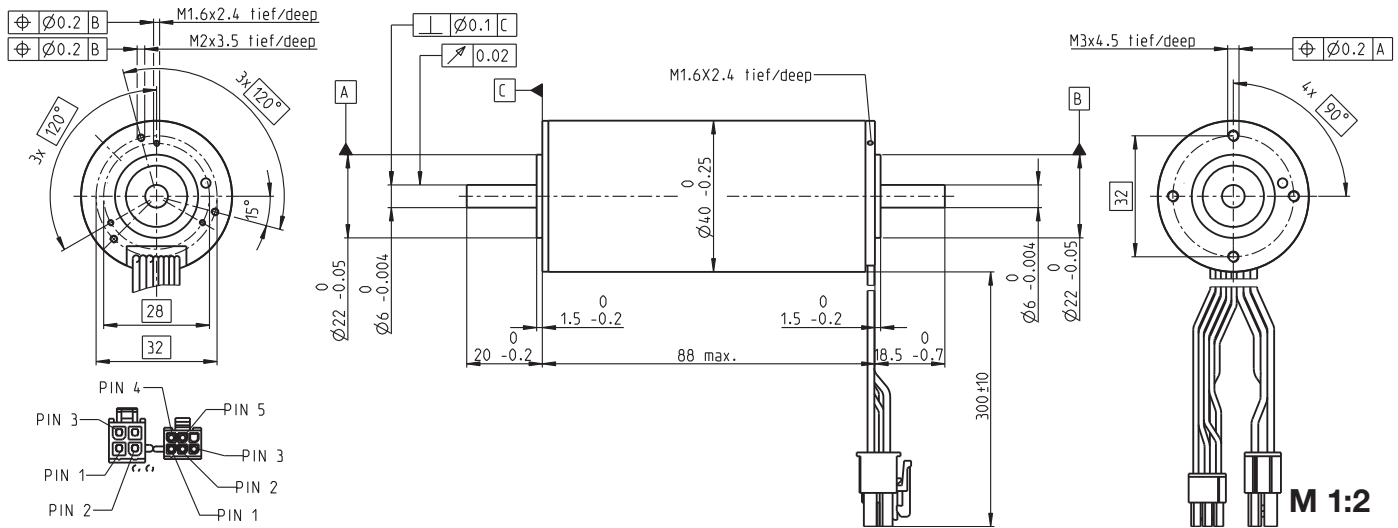


EC-max 40 Ø40 mm, brushless, 120 Watt

maxon EC-max

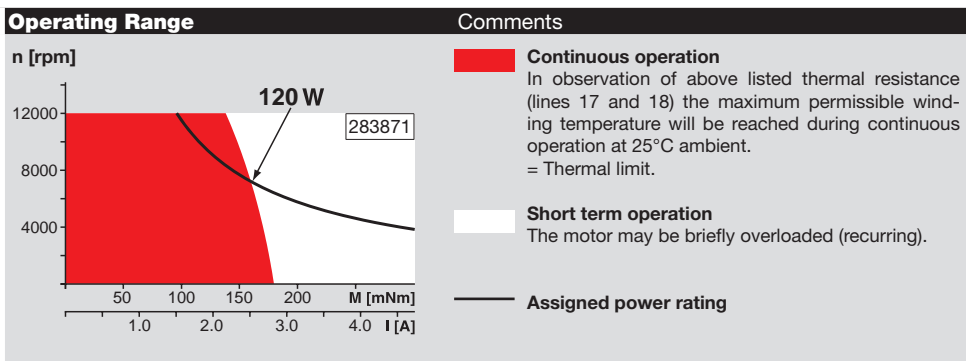


- Stock program
- Standard program
- Special program (on request)

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)	211 N
(static, shaft supported)	4000 N
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. 35

maxon Modular System	Overview on page 20-27
Planetary Gearhead Ø52 mm 4 - 30 Nm Page 355	
Recommended Electronics: Notes Page 26	Encoder MR 256 - 1024 CPT, 3 channels Page 393
ESCON Mod. 50/5 417 ESCON Mod. 50/4 EC-S 417 ESCON 50/5 418 ESCON 70/10 418 DEC Module 50/5 420 EPOS2 24/5, 50/5, 70/10 425 EPOS2 P 24/5 428 EPOS4 Module 50/8 431 EPOS4 Comp. 50/8 CAN 431 MAXPOS 50/5 435	Encoder HEDL 5540 500 CPT, 3 channels Page 403
	Brake AB 28 24 VDC 0.4 Nm Page 445