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**YONGJIA M/N.: BB9733H12**

**Date.** : 2014-04-11

M/N Rev.	Date	Change Item	Remark
1	2013-06-27	Start	
2	2014-03-26	Change the Speed	
3	2014-04-11	Change the Start Voltage	

## 1. Scope

This specification provides the information of Huntkey DC brushless fan with it's mechanical, electrical and reliability characteristics. Please use and storage this DC fan under our suggested condition.

1-1. Operational Condition: -10~60°C and 35~85%[RH]

1-2. Storage Condition: -40~70°C and 35~85%[RH]

## 2. Fan Characteristics

No.	Items	Specification	Remark
2-1	Rated Voltage	12.0 VDC	
2-2	Operation Voltage	4.5~13.2 VDC	
2-3	Start Voltage	4.5 VDC	
2-4	Consuming Current	0.70A (1.50A max.)	
2-5	Consuming Power	8.4W (18.0W max.)	
2-6	Rated Speed	4500 ±10% RPM (Ref.)	
2-7	Maximum Air Flow	0.90 m <sup>3</sup> /min (0.81min.) 31.78 CFM (28.60min.)	Details in Section 4
2-8	Maximum Static Pressure	41.7 mmH <sub>2</sub> O (33.83min.) 1.64 inH <sub>2</sub> O (1.33min.)	Details in Section 4 Measured at Q=0
2-9	Acoustic Noise	60.0dB(A) (64.0max.)	
2-10	Life Expectance	50,000 hours at40 °C	
2-11	Insulation Resistance	10 MΩ min. at500 VDC	Measure between frame and terminal
2-12	Dielectric Strength	5 mA max. at500 VAC 60 Hz and 1 minute	Measure between frame and terminal
2-13	Insulation Level	UL Class A	
2-14	Auto Restart	Yes	
2-15	Rotation Direction	Counter-Clockwise	

### Notes:

#### A. Environment condition:

Temperature: 25 °C

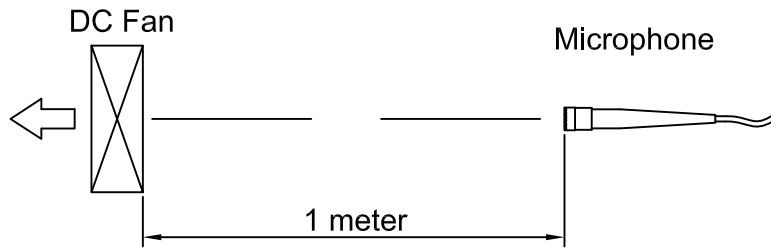
Humidity: 65%[RH]

