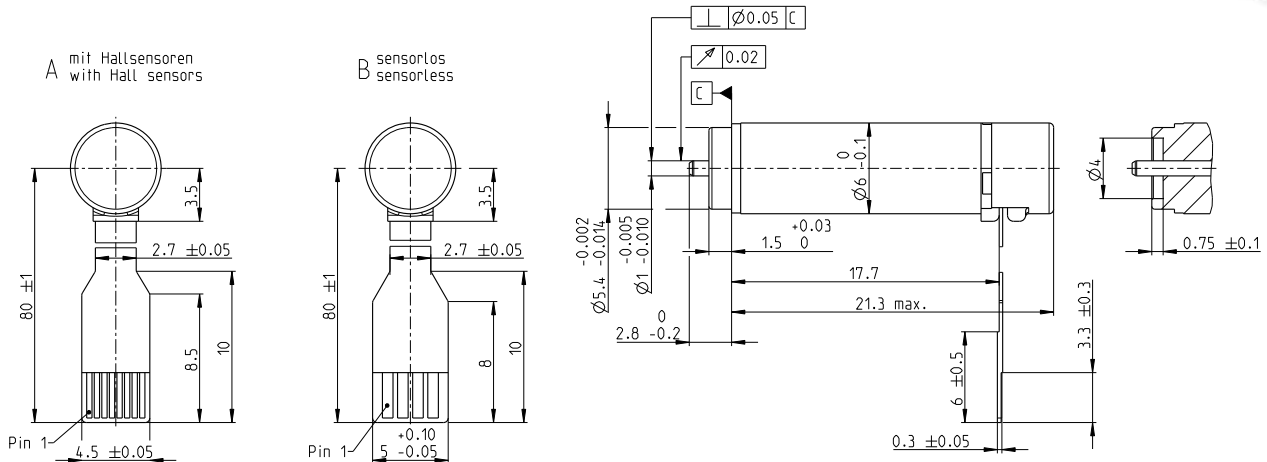


ECX SPEED 6 M Ø6 mm, brushless, BLDC motor

High Power

Key data: 2/4 W, 0.42 mNm, 100 000 rpm



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	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	%	65.7	67.1	68.7
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

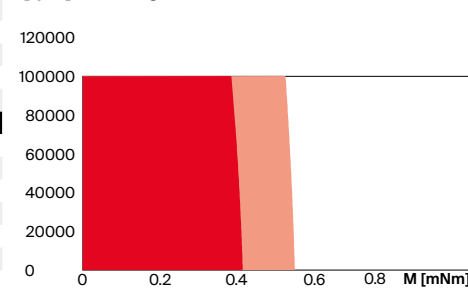
17. Thermal resistance housing-ambient	K/W	65.8
18. Thermal resistance winding-housing	K/W	13.2
19. Thermal time constant winding	s	1.34
20. Thermal time constant motor	s	70.4
21. Ambient temperature	°C	-20...+100
22. Max. winding temperature	°C	125

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	110
28. Max. radial load [mm from flange]	N	2 [2]

Operating range

n [rpm] winding 6 V



- 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 3
32. Typical noise level [rpm]	dBA 44 [50 000]

Modular system

Gear	Stages [opt.]	Sensor
371_GPX 6 A	1-5	for motor type A: 494_ENX 6 MAG

Details on catalog page 44

Motor Control
564_EPOS4 Module 24/1.5
566_EPOS4 Compact 24/1.5

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
Electrical connection: Flexprint/pins (on request)