



# K-28 Variable Speed Motor

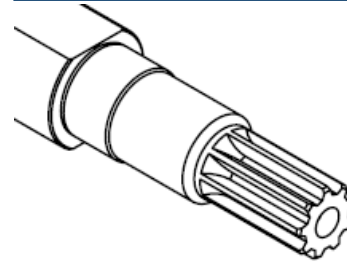
## BLDC IP66 Harsh Environment High Output Motor

- Peak Torque.....11 Nm
- Max Speed.....3700 rpm
- Supply Voltage.....28 vdc
- High Efficiency.....90%
- Speed Range.....50%-100% of rated speed

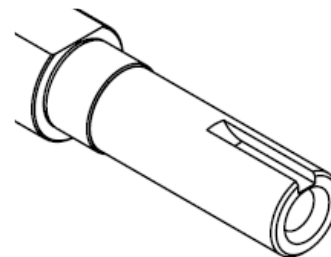
Motor Performance		
Supply voltage <i>(per 704F military standard)</i>	VDC	28
No load current	A	5
No load speed	RPM	3700
	rad/s	387.5
Rated speed <sup>1</sup>	RPM	3150
	rad/s	329.9
Rated torque <sup>1</sup>	Nm	11
	in-lb	97
Power Usage	KW	4
	HP	5.364
Rated current <sup>1</sup>	A	150
Max. efficiency		90%
Torque constant <sup>2</sup>	Nm/A	0.082
Speed constant	V/(rad/s)	0.074
	V/kRPM	7.7
Speed/ torque gradient	rpm/Nm	48
	(rad/s)/Nm	5.04
Range of operation	50%-100% of rated speed	
Number of poles		8
Thermal Data		
Thermal resistance motor housing to ambient <sup>3</sup>	°C/W	0.075
Thermal resistance ESC to housing <sup>3</sup>	°C/W	0.058
Thermal time constant	min	15
Max. controller temperature	°C	105
Other Specifications		
IP Rating		IP66
Weight	lbf	23.4
	kg	10.6



### Motor Output Shaft Options



ANSI B92.1-1996, 5/8"-9 SAE Spline



ANSI B17-1, 3/4" Keyed Shaft

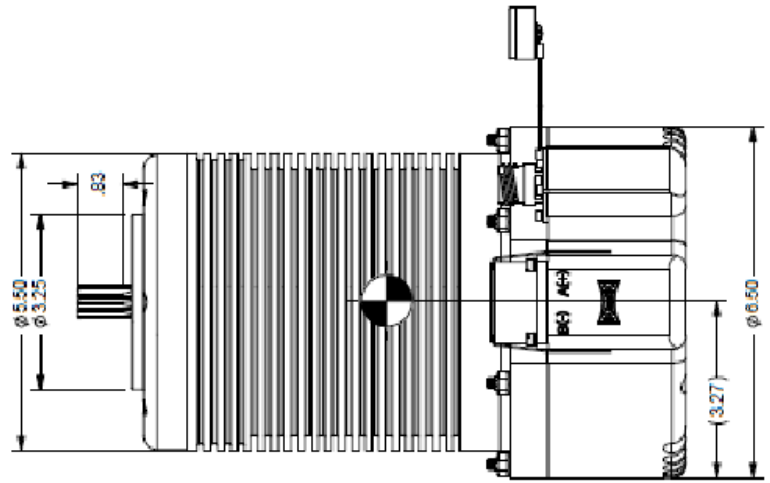
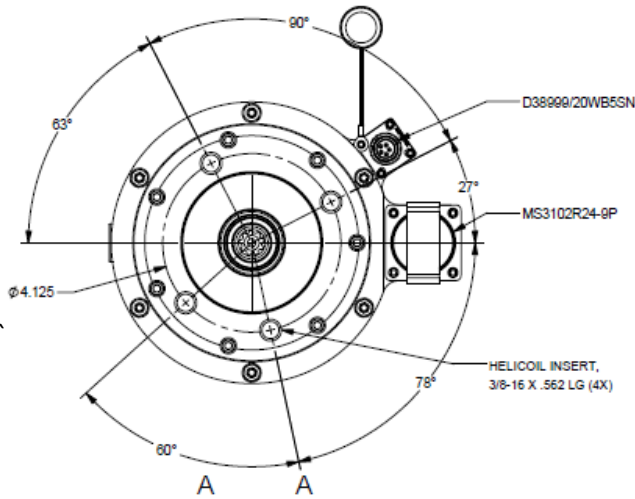
<sup>1</sup> Rated output is maximum continuous output with a nominal airflow of 3.5 m/s