Atmosphere: 1 atm

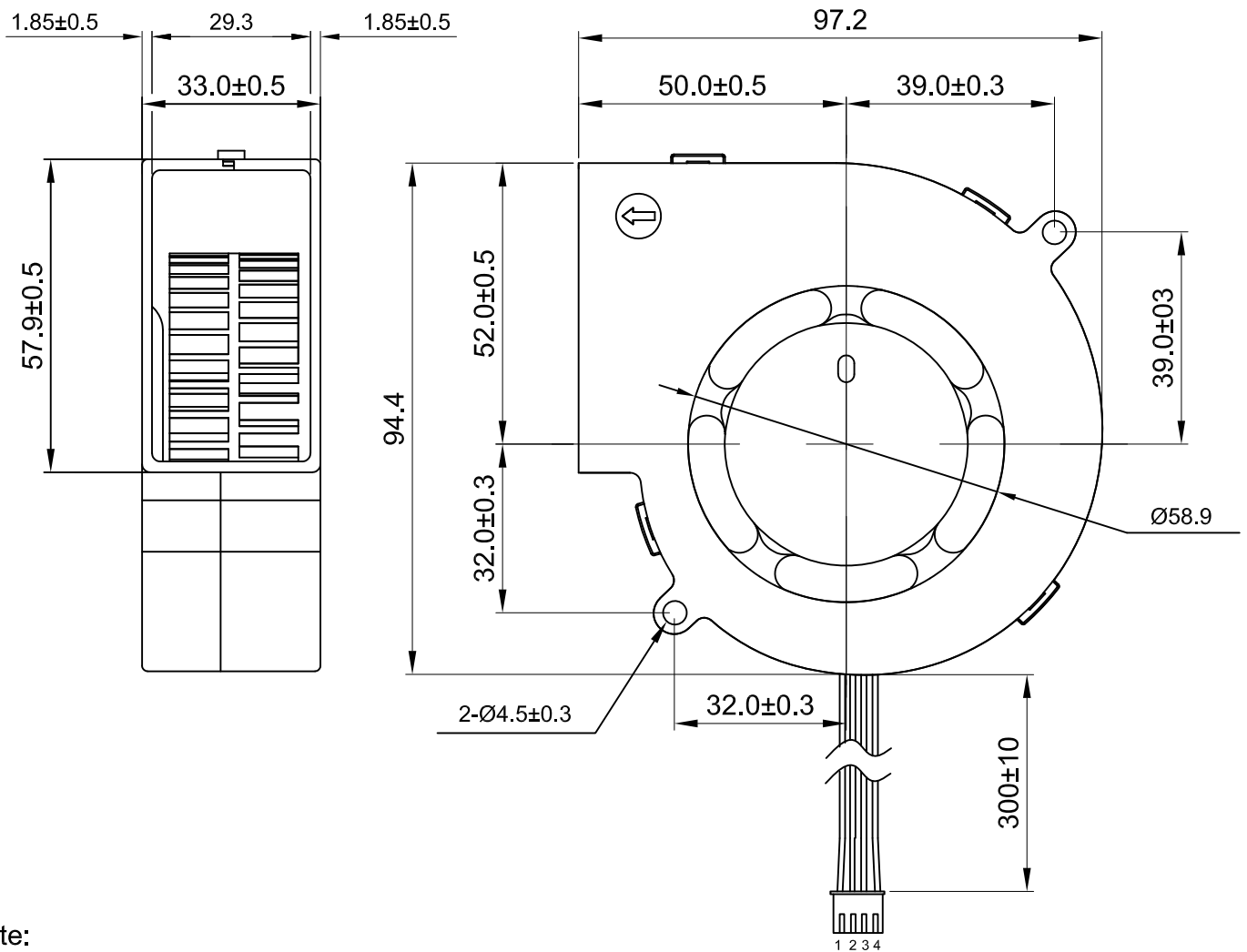
#### B. Noise is measured at rated test condition in semi-anechoic chamber in free air with microphone at a distance of 1 meter apart from the axis of fan at intake side

#### C. Chamber background noise level < 16.0dB(A)

Chamber cut-off frequency: 100Hz



UNIT: mm



**Note:**

- A. Frame : PBT, UL 94V-0 Black
- B. Impeller : PBT, UL 94V-0 Black
- C. Housing : HST H2500J-04 OR JST XHP-4 OR EQUIVALENT
- Terminal : HST H2500J OR SXH-001T-P0.6 OR EQUIVALENT
- D. Lead Wire : UL1007 AWG#24
- E. Bearing Type : 2 Ball Bearing(2B)
- F. This product is RoHS compliant

