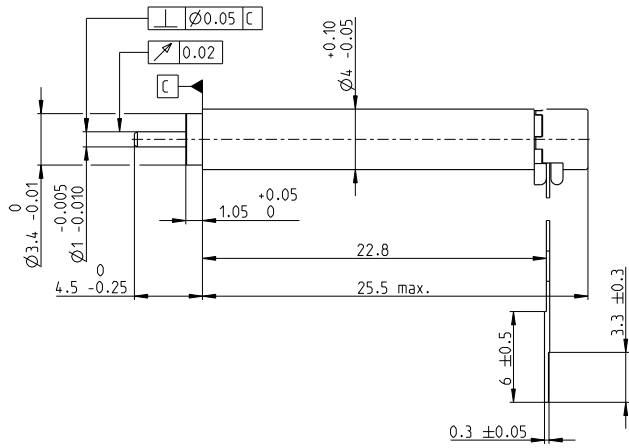
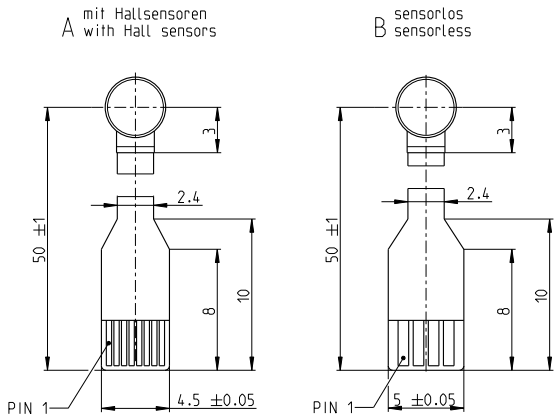


ECX SPEED 4 L Ø4 mm, brushless, BLDC motor

Key data: 1/1.6 W, 0.34 mNm, 50000 rpm



M 2:1

Motor data

1.	Nominal voltage	V	3	6
2.	No load speed	rpm	40700	30500
3.	No load current	mA	55.6	18.9
4.	Nominal speed	rpm	23000	13400
5.	Nominal torque	mNm	0.338	0.341
6.	Nominal current (max. continuous current)	A	0.545	0.206
7.	Stall torque	mNm	0.817	0.641
8.	Stall current	A	1.22	0.36
9.	Max. efficiency	%	62.6	60
10.	Terminal resistance	Ω	2.46	16.7
11.	Terminal inductance	mH	0.0458	0.323
12.	Torque constant	mNm/A	0.67	1.78
13.	Speed constant	rpm/V	14300	5360
14.	Speed/torque gradient	rpm/mNm	52300	50200
15.	Mechanical time constant	ms	0.903	0.867
16.	Rotor inertia	gcm ²	0.00165	0.00165

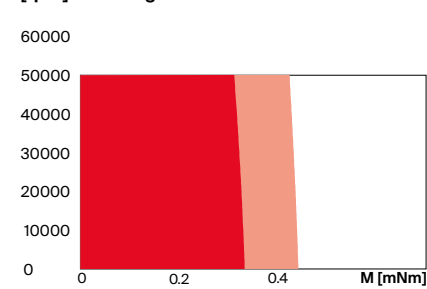
Thermal data

17.	Thermal resistance housing-ambient	K/W	84	
18.	Thermal resistance winding-housing	K/W	16.7	
19.	Thermal time constant winding	s	1.31	
20.	Thermal time constant motor	s	76.4	
21.	Ambient temperature	°C	-20 ... +80	
22.	Max. winding temperature	°C	125	

Mechanical data

23.	Max. speed	rpm	50000	
24.	Max. Axial play	mm	0.06	
	Preload	N	-	
	Direction of force		-	
25.	Radial play		0.012	
26.	Max. axial load (dynamic)	N	0.1	
27.	Max. force for press fits (static)	N	5	
	(static, shaft supported)	N	10	
28.	Max. radial load [mm from flange]	N	0.2 [2]	

Operating range



- Continuous operation
- Continuous operation with reduced thermal resistance R_{th2} 50%
- Short term operation

Other specifications

29.	Number of pole pairs	1			
30.	Number of phases	3			
31.	Weight of motor	g	1.8		
32.	Typical noise level [rpm]	dBA	47 [50000]		

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/diameter
Electrical connection: Flex cable/round cable

Details on catalog page 44

Modular system

Gear	Stages [opt.]	Sensor	Motor Control
370_GPX 4 C	2-4	for motor type A: 493_ENX 4 MAG	564_EPOS4 Module 24/1.5 566_EPOS4 Compact 24/1.5