

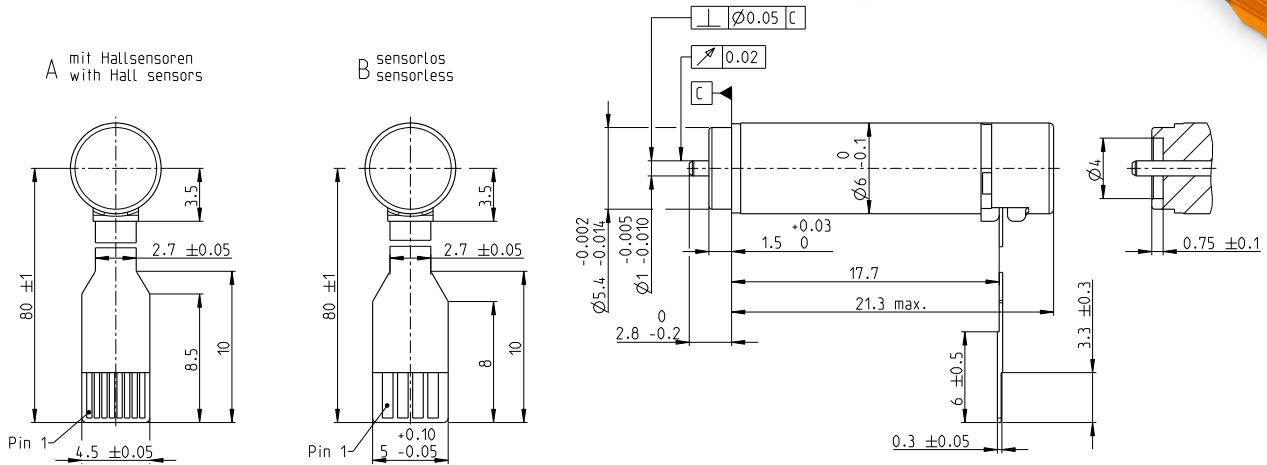
ECX SPEED 6 M $\varnothing 6$ mm, brushless, BLDC motor

High Power

Key Data: 2.0/4.0 W, 0.42 mNm, 100 000 rpm



ECX SPEED



M 2:1

Motor Data

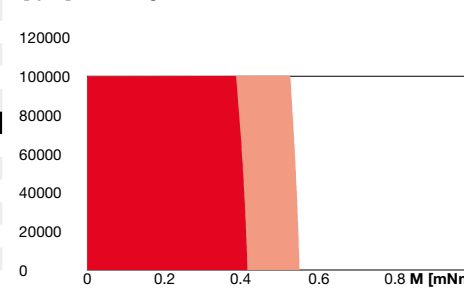
1_	Nominal voltage	V	3	6	12
2_	No load speed	rpm	74400	62700	63400
3_	No load current	mA	149	58.8	29.8
4_	Nominal speed	rpm	52300	44900	46800
5_	Nominal torque (max. continuous torque)	mNm	0.413	0.412	0.425
6_	Nominal current (max. continuous current)	A	1.24	0.517	0.268
7_	Stall torque	mNm	1.45	1.52	1.7
8_	Stall current	A	3.92	1.72	0.97
9_	Max. efficiency	%	65.5	66.9	68.5
10_	Terminal resistance	Ω	0.766	3.49	12.4
11_	Terminal inductance	mH	0.00529	0.0301	0.118
12_	Torque constant	mNm/A	0.37	0.882	1.75
13_	Speed constant	rpm/V	25800	10800	5460
14_	Speed/torque gradient	rpm/mNm	53400	42800	38500
15_	Mechanical time constant	ms	3.93	3.15	2.84
16_	Rotor inertia	gcm ²	0.00703	0.00703	0.00703

Thermal data

17_	Thermal resistance housing-ambient	K/W	65.8
18_	Thermal resistance winding-housing	K/W	13.2
19_	Thermal time constant winding	s	1.34
20_	Thermal time constant motor	s	70.4
21_	Ambient temperature	$^{\circ}$ C	-20...+100
22_	Max. winding temperature	$^{\circ}$ C	125

Operating Range

n [rpm] winding 6 V



Mechanical data ball bearings

23_	Max. speed	rpm	100 000
24_	Axial play	mm	0..0.07
	Preload	N	0.15
	Direction of force		pull
25_	Radial play		preloaded
26_	Max. axial load (dynamic)	N	0.1
27_	Max. force for press fits (static)	N	10
	(static, shaft supported)	N	11.0
28_	Max. radial load [mm from flange]	N	2 [2]

Other specifications

29_	Number of pole pairs	1	
30_	Number of phases	3	
31_	Weight of motor	g	3
32_	Typical noise level [rpm]	dBA 44 [50 000]	

maxon Modular System

maxon gear	Stages [opt.]	maxon sensor	maxon motor control
331_GPX 6 A	1-5	for motor type A: 443_ENX 6 MAG	510_EPOS4 Mod./Comp. 24/1.5

Details on catalog page 34.

Connection motor with hall sensor (A)

FPC Flexprint 8-pole, pitch 0.5 mm
 Pin 1 Motor winding 1
 Pin 2 Motor winding 2
 Pin 3 Motor winding 3
 Pin 4 V_{Hall} 2.5...5.5 VDC
 Pin 5 GND
 Pin 6 Hall sensor 1
 Pin 7 Hall sensor 2
 Pin 8 Hall sensor 3
 Output signals: CMOS compatible push-pull stage
 Output current per channel: max. 0.5 mA

Connection motor sensorless (B)

FPC flexprint 4-pole, pitch 1.0 mm:
 Pin 1 Motor winding 1
 Pin 2 Motor winding 2
 Pin 3 Motor winding 3
 Pin 4 N.C.

Configuration

Shaft front: length