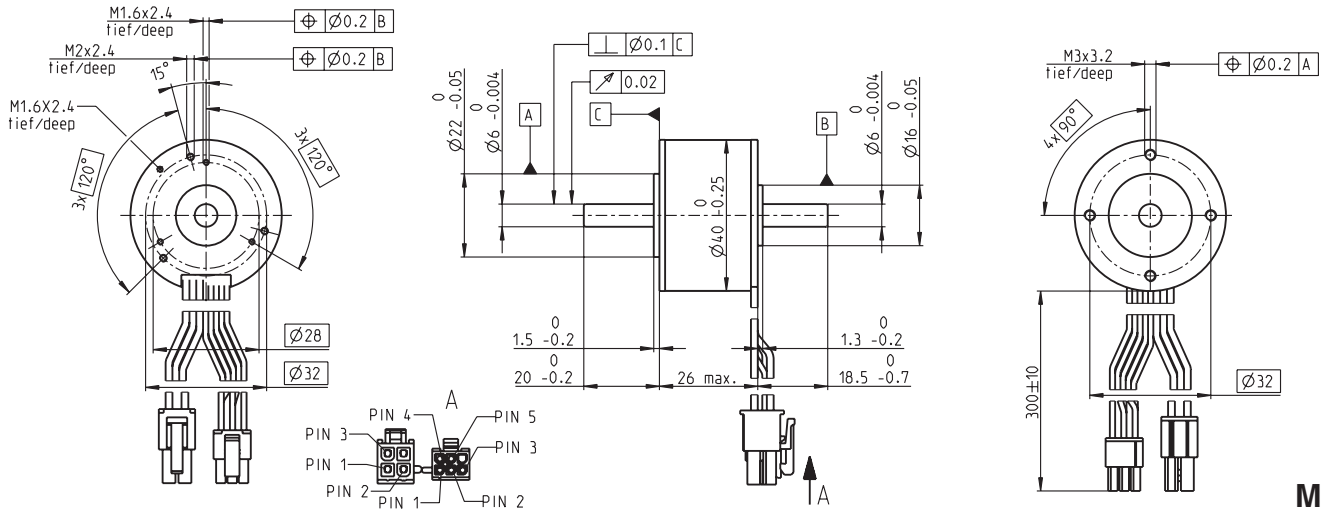


EC-i 40 Ø40 mm, brushless, 50 Watt

maxon flat motor



M 1:2

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

Order Number

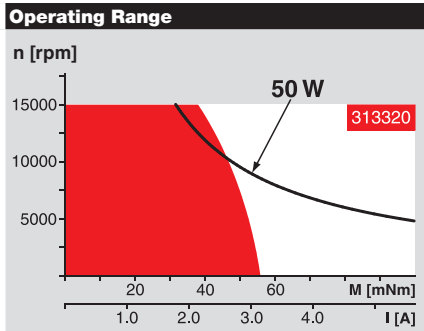
313320

with Hall sensors

339241 313320

Motor Data			
Values at nominal voltage			
1 Nominal voltage	V	12.0	24.0
2 No load speed	rpm	12300	13100
3 No load current	mA	629	347
4 Nominal speed	rpm	9890	10400
5 Nominal torque (max. continuous torque)	mNm	36.8	48.2
6 Nominal current (max. continuous current)	A	4.04	2.64
7 Stall torque	mNm	432	773
8 Starting current	A	48.3	45.8
9 Max. efficiency	%	79	84
Characteristics			
10 Terminal resistance phase to phase	Ω	0.248	0.524
11 Terminal inductance phase to phase	mH	0.109	0.390
12 Torque constant	mNm / A	8.95	16.9
13 Speed constant	rpm / V	1070	565
14 Speed / torque gradient	rpm / mNm	29.6	17.5
15 Mechanical time constant	ms	3.26	1.93
16 Rotor inertia	gcm ²	10.5	10.5

Specifications			
Thermal data			
17 Thermal resistance housing-ambient	9.66 K / W		
18 Thermal resistance winding-housing	2.57 K / W		
19 Thermal time constant winding	17.6 s		
20 Thermal time constant motor	676 s		
21 Ambient temperature	-40 ... +100°C		
22 Max. permissible winding temperature	+155°C		
Mechanical data (preloaded ball bearings)			
23 Max. permissible speed	15000 rpm		
24 Axial play at axial load < 6.0 N	0 mm		
24 Axial play at axial load > 6.0 N	0.15 mm		
25 Radial play	preloaded		
26 Max. axial load (dynamic)	8 N		
27 Max. force for press fits (static) (static, shaft supported)	87 N		
28 Max. radial loading, 5 mm from flange	2000 N		
28 Max. radial loading, 5 mm from flange	15 N		



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	7		
30 Number of phases	3		
31 Weight of motor	170 g		

Values listed in the table are nominal.

Connection (Cable AWG 20)			
red	Motor winding 1	Pin 1	
black	Motor winding 2	Pin 2	
white	Motor winding 3	Pin 3	
	N.C.	Pin 4	

Connector	Article number
MOLEX	39-01-2040

Connection (Cable AWG 26)			
yellow	Hall sensor 1	Pin 1	
brown	Hall sensor 2	Pin 2	
grey	Hall sensor 3	Pin 3	
blue	GND	Pin 4	
green	V _{Hall} 4.5 ... 24 VDC	Pin 5	
	N.C.	Pin 6	

Connector	Article number
MOLEX	430-25-0600

maxon Modular System Overview on page 16 - 21

Planetary Gearhead
Ø32 mm
1.0 - 6.0 Nm
Page 234

Spur Gearhead
Ø32 mm
1.0 - 6.0 Nm
Page 249 - 251

Encoder MR
256 - 1024 Imp.,
3 channels
Page 263

Encoder HEDL 5540
500 Imp.,
3 channels
Page 270

Recommended Electronics:	
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DEC Module 50/5	291
DECV 50/5	297
DEC 70/10	297
EPOS2 Module 36/2	304
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