SPECIFICATION FOR APPROVAL

Customer :

Description : DC FAN

Customer Part No. : REV. :

Delta Model No. : THB1548EG-00MCT REV. : 00

Sample Issue No. :

Sample Issue Date : DEC.16 2025

PLEASE SEND ONE COPY OF THIS SPECIFICAITON BACK AFTER YOU SIGNED APPROVAL FOR PRODUCTION PRE-ARRANGMENT.

APPROVED BY:

DATE :

THB1548EG-00MCT Delta Datasheet
sales@fansco.com www.fansco.com

sales@fansco.com
www.fansco.com

STATEMENT OF DEVIATION

■ NONE
☐ DESCRIPTION:

THB1548EG-00MCT Delta Datasheet
sales@fansco.com www.fansco.com
sales@fansco.com
www.fansco.com

SPECIFICATION FOR APPROVAL

Customer : EPC POWER

Description : DC FAN

Customer P/N : rev. :

Delta model no. : THB1548EG-00MCT Delta Safety Model No.: THB1548EG-00

Sample revision. : 00 Issue no.:

Sample issue date : DEC.16 2025 Quantity :

1. SCOPE:
THIS SPECIFICATION DEFINES THE ELECTRICAL AND MECHANICAL CHARACTERISTICS OF THE DC BRUSHLESS AXIAL FLOW FAN.

2. CHARACTERS:

ITEM	DESCRIPTION
RATED VOLTAGE	48V
OPERATION VOLTAGE	36.0 - 60.0 VDC
INPUT CURRENT(AVG.) ★ (TEST UNDER FREE AIR)	3.15 (MAX. 3.63) A SAFETY CURRENT ON LABEL : 4.75A
INPUT POWER(AVG.) ★ (TEST UNDER FREE AIR)	151.20 (MAX. 174.24) W
SPEED (AT RATED VOLTAGE)	7500 R.P.M. ± 10%
MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	14.838 (MIN. 13.354) M^3/MIN. 524.37 (MIN. 471.93) CFM
MAX. AIR PRESSURE (AT ZERO AIRFLOW)	100.04 (MIN. 81.02) mmH_2O 3.93 (MIN. 3.18) $inchH_2O$
ACOUSTICAL NOISE (AVG.)	78.5 (MAX. 82.5) dB-A
INSULATION TYPE	UL: CLASS A
INGRESS PROTECTION	IP55 (IEC 60529 STANDARD)
INSULATION STRENGTH	10 MEG OHM MIN. AT 500 VDC (BETWEEN FRAME AND LEAD WIRES)
DIELECTRIC STRENGTH	5 mA MAX. AT 500 VAC 50/60 Hz ONE MINUTE, (BETWEEN FRAME AND LEAD WIRES)

★AVG. IS THE AVERAGE VALUE DURING STEADY OPERATION, AND MAX. IS MAXIMUM AVERAGE VALUE INCLUDED PRODUCTION TOLERANCE. ABOUT THE PEAK VALUE, NEED TO USE OSCILLOSCOPE TO MEASURE.

(continued)

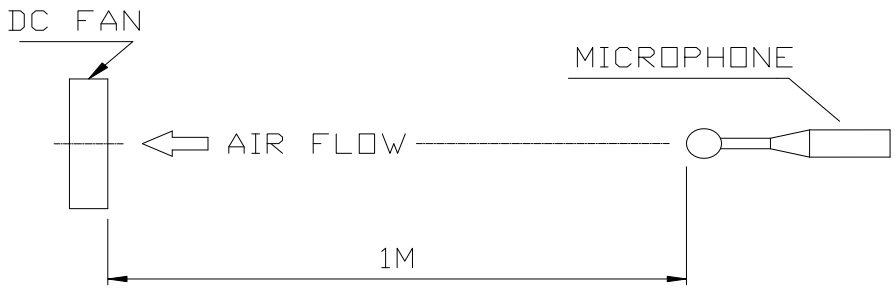
PART NO:

DELTA MODEL: THB1548EG-00MCT

LIFE EXPECTANCE (L10) (AT LABEL VOLTAGE)	70,000 HOURS CONTINUOUS OPERATION AT 40 °C WITH 15 ~ 65 %RH.
ROTATION	CONTERCLOCKWISE VIEW FROM NAME PLATE SIDE
LOCKED ROTOR PROTECTION	THE CURRENT WILL SHUT DOWN, WHEN ROTOR LOCKED AND FIXED.

