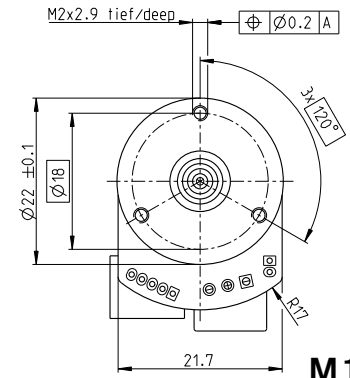
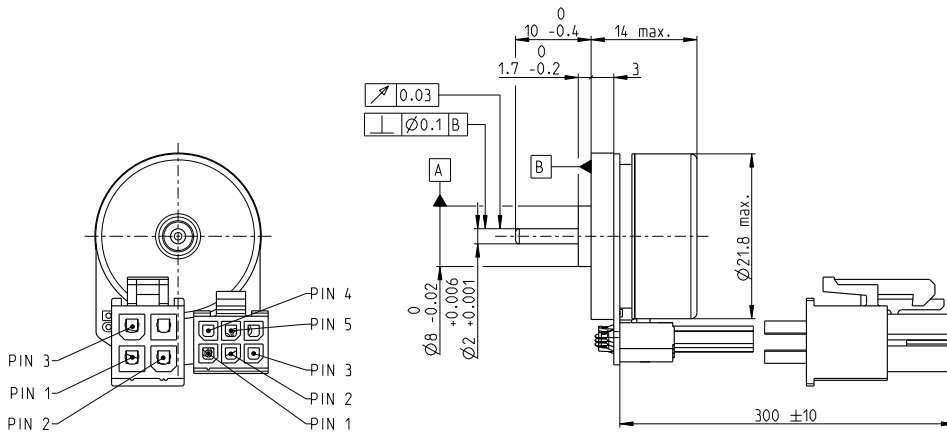


ECX FLAT 22 S Ø22 mm, brushless, BLDC motor

Key data: 4.5/9.8 W, 7.99 mNm, 15 000 rpm



ECX FLAT



M 1:1

Motor data

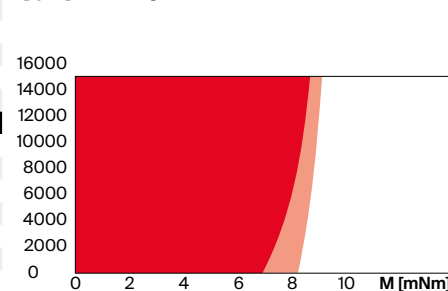
1_	Nominal voltage	V	9	18
2_	No load speed	rpm	10100	10600
3_	No load current	mA	60.5	32.7
4_	Nominal speed	rpm	5240	5650
5_	Nominal torque	mNm	7.95	7.99
6_	Nominal current (max. continuous current)	A	0.977	0.514
7_	Stall torque ¹	mNm	22.7	23.7
8_	Stall current	A	2.84	1.57
9_	Max. efficiency	%	67.2	67.5
10_	Terminal resistance	Ω	3.16	11.5
11_	Terminal inductance	mH	0.6	2.18
12_	Torque constant	mNm/A	8.23	15.7
13_	Speed constant	rpm/V	1160	610
14_	Speed/torque gradient	rpm/mNm	447	446
15_	Mechanical time constant	ms	31.3	31.3
16_	Rotor inertia	gcm ²	6.7	6.7

Thermal data

17_	Thermal resistance housing-ambient	K/W	7.82
18_	Thermal resistance winding-housing	K/W	9.6
19_	Thermal time constant winding	s	6.47
20_	Thermal time constant motor	s	18.7
21_	Ambient temperature	°C	-40...+100
22_	Max. winding temperature	°C	125

Operating range

n [rpm] winding 9 V



Mechanical data ball bearings

23_	Max. speed	rpm	15 000
24_	Axial play at axial load	< 1.5 N	0 mm
		> 1.5 N	0.14 mm
	Direction of force		pull
25_	Radial play	preloaded	2000
26_	Max. axial load (dynamic)	N	1.8
27_	Max. force for press fits (static)	N	26
	(static, shaft supported)	N	200
28_	Max. radial load [mm from flange]	N	3.5 [5]

Other specifications

29_	Number of pole pairs	6
30_	Number of phases	3
31_	Weight of motor	g 28.2

Connections, motor (cable AWG 22)

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

Connector, Part number

Molex, 39-01-2040

Connections, sensors (cable AWG 28)

Pin 1 Hall sensor 1
Pin 2 Hall sensor 3
Pin 3 Hall sensor 3
Pin 4 GND
Pin 5 V_{Hall} 3.5...24 VDC
Pin 6 N.C.

Connector, Part number

Molex, 43025-0600

Circuit diagram for Hall sensors see page 69.

¹Calculation does not include saturation effect (p. 83/190)

Modular system

Gear	Stages [opt.]	Sensor
390_GPX 22 A/C	1-4	490_ENX 22 MILE
391_GPX 22 LN/LZ	1-4	
392_GPX 22 HP	2-4	
394_GPX 22 UP	1-4	
396_GPX 26 A/C	3	
397_GPX 26 LN/LZ	3	
398_GPX 26 HP	4	

Details on catalog page 44

Motor Control

547_DEC Module 24/2
547_DEC Module 50/5
550_ESCON Module 24/2
551_ESCON 36/3 EC
551_ESCON Module 50/5
553_ESCON 50/5
557_ESCON2 Nano 24/2
557_ESCON2 Micro 60/5
563_EPOS4 Micro 24/5 CAN
563_EPOS4 Micro 24/5 EtherCAT
564_EPOS4 Module 24/1.5
564_EPOS4 Module 50/5
565_Compact 24/5 EtherCAT 3-axes
566_EPOS4 Compact 24/1.5
567_EPOS4 Compact 50/5
569_EPOS4 50/5

Configuration

Flange: Standard flange/aluminum flange
Shaft, front: Length/shaft shoulder/faces
Shaft, rear: Length/shaft shoulder