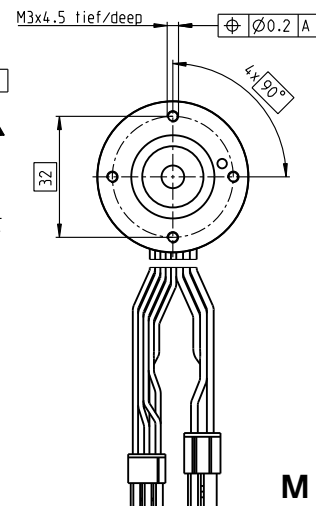
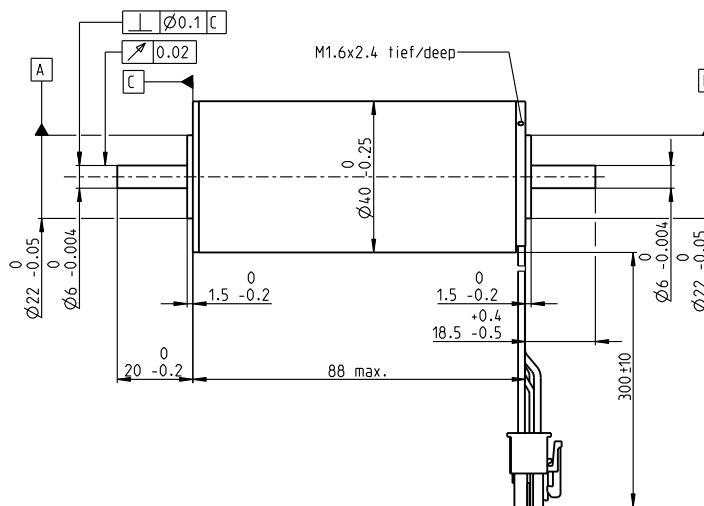
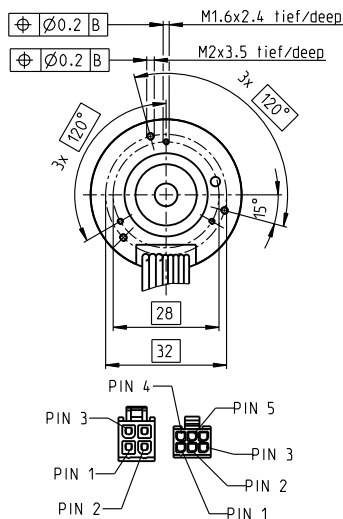


EC-max 40 Ø40 mm, brushless, 120 watt



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	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	12 000 rpm	
24 Axial play at axial load	< 10 N 0 mm	
	> 10 N 0.14 mm	
25 Radial play	preloaded 8 N	
26 Max. axial load (dynamic)	211 N	
27 Max. force for press fits (static)	4000 N	
(static, shaft supported)		
28 Max. radial load, 5 mm from flange	80 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.

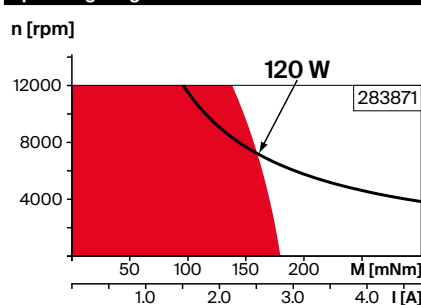
Connection motor (Cable AWG 20)		
red	Motor winding 1	Pin 1
black	Motor winding 2	Pin 2
white	Motor winding 3	Pin 3
	N.C.	Pin 4

Connector Part 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} 3...24 VDC	Pin 5
	N.C.	Pin 6

Connector Part number	
Molex	430-25-0600

Wiring diagram for Hall sensors see p. 67

Operating range



Comments

- Continuous operation**
In observation of above listed thermal resistance (lines 17 and 18) and an ambient temperature of 25°C, the maximum permissible winding temperature will be reached during continuous operation = thermal limit.
- Short term operation**
The motor may be briefly overloaded (recurring).
- Assigned power rating**

Modular system

1 Gear	436-438_GP 42 A
	439-441_GP 42 C
	444_GP 52 C

Sensor	
509_ENX 16 EASY	
510_ENX 16 EASY XT	
511_ENX 16 EASY Absolute	
512_ENX 16 EASY Absolute XT	
539_Encoder HEDL 5540	

Accessories	
586_Brake AB 28	

Details on catalog page 52

Motor Control	
547_DEC Module 50/5	
551_ESCON Module 50/5	
551_ESCON Module 50/4 EC-S	
553_ESCON 50/5	
553_ESCON 70/10	
564_EPOS4 Module 50/5	
565_EPOS4 Module 50/8	
567_EPOS4 Compact 50/5	
567_EPOS4 Compact 50/8 CAN	
569_EPOS4 50/5	
570_EPOS4 Disk 60/8	
571_EPOS4 Disk 60/12	