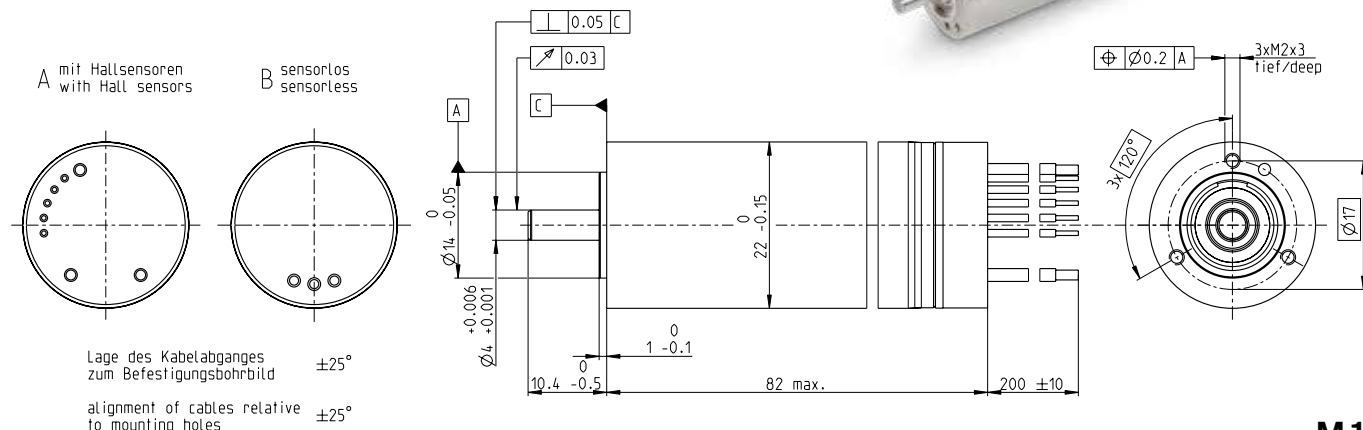


ECX TORQUE 22 XL Ø22 mm, brushless, BLDC motor

Key data: 45/55 W, 79.9 mNm, 8000 rpm



ECX TORQUE



M 1:1

Motor data						
1. Nominal voltage	V	12	18	24	36	48
2. No load speed	rpm	6690	6030	6030	6230	6350
3. No load current	mA	224	129	96.8	67.6	52
4. Nominal speed	rpm	5610	4990	5000	5190	5320
5. Nominal torque	mNm	71.6	74.5	77.5	73.2	79.9
6. Nominal current (max. continuous current)	A	4.15	2.58	2.01	1.31	1.08
7. Stall torque	mNm	548	537	564	543	610
8. Stall current	A	41.1	23.8	19.4	12.5	11.6
9. Max. efficiency	%	85.8	85.8	86.3	85.8	87.0
10. Terminal resistance	Ω	0.292	0.757	1.24	2.87	4.13
11. Terminal inductance	mH	0.162	0.449	0.798	1.68	2.88
12. Torque constant	mNm/A	17	28.3	37.7	54.6	71.6
13. Speed constant	rpm/V	563	338	253	175	133
14. Speed/torque gradient	rpm/mNm	9.7	9.05	8.33	9.19	7.7
15. Mechanical time constant	ms	0.505	0.471	0.434	0.478	0.401
16. Rotor inertia	gcm ²	4.97	4.97	4.97	4.97	4.97

Thermal data			Operating range	
17. Thermal resistance housing-ambient	K/W	10.9	n [rpm]	winding 24 V
18. Thermal resistance winding-housing	K/W	2.46		
19. Thermal time constant winding	s	20.3		
20. Thermal time constant motor	s	883		
21. Ambient temperature	°C	-40...+100		
22. Max. winding temperature	°C	155		

Mechanical data ball bearings			M [mNm]	
23. Max. speed	rpm	8000		
24. Axial play	mm	0...0.24		
Preload	N	4.0		
Direction of force		pull		
25. Radial play		preloaded		
26. Max. axial load (dynamic)	N	4.0	0	100
27. Max. force for press fits (static)	N	110		
(static, shaft supported)	N			
28. Max. radial load [mm from flange]	N	33 [5]		

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

Other specifications			Modular system		Details on catalog page 44	
29. Number of pole pairs	4		Gear	Stages [opt.]	Sensor	Motor Control
30. Number of phases	3					
31. Weight of motor	g	162	390_GPX 22 A/C	1-2	for motor type A:	547_DEC Module 24/2
32. Typical noise level [rpm]	dBA	60 [5000]	391_GPX 22 LN/LZ	1-2	516_ENX 22 EASY INT	547_DEC Module 50/5
			392_GPX 22 HP	2-3	for motor type B:	550_ESCON Module 24/2
			394_GPX 22 UP	1-4	516_ENX 22 EASY INT Abs.	551_ESCON 36/3 EC
			396_GPX 26 A/C	3		551_ESCON Module 50/4 EC-S
			397_GPX 26 LN/LZ	3		551_ESCON Module 50/5
			398_GPX 26 HP	4		553_ESCON 50/5
						557_ESCON2 Nano 24/2
						557_ESCON2 Micro 60/5
						563_EPOS4 Micro 24/5
						564_EPOS4 Module 50/5
						567_EPOS4 Compact 50/5

Connection A and B, motor (Cable AWG 18)
red Motor winding 1
black Motor winding 2
white Motor winding 3

Connection A, sensors (Cable AWG 26)
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.

Connection Temperature sensor (Cable AWG 26)
purple NTC
purple NTC
Resistance 25°C: 10 kOhm ±5%, beta (25–85°C): 3434 K

Configuration

Flange front: thread holes/center thread
Flange back: plastic ring/center thread
Shaft front: length/diameter
Electric connection (only for motor type A): cable length/
pin connection/connector
Temperature sensor: NTC-Thermistor (only for motor type A
and only when not combined with an encoder).
Appropriate connectors and connecting cables are available
for the configuration of the pin connection together with the
external thread: see catalog accessories section.