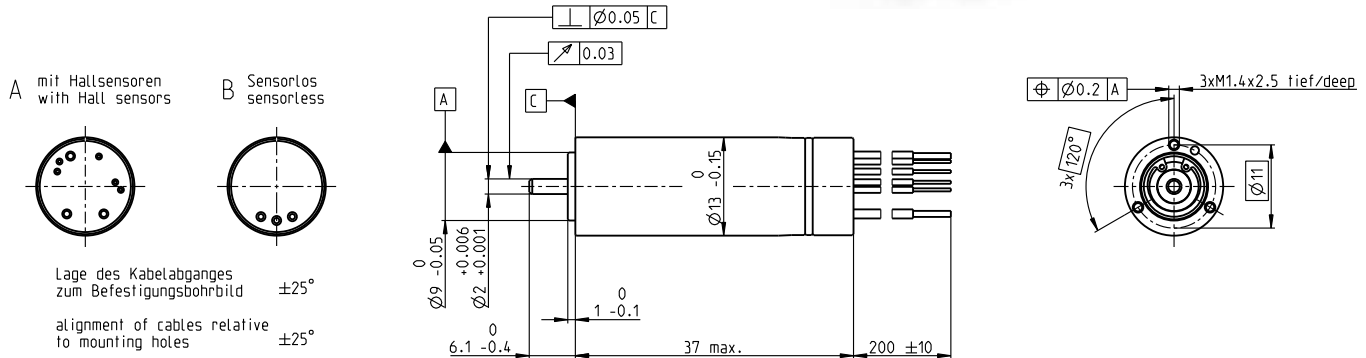


ECX SPEED 13 M Ø13 mm, brushless, BLDC motor

High Power

Key data: 25/36 W, 5.8 mNm, 70 000 rpm



M 1:1

Motor data					
1. Nominal voltage	V	18	24	36	48
2. No load speed	rpm	66800	66800	66800	64100
3. No load current	mA	99.1	74.4	49.6	35
4. Nominal speed	rpm	61400	61600	61600	59100
5. Nominal torque	mNm	5.88	5.84	5.52	5.72
6. Nominal current (max. continuous current)	A	2.37	1.76	1.12	0.831
7. Stall torque	mNm	80.2	84.3	79.4	80.7
8. Stall current	A	31.3	24.7	15.5	11.3
9. Max. efficiency	%	89.2	89.4	89.1	89.3
10. Terminal resistance	Ω	0.576	0.973	2.33	4.24
11. Terminal inductance	mH	0.0204	0.0362	0.0814	0.157
12. Torque constant	mNm/A	2.57	3.42	5.13	7.13
13. Speed constant	rpm/V	3720	2790	1860	1340
14. Speed/torque gradient	rpm/mNm	835	795	844	797
15. Mechanical time constant	ms	2.13	2.03	2.16	2.04
16. Rotor inertia	gcm ²	0.244	0.244	0.244	0.244

Thermal data			Operating range	
17_ Thermal resistance housing-ambient	K/W	20	n [rpm]	winding 36 V
18_ Thermal resistance winding-housing	K/W	2.53		
19_ Thermal time constant winding	s	1.71		
20_ Thermal time constant motor	s	311		
21_ Ambient temperature	°C	-20...+100		
22_ Max. winding temperature	°C	155		

Mechanical data ball bearings			
23_	Max. speed	rpm	70 000
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 44

Other specifications		Modular system			Details on catalog page 44	
29. Number of pole pairs	1	Gear	Stages [opt.]	Sensor	Motor Control	
30. Number of phases	3					
31. Weight of motor	g					
32. Typical noise level [rpm]	dBA 46 [50 000]					

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.

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

547_DEC Module 24/2
 547_DEC Module 50/5
 550_ESCON Module 24/2
 551_ESCON 36/3 EC
 551_ESCON Module 50/4 EC-S
 551_ESCON Module 50/5
 553_ESCON 50/5
 557_ESCON2 Nano 24/2
 557_ESCON2 Micro 60/5
 563_EPOS4 Micro 24/5
 564_EPOS4 Module 24/1.5
 564_EPOS4 Module 50/5
 565_EPOS4 Compact 24/5 3-axes
 566_EPOS4 Compact 24/1.5
 567_EPOS4 Compact 50/5
 569_EPOS4 50/5
 570_EPOS4 Disk 60/8