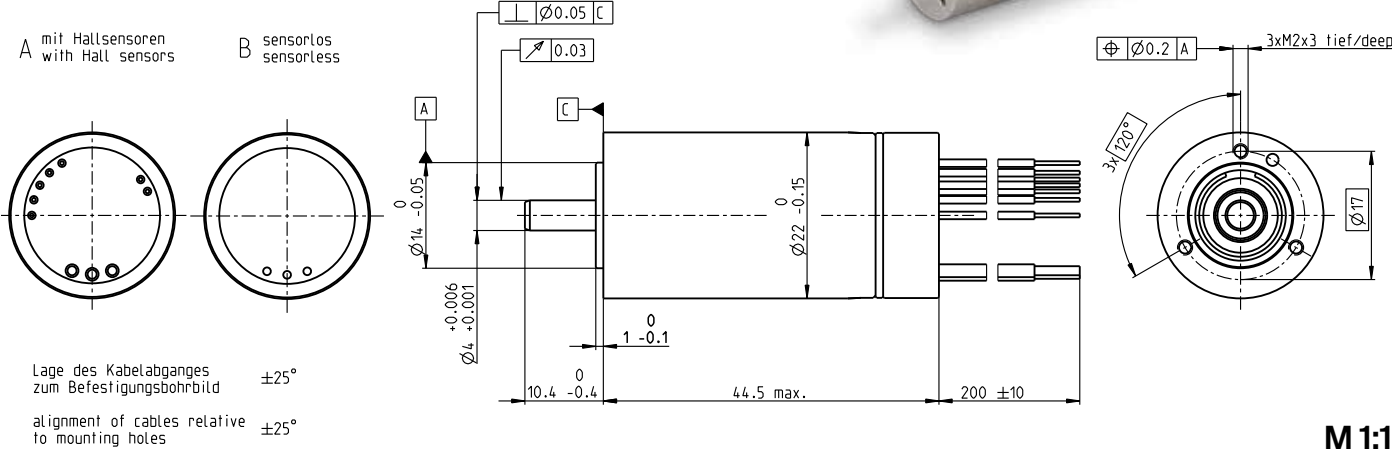


ECX SPEED 22 M Ø22 mm, brushless, BLDC motor

High Power

Key data: 80/106 W, 20.2 mNm, 60 000 rpm



M 1:1

Motor data					
1. Nominal voltage	V	18	24	36	48
2. No load speed	rpm	51500	58900	56200	53200
3. No load current	mA	247	224	140	96.8
4. Nominal speed	rpm	48700	56300	53700	50400
5. Nominal torque	mNm	20.2	18.9	19.4	18
6. Nominal current (max. continuous current)	A	6.24	5.03	3.29	2.17
7. Stall torque	mNm	449	543	539	420
8. Stall current	A	135	140	88.4	48.8
9. Max. efficiency	%	91.7	92.2	92.2	91.3
10. Terminal resistance	Ω	0.133	0.172	0.407	0.983
11. Terminal inductance	mH	0.012	0.0163	0.0403	0.0801
12. Torque constant	mNm/A	3.33	3.88	6.1	8.6
13. Speed constant	rpm/V	2870	2460	1560	1110
14. Speed/torque gradient	rpm/mNm	115	109	104	127
15. Mechanical time constant	ms	2.59	2.45	2.35	2.86
16. Rotor inertia	gcm ²	2.15	2.15	2.15	2.15

Thermal data			Operating range	
Thermal resistance housing-ambient	K/W	11.3	n [rpm]	winding 36 V
Thermal resistance winding-housing	K/W	0.6		
Thermal time constant winding	s	1.22		
Thermal time constant motor	s	314		
Ambient temperature	°C	-20...+100	60000	
Max. winding temperature	°C	155	50000	

Mechanical data ball bearings		
Max. speed	rpm	60 000
Axial play	mm	0...0.24
Preload	N	4
Direction of force		pull
Radial play		preloaded
Max. axial load (dynamic)	N	4
Max. force for press fits (static)	N	110
(static, shaft supported)	N	6000
Max. radial load [mm from flange]	N	16 [5]

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

Modular system

Details on catalog page 44

Other specifications			Gear	Stages [opt.]	Sensor	Motor Control		
Number of pole pairs			1	390_GPX 22 A/C	1-2 [3-4]	for motor type A:	547_DEC Module 50/5	
Number of phases			3	391_GPX 22 LN/LZ	1-2 [3-4]	516_ENX 22 EASY INT	551_ESCON Module 50/4 EC-S	
Weight of motor			g	105	392_GPX 22 HP	2-3 [4]	for motor type B:	551_ESCON Module 50/5
Typical noise level [rpm]			dBA	53 [50 000]	394_GPX 22 UP	1-4	516_ENX 22 EASY INT Abs.	552_ESCON Module 50/8 HE

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_{Hall} 3...24 VDC

blue GND

yellow Hall sensor 1

brown Hall sensor 2

grey Hall sensor 3

Wiring diagram for Hall sensors see page 67. In combination with the ENX EASY INT, the orange (V_{cc}) and blue (GND) connections are not used. Hall signals are then generated by an ENX EASY-INT sensor (no pull-up resistor required; output signals: CMOS compatible push-pull stage).

Connection NTC (Cable AWG 26)

purple NTC

purple NTC

Resistance 25°C: 10 kOhm ±1%, beta (25-85°C): 3490 K

Configuration

Flange front: thread holes/center thread

Flange back: plastic ring/external thread/with opening

Shaft front: length/diameter

Shaft rear: length

Electric connection: 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.

565_EPOS4 Module 50/8

567_EPOS4 Compact 50/5

567_EPOS4 Compact 50/8

569_EPOS4 50/5

569_EPOS4 70/15

570_EPOS4 Disk 60/8

571_EPOS4 Disk 60/12