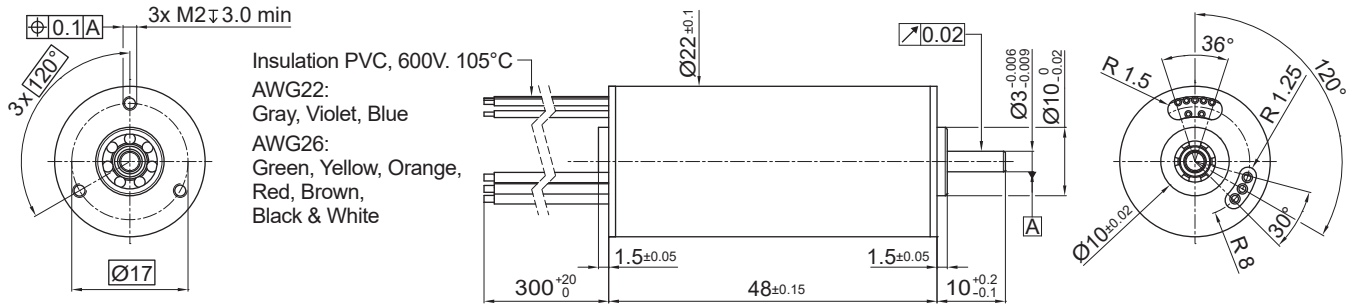


22ECT48 Ultra EC™

Ø 22 mm • 4-pole • 54 W



Dimensions in mm

Electrical Data	Symbol	22ECT48 10B-xxx.01			Unit
		14	23	35	
1 Nominal Voltage	$U_N$	12	24	24	Volt
2 Optimization Direction	-	Symmetrical	Symmetrical	Symmetrical	-
3 No Load Speed	$n_0$	10,140	11,950	7,950	rpm
4 Typical No Load Current	$I_0$	155	120	70	mA
5 Max. Continuous Mechanical Power (@25°C)	$P_{max}$	54.0	54.0	54.0	W
6 Max. Continuous Current	$I_{e,max}$	3.7	2.2	1.5	A
7 Max. Continuous Torque	$M_{e,max}$	41.6 (5.9)	41.1 (5.82)	40.8 (5.78)	mNm (oz-in)
8 Back EMF Constant	$k_E$	1.17	1.95	2.94	V/1000 rpm
9 Torque Constant	$k_M$	11.2	18.6	28.1	mNm/A
10 Motor Regulation	$R/k^2$	2.9	3.0	3.0	10 <sup>3</sup> /Nms
11 Motor Regulation	$k/R^{1/2}$	18.4 (2.61)	18.2 (2.58)	18.1 (2.57)	mNm/W <sup>1/2</sup> (oz-in/W <sup>1/2</sup> )
12 Internal Resistance - phase to phase	$R_i$	0.37	1.04	2.40	ohms
13 Line to Line Resistance at Connectors	$R_L$	0.40	1.07	2.43	ohms
14 Inductance Phase to Phase	$L$	0.04	0.11	0.24	mH
15 Mechanical Time Constant	$\tau_m$	1.8	1.9	1.9	ms
16 Electrical Time Constant	$\tau_e$	0.11	0.10	0.10	ms

General Data				
17 Maximum Motor Speed	$n_{max}$		20,000	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	-		6.8	N
21 Axial Static Force w/o Shaft Support (max)	-		45	N
22 Maximum Winding Temperature	-		125 (257)	°C (°F)
23 Thermal Resistance	$R_{th}$		2.1 / 12	°C/W
24 Thermal Time Constant	$\tau_w$		962	s
25 Weight	-		98 (3.46)	g (oz)
26 Rotor Inertia	$J$		6.3	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
Black	NTC 10 kohm
White	NTC 10 kohm

with hall effect sensor