NOTES:

1. ALL READINGS ARE MEASURED AFTER STABLY WARMING UP THROUGH 10 MINUTES.
2. STANDARD AIR PROPERTY IS AIR AT (Td) 25°C TEMPERATURE, (RH) 65% RELATIVE HUMIDITY , AND (Pb) 760 mmHg BAROMETRIC PRESSURE.
3. THE VALUES WRITTEN IN PARENS , ( ), ARE LIMITED SPEC.
4. ACOUSTICAL NOISE MEASURING CONDITION:



NOISE IS MEASURED AT RATED VOLTAGE IN FREE AIR IN SEMI-ANECHOIC CHAMBER WITH MICROPHONE AT A DISTANCE OF ONE METER FROM THE FAN INTAKE.

PART NO:

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3.MECHANICAL:

3-1. DIMENSIONS---------- SEE DIMENSIONS DRAWING
3-2. FRAME----------DIE-CAST ALUMINUM
3-3. IMPELLER---------- PLASTIC UL: 94V-0
3-4. BEARING SYSTEM---------- TWO BALL BEARINGS
3-5. WEIGHT---------- 890 GRAMS(REF.)

4. ENVIRONMENTAL:

4-1. OPERATING TEMPERATURE---------- -10 TO +70 DEGREE C
4-2. STORAGE TEMPERATURE---------- -40 TO +75 DEGREE C
4-3. OPERATING HUMIDITY---------- 5 TO 90 % RH
4-4. STORAGE HUMIDITY---------- 5 TO 95 % RH

5. PROTECTION:

5-1. LOCKED ROTOR PROTECTION
IMPEDANCE OF MOTOR WINDING PROTECTS MOTOR FROM FIRE IN 96 HOURS OF LOCKED ROTOR CONDITION AT THE RATED VOLTAGE.

5-2. POLARITY PROTECTION
BE CAPABLE OF WITHSTANDING IF REVERSE CONNECTION FOR POSITIVE AND NEGATIVE LEADS.

6. RE OZONE DEPLETING SUBSTANCES:

6-1. NO CONTAINING PBBs, PBBOs, CFCs, PBBEs, PBDPEs AND HCFCs.

7. PRODUCTION LOCATION

7-1. PRODUCTS WILL BE PRODUCED IN CHINA.

8. FAN CURRENT PROTECTION IS OVERCURRENT PROTECTION

9. ENHANCE FAN SPINS REVERSELY START-UP ABILITY

10. MOS GATE PIN RESISTOR PARALLELS WITH DIODE AND RESISTOR

11. ADD TVS TO PROTECT AGAINST HIGH VOLTAGE TRANSIENTS

PART NO:

