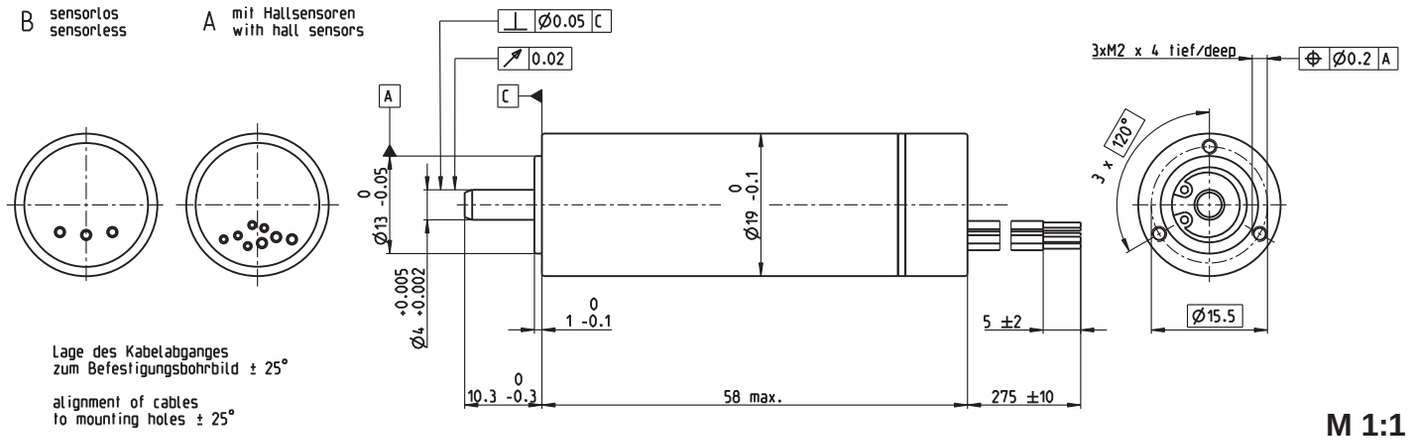
EC 19 ∅19 mm, brushless, 120 Watt

High Power



M 1:1

Stock program
Standard program
Special program (on request)

Part Numbers

A with Hall sensors	475523	475524	**467392**
B sensorless	475527	475528	474494

Motor Data (provisional)					
	Values at nominal voltage				
1	Nominal voltage	V	24	30	36
2	No load speed	rpm	62200	60400	54400
3	No load current	mA	272	208	147
4	Nominal speed	rpm	59100	57600	51700
5	Nominal torque (max. continuous torque)	mNm	19.8	20.3	20.8
6	Nominal current (max. continuous current)	A	5.59	4.45	3.4
7	Stall torque	mNm	536	574	540
8	Stall current	A	146	121	85.6
9	Max. efficiency	%	92	92	92
	Characteristics				
10	Terminal resistance phase to phase	Ω	0.165	0.247	0.421
11	Terminal inductance phase to phase	mH	0.018	0.03	0.053
12	Torque constant	mNm/A	3.68	4.73	6.31
13	Speed constant	rpm/V	2600	2020	1510
14	Speed/torque gradient	rpm/mNm	116	106	101
15	Mechanical time constant	ms	2.2	2	1.91
16	Rotor inertia	gcm²	1.81	1.81	1.81

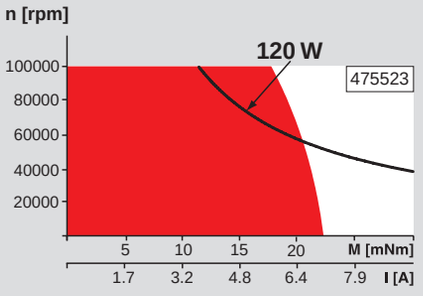
Specifications

	Thermal data		
17	Thermal resistance housing-ambient		14.0 K/W
18	Thermal resistance winding-housing		0.808 K/W
19	Thermal time constant winding		2.67 s
20	Thermal time constant motor		572 s
21	Ambient temperature		-20…+100°C
22	Max. winding temperature		155°C
	Mechanical data (preloaded ball bearings)		
23	Max. speed		100 000 rpm
24	Axial play at axial load	< 3 N	0 mm
		> 3 N	max. 0.1 mm
25	Radial play		preloaded
26	Max. axial load (dynamic)		3.1 N
27	Max. force for press fits (static)		21 N
	(static, shaft supported)		1400 N
28	Max. radial load, 5 mm from flange		12 N
	Other specifications		
29	Number of pole pairs		1
30	Number of phases		3
31	Weight of motor		110 g

Values listed in the table are nominal.

Connection A and B, motor (Cable AWG 22)
red Motor winding 1
black Motor winding 2
white Motor winding 3
Connection A, sensors (Cable AWG 26)
green VHall 3…24 VDC
blue GND
red/grey Hall sensor 1
black/grey Hall sensor 2
white/grey Hall sensor 3
Wiring diagram for Hall sensors see p. 33

Operating Range



Comments

Continuous operation
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.

Short term operation
The motor may be briefly overloaded (recurring).

Assigned power rating

maxon Modular System

Overview on page 20–25

Recommended Electronics:

Notes	Page **24**
ESCON Mod. 50/4 EC-S	379
ESCON Module 50/5	379
ESCON 50/5	380
DEC Module 50/5	382