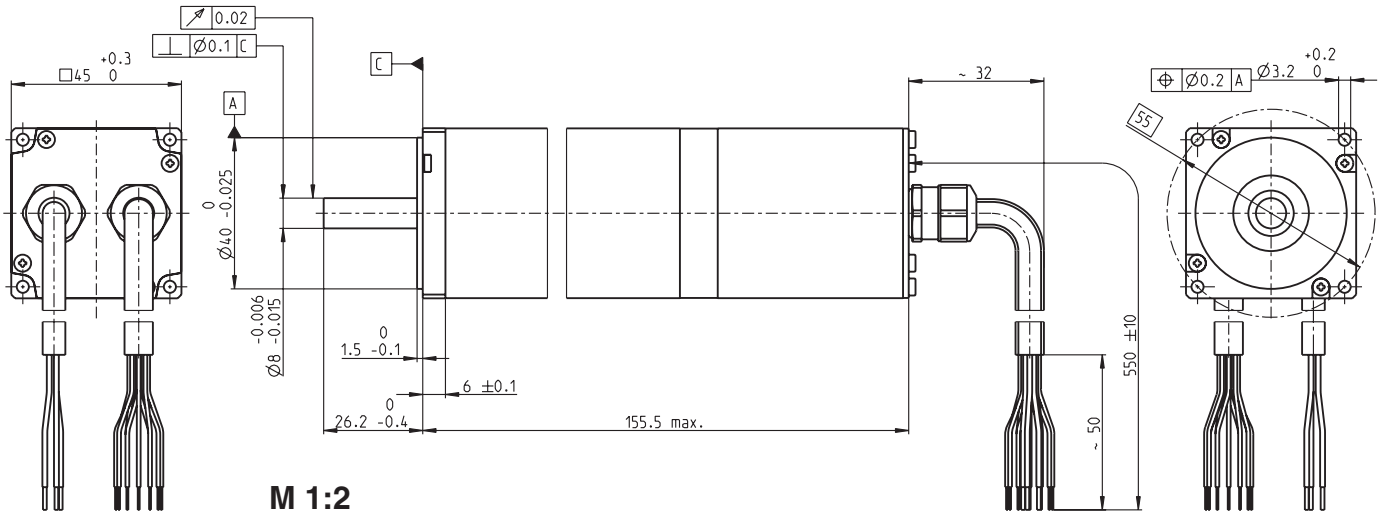


EC-4pole 45 □45 mm, brushless, 300 Watt, CE approved

maxon EC-4pole



M 1:2

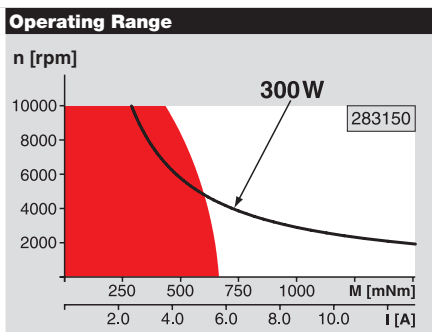
- Stock program
- Standard program
- Special program (on request)

Order Number

with encoder 283150

Motor Data (provisional)									
Values at nominal voltage									
1	Nominal voltage	V	48.0						
2	No load speed	rpm	4010						
3	No load current	mA	193						
4	Nominal speed	rpm	3580						
5	Nominal torque (max. continuous torque)	mNm	635						
6	Nominal current (max. continuous current)	A	5.61						
7	Stall torque	mNm	7690						
8	Starting current	A	67.6						
9	Max. efficiency	%	90						
Characteristics									
10	Terminal resistance phase to phase	Ω	0.710						
11	Terminal inductance phase to phase	mH	0.677						
12	Torque constant	mNm / A	114						
13	Speed constant	rpm / V	84.0						
14	Speed / torque gradient	rpm / mNm	0.524						
15	Mechanical time constant	ms	2.02						
16	Rotor inertia	gcm ²	368						

Specifications		
Thermal data		
17	Thermal resistance housing-ambient	1.97 K / W
18	Thermal resistance winding-housing	0.718 K / W
19	Thermal time constant winding	34.3 s
20	Thermal time constant motor	1600 s
21	Ambient temperature	-10 ... +100°C
22	Max. permissible winding temperature	+125°C
Mechanical data (preloaded ball bearings)		
23	Max. permissible speed	10000 rpm
24	Axial play at axial load	< 20.0 N > 20.0 N
		0 mm 0.14 mm
25	Radial play	preloaded
26	Max. axial load (dynamic)	20 N
27	Max. force for press fits (static)	170 N
	(static, shaft supported)	5000 N
28	Max. radial loading, 5 mm from flange	140 N



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**

Other specifications		
29	Number of pole pairs	2
30	Number of phases	3
31	Weight of motor	1130 g
	Protection to	IP54

Values listed in the table are nominal.

Connection Motor (Cable AWG 18)	
Cable 1	Motor winding 1
Cable 2	Motor winding 2
Cable 3	Motor winding 3

Option	
Temperature monitoring, PTC resistance	
R 20°C	< 0.3 kΩ
R 130°C	= 7.0 ... 35 kΩ

Integrated encoder R35i Overview on page 16 - 21

Connection Encoder (Cable AWG 26)			
green	(Pin 1)	Channel A	Counts per turn
yellow	(Pin 2)	Channel A	Number of channels
red	(Pin 3)	Channel B	Max. operating frequency (kHz)
blue	(Pin 4)	Channel B	Supply voltage
pink	(Pin 5)	Channel I (Index)	Output signal
grey	(Pin 6)	Channel T (Index)	Phase shift Φ (nominal)
violet	(Pin 7)	Commutation signal S 1	Logic state width s
red/blue	(Pin 8)	GND 2	Index pulse width (nominal)
black	(Pin 9)	Commutation signal S 2	Operating temperature range
white/green	(Pin 10)	V _{CC} 2	Moment of inertia
grey/pink	(Pin 11)	Commutation signal S 3	
white	(Pin 12)	n.c.	
white	(Pin 13)	V _{CC} 1	
brown	(Pin 14)	GND 1	

Recommended Electronics:	
DECS 50/5	Page 289
DEC 50/5	291
DEC Module 50/5	291
DEC 70/10	297
DES 50/5	298
DES 70/10	298
EPOS2 70/10	305
Notes	20