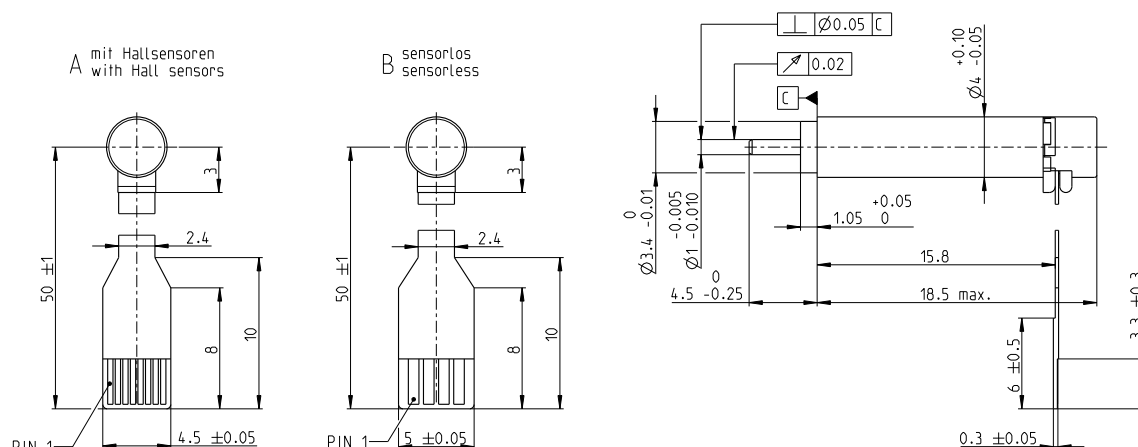


ECX SPEED 4 M Ø4 mm, brushless, BLDC motor

Key Data: 0.5/1.0 W, 0.23 mNm, 50 000 rpm



ECX SPEED



M 2:1

Motor Data

1. Nominal voltage	V	3	6
2. No load speed	rpm	35300	35400
3. No load current	mA	28.8	14.4
4. Nominal speed	rpm	12100	13400
5. Nominal torque	mNm	0.229	0.239
6. Nominal current (max. continuous current)	A	0.322	0.167
7. Stall torque	mNm	0.367	0.403
8. Stall current	A	0.481	0.264
9. Max. efficiency	%	58.1	59.7
10. Terminal resistance	Ω	6.23	22.8
11. Terminal inductance	mH	0.0749	0.285
12. Torque constant	mNm/A	0.763	1.53
13. Speed constant	rpm/V	12500	6240
14. Speed/torque gradient	rpm/mNm	102000	92900
15. Mechanical time constant	ms	1.19	1.08
16. Rotor inertia	gcm ²	0.00111	0.00111

Thermal data

17. Thermal resistance housing-ambient	K/W	96.7
18. Thermal resistance winding-housing	K/W	15.2
19. Thermal time constant winding	s	0.738
20. Thermal time constant motor	s	58.5
21. Ambient temperature	°C	-20 ... +80
22. Max. winding temperature	°C	125

Mechanical data

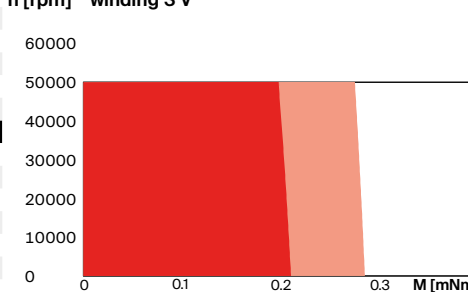
23. Max. speed	rpm	50 000
24. Max. axial play	mm	0.06
Preload	N	-
Direction of force	-	-
25. Radial play		0.012
26. Max. axial load (dynamic)	N	0.1
27. Max. force for press fits (static)	N	10
(static, shaft supported)	N	10
28. Max. radial load [mm from flange]	N	0.2 [2]

Other specifications

29. Number of pole pairs	1
30. Number of phases	3
31. Weight of motor	g 1.2
32. Typical noise level [rpm]	dBA 46 [50 000]

Operating Range

n [rpm] winding 3 V



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

Modular System

Details on catalog page 40

29. Number of pole pairs	1	356_GPX 4 C	2-4	Sensor for motor type A: 468_ENX 4 MAG	Motor Control 542_EPOS4 Module 24/1.5 544_EPOS4 Compact 24/1.5
30. Number of phases	3				
31. Weight of motor	g 1.2				
32. Typical noise level [rpm]	dBA 46 [50 000]				

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

Configuration

Shaft front: length/diameter

Electrical connection: Flex cable/round cable

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.

xdrives.maxongroup.com