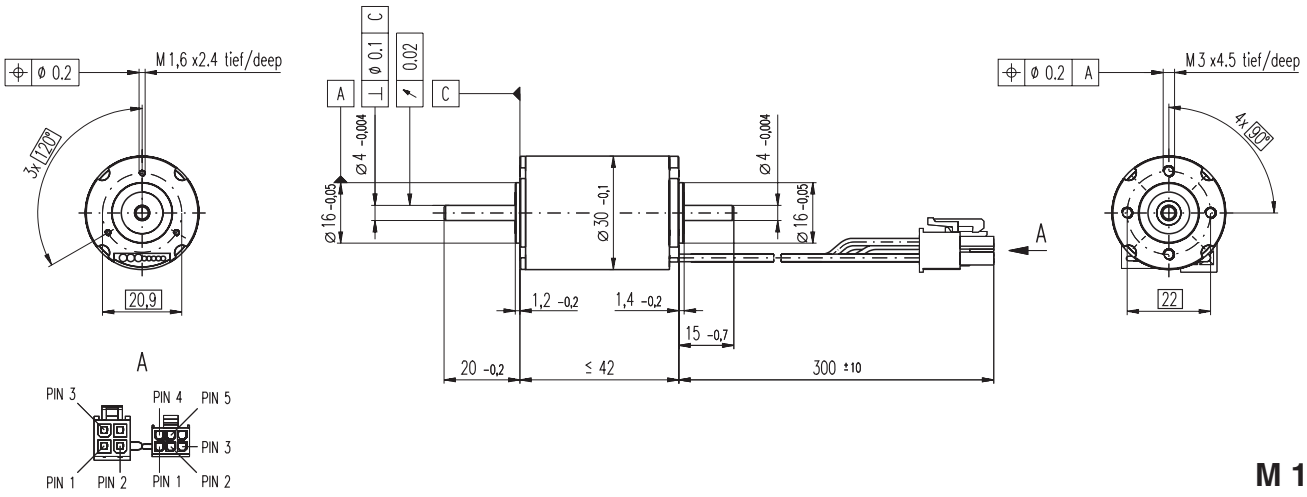
EC-max 30 ∅30 mm, brushless, 40 Watt



M 1:2

Stock program
Standard program
Special program (on request)

Order Number	272766	272768	272769	272770
Motor Data				
Values at nominal voltage				
1 Nominal voltage V	12.0	24.0	36.0	48.0
2 No load speed rpm	8700	9270	9160	9270
3 No load current mA	202	112	73.2	55.9
4 Nominal speed rpm	6640	7210	7080	7190
5 Nominal torque (max. continuous torque) mNm	35.0	34.3	33.9	34.0
6 Nominal current (max. continuous current) A	2.85	1.50	0.976	0.743
7 Stall torque mNm	153	160	154	157
8 Starting current A	11.8	6.57	4.18	3.24
9 Max. efficiency %	76	76	76	76
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	6.90
16 Rotor inertia gcm²	11.0	11.0	11.0	11.0

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	3.12 s
20	Thermal time constant motor	777 s
21	Ambient temperature	-20 ... +100°C
22	Max. permissible winding temperature	+155°C

Mechanical data (preloaded ball bearings)

23	Max permissible 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)	5.5 N
27	Max. force for press fits (static)	100 N
	(static, shaft supported)	2000 N
28	Max. radial loading, 5 mm from flange	25 N

Other specifications

29	Number of pole pairs	1
30	Number of phases	3
31	Weight of motor	165 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

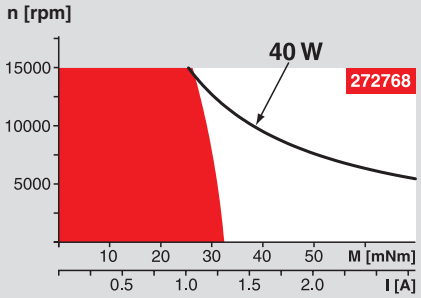
Connection Sensors (Cable AWG 26)

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 page 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.

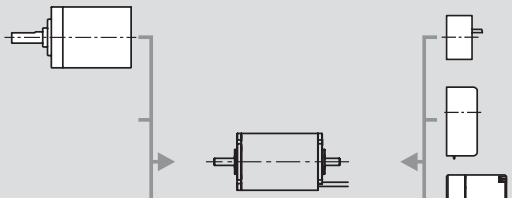
Short term operation
The motor may be briefly overloaded (recurring).

Assigned power rating

maxon Modular System

Overview on page 16 - 21

Planetary Gearhead
∅32 mm
1.0 - 6.0 Nm
Page 241



Encoder MR
128 - 1000 CPT,
3 channels
Page 258

Encoder HEDL 5540
500 CPT,
3 channels
Page 266

Brake AB 20
∅20 mm
24 VDC, 0.1 Nm
Page 306

Recommended Electronics:

DECS 50/5	Page 284
DEC 50/5	285
DECV 50/5	286
DES 50/5	287
EPOS 24/5	294
EPOS2 50/5	295
EPOS P 24/5	297
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