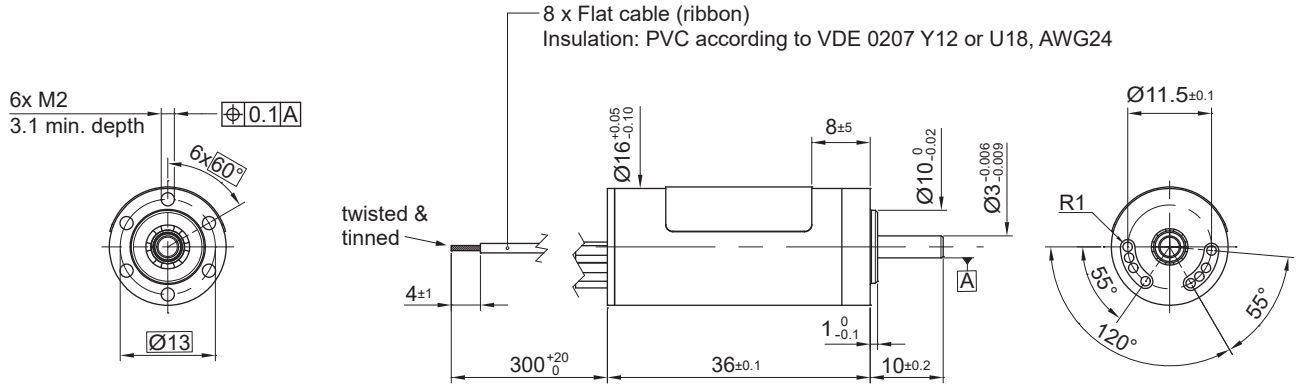


16ECP36 Ultra EC™

Ø 16 mm • 2-pole • 27 W



Dimensions in mm

Electrical Data	Symbol	16ECP36-8B-xxx.01				Unit
		380	245	108	49	
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	$k/R^{1/2}$	3.7 (0.53)	3.8 (0.54)	3.8 (0.54)	4 (0.57)	$mNm/W^{1/2}$ (oz-in/ $W^{1/2}$ )
12 Internal Resistance - phase to phase	$R_l$	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	$\tau_m$	3.9	3.7	3.8	3.4	ms
16 Electrical Time Constant	$\tau_e$	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	$\tau_w$	580		s
25 Weight	-	41 (1.45)		g (oz)
26 Rotor Inertia	$J$	0.60		g-cm <sup>2</sup>
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

