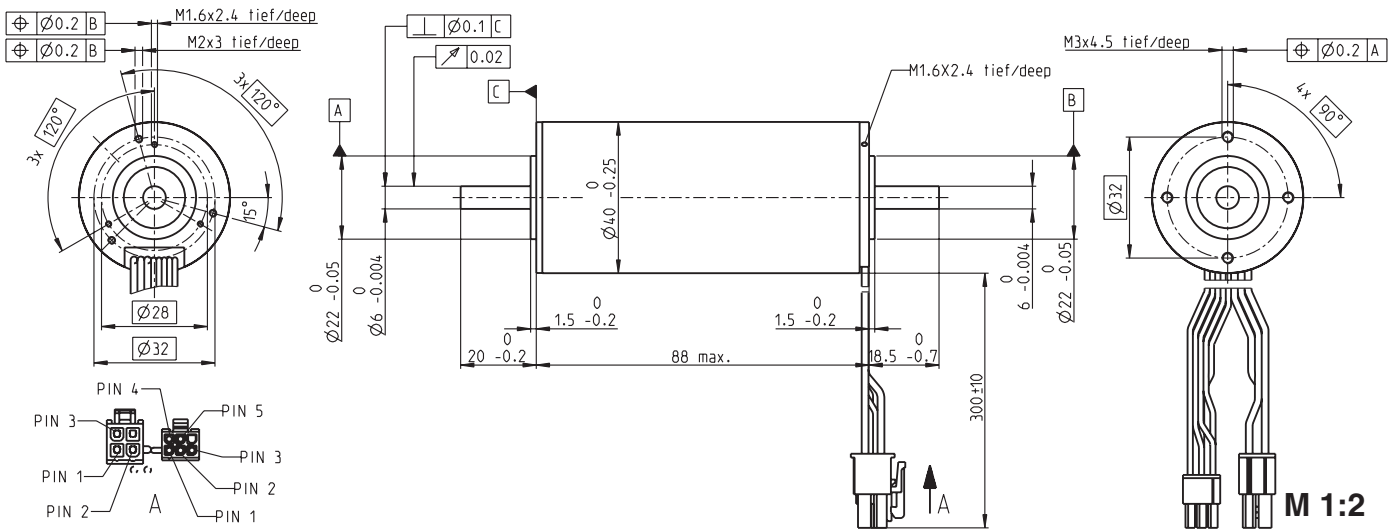


EC-max 40 Ø40 mm, brushless, 120 Watt



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

Order Number

283870	283871	283872	283873
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Motor Data

Values at nominal voltage		283870	283871	283872	283873
1 Nominal voltage	V	48	48	48	48
2 No load speed	rpm	10100	7240	4720	3610
3 No load current	mA	310	188	104	72.8
4 Nominal speed	rpm	9260	6290	3770	2670
5 Nominal torque (max. continuous torque)	mNm	167	184	202	211
6 Nominal current (max. continuous current)	A	4	3.08	2.18	1.73
7 Stall torque	mNm	2090	1490	1050	838
8 Starting current	A	46.7	23.7	10.9	6.68
9 Max. efficiency	%	85	83	82	80
Characteristics		283870	283871	283872	283873
10 Terminal resistance phase to phase	Ω	1.03	2.02	4.4	7.19
11 Terminal inductance phase to phase	mH	0.204	0.4	0.937	1.6
12 Torque constant	mNm / A	44.8	62.8	96.1	126
13 Speed constant	rpm / V	213	152	99.4	76.1
14 Speed / torque gradient	rpm / mNm	4.89	4.9	4.55	4.35
15 Mechanical time constant	ms	5.17	5.19	4.81	4.61
16 Rotor inertia	gcm ²	101	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: 3.96 s
 - 20 Thermal time constant motor: 1120 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 < 10.0 N: 0 mm
 - > 10.0 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): 211 N
 - 28 Max. radial loading, 5 mm from flange: 5000 N
- Other specifications**
- 29 Number of pole pairs: 1
 - 30 Number of phases: 3
 - 31 Weight of motor: 720 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)

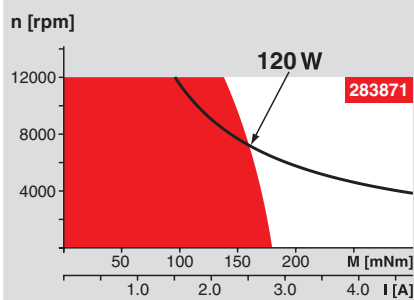
yellow	Hall sensor 1	Pin 1
brown	Hall sensor 2	Pin 2
grey	Hall sensor 3	Pin 3
blue	GND	Pin 4
green	V _{Hall} 4.5 ... 24 VDC	Pin 5
	N.C.	Pin 6

Connector Article number

Molex 430-25-0600

Wiring diagram for Hall sensors see p. 27

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

Planetary Gearhead

Ø52 mm

4 - 30 Nm

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Overview on page 16 - 21

Encoder MR

256 - 1024 Imp.,

3 channels

Page 263

Encoder HEDL 5540

500 Imp.,

3 channels

Page 269

Brake AB 28

24 VDC

0.4 Nm

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Recommended Electronics:

DECS 50/5 Page 289

DEC 50/5 291

DEC Module 50/5 291

DECV 50/5 297

DEC 70/10 297

DES 50/5 298

DES 70/10 298

EPOS2 50/5 305

EPOS2 70/10 305

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