<sup>2</sup> Kt represents  $\frac{d\tau}{di}$ . Total current will be slightly higher. See graph of Current Vs. Torque

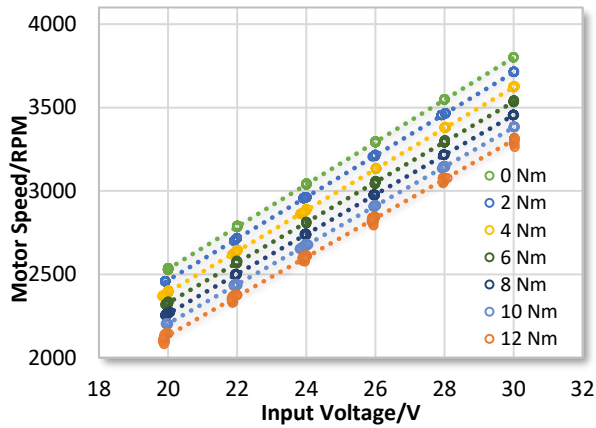
<sup>3</sup> Thermal resistance to ambient measured at nominal airflow of 3.5 m/s



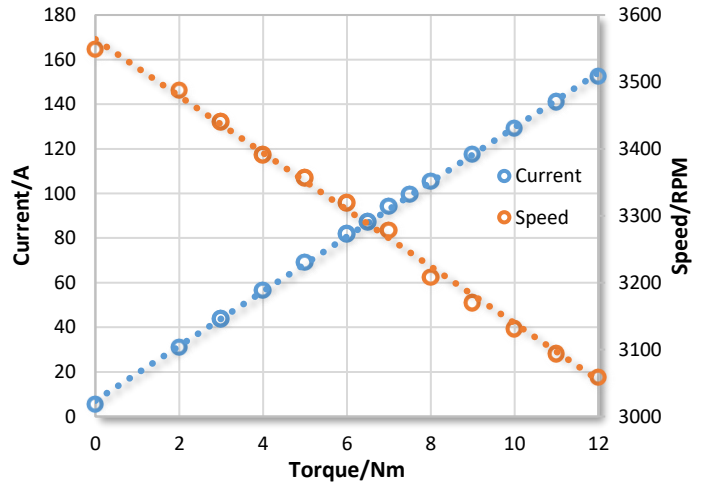
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**Motor Speed Vs. Input Voltage**

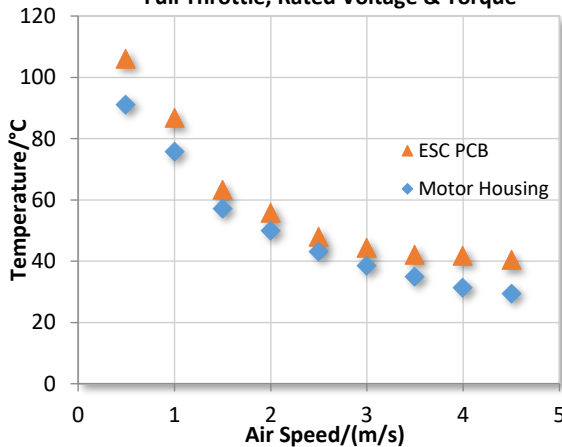


**Motor Performance**

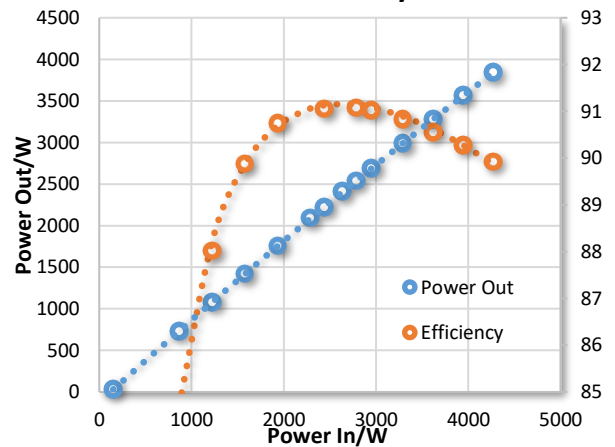


**Temperature Rise**

Full Throttle, Rated Voltage & Torque



**Motor Efficiency**



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