**Label Drawing**

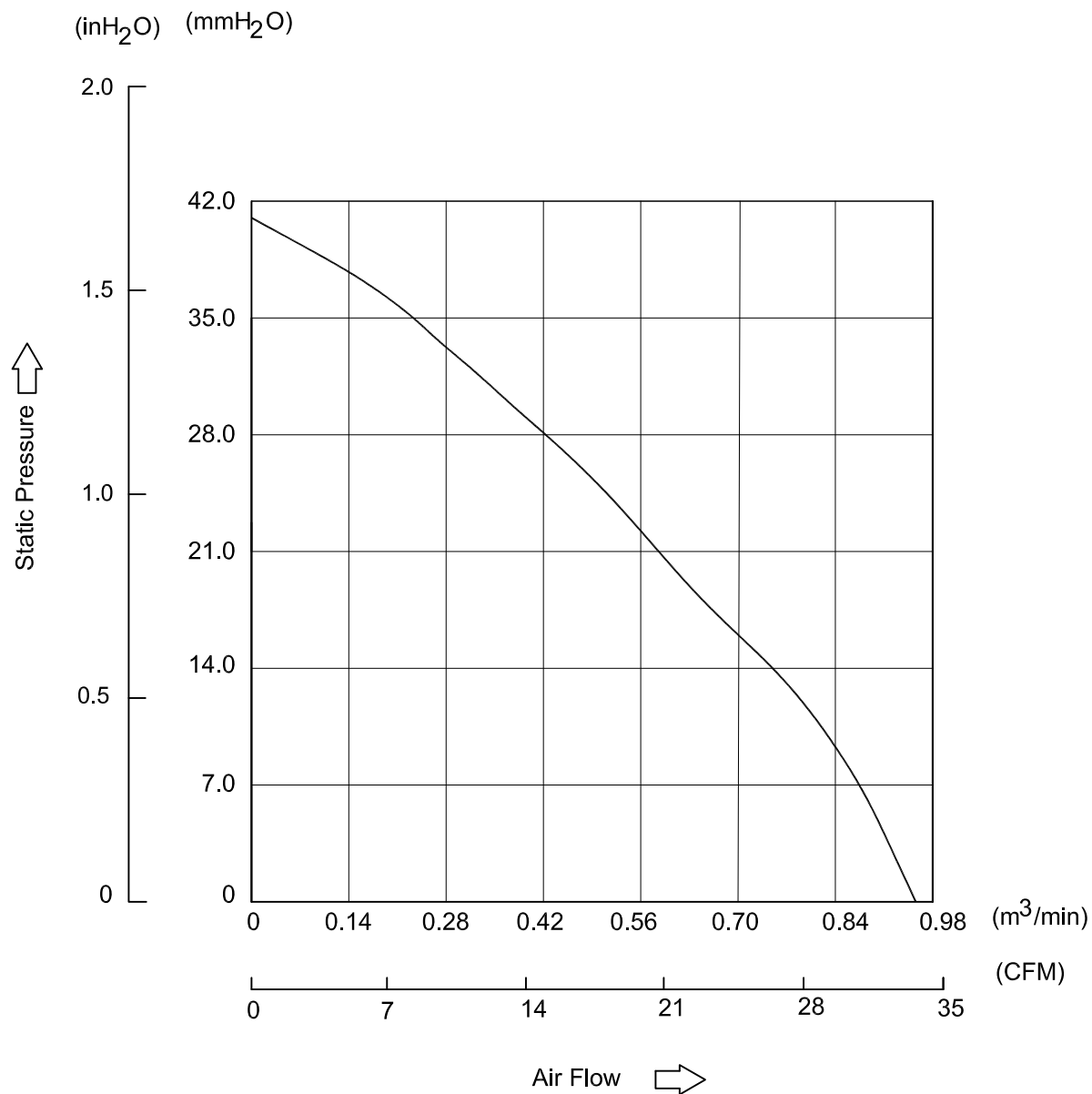


**Pin Assignmant**

No.	Signal	Color
1	(+)	Red
2	N/A	N/A
3	FG	Blue
4	(-)	Black

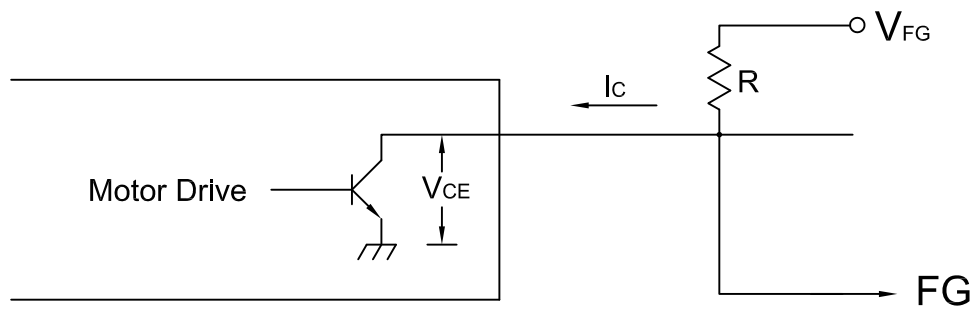
#### 4. Performance Curve

The following PQ curve are measured by equipment adapted double chamber base on ACMA210 standard under rated test condition



## 5. Electrical Characteristics

### 5-1. Output circuit - Open collector mode:



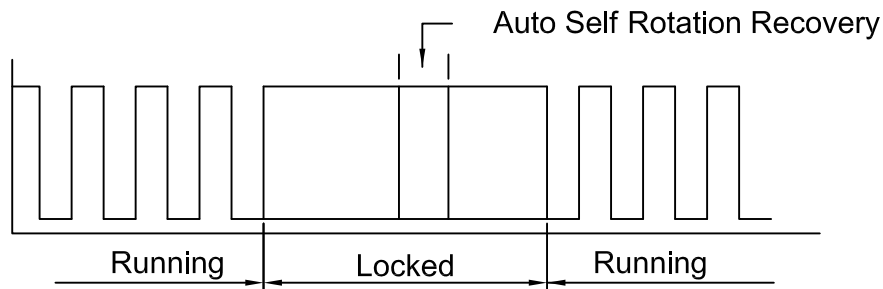
$V_{FG}$  = Operating Voltage (max.)

$I_c$  = 5mA max

