

ECX SPEED 19 M brushless

BLDC motor Ø19 mm

Sterilizable, Ceramic Bearings

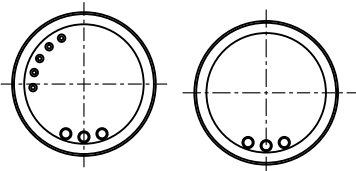
NEW

60/94 W 10.3 mNm 100000 rpm



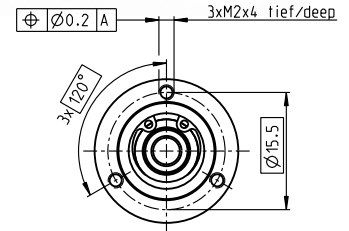
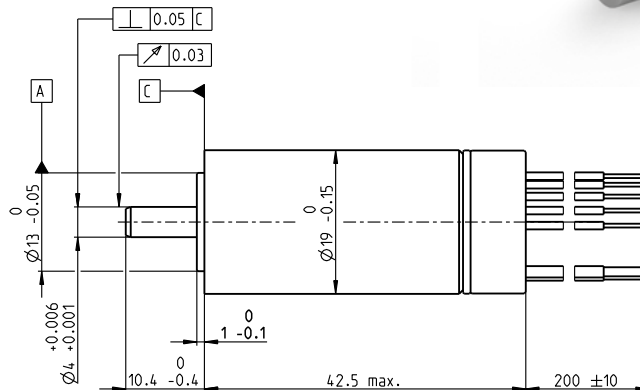
A mit Hallensoren
with Hall sensors

B sensorlos
sensorless



Lage des Kabelabganges
zum Befestigungsbohrbild ±25°

alignment of cables relative
to mounting holes ±25°



M 1:1

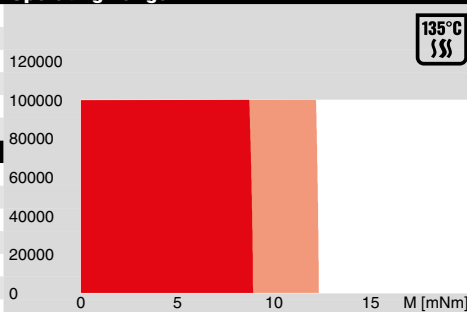
Motor Data

1_	Nominal voltage	V	18	24	36	48
2_	No load speed	rpm	64700	64400	64500	63300
3_	No load current	mA	307	229	153	112
4_	Nominal speed	rpm	59700	59300	59700	58600
5_	Nominal torque (max. continuous torque)	mNm	10.7	9.59	9.91	10.1
6_	Nominal current (max. continuous current)	A	4.28	2.89	1.99	1.49
7_	Stall torque	mNm	175	150	164	169
8_	Stall current	A	66.1	42.4	31	23.5
9_	Max. efficiency	%	87	87	87	87
10_	Terminal resistance	Ω	0.272	0.566	1.16	2.04
11_	Terminal inductance	mH	0.0234	0.0438	0.0986	0.182
12_	Torque constant	mNm/A	2.64	3.54	5.3	7.2
13_	Speed constant	rpm/V	3610	2700	1800	1330
14_	Speed/torque gradient	rpm/mNm	373	432	396	376
15_	Mechanical time constant	ms	4.49	5.2	4.77	4.53
16_	Rotor inertia	gcm ²	1.15	1.15	1.15	1.15

Thermal data

17_	Thermal resistance housing-ambient	K/W	16.9
18_	Thermal resistance winding-housing	K/W	1.1
19_	Thermal time constant winding	s	1.62
20_	Thermal time constant motor	s	700
21_	Ambient temperature	°C	-40...+135
22_	Max. winding temperature	°C	155

Operating Range



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	100 000
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 commutator segments		3
31_	Weight of motor	g	78
32_	Typical noise level [rpm]	dBA	48 [50000]

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 33

Connection NTC (Cable AWG 26)

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

maxon Modular System

maxon gear	maxon sensor	maxon motor control
		379_ESCON 36/3 EC
		379_ESCON Module 50/4 EC-S
		379_ESCON Module 50/5
		379_ESCON 50/5
		382_DEC Module 50/5

Configuration

Flange front: thread in flange/center thread
Flange back: without/center thread
Shaft front: length/diameter
Electric connection: cable length/pin connection
Temperature Sensor: NTC-Thermistor

xdrives.maxonmotor.com