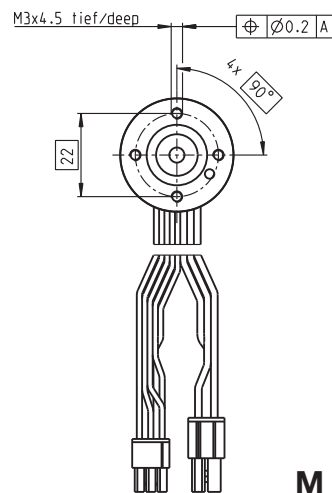
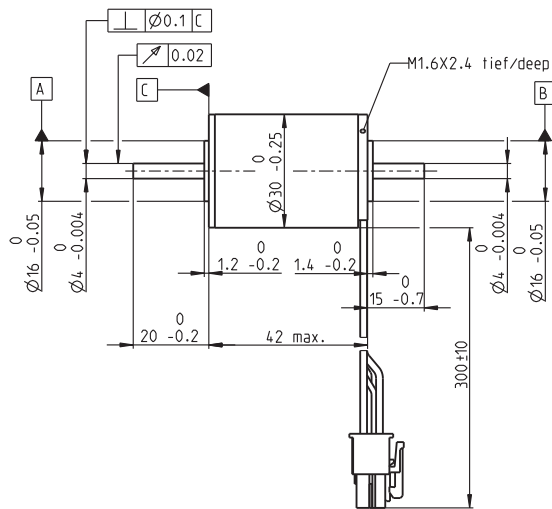
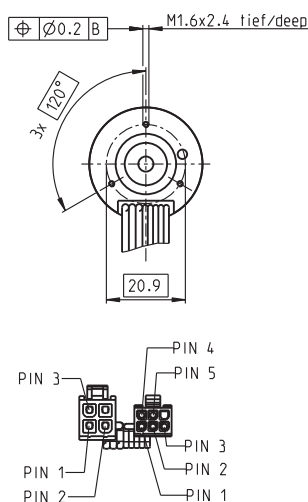


# EC-max 30 Ø30 mm, brushless, 40 Watt



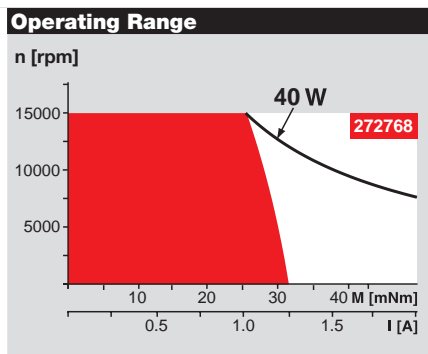
M 1:2

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

Part Numbers				
272766	272768	272769	272770	

Motor Data					
Values at nominal voltage					
1 Nominal voltage	V	12	24	36	48
2 No load speed	rpm	8680	9250	9150	9250
3 No load current	mA	223	123	80.5	61.4
4 Nominal speed	rpm	6630	7220	7090	7210
5 Nominal torque (max. continuous torque)	mNm	34.9	33.8	33.3	33.4
6 Nominal current (max. continuous current)	A	2.88	1.49	0.97	0.738
7 Stall torque	mNm	153	160	154	157
8 Stall current	A	11.8	6.57	4.18	3.24
9 Max. efficiency	%	75	75	75	75
Characteristics					
10 Terminal resistance phase to phase	Ω	1.01	3.65	8.61	14.8
11 Terminal inductance phase to phase	mH	0.088	0.31	0.713	1.24
12 Torque constant	mNm/A	12.9	24.3	36.8	48.6
13 Speed constant	rpm/V	738	393	259	197
14 Speed/torque gradient	rpm/mNm	57.8	59.1	60.6	59.9
15 Mechanical time constant	ms	6.66	6.81	6.98	6.9
16 Rotor inertia	gcm <sup>2</sup>	11	11	11	11

Specifications	
Thermal data	
17 Thermal resistance housing-ambient	8.6 K/W
18 Thermal resistance winding-housing	1 K/W
19 Thermal time constant winding	3.25 s
20 Thermal time constant motor	777 s
21 Ambient temperature	-40...+100°C
22 Max. winding temperature	+155°C
Mechanical data (preloaded ball bearings)	
23 Max. speed	15000 rpm
24 Axial play at axial load < 6.0 N	0 mm
> 6.0 N	0.14 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	5 N
27 Max. force for press fits (static) (static, shaft supported)	98 N
28 Max. radial load, 5 mm from flange	2000 N
29 Other specifications	1
30 Number of pole pairs	3
31 Weight of motor	195 g



**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**

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 <sub>Hall</sub> 3...24 VDC	Pin 5
	N.C.	Pin 6
Connector		
Molex	Part number	
	430-25-0600	

Wiring diagram for Hall sensors see p. 35

maxon Modular System		Overview on page 20-27	
<b>Planetary Gearhead</b> Ø32 mm 1.0 - 8.0 Nm Page 343/345		<b>Encoder MR</b> 500/1000 CPT, 3 channels Page 392	
<b>Koaxdrive</b> Ø32 mm 1.0 - 4.5 Nm Page 347		<b>Encoder HEDL 5540</b> 500 CPT, 3 channels Page 403	
<b>Spindle Drive</b> Ø32 mm Page 370-372		<b>Brake AB 20</b> 24 VDC 0.1 Nm Page 444	
<b>Recommended Electronics:</b> Notes Page 26			
ESCON Module 24/2		416	
ESCON 36/3 EC		417	
ESCON Mod. 50/4 EC-S		417	
ESCON Module 50/5		417	
ESCON 50/5		418	
DEC Module 24/2		420	
DEC Module 50/5		420	
EPOS2 Module 36/2		424	
EPOS2 24/5, 50/5		425	
EPOS2 P 24/5		428	
EPOS4 Module 50/8		431	
EPOS4 Comp. 50/8 CAN		431	
MAXPOS 50/5		435	