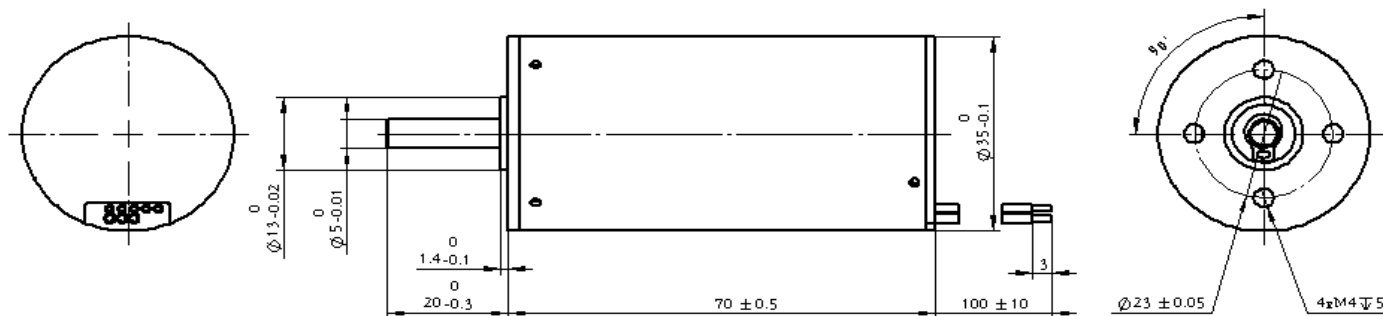


# Φ35 mm brushless motor (high power)

Motor Data		106507001					
<b>Values at nominal voltage</b>							
1	Nominal voltage	$U_N$	24				V
2	No load speed	$n_o$	6500				rpm
3	No load current	$I_o$	120				mA
4	Stall torque	$M_H$	696.7				mNm
5	Stall current	$M_I$	20.0				A
6	Max. efficiency	$\eta_{max}$	85				%
7	Nominal power	$W_N$	67				W
8	Nominal speed	$n_N$	5395				rpm
9	Nominal torque (max.continuous torque)	$M_N$	118				mNm
10	Nominal current (max.continuous current)	$I_N$	3.5				A
<b>Characteristics</b>							
11	Terminal resistance phase to phase	$R$	1.2				Ω
12	Terminal inductance phase to phase	$L$	0.35				mH
13	Back-EMF constant	$K_E$	3.67				mV/rpm
14	Torque constant	$K_M$	35.05				mNm/A
15	Speed constant	$K_n$	272				rpm/V
16	Current constant	$K_I$	0.029				A/mNm
17	Speed / torque gradient	$\Delta n/\Delta M$	9.33				rpm/mNm
18	Mechanical time constant	$\tau_m$	9.7				ms
19	Rotor inertia	$J$	26.8				gcm <sup>2</sup>
<b>Specifications</b>							
20	Operating temperature range:						
	-Motor					-20.....+100	°C
	-winding, max permissible					+125	°C
21	Housing material					aluminium, black anodized	
22	Direction of rotation					electronically reversible	
23	Max. speed	$n_{max}$				15000	rpm
24	Number of pole pairs					1	
25	Number of phases					3	
26	Magnet material					NdFeB	
27	Hall sensors					digital	
<b>Mechanical data</b>							
28	Bearing type					ball bearings, preloaded	
29	Axial play					0 - 0.3	mm
30	Max. axial load (dynamic)					6	N
31	Max. force for press fits (static) (static, shaft supported)					90 1200	N N
32	Max. radial loading, 5 mm from flange					28	N
<b>Product</b>							
33	Weight of motor		340				g

## Dimensional drawing



## Option, cable and connection information

### Connection Motor (Cable AWG20)

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

### Connection sensors (Cable AWG24)

$V_{hall}$ 4.5V.....24V	red
GND	black
Hall sensors A	blue
Hall sensors B	green
Hall sensors C	white