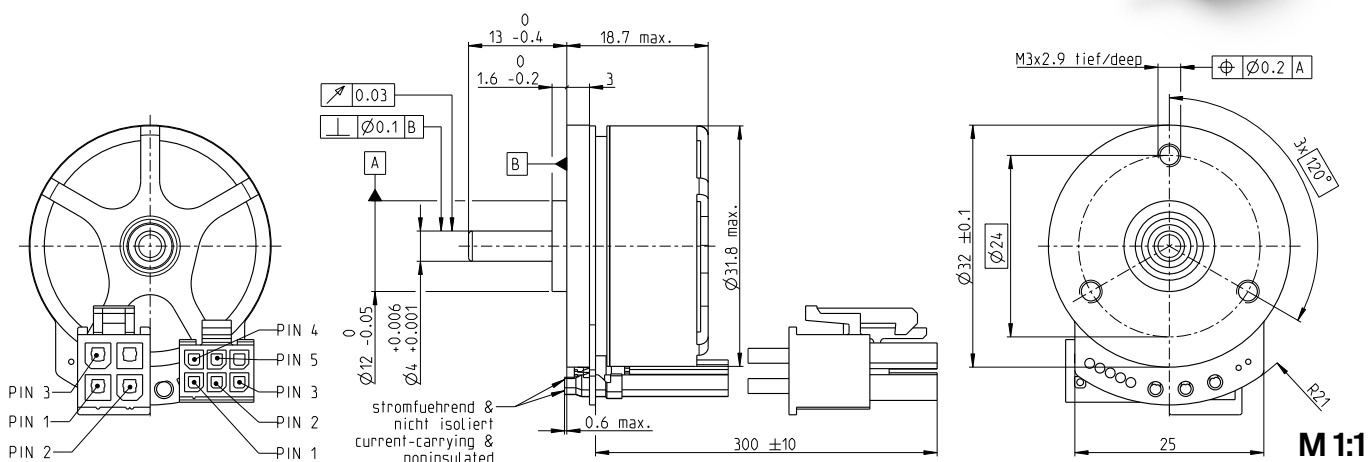


ECX FLAT 32 L Ø32 mm, brushless, BLDC motor

High Torque

Key data: 100/168 W, 106 mNm, 14 000 rpm



M 1:1

Motor data

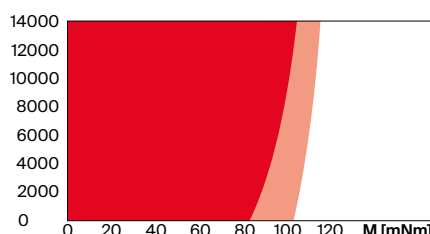
1. Nominal voltage	V	18	24	36	48
2. No load speed	rpm	10600	10600	12800	13800
3. No load current	mA	238	179	161	138
4. Nominal speed	rpm	8070	8100	9870	10700
5. Nominal torque	mNm	94.4	103	105	106
6. Nominal current (max. continuous current)	A	5.25	4.24	3.46	2.81
7. Stall torque ¹	mNm	407	438	473	488
8. Stall current	A	55.7	51.6	51.1	44.9
9. Max. efficiency	%	87.4	88.5	89	89.2
10. Terminal resistance	Ω	0.323	0.465	0.705	1.07
11. Terminal inductance	mH	0.191	0.339	0.53	0.805
12. Torque constant	mNm/A	16	21.3	26.6	32.8
13. Speed constant	rpm/V	598	448	359	291
14. Speed/torque gradient	rpm/mNm	12.1	9.79	9.5	9.47
15. Mechanical time constant	ms	3.89	3.15	3.05	3.04
16. Rotor inertia	gcm ²	30.7	30.7	30.7	30.7

Thermal data

17. Thermal resistance housing-ambient	K/W	4.31
18. Thermal resistance winding-housing	K/W	3.1
19. Thermal time constant winding	s	12.3
20. Thermal time constant motor	s	153
21. Ambient temperature	°C	-40...+100
22. Max. winding temperature	°C	155

Operating range

n [rpm] winding 24 V



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

Mechanical data ball bearings

23. Max. speed	rpm	14000
24. Axial play at axial load		
	< 4 N	0 mm
	> 4 N	0.14 mm
Direction of force		pull
25. Radial play	preloaded	
26. Max. axial load (dynamic)	N	4
27. Max. force for press fits (static)	N	45
(static, shaft supported)	N	1000
28. Max. radial load [mm from flange]	N	12 [5]

Other specifications

29. Number of pole pairs	6
30. Number of phases	3
31. Weight of motor	g 71.2

Connections, motor (cable AWG 20)

- 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 2
- Pin 3 Hall sensor 3
- Pin 4 GND
- Pin 5 V_{Hall} 2.7...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
399_GPX 32 A/C	1-3	491_ENX 32 MILE
400_GPX 32 LN/LZ	1-3	
401_GPX 32 HP	2-4	
402_GPX 32 UP	1-4	
403_GPX 37 A	3	
404_GPX 37 LN/LZ	3	

Details on catalog page 44

Motor Control

- 547_DEC Module 50/5
- 551_ESCON 36/3 EC
- 551_ESCON Module 50/5
- 553_ESCON 50/5
- 553_ESCON 70/10
- 557_ESCON2 Micro 60/5
- 563_EPOS4 Micro 24/5 CAN
- 563_EPOS4 Micro 24/5 EtherCAT
- 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