

ECX SPEED 19 L brushless

BLDC motor Ø19 mm

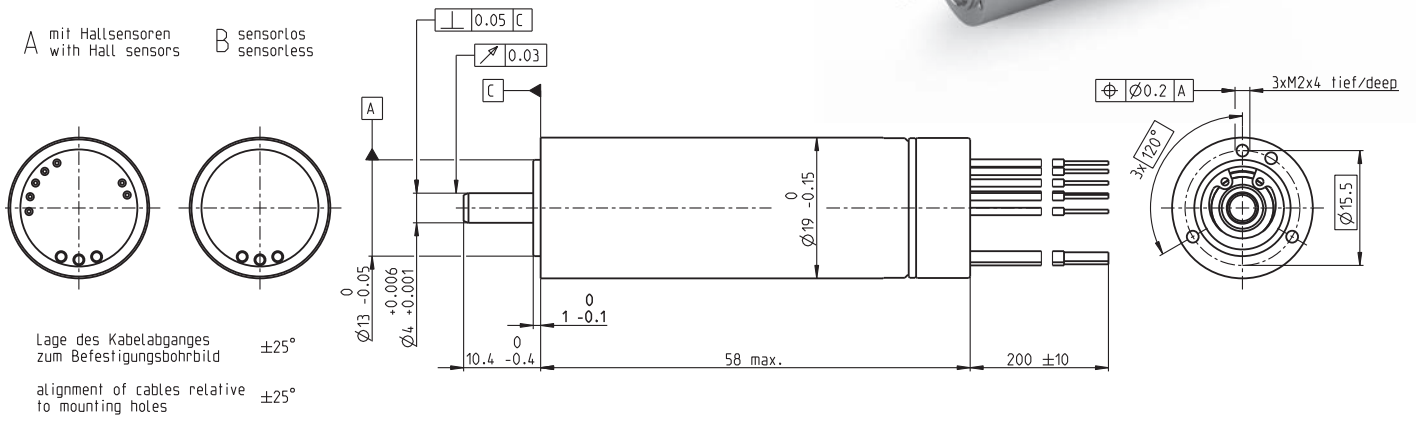
Sterilizable, Ceramic Bearings

120/200 W 22.7 mNm 100000 rpm

NEW



maxon X drives



M 1:1

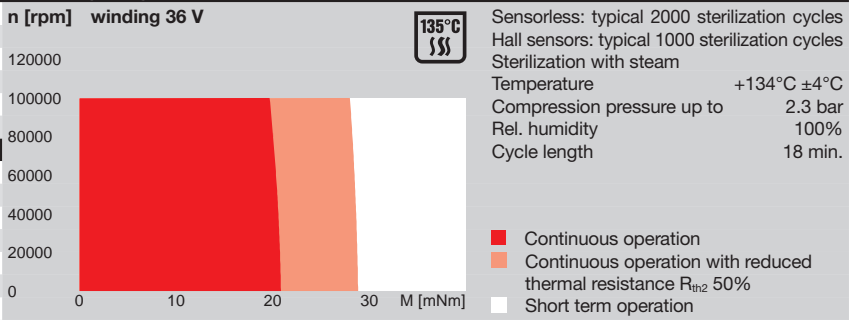
Motor Data

1_	Nominal voltage	V	18	24	36	48
2_	No load speed	rpm	60800	60800	57600	63400
3_	No load current	mA	376	282	172	152
4_	Nominal speed	rpm	57200	57500	54700	60500
5_	Nominal torque (max. continuous torque)	mNm	23.5	22.9	23.7	22.9
6_	Nominal current (max. continuous current)	A	8.58	6.29	4.1	3.28
7_	Stall torque	mNm	503	551	613	655
8_	Stall current	A	178	146	103	90.8
9_	Max. efficiency	%	91	92	92	92
10_	Terminal resistance	Ω	0.101	0.164	0.35	0.528
11_	Terminal inductance	mH	0.01	0.017	0.043	0.063
12_	Torque constant	mNm/A	2.82	3.76	5.95	7.21
13_	Speed constant	rpm/V	3390	2540	1600	1320
14_	Speed/torque gradient	rpm/mNm	121	111	94.2	97.1
15_	Mechanical time constant	ms	2.27	2.07	1.77	1.82
16_	Rotor inertia	gcm ²	1.79	1.79	1.79	1.79

Thermal data

17_	Thermal resistance housing-ambient	K/W	14
18_	Thermal resistance winding-housing	K/W	0.9
19_	Thermal time constant winding	s	2.97
20_	Thermal time constant motor	s	580
21_	Ambient temperature	°C	-40...+135
22_	Max. winding temperature	°C	155

Operating Range



Mechanical data ball bearings

23_	Max. speed	rpm	100000
24_	Axial play	mm	0...0.29
	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	70
	(static, shaft supported)	N	5000
28_	Max. radial load [mm from flange]	N	12 [5]

Other specifications

29_	Number of pole pairs	1
30_	Number of phases	3
31_	Weight of motor	g 108
32_	Typical noise level [rpm]	dBA 51 [50000]

maxon Modular System

maxon gear	Stages	maxon sensor	maxon motor control
129_GPX 19 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 20)

- 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