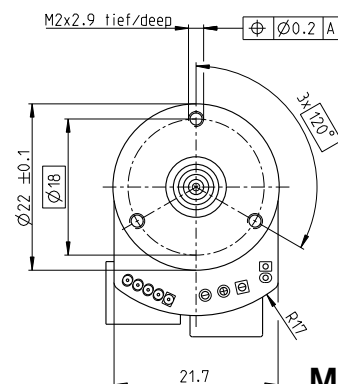
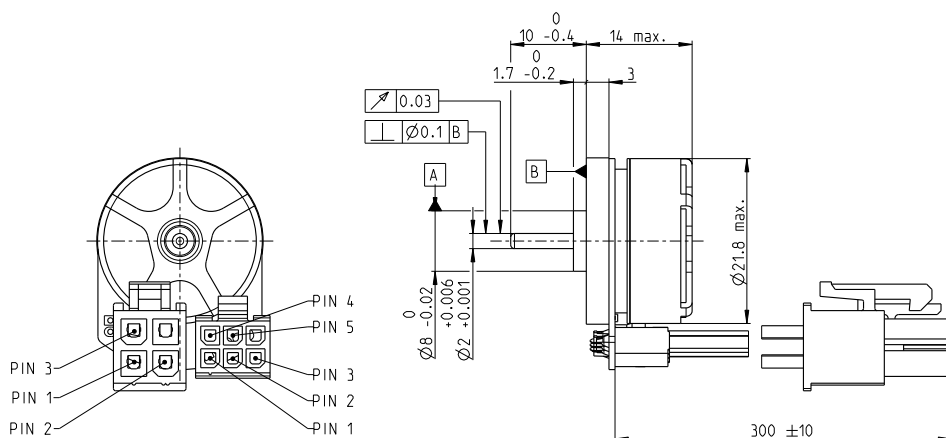


ECX FLAT 22 S Ø22 mm, brushless, BLDC motor

High Torque

Key data: 17/23.7 W, 15.5 mNm, 15 000 rpm



M 1:1

Motor data

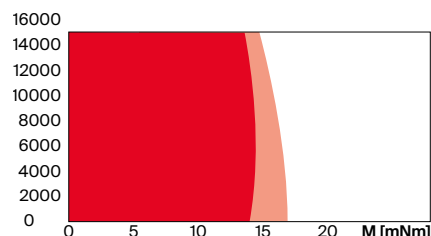
1_	Nominal voltage	V	12	18	24
2_	No load speed	rpm	13300	12100	12600
3_	No load current	mA	122	69.4	55.7
4_	Nominal speed	rpm	10300	9200	9650
5_	Nominal torque	mNm	15.1	15.5	15
6_	Nominal current (max. continuous current)	A	1.75	1.08	0.823
7_	Stall torque ¹	mNm	64.5	63.2	63.1
8_	Stall current	A	11.3	6.51	5.08
9_	Max. efficiency	%	80.7	80.8	80.5
10_	Terminal resistance	Ω	1.06	2.77	4.73
11_	Terminal inductance	mH	0.158	0.431	0.706
12_	Torque constant	mNm/A	8.47	14	17.9
13_	Speed constant	rpm/V	1130	682	533
14_	Speed/torque gradient	rpm/mNm	141	135	141
15_	Mechanical time constant	ms	7.15	6.82	7.13
16_	Rotor inertia	gcm ²	4.84	4.84	4.84

Thermal data

17_	Thermal resistance housing-ambient	K/W	9.66
18_	Thermal resistance winding-housing	K/W	12.6
19_	Thermal time constant winding	s	9.94
20_	Thermal time constant motor	s	23.1
21_	Ambient temperature	°C	-40...+100
22_	Max. winding temperature	°C	155

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	0
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]



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

Other specifications

29_	Number of pole pairs	6
30_	Number of phases	3
31_	Weight of motor	g 26.4

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

Configuration

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

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