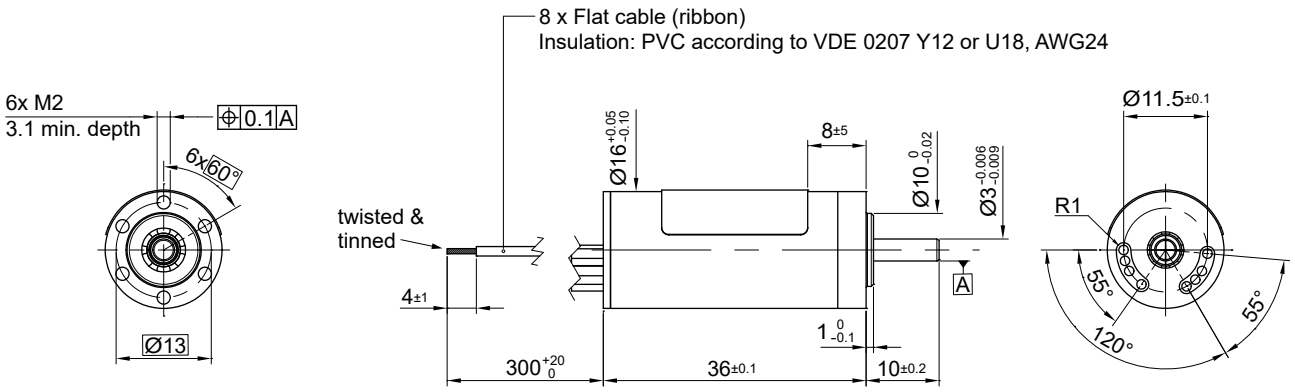
16ECP36 Ultra EC™

Ø 16 mm • 2-pole • 27 W



Dimensions in mm.

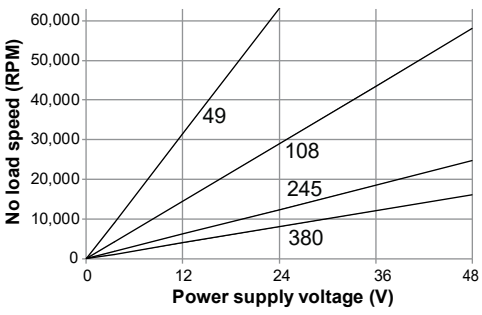
Electrical Data		Symbol	16ECP36-8B-xxx.01 380	245	108	49	Unit
1	Nominal Voltage	U_N	24	24	24	12	Volt
2	Optimization Direction	-	Symmetrical	Symmetrical	Symmetrical	Symmetrical	-
3	No Load Speed	n_0	8,100	12,420	29,000	31,550	rpm
4	Typical No Load Current	I_0	20	35	85	160	mA
5	Max Continuous Mechanical Power (@25°C)	P_{max}	27.5	27.5	27.5	27.5	W
6	Max Continuous Current	$I_{e\,max}$	0.3	0.4	0.9	2.1	A
7	Max Continuous Torque	$M_{e\,max}$	7.0 (1)	7.2 (1.02)	7.1 (1.01)	7.5 (1.07)	mNm (oz-in)
8	Back EMF Constant	k_E	2.82	1.84	0.80	0.37	V/1000 rpm
9	Torque Constant	k_M	26.9	17.6	7.7	3.5	mNm/A
10	Motor Regulation	R/k^2	71.8	67.9	69.2	62.4	10^3/Nms
11	Motor Regulation	$k/R^{½}$	3.7 (0.53)	3.8 (0.54)	3.8 (0.54)	4 (0.57)	mNm/W^{½} (oz-in/W^{½})
12	Internal Resistance - phase to phase	R_i	52.00	21.00	4.05	0.78	ohms
13	Line to Line Resistance at Connectors	R_L	52.10	21.10	4.13	0.82	ohms
14	Inductance Phase to Phase	L	3.93	1.63	0.32	0.07	mH
15	Mechanical Time Constant	τ_m	3.9	3.7	3.8	3.4	ms
16	Electrical Time Constant	τ_e	0.08	0.08	0.08	0.08	ms

General Data				
17	Maximum Motor Speed	n_{max}	63,000	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}	3.5 / 17	°C/W
24	Thermal Time Constant	τ_w	580	s
25	Weight	-	41 (1.45)	g (oz)
26	Rotor Inertia	J	0.60	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

