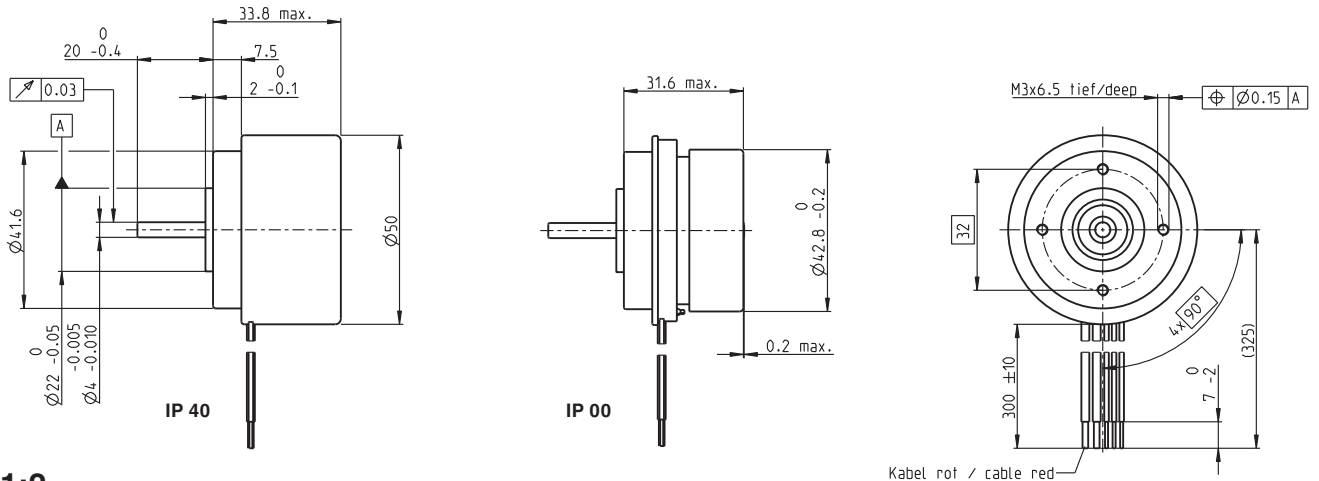


# EC 45 flat brushless, 30 Watt, with integrated electronics

1-Q-speed controller



M 1:2

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

## Order Number

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

		2 wire version		5 wire version			
				Enable		Direction	
IP 40 (with cover)	353518	353519		350909	352886	370425	
IP 00 (without cover)		353516	353517			370424	370424

## Motor Data (provisional)

Values at nominal voltage									
1	Nominal voltage	V	24	24	24	24	24	24	24
2	No load speed	rpm	3000	3000	6000	6000	6000	6000	6000
3	No load current	mA	105	105	222	222	222	222	222
4	Nominal speed	rpm	3000	3000	6000	6000	6000	6000	6000
5	Nominal torque (max. continuous torque)	mNm	65	91	67	91	67	91	67
6	Nominal current (max. continuous current)	A	1.2	1.8	2.4	3	2.4	3	2.4
33	Max. torque	mNm	106	106	104	104	104	104	104
34	Max. current	A	2.1	2.1	3.6	3.6	3.6	3.6	3.6
9	Max. efficiency	%	71	71	73	77	73	77	73
Characteristics									
35	Control variable	Speed	Speed	Speed	Speed	Speed	Speed	Speed	Speed
36	Supply voltage + V <sub>CC</sub>	V	10 ... 28	10 ... 28	10 ... 28	10 ... 28	10 ... 28	10 ... 28	10 ... 28
37	Speed set value input	V	= V <sub>CC</sub>	= V <sub>CC</sub>	= V <sub>CC</sub>	= V <sub>CC</sub>	0.33 ... 10.8	0.33 ... 10.8	0.33 ... 10.8
38	Scale speed set value input	rpm/V	125	125	250	250	600	600	600
39	Speed range	rpm	1250 ... 3500	1250 ... 3500	2500 ... 7000	2500 ... 7000	200 ... 6480	200 ... 6480	200 ... 6480
40	Max. acceleration	rpm/s	3000	3000	6000	6000	6000	6000	6000

## Specifications

**Thermal data**

17	Thermal resistance housing-ambient	5.8 (3.5) K / W
18	Thermal resistance winding-housing	5 K / W
19	Thermal time constant winding	25 s
20	Thermal time constant motor	650 (400) s
21	Ambient temperature	-40 ... +85°C
22	Max. permissible winding temperature	+125°C
41	Max. temperature of electronics	+105°C

**Mechanical data (preloaded ball bearings)**

16	Rotor inertia	135 gcm <sup>2</sup>
24	Axial play at axial load < 7.0 N	0 mm
	> 7.0 N	0.14 mm
25	Radial play	preloaded
26	Max. axial load (dynamic)	6.8 N
27	Max. force for press fits (static) (static, shaft supported)	95 N
28	Max. radial loading, 7.5 mm from flange	1000 N
		51 N

**Other specifications**

31	Weight of motor	226 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

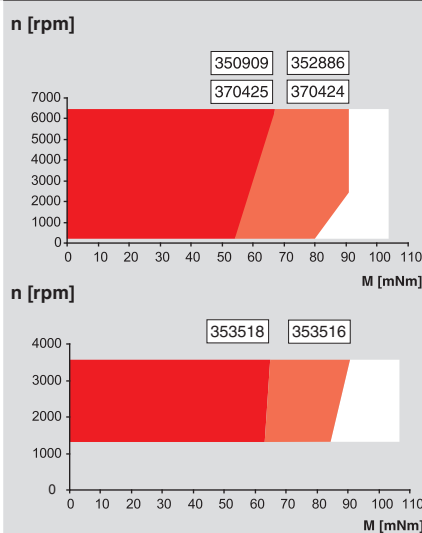
### Connection 2 wire version (Cable AWG 18/24)

red	+ V <sub>CC</sub> 10 ... 28 VDC
black	GND

### Connection 5 wire version (Cable AWG 18/24)

red	+ V <sub>CC</sub> 10 ... 28 VDC
black	GND
white	Speed set value input
green	Monitor n (6 pulses per revolution)
grey	Disable (Enable) or sense of direction change over (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

Overview on page 16 - 21

### Planetary Gearhead

∅42 mm  
3 - 15 Nm  
Page 238

### Spur Gearhead

∅45 mm  
0.5 - 2.0 Nm  
Page 240

