

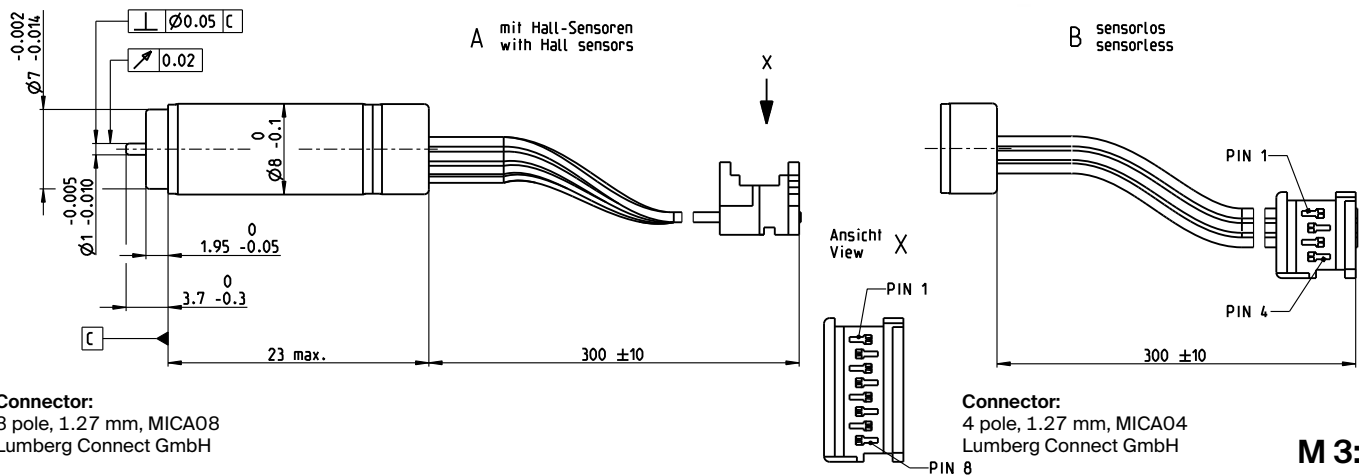
# ECX SPEED 8 M $\varnothing 8$ mm, brushless, BLDC motor

High Power

Key Data: 3/6 W, 1.26 mNm, 50 000 rpm



ECX SPEED



M 3:2

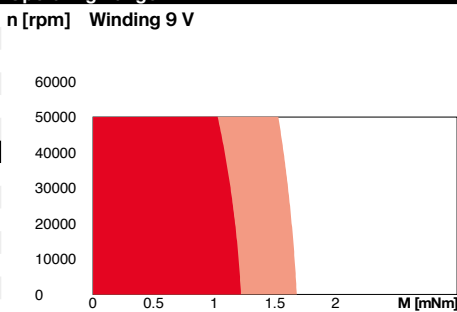
### Motor Data

		6	9	12
1_ Nominal voltage	V	6	9	12
2_ No load speed	rpm	35500	29100	30500
3_ No load current	mA	128	63.4	50.9
4_ Nominal speed	rpm	26700	21200	22800
5_ Nominal torque (max. continuous torque)	mNm	1.23	1.26	1.26
6_ Nominal current (max. continuous current)	A	0.902	0.497	0.391
7_ Stall torque	mNm	5.18	4.83	5.18
8_ Stall current	A	3.34	1.7	1.43
9_ Max. efficiency	%	66	66	67
10_ Terminal resistance	$\Omega$	1.8	5.3	8.38
11_ Terminal inductance	mH	0.026	0.089	0.144
12_ Torque constant	mNm/A	1.55	2.84	3.62
13_ Speed constant	rpm/V	6160	3360	2640
14_ Speed/torque gradient	rpm/mNm	7130	6260	6110
15_ Mechanical time constant	ms	1.86	1.64	1.6
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	4.11
19_ Thermal time constant winding	s	0.874
20_ Thermal time constant motor	s	154
21_ Ambient temperature	$^{\circ}$ C	-20...+85
22_ Max. winding temperature	$^{\circ}$ C	+125

### Operating Range



### 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	110
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]

### 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 <sub>Hall</sub> 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.

### maxon Modular System

maxon gear	Stages [opt.]	maxon sensor	maxon motor control
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.

### 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 $^{\circ}$ C)  
PO- and FEP cable (-30...85 $^{\circ}$ C)  
For type B:  
PVC-cable (-20...100 $^{\circ}$ C)  
PO- and FEP cable (-40...100 $^{\circ}$ C)

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

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