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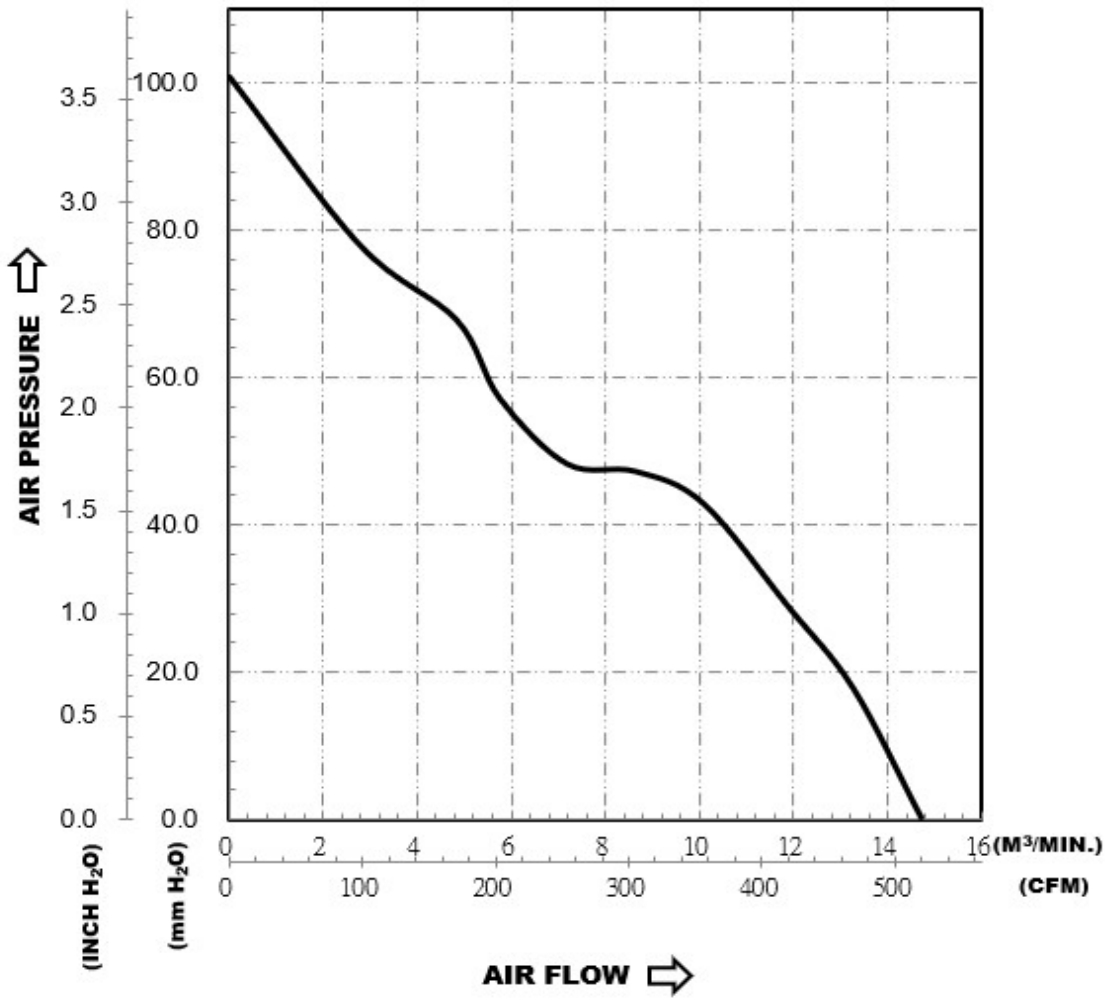
12. P & Q CURVE:



