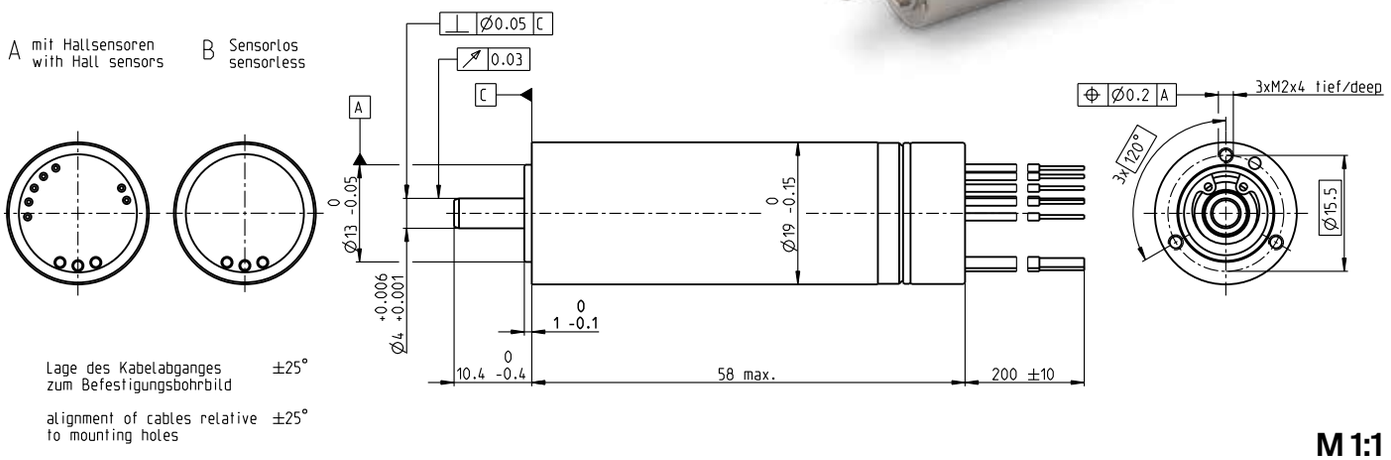
ECX SPEED 19 L ∅19 mm, brushless, BLDC motor



Key data: 60/69 W, 14.8 mNm, 50 000 rpm



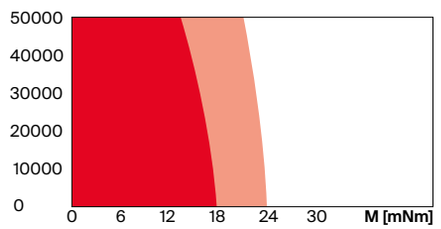
M 1:1

	Motor data				
1_	Nominal voltage	V	18	24	36
2_	No load speed	rpm	47500	48300	49200
3_	No load current	mA	354	273	187
4_	Nominal speed	rpm	43800	45000	46000
5_	Nominal torque	mNm	14.2	14.8	14.8
6_	Nominal current (max. continuous current)	A	4.23	3.37	2.28
7_	Stall torque	mNm	214	251	271
8_	Stall current	A	59.6	53.3	39
9_	Max. efficiency	%	85.4	86.4	86.8
10_	Terminal resistance	Ω	0.302	0.45	0.924
11_	Terminal inductance	mH	0.0231	0.0396	0.086
12_	Torque constant	mNm/A	3.6	4.71	6.94
13_	Speed constant	rpm/V	2660	2030	1380
14_	Speed/torque gradient	rpm/mNm	223	194	183
15_	Mechanical time constant	ms	3.9	3.39	3.2
16_	Rotor inertia	gcm²	1.67	1.67	1.67

	Thermal data		
17_	Thermal resistance housing-ambient	K/W	10.1
18_	Thermal resistance winding-housing	K/W	1.2
19_	Thermal time constant winding	s	3.62
20_	Thermal time constant motor	s	418
21_	Ambient temperature	°C	-20...+100
22_	Max. winding temperature	°C	155
	Mechanical data ball bearings		
23_	Max. speed	rpm	50 000
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 phases		3
31_	Weight of motor	g	100
32_	Typical noise level [rpm]	dBA	51 [50 000]

Operating range

n [rpm] winding 36 V



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

Modular system Details on catalog page 44

Gear	Stages [opt.]
386_GPX 19 A/C	1–2 [3–4]
387_GPX 19 LN/LZ	1–2 [3–4]
388_GPX 19 HP	2–3 [4]
389_GPX 19 SPEED	1–2
390_GPX 22 A/C	3–4
391_GPX 22 LN/LZ	3–4
392_GPX 22 HP	4
395_GPX 22 SPEED	[3]

Sensor
for motor type A:
515_ENX 19 EASY INT
for motor type B:
515_ENX 19 EASY INT Abs.

Motor Control
547_DEC Module 50/5
551_ESCON 36/3 EC
551_ESCON Module 50/4 EC-S
551_ESCON Module 50/5
553_ESCON 50/5
557_ESCON2 Micro 60/5
563_EPOS4 Micro 24/5
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.

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 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

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