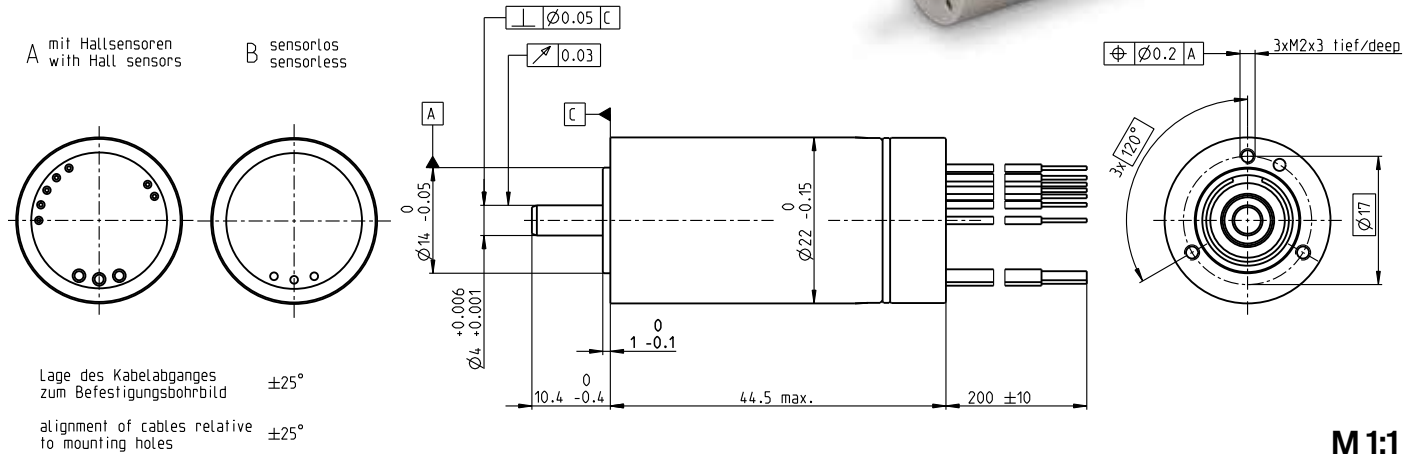


ECX SPEED 22 M Ø22 mm, brushless, BLDC motor

Key data: 40/49 W, 11.7 mNm, 45 000 rpm



ECX SPEED



M 1:1

Motor data

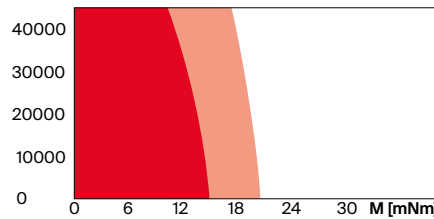
1_	Nominal voltage	V	18	24	36	48
2_	No load speed	rpm	40200	39700	40300	40200
3_	No load current	mA	528	388	265	197
4_	Nominal speed	rpm	37200	36900	37600	37400
5_	Nominal torque	mNm	10.4	11.3	11.7	11.5
6_	Nominal current (max. continuous current)	A	2.93	2.32	1.63	1.2
7_	Stall torque	mNm	154	175	197	189
8_	Stall current	A	36.5	30.8	23.3	16.8
9_	Max. efficiency	%	78.3	79.6	80.5	80.2
10_	Terminal resistance	Ω	0.493	0.779	1.54	2.86
11_	Terminal inductance	mH	0.0294	0.0535	0.117	0.21
12_	Torque constant	mNm/A	4.21	5.68	8.42	11.3
13_	Speed constant	rpm/V	2270	1680	1130	848
14_	Speed/torque gradient	rpm/mNm	265	230	208	215
15_	Mechanical time constant	ms	5.92	5.14	4.63	4.8
16_	Rotor inertia	gcm ²	2.13	2.13	2.13	2.13

Thermal data

17_	Thermal resistance housing-ambient	K/W	11.3
18_	Thermal resistance winding-housing	K/W	1.34
19_	Thermal time constant winding	s	2.71
20_	Thermal time constant motor	s	314
21_	Ambient temperature	°C	-20...+100
22_	Max. winding temperature	°C	155

Mechanical data ball bearings

23_	Max. speed	rpm	45 000
24_	Axial play	mm	0...0.24
	Preload	N	4
	Direction of force		pull
25_	Radial play		preloaded
26_	Max. axial load (dynamic)	N	4
27_	Max. force for press fits (static)	N	110
	(static, shaft supported)	N	6000
28_	Max. radial load [mm from flange]	N	16 [5]



Other specifications

29_	Number of pole pairs	1
30_	Number of phases	3
31_	Weight of motor	g 102
32_	Typical noise level [rpm]	dBA 53 [45 000]

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	

Modular system

Gear	Stages [opt.]	Sensor	Motor Control
390_GPX 22 A/C	1-2 [3-4]	for motor type A:	547_DEC Module 50/5
391_GPX 22 LN/LZ	1-2 [3-4]	516_ENX 22 EASY INT	551_ESCON 36/3 EC
392_GPX 22 HP	2-3 [4]	for motor type B:	551_ESCON Module 50/4 EC-S
394_GPX 22 UP	1-4	516_ENX 22 EASY INT Abs.	551_ESCON Module 50/5
395_GPX 22 SPEED	1-2		553_ESCON 50/5
396_GPX 26 A/C	3		557_ESCON2 Micro 60/5
397_GPX 26 LN/LZ	3		563_EPOS4 Micro 24/5
398_GPX 26 HP	4		564_EPOS4 Module 50/5
			565_EPOS4 Compact 24/5 3-axes
			567_EPOS4 Compact 50/5
			569_EPOS4 50/5
			570_EPOS4 Disk 60/8

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.