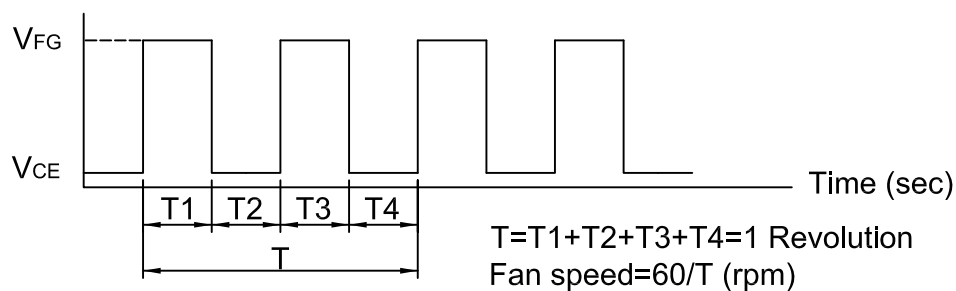
$V_{CE} \leq 0.5V$

$R > V_{FG}/I_c$

### 5-2. Frequency Generator Waveform:



For 4 poles / per revolution



### 5-3. Polarity Protection

At rated voltage, the DC fan would withstand the reverse connection between positive and negative leads.

### 5-4. Lock Protection

Impedance of motor winding protects motor from damage in 72 hours of locked rotor condition at the rated voltage.

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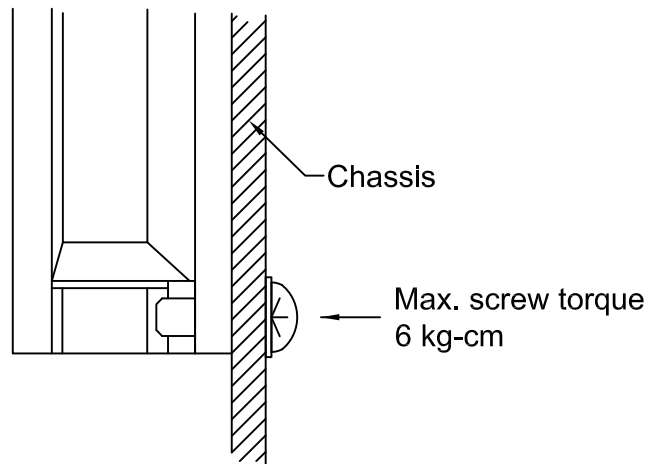
## Appendix

