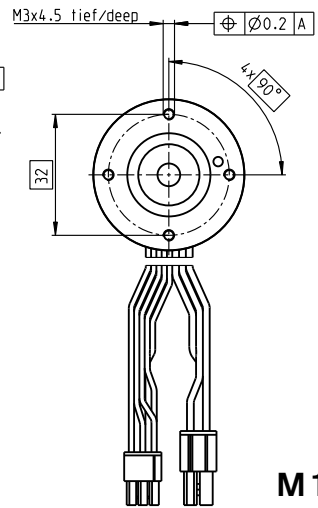
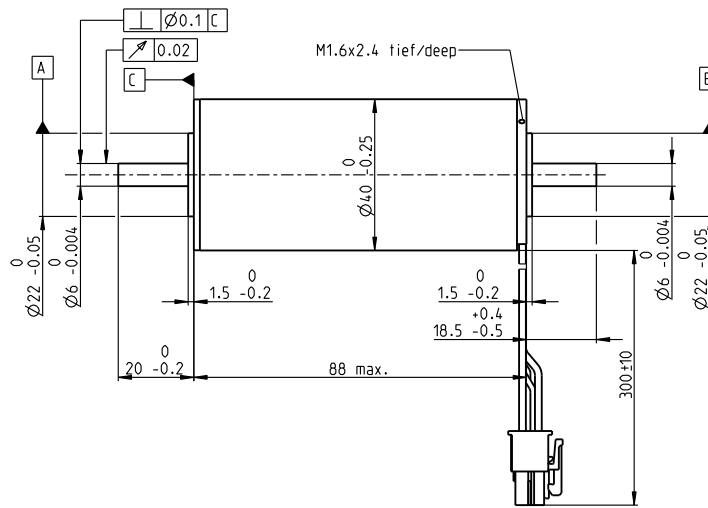
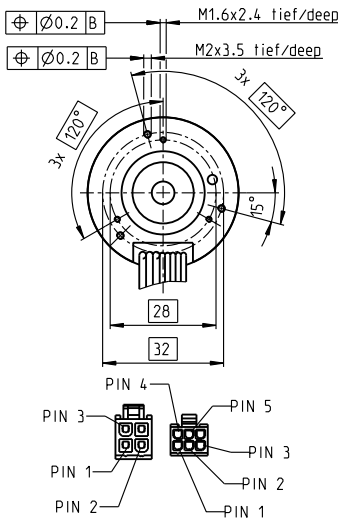


EC-max 40 Ø40 mm, brushless, 120 Watt

EC-max



M 1:2

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

Part Numbers				
283870	283871	283872	283873	

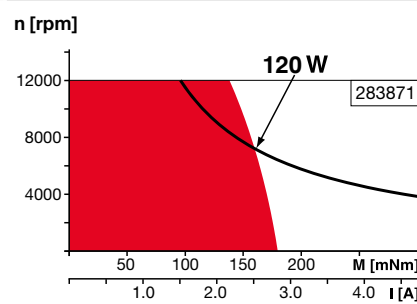
Motor Data

Values at nominal voltage					
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	9250	6280	3770	2670
5 Nominal torque (max. continuous torque)	mNm	170	185	203	211
6 Nominal current (max. continuous current)	A	4.06	3.1	2.19	1.74
7 Stall torque	mNm	2090	1490	1050	838
8 Stall current	A	46.7	23.7	10.9	6.68
9 Max. efficiency	%	85	83	82	80
Characteristics					
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: 1240 s
 - 21 Ambient temperature: -40...+100°C
 - 22 Max. winding temperature: +155°C
- Mechanical data (preloaded ball bearings)**
- 23 Max. 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): 8 N
 - 27 Max. force for press fits (static) (static, shaft supported): 211 N
 - 28 Max. radial load, 5 mm from flange: 4000 N
 - 80 N

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**

Other specifications

- 29 Number of pole pairs
- 30 Number of phases
- 31 Weight of motor

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

- Molex Part number 39-01-2040

Connection sensors (Cable AWG 26)

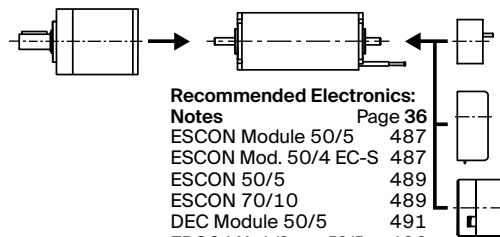
- yellow Hall sensor 1 Pin 1
- brown Hall sensor 2 Pin 2
- grey Hall sensor 3 Pin 3
- blue GND Pin 4
- green V_{Hall} 3...24 VDC Pin 5
- N.C. Pin 6

Connector

- Molex Part number 430-25-0600
- Wiring diagram for Hall sensors see p. 47

maxon Modular System

- 1 Planetary Gearhead
- 3 Ø52 mm
- 720 g 4 - 30 Nm
- Page 402



Recommended Electronics:

- Notes Page 36
- ESCON Module 50/5 487
- ESCON Mod. 50/4 EC-S 487
- ESCON 50/5 489
- ESCON 70/10 489
- DEC Module 50/5 491
- EPOS4 Mod./Comp. 50/5 496
- EPOS4 Module 50/8 497
- EPOS4 Comp. 50/8 CAN 499
- EPOS4 50/5 501
- EPOS2 P 24/5 504

Details on catalog page 36

- Encoder MR**
256 - 1024 CPT,
3 channels
Page 464
- Encoder HEDL 5540**
500 CPT,
3 channels
Page 475
- Brake AB 28**
24 VDC
0.4 Nm
Page 518