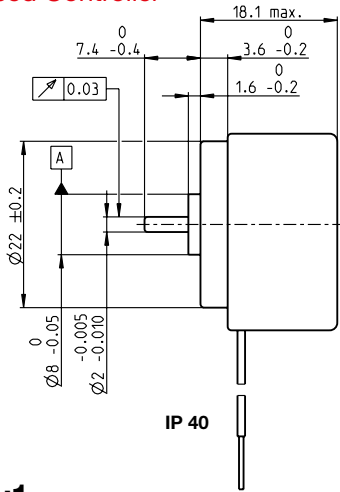
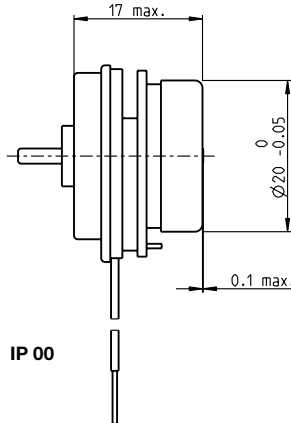


# EC 20 flat brushless, 2 Watt, with integrated electronics

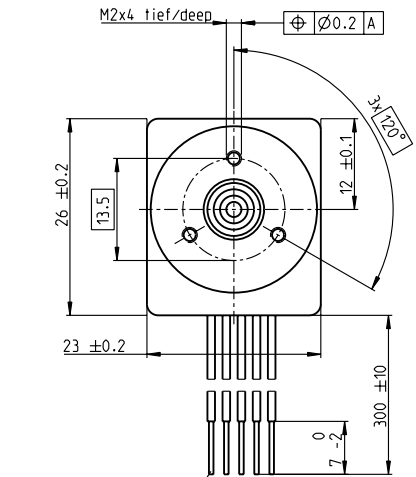
## 1-Q-Speed Controller



IP 40



IP 00



Kabel rot / cable red

M 1:1

- Stock program
- Standard program
- Special program (on request)

IP 40 (with cover)  
IP 00 (without cover)

### Part Numbers

2 wire version		5 wire version	
		Enable	Direction
350795	350796	350794	370413
350776	350778	349694	370412

### Motor Data

Values at nominal voltage					
1 Nominal voltage	V	24	24	24	24
2 No load speed	rpm	3000	6000	6000	6000
3 No load current	mA	10.6	14.7	14.7	14.7
4 Nominal speed	rpm	3000	6000	6000	6000
5 Nominal torque (max. continuous torque)	mNm	3.6	3.55	3.55	3.55
6 Nominal current (max. continuous current)	A	0.155	0.208	0.208	0.208
33 Max. torque	mNm	6.13	6.13	6.13	6.13
34 Max. current	A	0.73	0.73	0.73	0.73
9 Max. efficiency	%	39	52	52	52
Characteristics					
35 Type of control		Speed	Speed	Speed	Speed
36 Supply voltage +V <sub>CC</sub>	V	10...28	10...28	10...28	10...28
37 Speed set value input	V	= V <sub>CC</sub>	= V <sub>CC</sub>	0.33...10.8	0.33...10.8
38 Scale speed set value input	rpm/V	125	250	600	600
39 Speed range	rpm	1250...3500	2500...7000	200...6480	200...6480
40 Max. acceleration	rpm/s	3000	6000	6000	6000

### Specifications

Thermal data	
17 Thermal resistance housing-ambient	17.2 K/W
18 Thermal resistance winding-housing	7.98 K/W
19 Thermal time constant winding	2.37 s
20 Thermal time constant motor	132 s
21 Ambient temperature	-40...+85°C
22 Max. winding temperature	+125°C
41 Max. temperature of electronics	+105°C

Mechanical data (preloaded ball bearings)	
16 Rotor inertia	3.84 gcm <sup>2</sup>
24 Axial play at axial load < 2.0 N	0 mm
	> 2.0 N
	0.14 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	1.8 N
27 Max. force for press fits (static) (static, shaft supported)	26 N
28 Max. radial load, 5 mm from flange	200 N
	11 N

Other specifications	
31 Weight of motor	30 g
32 Direction of rotation	Clockwise (CW)

Values listed in the table are nominal.

### Protective functions

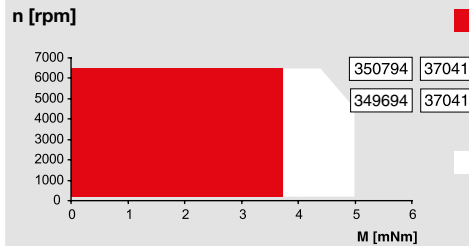
Overload protection, blockage protection, inverse-polarity protection, thermal overload protection, low/high voltage cut-off

**Connection 2 wire version** (Cable AWG 28)  
red +V<sub>CC</sub> 10...28 VDC  
black GND

**Connection 5 wire version** (Cable AWG 28)  
red +V<sub>CC</sub> 10...28 VDC  
black GND  
white Speed set value input  
green Monitor n (6 pulses per revolution)  
grey Disable (Type Enable) or sense of direction (Type Direction)

### Operating Range

### Comments

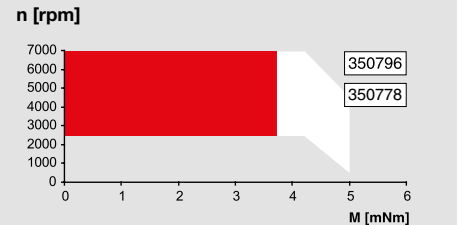
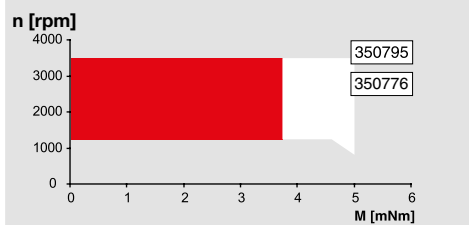


#### Continuous operation

The drive can be operated with a speed controller and, taking account of the given thermal resistance (fig. 17 and 18) at an ambient temperature of 25°C, does not exceed the maximum permissible operating temperatures.

#### Overload range

The drive reaches these operating points. Speed may vary from the set value. The overload protection shuts down the drive in the event of sustained overload.



### maxon Modular System

Details on catalog page 36

#### Planetary Gearhead

∅22 mm  
0.5 - 2.0 Nm  
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