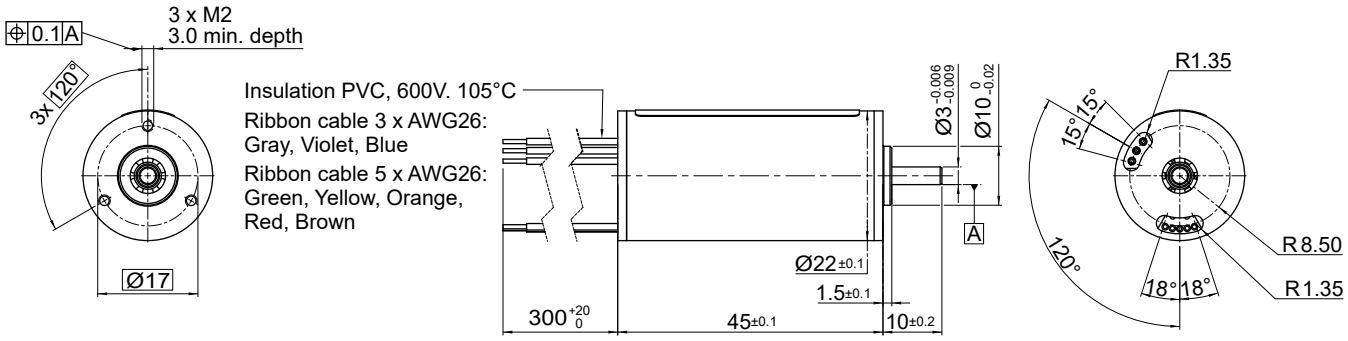
22ECP45 Ultra EC™

Ø 22 mm • 2-pole • 80 W



Dimensions in mm.

Electrical Data	Symbol	22ECP45-8B-xxx.01		Unit
		154	82	
1 Nominal Voltage	U_N	24	24	Volt
2 Optimization Direction	-	Symmetrical	Symmetrical	-
3 No Load Speed	n_0	8,370	15,700	rpm
4 Typical No Load Current	I_0	25	60	mA
5 Max Continuous Mechanical Power (@25°C)	P_{max}	80	80	W
6 Max Continuous Current	$I_{e\,max}$	1.0	2.0	A
7 Max Continuous Torque	$M_{e\,max}$	27.7 (3.93)	29.4 (4.17)	mNm (oz-in)
8 Back EMF Constant	k_E	2.82	1.53	V/1000 rpm
9 Torque Constant	k_M	27.0	14.6	mNm/A
10 Motor Regulation	R/k^2	8.0	7.0	10^3/Nms
11 Motor Regulation	$k/R^{½}$	11.2 (1.59)	11.9 (1.69)	mNm/W^{½} (oz-in/W^{½})
12 Internal Resistance - phase to phase	R_l	5.80	1.50	ohms
13 Line to Line Resistance at Connectors	R_L	5.89	1.59	ohms
14 Inductance Phase to Phase	L	0.94	0.27	mH
15 Mechanical Time Constant	τ_m	1.8	1.6	ms
16 Electrical Time Constant	τ_e	0.16	0.18	ms
General Data				
17 Maximum Motor Speed	n_{max}	47,000		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_{th}	2/9.7		°C/W
24 Thermal Time Constant	τ_w	850		s
25 Weight	-	100 (3.53)		g (oz)
26 Rotor Inertia	J	2.30		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	