- A. Huntkey will not guarantee the performance of the products if the application condition falls outside the parameters set forth in the specification.
- B. A written request should be submitted to Huntkey prior to approval if deviation from this specification is required.
- C. Please exercise caution when handling fans. Damage may be caused when pressure is applied to the impeller, if the fans are handled by the lead wires, or if the fans are hard-dropped to the production floor.
- D. Except as pertains to some special designs, there is no guarantee that the products will be free from any such safety problems or failures as caused by the introduction of powder, droplets of water or encroachment of insect into the hub.
- E. The above-mentioned conditions are representative of some unique examples and viewed as the first point of reference prior to all other information.
- F. It is very important to establish the correct polarity before connecting the fan to the power source. Positive (+) and Negative (-). Damage may be caused to the fans if reverse connection with no polarity protection, as there is no foolproof method to protect against such error.
- G. Huntkey fans are not suitable where any corrosive fluids are introduced to their environment.
- H. Please ensure all fans are stored according to the storage temperature limits specified. Do not store fans in a high humidity environment. We highly recommend performance testing is conducted before shipping, if the fans have been stored over 6 months.
- I. Not all fans are provided with the Lock Rotor Protection feature. If you impair the rotation of the impeller for the fans that do not have this function, the performance of those fans will lead to failure.
- J. Please be cautious when mounting the fan. Incorrect mounting of fans may cause excess resonance, vibration and subsequent noise.
- K. It is important to consider safety when testing the fans. A suitable fan guard should be fitted to the fan to guard against any potential for personal injury.
- L. Except where specifically stated, all tests are carried out at relative (ambient) temperature and humidity conditions of 25°C, 65%. The test value is only for fan performance itself.
- M. Be certain to connect an "over 4.7μF" capacitor to the fan externally when the application calls for using multiple fans in parallel, to avoid any unstable power.

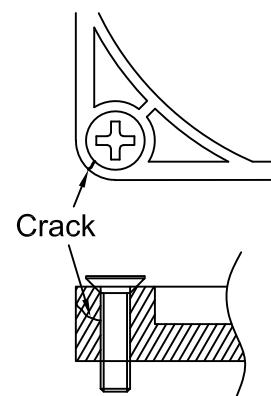
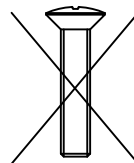
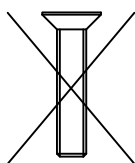
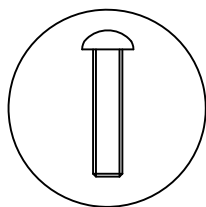
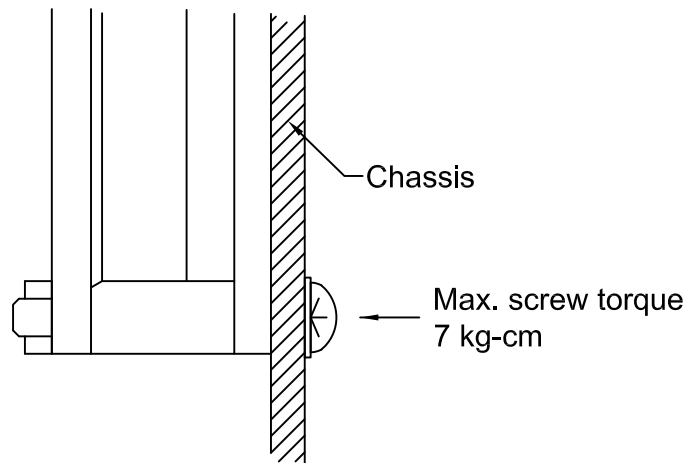
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## Suggested Screw Torque

### A. Flange Frame



### B. Rib Frame



Please don't use taper screw above, it might cause crack on frame