*TEST CONDITION: INPUT VOLTAGE-------OPERATION VOLTAGE
TEMPERATURE---------ROOM TEMPERATURE
HUMIDITY----------65%RH

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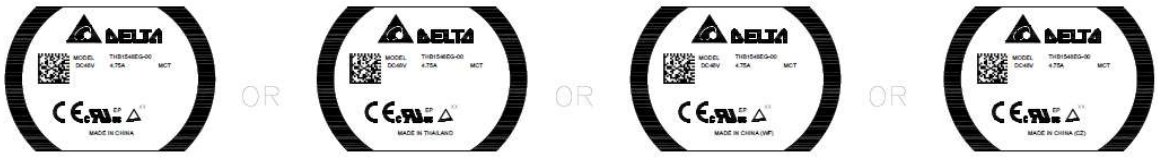
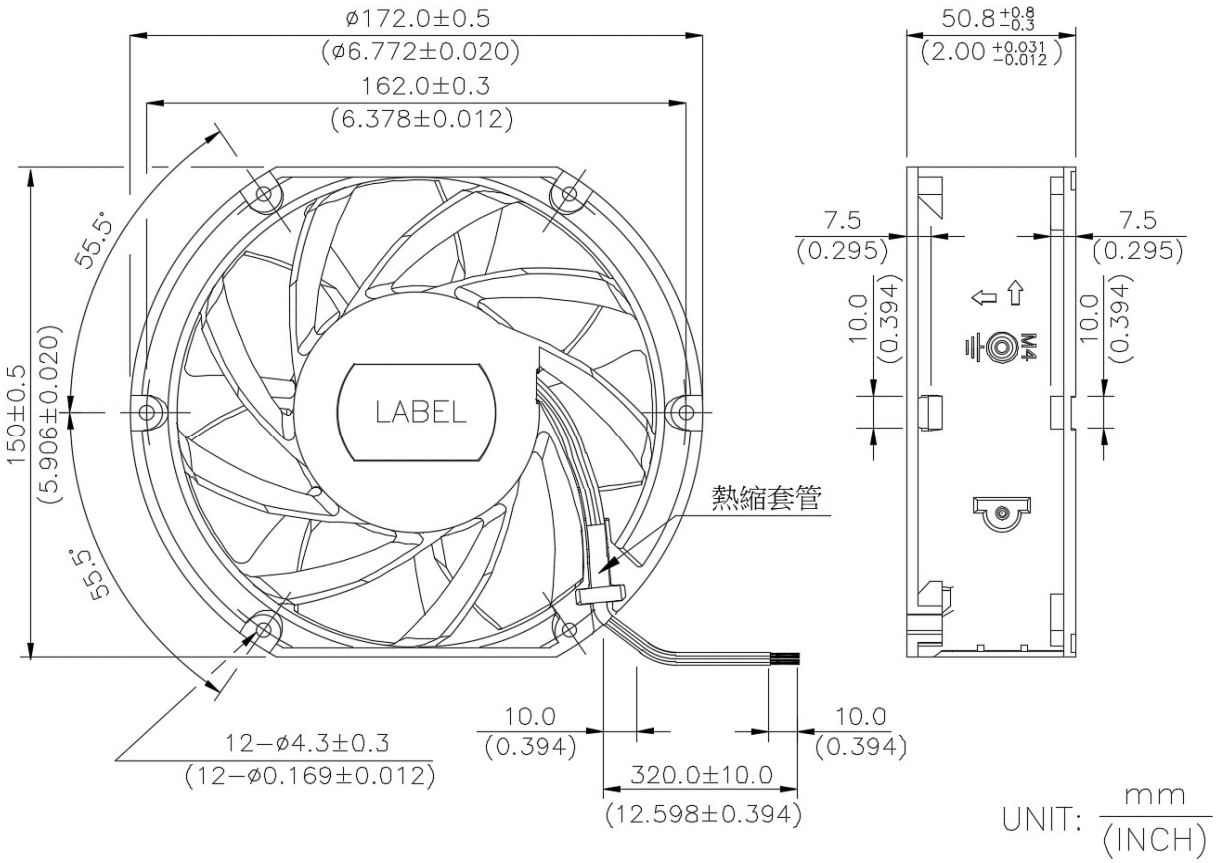
12. DIMENSION DRAWING:

LABEL:





NOTES:

1. THIS PRODUCT IS RoHS COMPLIANT
2. LEAD WIRE UL1007 AWG #24
   RED WIRE------(+)
   BLACK WIRE------(-)
   BLUE WIRE-------(F00)
   YELLOW WIRE-------(PWM)

★ 3. RECOMMENDED OPERATING SEQUENCE
   FAN START : VCC ON --> PWM INPUT
   FAN STOP: PWM 0% DUTY --> VCC OFF

★ 4. TO ENSURE FAN GND'S STABILITY ,THE CONTROL VOLTAGE CAN BE ONLY ALLOWED BY SWITCHING ON THE POSITIVE SIDE

PART NO:

