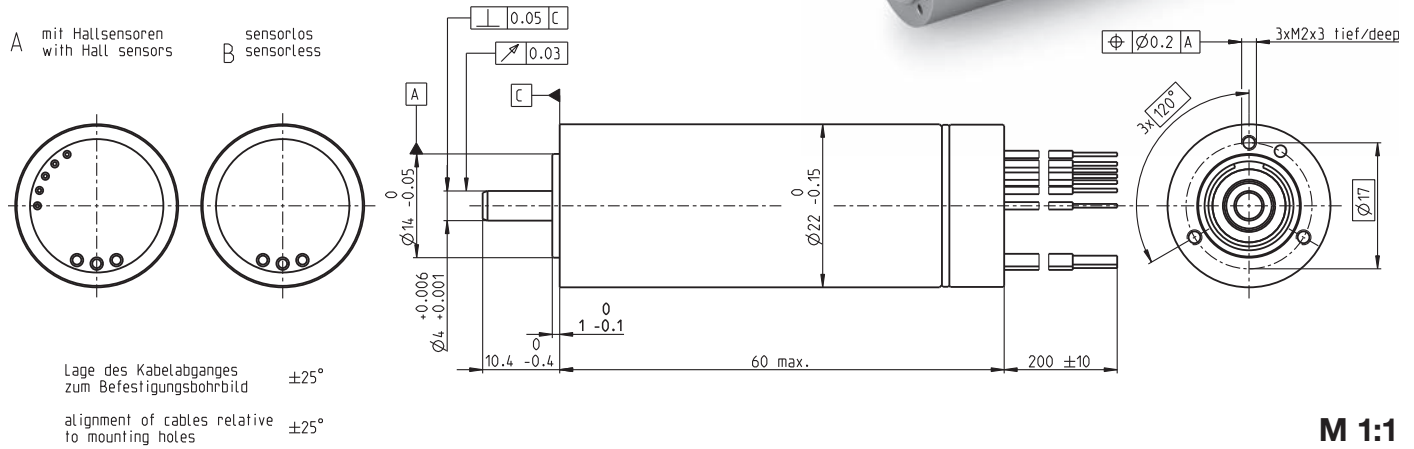


ECX SPEED 22 L brushless BLDC motor Ø22 mm

Sterilizable

120/190 W 33 mNm 60000 rpm

NEW



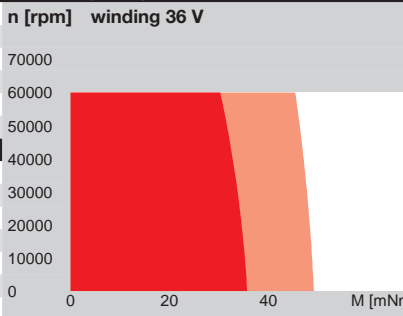
Motor Data

1_	Nominal voltage	V	24	36	48
2_	No load speed	rpm	54100	56200	57300
3_	No load current	mA	425	303	235
4_	Nominal speed	rpm	51800	54000	55200
5_	Nominal torque (max. continuous torque)	mNm	32.6	33.5	31.6
6_	Nominal current (max. continuous current)	A	8.05	5.72	4.14
7_	Stall torque	mNm	965	1160	1120
8_	Stall current	A	228	190	140
9_	Max. efficiency	%	92	92	92
10_	Terminal resistance	Ω	0.105	0.189	0.343
11_	Terminal inductance	mH	0.0114	0.0237	0.0406
12_	Torque constant	mNm/A	4.23	6.11	7.99
13_	Speed constant	rpm/V	2260	1560	1200
14_	Speed/torque gradient	rpm/mNm	56.1	48.4	51.3
15_	Mechanical time constant	ms	1.39	1.2	1.27
16_	Rotor inertia	gcm ²	2.36	2.36	2.36

Thermal data

17_	Thermal resistance housing-ambient	K/W	10
18_	Thermal resistance winding-housing	K/W	0.823
19_	Thermal time constant winding	s	2.9
20_	Thermal time constant motor	s	507
21_	Ambient temperature	°C	-40...+135
22_	Max. winding temperature	°C	155

Operating Range



135°C
 Sensorless: typical 2000 sterilization cycles
 Hall sensors: typical 1000 sterilization cycles
 Sterilization with steam
 Temperature +134°C ±4°C
 Compression pressure up to 2.3 bar
 Rel. humidity 100%
 Cycle length 18 min.

Mechanical data ball bearings

23_	Max. speed	rpm	60000
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	148
32_	Typical noise level [rpm]	dBA	55 [50000]

maxon Modular System

maxon gear	Stages	maxon sensor	maxon motor control
133_GPX 22 SPEED	1-2		417_ESCON Module 50/4 EC-S 417_ESCON Module 50/5 418_ESCON 50/5 418_ESCON 70/10 420_DEC Module 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_{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 35

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 in flange/center thread
- Flange back: plastic ring/center thread
- Shaft front: length
- Electric connection: cable length/pin connection
- Temperature Sensor: NTC-Thermistor