

ECX FLAT 42 S $\varnothing 42$ mm, brushless, BLDC motor

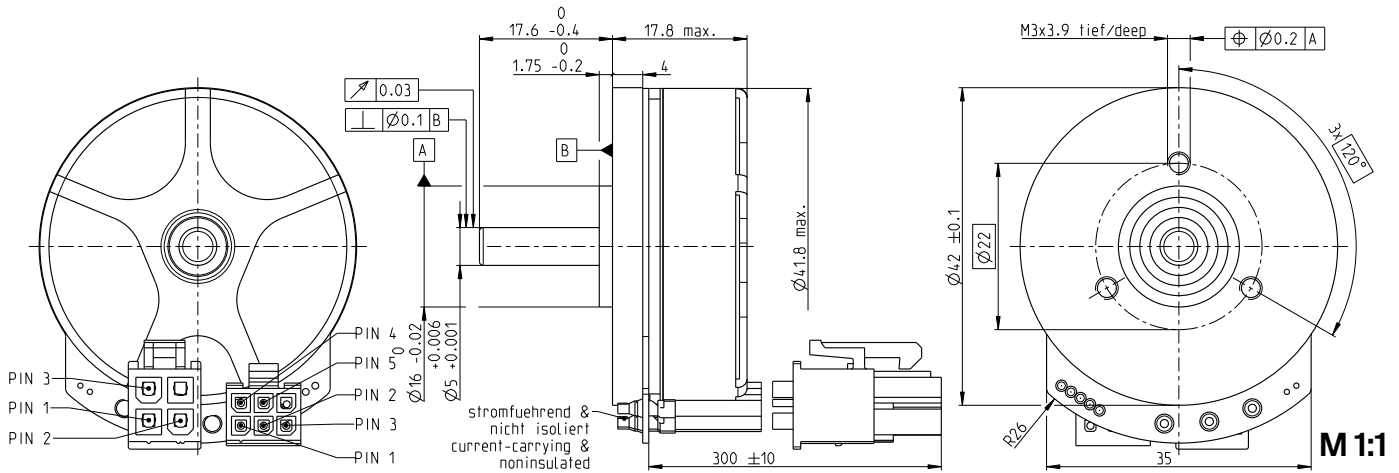
High Torque

Key Data: 100/131 W, 125 mNm, 10000 rpm

NEW



ECX FLAT



Motor Data

1_	Nominal voltage	V	48
2_	No load speed	rpm	8760
3_	No load current	mA	143
4_	Nominal speed	rpm	7020
5_	Nominal torque	mNm	133
6_	Nominal current (max. continuous current)	A	2.57
7_	Stall torque	mNm	632
8_	Stall current	A	34.1
9_	Max. efficiency	%	80.0
10_	Terminal resistance	Ω	1.41
11_	Terminal inductance	mH	0.807
12_	Torque constant	mNm/A	51.7
13_	Speed constant	rpm/V	185
14_	Speed/torque gradient	rpm/mNm	5.02
15_	Mechanical time constant	ms	3.43
16_	Rotor inertia	gcm ²	65.3

Thermal data

17_	Thermal resistance housing-ambient	K/W	2.19
18_	Thermal resistance winding-housing	K/W	3.55
19_	Thermal time constant winding	s	16.5
20_	Thermal time constant motor	s	121
21_	Ambient temperature	$^{\circ}$ C	-40...+100
22_	Max. winding temperature	$^{\circ}$ C	155

Mechanical data ball bearings

23_	Max. speed	rpm	12000
24_	Axial play at axial load		
		< 6 N	0 mm
		> 6 N	0.14 mm
	Direction of force		pull
25_	Radial play		preloaded
26_	Max. axial load (dynamic)	N	6
27_	Max. force for press fits (static)	N	86
	(static, shaft supported)	N	1300
28_	Max. radial load [mm from flange]	N	35 [5]

Other specifications

29_	Number of pole pairs	8	
30_	Number of phases	3	
31_	Weight of motor	g	106

Connections, motor (cable AWG 18)

- 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

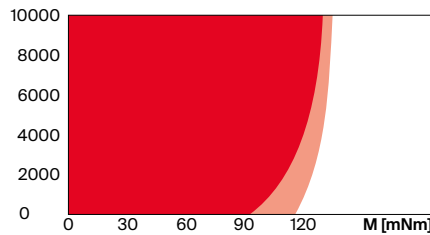
Circuit diagram for Hall sensors see page 67.

No pull-up resistor required.

Output signals: CMOS compatible push-pull stage.

Operating Range

n [rpm] winding 24 V



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

Modular System

Details on catalog page 42

Other specifications	Gear	Stages [opt.]	Sensor	Motor Control
29_ Number of pole pairs	8 409_GPX 42 C	1-4	496_ENX 42 MILE	547_DEC Module 50/5
30_ Number of phases	3 409_GPX 42 UP	1-4		551_ESCON 36/3 EC
31_ Weight of motor				551_ESCON Module 50/5
				553_ESCON 50/5
				553_ESCON 70/10
				561_EPOS4 Micro 24/5 CAN
				561_EPOS4 Micro 24/5 EtherCAT
				562_EPOS4 Module 50/5
				563_Compact 24/5 EtherCAT 3-axes
				565_EPOS4 Compact 50/5
				567_EPOS4 50/5

Configuration

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