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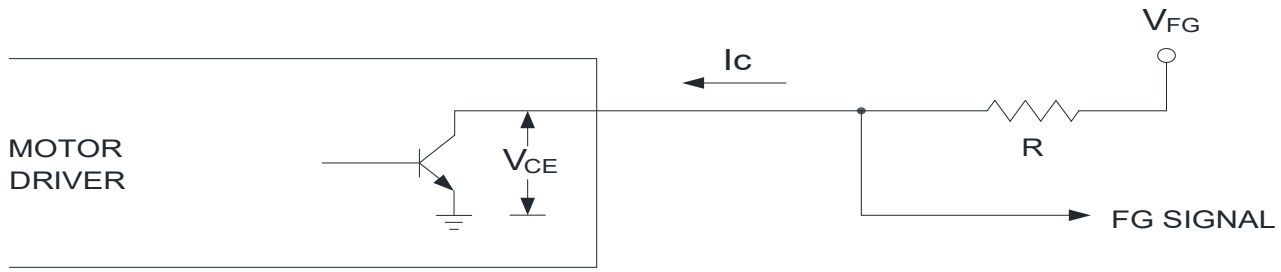
14. FREQUENCY GENERATOR (FG) SIGNAL:

14-1. OUTPUT CIRCUIT - OPEN COLLECTOR MODE:



CAUTION:

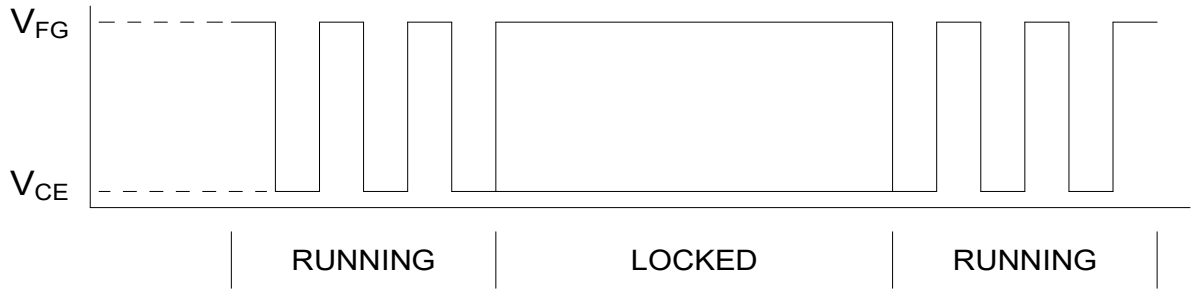
THE LEAD WIRE OF FG SIGNAL CAN NOT TOUCH THE LEAD WIRE OF POSITIVE OR NEGATIVE.

14-2. SPECIFICATION:

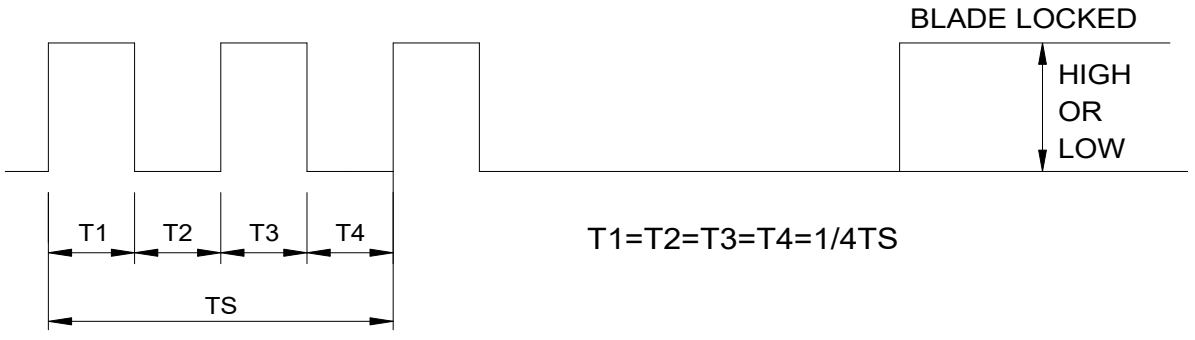
V_{FG}= 5.0 TYP.(Vcc MAX.) Ic = 5mA MAX.

