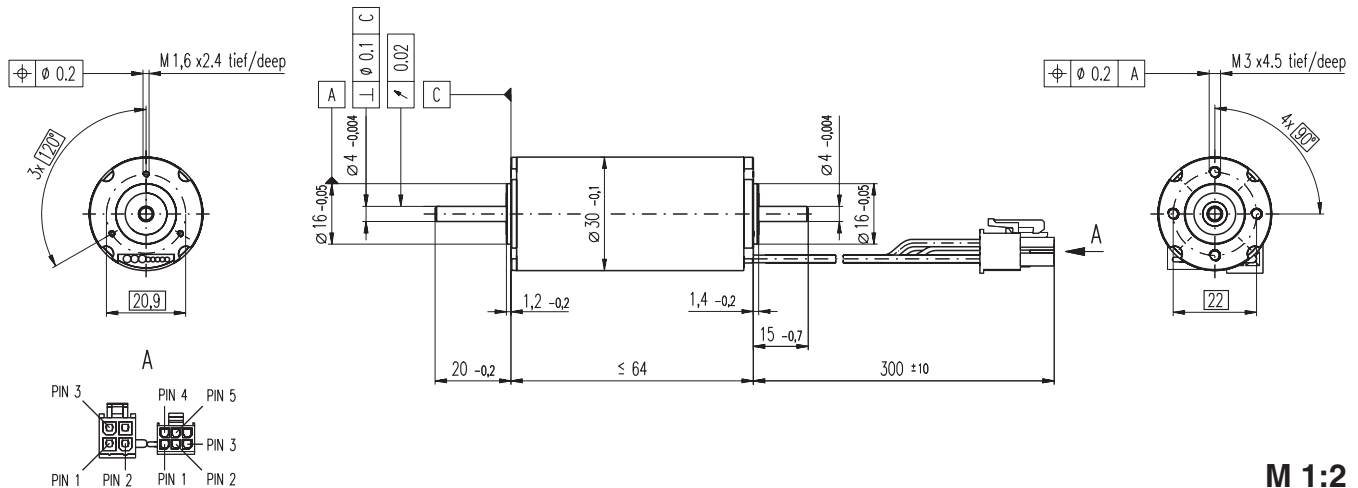


# EC-max 30 $\varnothing$ 30 mm, brushless, 60 Watt



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

## Order Number

272762    272763    272764    272765

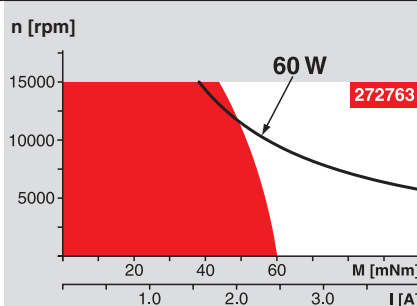
## Motor Data

Values at nominal voltage		272762	272763	272764	272765	
1	Nominal voltage	V	12.0	24.0	36.0	48.0
2	No load speed	rpm	7990	9350	9500	9360
3	No load current	mA	268	170	116	85.1
4	Nominal speed	rpm	6630	8040	8260	8120
5	Nominal torque (max. continuous torque)	mNm	62.4	61.3	64.7	65.3
6	Nominal current (max. continuous current)	A	4.61	2.66	1.90	1.41
7	Stall torque	mNm	381	458	522	519
8	Starting current	A	26.8	18.8	14.5	10.7
9	Max. efficiency	%	81	82	83	83
<b>Characteristics</b>						
10	Terminal resistance phase to phase	$\Omega$	0.447	1.27	2.48	4.49
11	Terminal inductance phase to phase	mH	0.0490	0.143	0.312	0.573
12	Torque constant	mNm / A	14.2	24.3	35.9	48.6
13	Speed constant	rpm / V	672	393	266	197
14	Speed / torque gradient	rpm / mNm	21.2	20.6	18.4	18.2
15	Mechanical time constant	ms	4.86	4.73	4.21	4.17
16	Rotor inertia	gcm <sup>2</sup>	21.9	21.9	21.9	21.9

## Specifications

<b>Thermal data</b>		
17	Thermal resistance housing-ambient	7.4 K / W
18	Thermal resistance winding-housing	0.5 K / W
19	Thermal time constant winding	2.69 s
20	Thermal time constant motor	1000 s
21	Ambient temperature	-20 ... +100°C
22	Max. permissible winding temperature	+155°C
<b>Mechanical data (preloaded ball bearings)</b>		
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) (static, shaft supported)	100 N
		1300 N
28	Max. radial loading, 5 mm from flange	25 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	1
30	Number of phases	3
31	Weight of motor	275 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 Sensoren (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> 4.5 ... 24 VDC	Pin 5
	N.C.	Pin 6

## Connector Article number

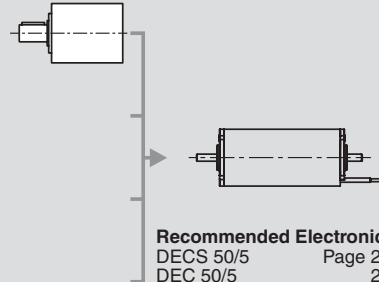
Molex 430-25-0600

Wiring diagram for Hall sensors see page 27

## maxon Modular System

Overview on page 16 - 21

**Planetary Gearhead**  
 $\varnothing$ 42 mm  
3 - 15 Nm  
Page 245



**Encoder MR**  
128 - 1000 CPT,  
3 channels  
Page 258

**Encoder HEDL 5540**  
500 CPT,  
3 channels  
Page 266

**Brake AB 20**  
 $\varnothing$ 20 mm  
24 VDC, 0.1 Nm  
Page 306

## Recommended Electronics:

DECS 50/5	Page 284
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DES 50/5	287
EPOS 24/5	294
EPOS2 50/5	295
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