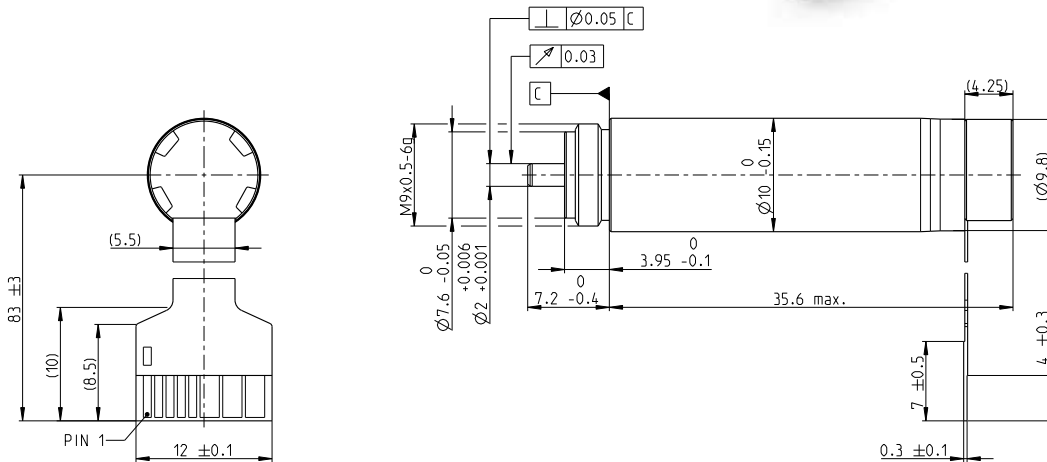


ECX SPEED 10 L Ø10 mm, brushless, BLDC motor

High Power

Key Data: 16/19.1 W, 3.3 mNm, 65 000 rpm

NEW



M 3:2

Motor data

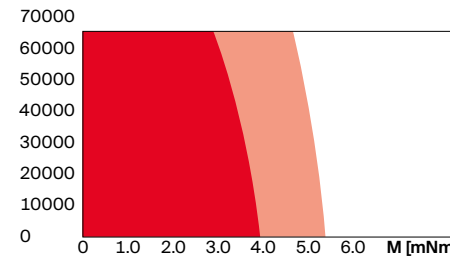
1_	Nominal voltage	V	12	24	36
2_	No load speed	rpm	56100	56100	56200
3_	No load current	mA	163	81.4	54.3
4_	Nominal speed	rpm	50500	51400	51600
5_	Nominal torque	mNm	3.34	3.31	3.38
6_	Nominal current (max. continuous current)	A	1.79	0.889	0.604
7_	Stall torque	mNm	36.5	42.9	46.1
8_	Stall current	A	18	10.6	7.59
9_	Max. efficiency	%	82	84	84
10_	Terminal resistance	Ω	0.666	2.27	4.74
11_	Terminal inductance	mH	0.0214	0.0855	0.192
12_	Torque constant	mNm/A	2.02	4.05	6.07
13_	Speed constant	rpm/V	4720	2360	1570
14_	Speed/torque gradient	rpm/mNm	1550	1320	1230
15_	Mechanical time constant	ms	5.67	4.83	4.49
16_	Rotor inertia	gcm ²	0.349	0.349	0.349

Thermal data

17_	Thermal resistance housing-ambient	K/W	31.4
18_	Thermal resistance winding-housing	K/W	3.39
19_	Thermal time constant winding	s	2.35
20_	Thermal time constant motor	s	187
21_	Ambient temperature	°C	-20 ... +100
22_	Max. winding temperature	°C	155

Mechanical data ball bearings

23_	Max. speed	rpm	65 000
24_	Axial play	mm	0 ... 0.28
	Preload	N	0.4
	Direction of force		pull
25_	Radial play	preloaded	
26_	Max. axial load (dynamic)	N	0.4
27_	Max. force for press fits (static)	N	5.9
	(static, shaft supported)	N	400
28_	Max. radial load [mm from flange]	N	6.0 [5]



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

Other specifications

29_	Number of pole pairs	1	373_GPX 10 A	1-5	496_ENX 10 MAG INT	547_DEC Module 24/2
30_	Number of phases	3	374_GPX 12 A/C	1-4		550_ESCON Module 24/2
31_	Weight of motor	g	20	375_GPX 12 LN/LZ	1-4	551_ESCON 36/3 EC
32_	Typical noise level [rpm]	dBA	53 [50 000]	376_GPX 12 HP	2-4	557_ESCON2 Nano 24/2

Connection flexprint cable (FPC)

Pin 1 V_{CC} 3.3 ... 6.0 V
 Pin 2 Hall sensor 3
 Pin 3 Hall sensor 1
 Pin 4 Hall sensor 2
 Pin 5 GND
 Pin 6 Motor winding 3
 Pin 7 Motor winding 2
 Pin 8 Motor winding 1
 Output signals: CMOS compatible push-pull stage
 Signal voltage, high: 3.3 V
 Hall signals are generated by the MAG sensor.

Possible matching connectors for the FPC connection:
 11-pole, 1.0 mm pitch, e.g., Molex 52207-1185
 Available maxon adapter connectors: 220300, 418719

Configuration

Front flange: Center thread/without thread
 Shaft, front: Length/diameter

Details on catalog page 44