V_{CE}= 0.8V MAX. R ≧ V_{FG} /Ic

14-3. FREQUENCY GENERATOR WAVEFORM:



FAN RUNNING FOR 4 POLES



T1=T2=T3=T4=1/4TS

N=R.P.M

TS=60/N(SEC)

*VFG IS ALWAYS HIGH OR LOW LEVEL AFTER BLADE LOCKED

*4 POLES

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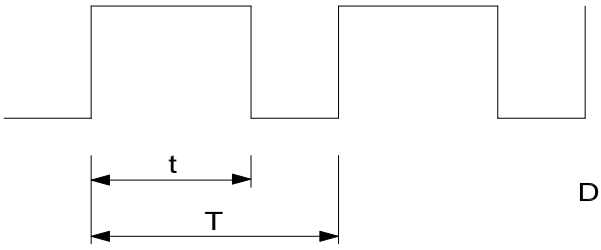
15. PWM CONTROL SIGNAL:

15-1 SIGNAL VOLTAGE RANGE: 0~15VDC



HIGH SIGNAL: 15.0 VDC MAX.
2.8 VDC MIN.

LOW SIGNAL: 0.8 VDC MAX.
0 VDC MIN.

DUTY CYCLE= $\frac{t}{T}$ x 100(%)

- THE FREQUENCY FOR CONTROL SIGNAL OF THE FAN SHALL BE ABLE TO ACCEPT AT 20KHZ~25KHZ.
- THE PREFERRED OPERATING POINT FOR THE FAN IS 25KHZ.
- AT 100% DUTY CYCLE, THE ROTOR WILL SPIN AT MAXIMUM SPEED.
- AT 0% DUTY CYCLE, THE ROTOR WILL STOP.
- WITH CONTROL SIGNAL LEAD DISCONNECTED , THE FAN WILL SPIN AT MAXIMUM SPEED.

15-2 THE REQUIREMENT OF WAVEFORM QUALITY OF PWM SIGNAL

- THE RECOMMENDED PWM SIGNAL FROM SYSTEM IS TTL (t_r =500ns, t_f =500ns) , EVEN IF THE PWM LEAD OF FAN IS DISCONNECTED.
- THE MAXIMUM PERMISSIBLE OF WAVEFORM DISTORTION:

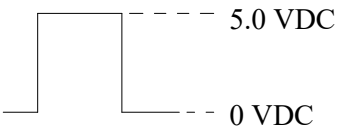
V_{IH} : (V_+ - 0.5) * 90% RISE TIME : t_r < 500ns

V_{IL} : (V_+ - 0.5) * 10% FALL TIME : t_f < 500ns

16 SPEED VS PWM CONTROL SIGNAL:
(AT 25°C, RATED VOLTAGE & PWM SIGNAL AS FOLLOW)

*PWM SIGNAL
PWM FREQUENCY = 25KHz

DUTY CYCLE (%)	SPEED (R.P.M.)	CURRENT(A) (AVG.)★
100	7500±10%	3.15 (MAX. 3.63)
0	0	0.02 (MAX. 0.03)



★AVG. IS THE AVERAGE VALUE DURING STEADY OPERATION, AND MAX. IS MAXIMUM AVERAGE VALUE INCLUDED PRODUCTION TOLERANCE. ABOUT THE PEAK VALUE, NEED TO USE OSCILLOSCOPE TO MEASURE.

- MIN. STARTED DUTY CYCLE(at 25°C, RATED VOLTAGE): 30 %

WHEN THE FAN BLADE IS IN THE COMPETE STOP STATE AND THEN PROVIDE PWM TO START THE FAN IN ORDER TO ENSURE THAT THE FAN START-UP IS NORMAL FROM A DEAD STOP.

