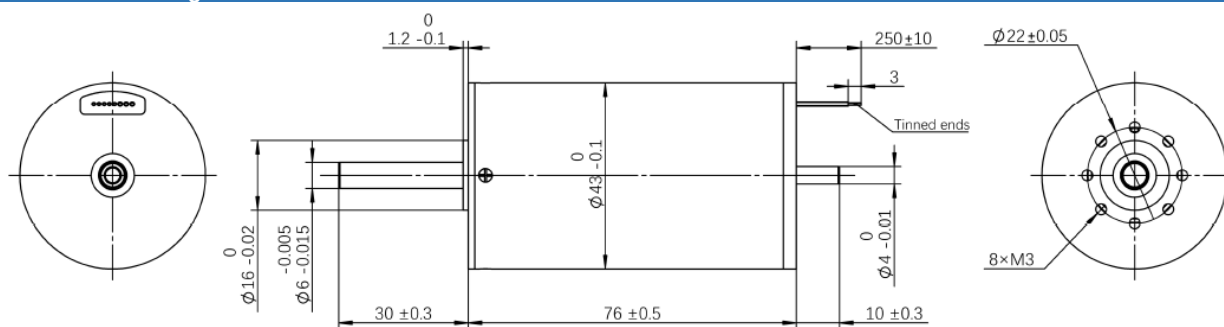


Φ43 mm brushless motor (high power)



Motor Data		107007603	107007601				
Values at nominal voltage							
1 Nominal voltage	U_N	24	24				V
2 No load speed	n_o	12000	18000				rpm
3 No load current	I_o	450	1120				mA
4 Stall torque	M_H	1680.5	2322.2				mNm
5 Stall current	M_I	88.9	184.6				A
6 Max. efficiency	η_{max}	86	85				%
7 Nominal power	W_N	125.0	154.5				W
8 Nominal speed	n_N	10000	15000				rpm
9 Nominal torque (max.continuous torque)	M_N	125	103				mNm
10 Nominal current (max.continuous current)	I_N	6.5	6.25				A
Characteristics							
11 Terminal resistance phase to phase	R	0.27	0.13				Ω
12 Terminal inductance phase to phase	L	62	32				uH
13 Back-EMF constant	K_E	1.99	1.33				mV/rpm
14 Torque constant	K_M	19.00	12.66				mNm/A
15 Speed constant	K_n	503	755				rpm/V
16 Current constant	K_I	0.053	0.079				A/mNm
17 Speed / torque gradient	$\Delta n/\Delta M$	7.14	7.75				rpm/mNm
18 Mechanical time constant	τ_m	39.0	42.0				ms
19 Rotor inertia	J	75.0	75.0				gcm ²
Specifications							
20 Operating temperature range:							
-Motor						-40.....+100	°C
-winding, max permissible						+125	°C
21 Direction of rotation						electronically reversible	
22 Max. speed	n_{max}					20000	rpm
23 Number of pole pairs						1	
24 Number of phases						3	
25 Magnet material						NdFeB	
26 Hall sensors						digital	
Mechanical data							
27 Bearing type						ball bearings, preloaded	
28 Axial play						0 - 0.3	mm
29 Max. axial load (dynamic)						6	N
30 Max. force for press fits (static)						90	N
(static, shaft supported)						1200	N
31 Max. radial loading, 5 mm from flange						28	N
Product							
32 Weight of motor		600					g

Dimensional drawing



Option, cable and connection information

Connection Motor (Cable AWG20)

Motor winding A	red
Motor winding B	black
Motor winding C	yellow

Vhall 4.5V.....24V	red
GND	black
Hall sensors A	blue
Hall sensors B	green
Hall sensors C	white

