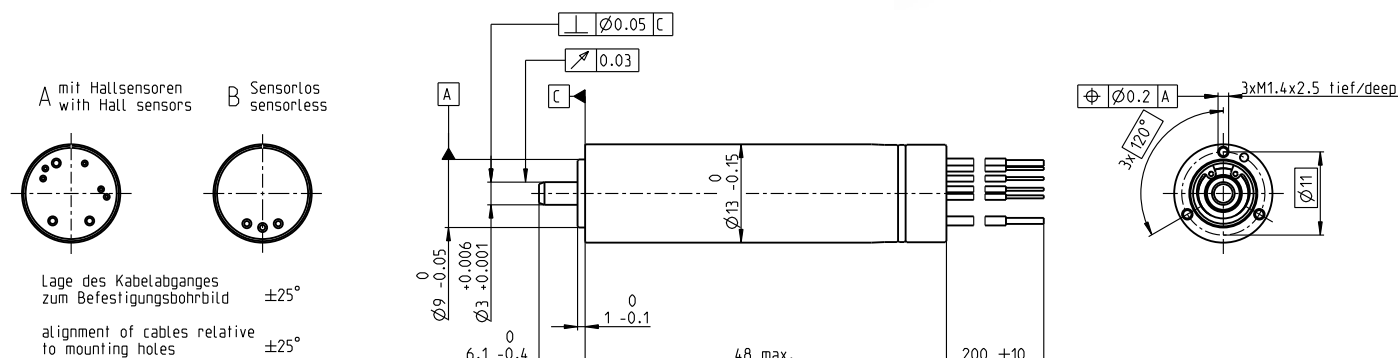


ECX SPEED 13 L Ø13 mm, brushless, BLDC motor

Key Data: 25/27 W, 5.2 mNm, 50 000 rpm



ECX SPEED



M 1:1

Motor Data					
1. Nominal voltage	V	18	24	36	48
2. No load speed	rpm	42300	43100	42300	42700
3. No load current	mA	165	128	82.5	62.8
4. Nominal speed	rpm	38000	39100	38400	38700
5. Nominal torque	mNm	4.84	5.1	5.23	5.13
6. Nominal current (max. continuous current)	A	1.35	1.08	0.724	0.539
7. Stall torque	mNm	50.9	58.5	59.9	58.9
8. Stall current	A	12.7	11.1	7.47	5.55
9. Max. efficiency	%	79.1	80.3	80.6	80.4
10. Terminal resistance	Ω	1.42	2.16	4.82	8.64
11. Terminal inductance	mH	0.0444	0.0761	0.178	0.31
12. Torque constant	mNm/A	4.01	5.25	8.02	10.6
13. Speed constant	rpm/V	2380	1820	1190	901
14. Speed/torque gradient	rpm/mNm	842	746	715	734
15. Mechanical time constant	ms	3.3	2.92	2.8	2.88
16. Rotor inertia	gcm ²	0.374	0.374	0.374	0.374

Thermal data			Operating Range	
17_ Thermal resistance housing-ambient	K/W	23.7	n [rpm]	winding 36 V
18_ Thermal resistance winding-housing	K/W	2		
19_ Thermal time constant winding	s	2.12		
20_ Thermal time constant motor	s	398		
21_ Ambient temperature	°C	-20...+100		
22_ Max. winding temperature	°C	155		

Mechanical data ball bearings		
23_	Max. speed	rpm 50 000
24_	Axial play	mm 0...0.28
	Preload	N 1.5
	Direction of force	pull
25_	Radial play	preloaded
26_	Max. axial load (dynamic)	N 1.5
27_	Max. force for press fits (static)	N 50
	(static, shaft supported)	N 1500
28_	Max. radial load [mm from flange]	N 6 [5]

Continuous operation

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

Short term operation

Modular System

Details on catalog page 40

max. radial load [mm from flange]		N	S [S]	Modular System		Details on catalog page 48	
Other specifications				Gear	Stages [opt.]	Sensor	Motor Control
29_	Number of pole pairs	1	363_GPX 13 SPEED	1-3	for motor type A:	532_ESCON Module 24/2	
30_	Number of phases	3	364_GPX 14 A/C	1-2 [3-4]	481_ENX 13 EASY INT	533_ESCON 36/3 EC	
31_	Weight of motor	g	33.6	365_GPX 14 LN/LZ	1-2 [3-4]	for motor type B:	533_ESCON Module 50/4 EC-S
32_	Typical noise level [rpm]	dBA	47 [50 000]	366_GPX 14 HP	2-3 [4]	481_ENX 13 EASY INT Abs.	533_ESCON Module 50/5

Connection A and B, motor (Cable AWG A: 26, B: 22)
 red Motor winding 1
 black Motor winding 2
 white Motor winding 3

Connection A, sensors (Cable AWG 28)
 orange V_{CC} 5 ±0.5 V
 blue GND
 yellow Hall sensor 1
 brown Hall sensor 2
 grey Hall sensor 3

Output signals: CMOS compatible push-pull stage. No pull-up resistor required. Hall signals are generated by an EASY INT sensor. In combination with the ENX EASY INT, the orange (V_{CC}) and blue (GND) connections are not used.

Configuration

Flange front: thread holes/center thread
 Flange back: metal ring/external thread
 Shaft front: length/diameter
 Electric connection: cable length/pin connection/connector
 Appropriate connectors and connecting cables are available for the configuration of the pin connection together with the external thread: see catalog, Accessories section.