

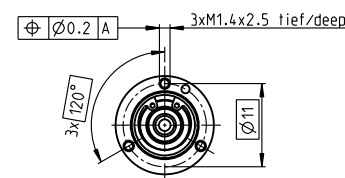
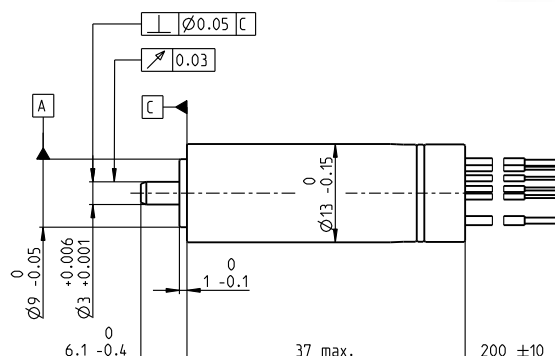
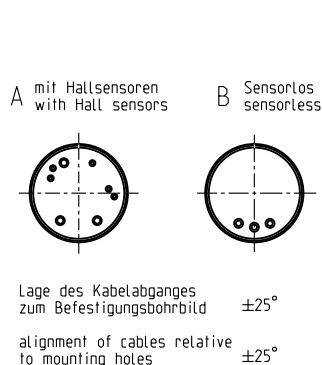
ECX SPEED 13 M Ø13 mm, brushless, BLDC motor

Sterilizable

Key Data: 25/25 W, 3.3 mNm, 90 000 rpm



ECX SPEED



M 1:1

Motor Data				
1. Nominal voltage	V	18	24	36
2. No load speed	rpm	77600	77600	74500
3. No load current	mA	208	156	104
4. Nominal speed	rpm	73100	73400	70300
5. Nominal torque	mNm	3.65	3.62	3.58
6. Nominal current (max. continuous current)	A	1.85	1.38	0.871
7. Stall torque	mNm	68.8	72.3	69.2
8. Stall current	A	31.3	24.7	15.5
9. Max. efficiency	%	85	85	85
10. Terminal resistance	Ω	0.576	0.973	2.33
11. Terminal inductance	mH	0.0135	0.024	0.054
12. Torque constant	mNm/A	2.2	2.93	4.4
13. Speed constant	rpm/V	4340	3260	2170
14. Speed/torque gradient	rpm/mNm	1140	1080	1080
15. Mechanical time constant	ms	1.55	1.47	1.48
16. Rotor inertia	gcm ²	0.13	0.13	0.13

Thermal data			Operating Range		Sterilization information	
17_	Thermal resistance housing-ambient	K/W	29.5			Sterilization cycles Sensorless: typical 2000 Hall sensors: typical 1000
18_	Thermal resistance winding-housing	K/W	2.5			
19_	Thermal time constant winding	s	1.69			
20_	Thermal time constant motor	s	475			
21_	Ambient temperature	°C	-40...+135			Sterilization with steam Temperature +134°C +4°C
22_	Max. winding temperature	°C	155			

Mechanical data ball bearings		Sterilization with steam	
23. Max. speed	rpm	90 000	Temperature
24. Axial play	mm	0...0.28	+134°C ±4°C
Preload	N	1.5	Compression pressure up to
Direction of force		pull	2.3 bar
25. Radial play		preloaded	Rel. humidity
26. Max. axial load (dynamic)	N	1.5	100%
27. Max. force for press fits (static)	N	50	Cycle length
(static, shaft supported)	N	1500	18 min.
28. Max. radial load [mm from flange]	N	6 [5]	

Other specifications		Modular System		Details on catalog page 40	
29_ Number of pole pairs	1	Gear 363_GPX 13 SPEED	Stages [opt.] 1-3	Sensor for motor type A: 481_ENX 13 EASY INT	532_ESCON Module 24/2
30_ Number of phases	3				533_ESCON 36/3 EC
31_ Weight of motor	g 32			for motor type B: 481_ENX 13 EASY INT Abs.	533_ESCON Module 50/4 EC-S
32_ Typical noise level [rpm]	dBA 46 [50 000]				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
Appropriate connectors and connecting cables are available for the configuration of the pin connection together with the external thread: see catalog, Accessories section.

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