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17. FAN CABLE ADDITIONAL PROCESS OUTSIDE DELTA

17-1. HANDLING：

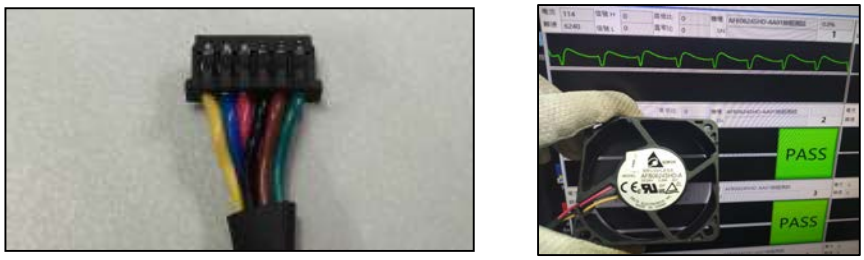
17-1-1. DO NOT PRESS ROTOR OR PULL CABLE IN ANY PROCESS.

17-1-2. WEAR ANTI-ELECTROSTATIC GLOVES BEFORE WORKING, MAKE SURE HOUSING ASSEMBLING MACHINE, WORKING TABLE WITH ELECTROSTATIC PROTECTION.

17-1-3. DO NOT WEAR OR DROP THE FAN DURING ALL PROCESS, PLEASE SCRAPE DROPPED FAN TO AVOID BEARING DAMAGE.

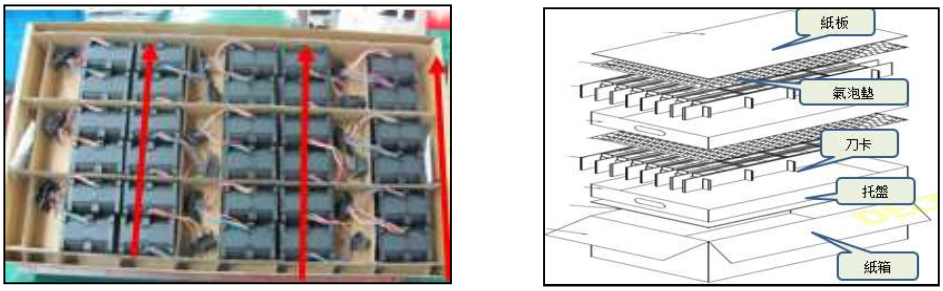
17-2. TESTING：

17-2-1. MAKE SURE FAN SPEED AND FUNCTION WORKS WELL AFTER ASSEMBLY.



17-3. PACKING:

17-3-1. BE SURE OF FAN DIRECTION AND HOUSING POSITION, CAN'T INTERFER WITH CARTON, PARTITION OR OTHER MATERIALS.



17-3-2. MAKE SURE DESICCANT, QUANTITY AND P/N IS CORRECT BEFORE PACKING.

Application Notice

1. Delta will not guarantee the performance of the products if the application condition falls outside the parameters set forth in the specification.
2. A written request should be submitted to Delta prior to approval if deviation from this specification is required.
3. 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 fan was hard-dropped to the production floor.
4. 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.
5. The above-mentioned conditions are representative of some unique examples and viewed as the first point of reference prior to all other information.
6. 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 connection is with reverse polarity, if there is no foolproof method to protect against such error specifically mentioned in this spec.
7. Delta fans without special protection are not suitable where any corrosive fluids are introduced to their environment.
8. 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.
9. 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.
10. Please be cautious when mounting the fan. Incorrect mounting of fans may cause excess resonance, vibration and subsequent noise.
11. 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.
12. Except where specifically stated, all tests are carried out at room (ambient) temperature and relative humidity conditions of 25°C, 65% RH. The test value is only for fan performance itself.
13. Be certain to connect an " 4.7µF or greater" capacitor to the fan externally when the application calls for using multiple fans in parallel, to avoid any unstable power.
14. Be sure that the machine is well grounded before doing crimping terminal of cable wire in order to avoid any impact due to an unexpected abnormal voltage to the fan .
15. Products supplied by Delta will be free from defect in material and workmanship, conform to specifications and not malfunction, within twelve months upon delivery. In case of any breach Delta will repair or replace defective or non-conforming Products returned for service or, if not economic feasible, accept returns for credit. This warranty excludes defects or non-conformance caused by any abuse, use beyond general or intended usages, out-of-specification usages, improper operations, improper working condition or storage environment, force majeure events or factors not attributable to Delta. The foregoing are sole and full liability of Delta in connection with Product quality and liability.