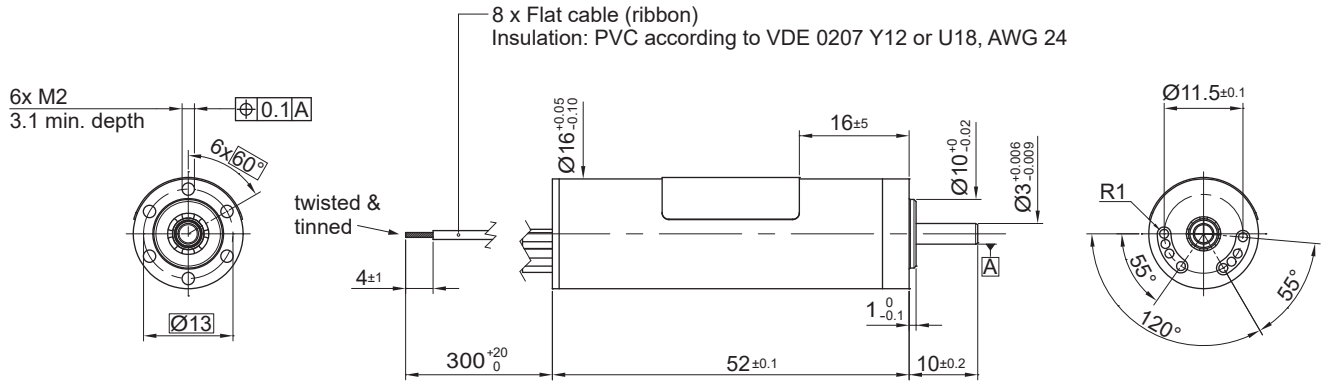


16ECP52 Ultra EC™

Ø 16 mm • 2-pole • 37 W



Dimensions in mm

Electrical Data	Symbol	16ECP52-8B-xxx.01			Unit
		220	112	49	
1 Nominal Voltage	U_N	24	24	24	Volt
2 Optimization Direction	-	Symmetrical	Symmetrical	Symmetrical	-
3 No Load Speed	n_0	6,144	12,100	27,800	rpm
4 Typical No Load Current	I_0	19	41	134	mA
5 Max. Continuous Mechanical Power (@25°C)	P_{max}	37.5	37.5	37.5	W
6 Max. Continuous Current	$I_{e,max}$	0.4	0.8	2.0	A
7 Max. Continuous Torque	$M_{e,max}$	14.5 (2.06)	14.7 (2.09)	16.1 (2.28)	mNm (oz-in)
8 Back EMF Constant	k_E	3.77	1.93	0.84	V/1000 rpm
9 Torque Constant	k_M	36.0	18.4	8.0	mNm/A
10 Motor Regulation	R/k^2	18.9	18.3	15.4	10 ³ /Nms
11 Motor Regulation	$k/R^{1/2}$	7.3 (1.04)	7.4 (1.05)	8.1 (1.15)	mNm/W ^{1/2} (oz-in/W ^{1/2})
12 Internal Resistance - phase to phase	R_i	24.50	6.20	0.98	ohms
13 Line to Line Resistance at Connectors	R_L	24.60	6.30	1.06	ohms
14 Inductance Phase to Phase	L	2.32	0.60	0.12	mH
15 Mechanical Time Constant	τ_m	1.9	1.8	1.5	ms
16 Electrical Time Constant	τ_e	0.10	0.10	0.12	ms

General Data				
17 Maximum Motor Speed	n_{max}		40,000	rpm
18 Ambient Working Temperature Range	-		-30 to +100 (-22 to +212)	°C (°F)
19 Ambient Storage Temperature Range	-		-40 to +100 (-40 to +212)	°C (°F)
20 Ball Bearings Preload	-		5.3	N
21 Axial Static Force w/o Shaft Support (max)	-		34	N
22 Maximum Winding Temperature	-		125 (257)	°C (°F)
23 Thermal Resistance	R_{th}		3 / 15	°C/W
24 Thermal Time Constant	τ_w		750	s
25 Weight	-		62 (2.19)	g (oz)
26 Rotor Inertia	J		1	g-cm ²
27 Hall Sensor Electrical Phasing*	-		120	Electrical °

*Also available without Hall sensors

Wire	Description
Gray	Phase 1
Violet	Phase 2
Blue	Phase 3
Green	3.5 to 24V DC
Yellow	GND
Orange	Sensor 1
Red	Sensor 2
Brown	Sensor 3

with hall effect sensor

