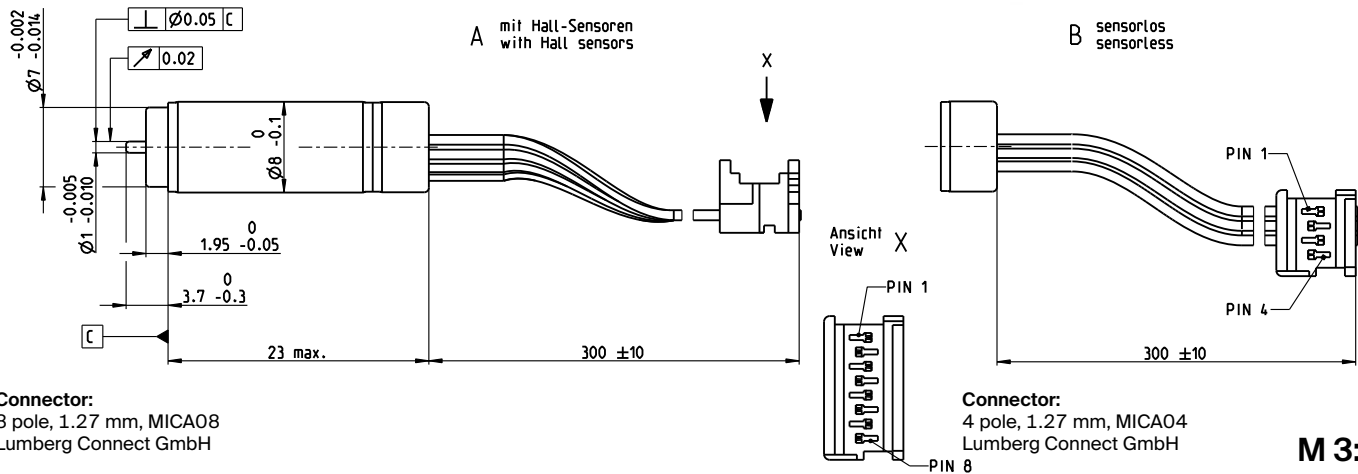


# ECX SPEED 8 M $\varnothing 8$ mm, brushless, BLDC motor

Key Data: 2/4.7 W, 0.98 mNm, 50 000 rpm



ECX SPEED



**Connector:**  
8 pole, 1.27 mm, MICA08  
Lumberg Connect GmbH

**Connector:**  
4 pole, 1.27 mm, MICA04  
Lumberg Connect GmbH

**M 3:2**

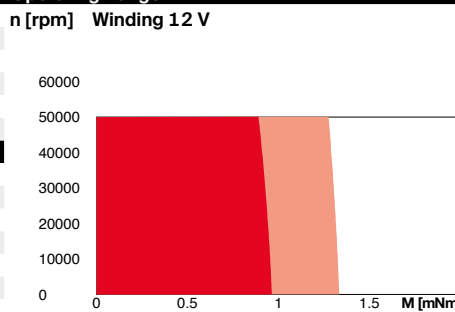
**Motor Data**

1_	Nominal voltage	V	6	12	24
2_	No load speed	rpm	35400	43300	42200
3_	No load current	mA	105	69.0	33.2
4_	Nominal speed	rpm	24200	33100	32300
5_	Nominal torque (max. continuous torque)	mNm	0.917	0.874	0.877
6_	Nominal current (max. continuous current)	A	0.687	0.406	0.198
7_	Stall torque	mNm	3.04	3.88	3.92
8_	Stall current	A	1.98	1.54	0.755
9_	Max. efficiency	%	61	63	64
10_	Terminal resistance	$\Omega$	3.02	7.8	31.8
11_	Terminal inductance	mH	0.039	0.106	0.447
12_	Torque constant	mNm/A	1.53	2.51	5.19
13_	Speed constant	rpm/V	6230	3780	1840
14_	Speed/torque gradient	rpm/mNm	12300	11700	11300
15_	Mechanical time constant	ms	3.21	3.06	2.95
16_	Rotor inertia	gcm <sup>2</sup>	0.0249	0.0249	0.0249

**Thermal data**

17_	Thermal resistance housing-ambient	K/W	51.2
18_	Thermal resistance winding-housing	K/W	3.5
19_	Thermal time constant winding	s	0.811
20_	Thermal time constant motor	s	154
21_	Ambient temperature	°C	-20...+85
22_	Max. winding temperature	°C	+125

**Operating Range**



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

**Mechanical data ball bearings**

23_	Max. speed	rpm	50 000
24_	Axial play	mm	0...0.07
	Preload	N	0.3
	Direction of force		pull
25_	Radial play		preloaded
26_	Max. axial load (dynamic)	N	0.2
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	6
32_	Typical noise level [rpm]	dBA	49 [50 000]

**maxon Modular System**

<b>maxon gear</b>	Stages [opt.]	<b>maxon sensor</b>	<b>maxon motor control</b>
332_GPX 8 A	1-5	for motor type A: 444_ENX 8 MAG	500_ESCON Module 24/2 501_ESCON 36/3 EC
		for motor type A + B: 445_ENX 8 EASY INT 446_ENX 8 EASY INT Abs.	501_ESCON Module 50/4 EC-S 505_DEC Module 24/2 510_EPOS4 Mod./Comp. 24/1.5

Details on catalog page 34.

**Connection A (flat band cable AWG 28, pitch 1.27 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 signal: CMOS compatible  
 Output current per channel: max 0.5 mA

**Connection B (flat band cable AWG 28, pitch 1.27 mm)**

Pin 1 Motor winding 1  
 Pin 2 Motor winding 2  
 Pin 3 Motor winding 3  
 Pin 4 N.C.

**Configuration**

Shaft front: length  
 Electric connection: flex or cable, cable length  
 Cable insulation: PVC/PO/FEP

<sup>1</sup> For type A:  
 PVC-cable (-20...85°C)  
 PO- and FEP cable (-30...85°C)  
 For type B:  
 PVC-cable (-20...100°C)  
 PO- and FEP cable (-40...100°C)

Cable and plug configuration: Adapter Micromotor (Part number 498157) required for all maxon controllers.