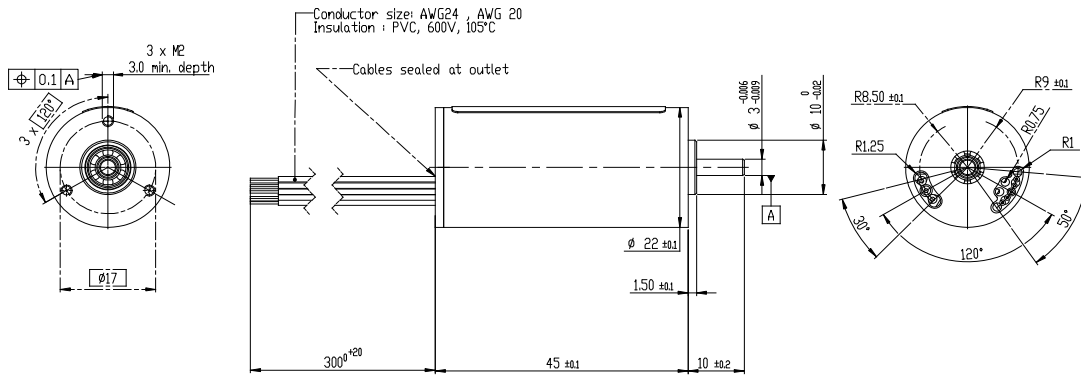


22ECS45 Ultra EC™

2 pole

Ø22mm

120 W



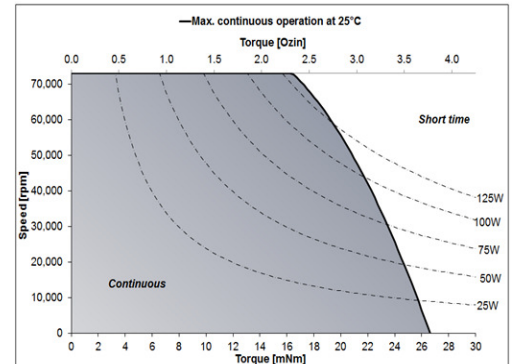
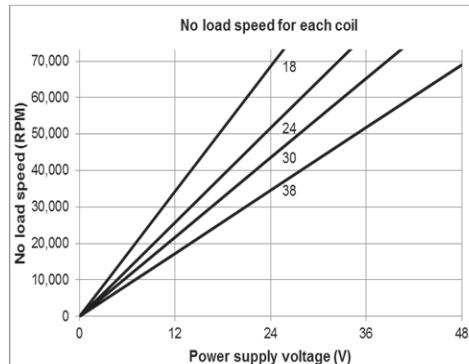
Dimensions in mm

22ECS45 10B - \*\*

Electrical Data	**	38	30	24	18	
1 Nominal Voltage	$U_N$	24	24	24	24	Volt
2 Optimization Direction	-	CCW	CCW	CCW	CCW	-
3 No-Load Speed	$n_0$	34,500	43,500	51,600	68,500	rpm
4 Typical No-Load Current	$I_0$	160	195	240	300	mA
5 Max Continuous Mechanical Power (@25°C)	$P_{max}$	120	120	120	120	W
6 Max Continuous Current	$I_{e max}$	4.0	5.2	6.4	8.2	A
7 Max Continuous Torque	$M_{e max}$	26.6 (3.77)	26.8 (3.8)	26.7 (3.79)	26.8 (3.8)	mNm (oz-in)
8 Back EMF Constant	$K_E$	0.69	0.54	0.44	0.34	V/1000 rpm
9 Torque Constant	$k_M$	6.6	5.2	4.2	3.3	mNm/A
10 Motor Regulation	$R/k^2$	8.6	8.5	8.5	8.5	$10^3/Nms$
11 Motor Regulation	$k/R^{1/2}$	10.8 (1.53)	10.8 (1.53)	10.8 (1.53)	10.8 (1.53)	mNm/W <sup>1/2</sup> (oz-in/W <sup>1/2</sup> )
12 Internal Resistance - phase to phase	$R_i$	0.38	0.23	0.15	0.09	ohms
13 Line to Line Resistance at Connectors	$R_L$	0.42	0.25	0.18	0.11	ohms
14 Inductance Phase to Phase	$L$	0.057	0.035	0.022	0.013	mH
15 Mechanical Time Constant	$t_m$	1.9	1.9	1.9	1.9	ms
16 Electrical Time Constant	$t_e$	0.15	0.15	0.15	0.14	ms

General Data						
17 Maximum Motor Speed	$n_{max}$			73,000		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	-			5.5		N
21 Axial Static Force w/o Shaft Support (max)	-			34		N
22 Maximum Winding Temperature	-			125 (257)		°C (°F)
23 Thermal Resistance	$R_{th1}/R_{th2}$			2 / 9.7		°C/W
24 Thermal Time Constant	$t_w$			1,000		s
25 Weight	-			100 (3.52)		g (oz)
26 Rotor Inertia	$J$			2.30		g.cm <sup>2</sup>
27 Hall Sensor Electrical Phasing	-			120		Electrical °

with hall effect sensors	
Wire	Description
Grey	Phase 1
Violet	Phase 2
Blue	Phase 3
Green	3.5 to 27V DC
Yellow	GND
Orange	Sensor 1
Red	Sensor 2
Brown	Sensor 3
Black	NTC 1
White	NTC 2



V09212016