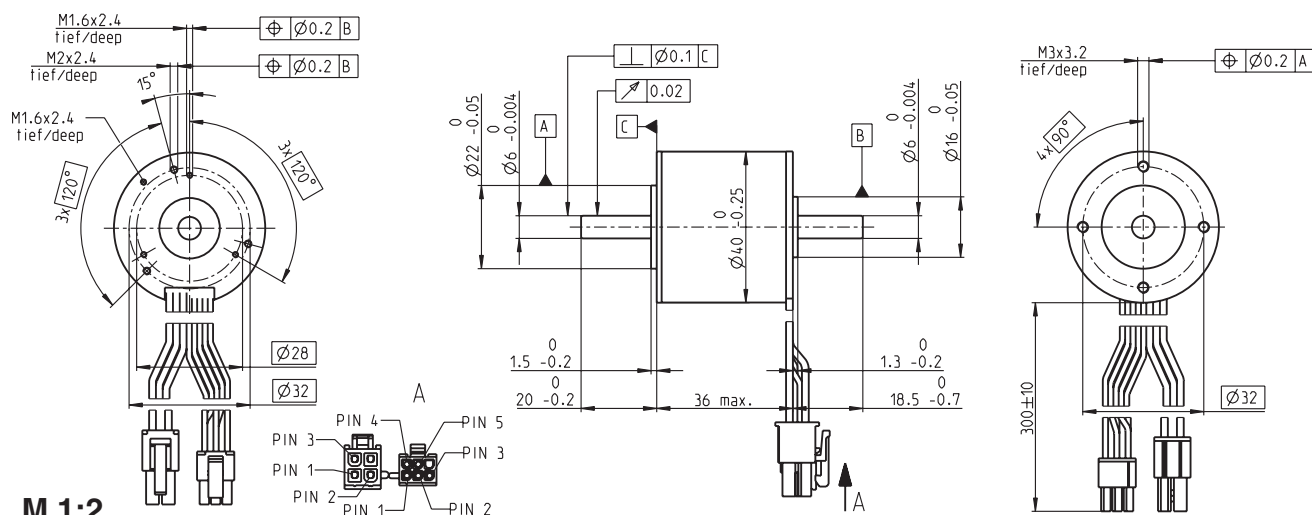


EC-i 40 Ø40 mm, brushless, 70 Watt



maxon flat motor

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

Order Number

with Hall sensors

339243 339244

Motor Data

Values at nominal voltage

	V	24.0	48.0
1 Nominal voltage	V	24.0	48.0
2 No load speed	rpm	13400	14200
3 No load current	mA	537	296
4 Nominal speed	rpm	11900	12700
5 Nominal torque (max. continuous torque)	mNm	41.5	48.4
6 Nominal current (max. continuous current)	A	2.73	1.63
7 Stall torque	mNm	1090	1880
8 Starting current	A	65.4	59.5
9 Max. efficiency	%	83	87

Characteristics

	Ω	0.367	0.807
10 Terminal resistance phase to phase	Ω	0.367	0.807
11 Terminal inductance phase to phase	mH	0.180	0.644
12 Torque constant	mNm / A	16.7	31.5
13 Speed constant	rpm / V	572	303
14 Speed / torque gradient	rpm / mNm	12.6	7.75
15 Mechanical time constant	ms	3.18	1.96
16 Rotor inertia	gcm ²	24.2	24.2

Specifications

Thermal data

17 Thermal resistance housing-ambient	7.8 K / W
18 Thermal resistance winding-housing	2.6 K / W
19 Thermal time constant winding	28.4 s
20 Thermal time constant motor	385 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
27 Max. force for press fits (static) (static, shaft supported)	2000 N
28 Max. radial loading, 5 mm from flange	15 N

Other specifications

29 Number of pole pairs	7
30 Number of phases	3
31 Weight of motor	240 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

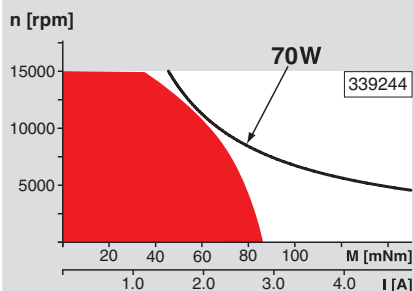
Connection (Cable AWG 26)

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

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

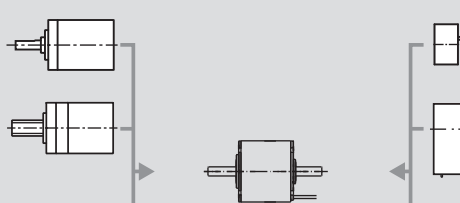
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Planetary Gearhead

Ø32 mm
1.0 - 6.0 Nm
Page 234

Spindle Drive

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 70/10	297
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