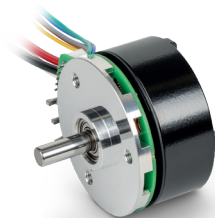


ECX FLAT 32 L Ø32 mm, brushless, BLDC motor

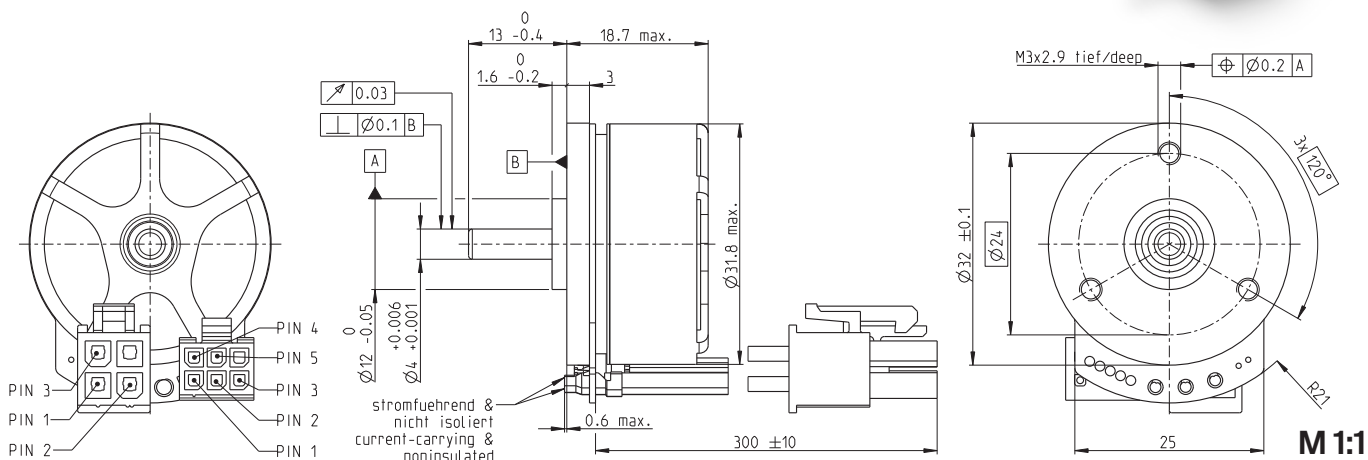
High Torque

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



Flat Motors

Brushless
DC Motors (BLDC)



M 1:1

Motor data

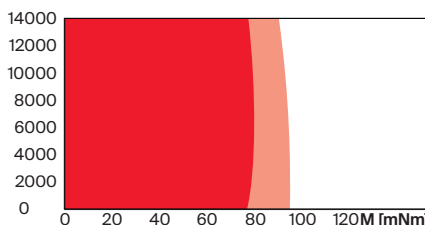
1.	Nominal voltage	V	18	24	36	48
2.	No load speed	rpm	10600	10600	12800	13800
3.	No load current	mA	245	184	166	143
4.	Nominal speed	rpm	8200	8220	10000	10900
5.	Nominal torque	mNm	90.1	98.5	100	99.7
6.	Nominal current (max. continuous current)	A	5.18	4.19	3.41	2.76
7.	Stall torque	mNm	502	540	580	598
8.	Stall current	A	55.7	51.6	51.1	44.9
9.	Max. efficiency	%	85.3	86.4	86.7	86.7
10.	Terminal resistance	Ω	0.323	0.465	0.705	1.07
11.	Terminal inductance	mH	0.179	0.318	0.497	0.756
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

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]



- 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 71

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 73.

Modular system

Gearheads	Stages [opt.]	Sensors	Control Electronics
360_GPX 32 A/C	1-2 [3]	407_ENX 32 MILE	443_DEC Module 50/5
361_GPX 32 LN/LZ	1-2 [3]		447_ESCON2 Micro 60/5
362_GPX 32 HP	2-3 [4]		449_ESCON2 Compact 60/5
363_GPX 32 UP	1-4		450_ESCON2 60/12
364_GPX 37 A	3		454_EPOS4 Micro 24/5 CAN
365_GPX 37 LN/LZ	3		454_EPOS4 Micro 24/5 EtherCAT
391_GSW 30 HP			455_EPOS4 Module 50/5
			457_Compact 24/5 EtherCAT 3-axes
			457_EPOS4 Compact 24/1.5
			458_EPOS4 Compact 50/5
			461_EPOS4 50/5

Configuration

Flange: standard flange
Shaft, front: length/shaft shoulder/faces
Shaft, rear: length/shaft shoulder