2048

200

 $5V \pm 5\%$ 

min. 45°e

90° ± 45° -10...+100°C

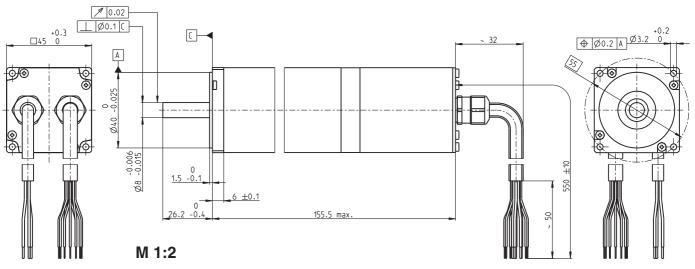
≤ 3.11 gcm<sup>2</sup>

RS 422

90°e

299

## EC-4pole 45 □45 mm, brushless, 300 Watt, C€ approved



Stock program Standard program Special program (on request)		Article Nu	ımbers			
,	with encoder	283150				
Motor Data (provisional)						
Values at nominal voltage						
1 Nominal voltage	V	48				
2 No load speed	rpm	4010				
3 No load current	mA	193				
4 Nominal speed	rpm	3570				
5 Nominal torque (max. continuous torque)	mNm	647				
6 Nominal current (max. continuous current	) A	5.71				
7 Stall torque	mNm	7690				
8 Starting current	Α	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 <sup>2</sup>	368				

## **Specifications Operating Range** Comments Thermal data n [rpm] Continuous operation 1.97 K/W 0.718 K/W 34.3 s Thermal resistance housing-ambient In observation of above listed thermal resistance 18 Thermal resistance winding-housing 300W (lines 17 and 18) the maximum permissible winding 10000 Thermal time constant winding 283150 temperature will be reached during continuous 20 Thermal time constant motor 1600 s operation at 25°C ambient. 8000 Ambient temperature -10...+100°C Thermal limit. 22 Max. permissible winding temperature +125°C 6000 Mechanical data (preloaded ball bearings) 10000 rpm Short term operation 4000 The motor may be briefly overloaded (recurring). 23 Max. permissible speed 2000 24 Axial play at axial load < 20.0 N 0 mm 0.14 mm > 20.0 NAssigned power rating 25 Radial play preloaded 250 500 1000 Max. axial load (dynamic) 20 N 2.0 4.0 6.0 8.0 10.0 182 N Max. force for press fits (static) (static, shaft supported) 5000 N Integrated encoder R35i Overview on page 16 - 21

## 28 Max. radial loading, 5 mm from flange Connection Encoder (Cable AWG 28) Counts per turn Other specifications Channel A Channel Ā (Pin Number of channels Number of pole pairs green yellow (Pin Max. operating frequency (kHz) 30 Number of phases 3 (Pin 1130 g IP54 red 3) Channel B Supply voltage Weight of motor (Pin Channel B Output signal Phase shift $\Phi$ (nominal) blue 4) (Pin 5) pink Channel I (Index) (Pin Channel T (Index) Logic state width s Values listed in the table are nominal. (Pin Commutation signal S 1 violet 7) Index pulse width (nominal) Operating temperature range red/blue (Pin 8) GND 2 Connection motor (Cable AWG 18) (Pin 9) black Commutation signal S 2 Moment of inertia Motor winding 1 Cable 1 Cable 2 Motor winding 2 white/green (Pin 10) $V_{\text{CC}} 2$ (Pin 11) (Pin 12) Cable 3 Motor winding 3 grey/pink Commutation signal S 3 Recommended Electronics: n.c. white (Pin 13)

(Pin 14)

Temperature monitoring, PTC resistance

R  $20^{\circ}$ C < 0.3 k $\Omega$ 

May 2012 edition / subject to change	maxon special prog	gram 367
	Notes	20
	DES 70/10 EPOS2 70/10	306 313
	DES 50/5	306
R 130°C = 7.035 kΩ	DEC 70/10	305

GND 1

DEC Module 50/5