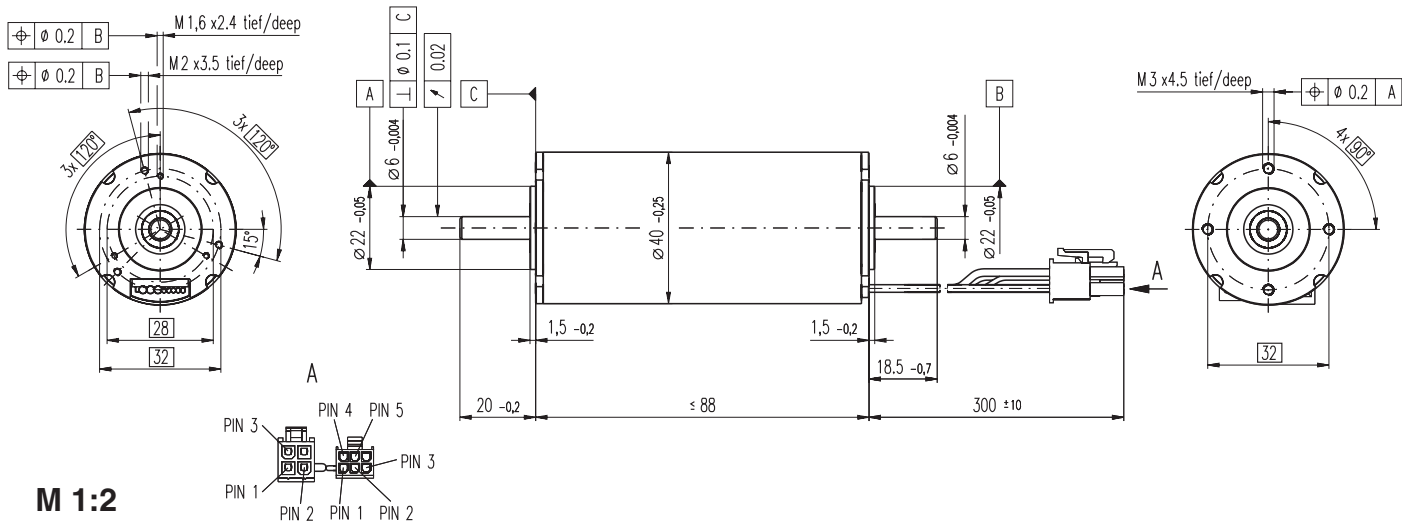


EC-max 40 Ø40 mm, brushless, 120 Watt



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

Order Number

283870	283871	283872	283873
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Motor Data

		283870	283871	283872	283873
Values at nominal voltage					
1	Nominal voltage	V	48.0	48.0	48.0
2	No load speed	rpm	10100	7240	4720
3	No load current	mA	348	202	105
4	Nominal speed	rpm	9280	6290	3770
5	Nominal torque (max. continuous torque)	mNm	164	183	203
6	Nominal current (max. continuous current)	A	3.95	3.08	2.19
7	Stall torque	mNm	2090	1490	1050
8	Starting current	A	46.7	23.7	10.9
9	Max. efficiency	%	84	83	82
Characteristics					
10	Terminal resistance phase to phase	Ω	1.03	2.02	4.40
11	Terminal inductance phase to phase	mH	0.204	0.400	0.937
12	Torque constant	mNm / A	44.8	62.8	96.1
13	Speed constant	rpm / V	213	152	99.4
14	Speed / torque gradient	rpm / mNm	4.89	4.90	4.55
15	Mechanical time constant	ms	5.17	5.19	4.81
16	Rotor inertia	gcm ²	101	101	101

Specifications

Thermal data		
17	Thermal resistance housing-ambient	3.45 K / W
18	Thermal resistance winding-housing	0.29 K / W
19	Thermal time constant winding	3.87 s
20	Thermal time constant motor	1140 s
21	Ambient temperature	-40 ... +100°C
22	Max. permissible winding temperature	+155°C
Mechanical data (preloaded ball bearings)		
23	Max permissible speed	12000 rpm
24	Axial play at axial load < 10 N	0 mm
	> 10 N	0.14 mm
25	Radial play	preloaded
26	Max. axial load (dynamic)	9 N
27	Max. force for press fits (static) (static, shaft supported)	170 N
		5000 N
28	Max. radial loading, 5 mm from flange	80 N

Other specifications

29	Number of pole pairs	1
30	Number of phases	3
31	Weight of motor	650 g

Values listed in the table are nominal.

Connection Motor (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 Sensors (Cable AWG 26)

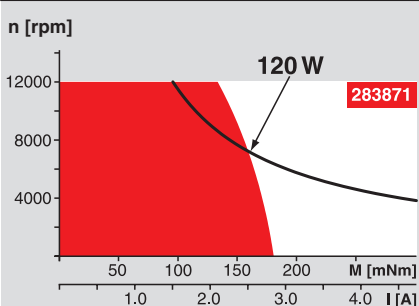
yellow	Hall sensor 1	Pin 1
brown	Hall sensor 2	Pin 2
grey	Hall sensor 3	Pin 3
blue	GND	Pin 4
green	V _{Hall} 4.5 ... 24 VDC	Pin 5
	N.C.	Pin 6

Connector Article number

Molex 430-25-0600

Wiring diagram for Hall sensors see page 26

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.

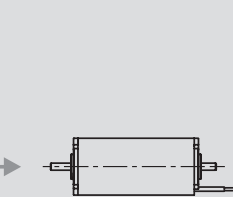
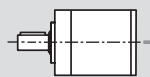
Short term operation
The motor may be briefly overloaded (recurring).

— Assigned power rating

maxon Modular System

Overview on page 16 - 21

1 Planetary Gearhead
Ø52 mm
4 - 30 Nm
Page 239



Encoder MR
500 - 1000 CPT,
3 channels
Page 251

Encoder HEDL 5540
500 CPT,
3 channels
Page 258

Brake AB 28
Ø28 mm
24 VDC, 0.4 Nm
Page 299

Recommended Electronics:

DEC 50/5	Page 277
DECV 50/5	278
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DES 70/10	279
EPOS 70/10	287
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