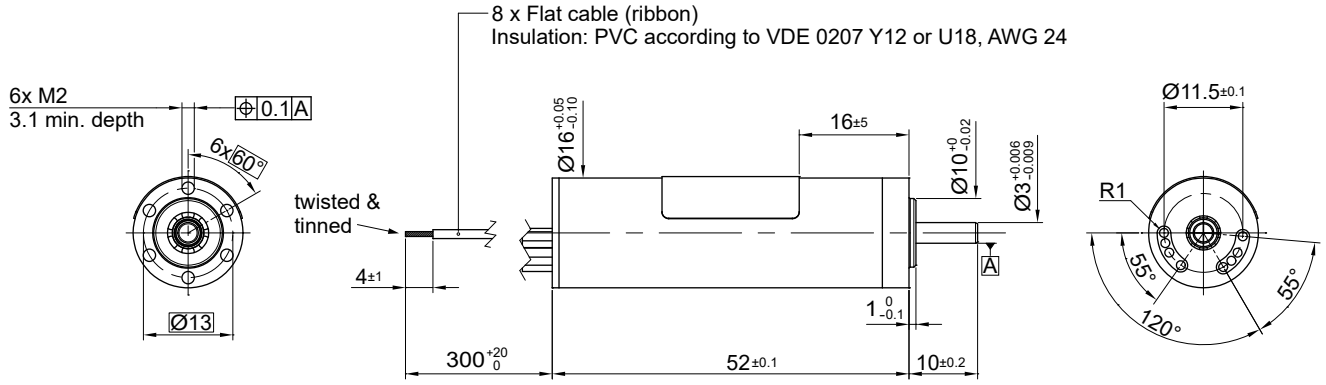
16ECP52 Ultra EC™

Ø 16 mm • 2-pole • 37 W



Dimensions in mm.

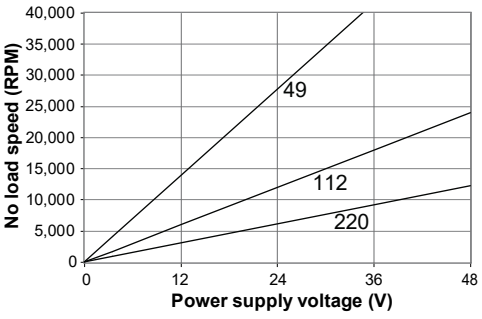
Electrical Data		Symbol	16ECP52-8B-xxx.01			Unit
			220	112	49	
1	Nominal Voltage	U_N	24	24	24	Volt
2	Optimization Direction	-	Symmetrical	Symmetrical	Symmetrical	-
3	No Load Speed	n_0	6,144	12,100	27,800	rpm
4	Typical No Load Current	I_0	19	41	134	mA
5	Max. Continuous Mechanical Power (@25°C)	P_{max}	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	$k/R^{½}$	7.3 (1.04)	7.4 (1.05)	8.1 (1.15)	mNm/W^{½} (oz-in/W^{½})
12	Internal Resistance - phase to phase	R_l	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 °

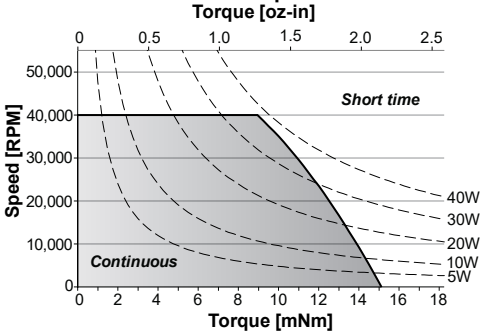
*Available without hall sensor

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	

No load speed for each coil



Max. continuous operation at 25°C



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