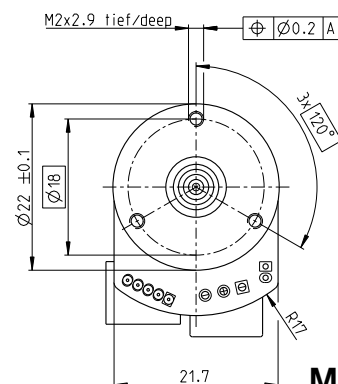
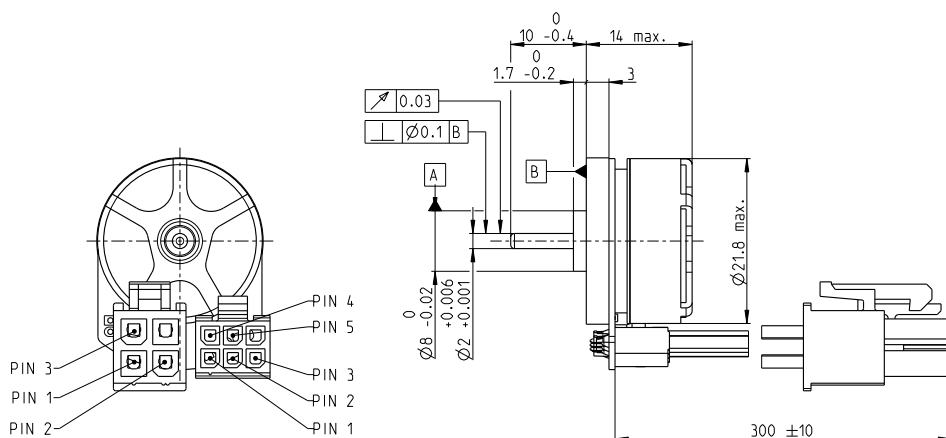


ECX FLAT 22 S Ø22 mm, brushless, BLDC motor

High Torque

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



M 1:1

Motor data

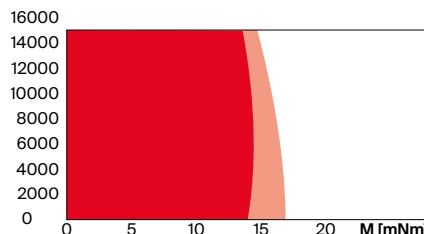
1. Nominal voltage	V	12	18	24
2. No load speed	rpm	13300	12100	12600
3. No load current	mA	122	69.4	55.7
4. Nominal speed	rpm	10300	9200	9650
5. Nominal torque	mNm	15.1	15.5	15
6. Nominal current (max. continuous current)	A	1.75	1.08	0.823
7. Stall torque ¹	mNm	64.5	63.2	63.1
8. Stall current	A	11.3	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

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