Specification For Approval

Customer : _____

Description : EC FAN

Customer Part No. : _____ Rev : _____

Delta Model No. : GTW012FU604 Rev : 02

Safety Model No. : _____

Sample Issue No. : _____

Sample Issue Date : 04/15'19

Please send one copy of this specification back after you signed approval for production pre-arrangement

Approved by : _____

Date : _____

Delta Electronics, Inc.
No.252, Shangying Road, Guishan Industrial Zone, TEL : +886-3-359-1968
Taoyuan City, 33341, Taiwan FAX : +886-3-359-1991

GTW012FU604

Electronically Commutated (EC) Fan

Axial Fan

(120 x 145 x 38 mm)

Delta Electronics, Inc.
No.252, Shangying Road, Guishan Industrial Zone, Taoyuan City, 33341, Taiwan
TEL: +886-3-359-1968
FAX: +886-3-359-1991
www.deltaww.com

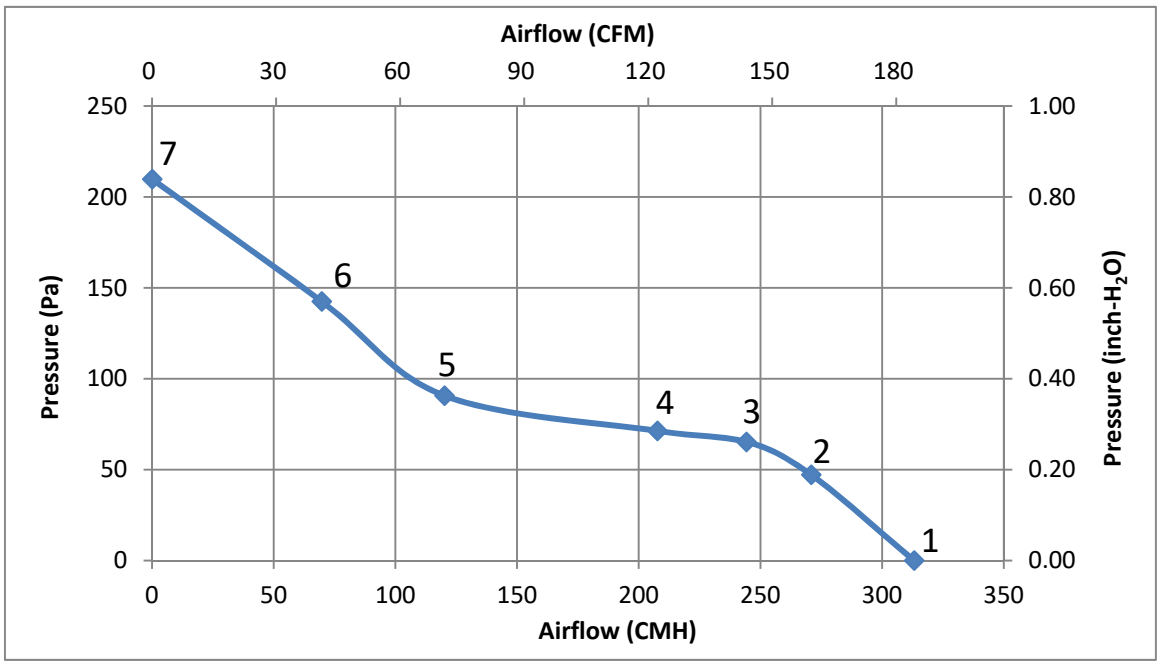
Technical features

Input Side	
Input Source	1~ 100Vac - 240Vac
Nominal Voltage	1~ 230Vac 50/60Hz
Power @ Free air	18W
Power @ Max. load	26W
Power On Label	26W
Output Side	
Speed (RPM)	4100
Qmax. (CMH / CFM)	313 / 184
Pmax. (Pa / inAq)	210 / 0.84
Noise (dB-A)-FREE AIR	55.5 (MAX. 59.5)
Functions	
Locked rotor protection Speed Signal Output (F00) Speed control (0~10VDC / PWM)	

Physical	
Rotation Direction	CCW seen on rotor
Material (Impeller / Frame)	Plastic / Plastic
Bearing system	Ball bearings
Weight (kg)	0.48
Electrical leads	Lead wire
Environmental	
Operating temperature range	-20 ~ +70 ℃
Storage temperature range	-40 ~ +75 ℃
Safety	
Safety	CE, UL
IP Level	IP54
EMC	EN61000-6-1 , EN61000-6-3 , EN61000-3-2/3
Protection class	II
Insulation class	A
Leakage current	≤ 3.5 mA
Life expectance (L10)	70,000 hrs. at 40 ℃ / 15 ~ 65 %RH

NOTE : Delta reserves the right to change specifications and other product information without prior notice.

P & Q curves



Measure data:

	P [Pa]	Q [CMH]	N [R.P.M.]	P1 [W]	I [A]	Lp [dB(A)]
1	0	313	4148	18.0	0.14	55.5
2	47	271	4156	20.2	0.16	
3	65	244	4188	20.8	0.16	
4	71	207	4151	17.4	0.14	
5	91	120	4148	18.5	0.15	
6	143	70	4142	20.5	0.16	
7	210	0	4156	25.5	0.18	

Test Condition :

- Input Voltage: Nominal Voltage
- Temperature : Room Temperature
- Humidity : 65%RH
- Measured without fan-guard
- Noise (Lp) is measured at a distance of one meter from the intake side.

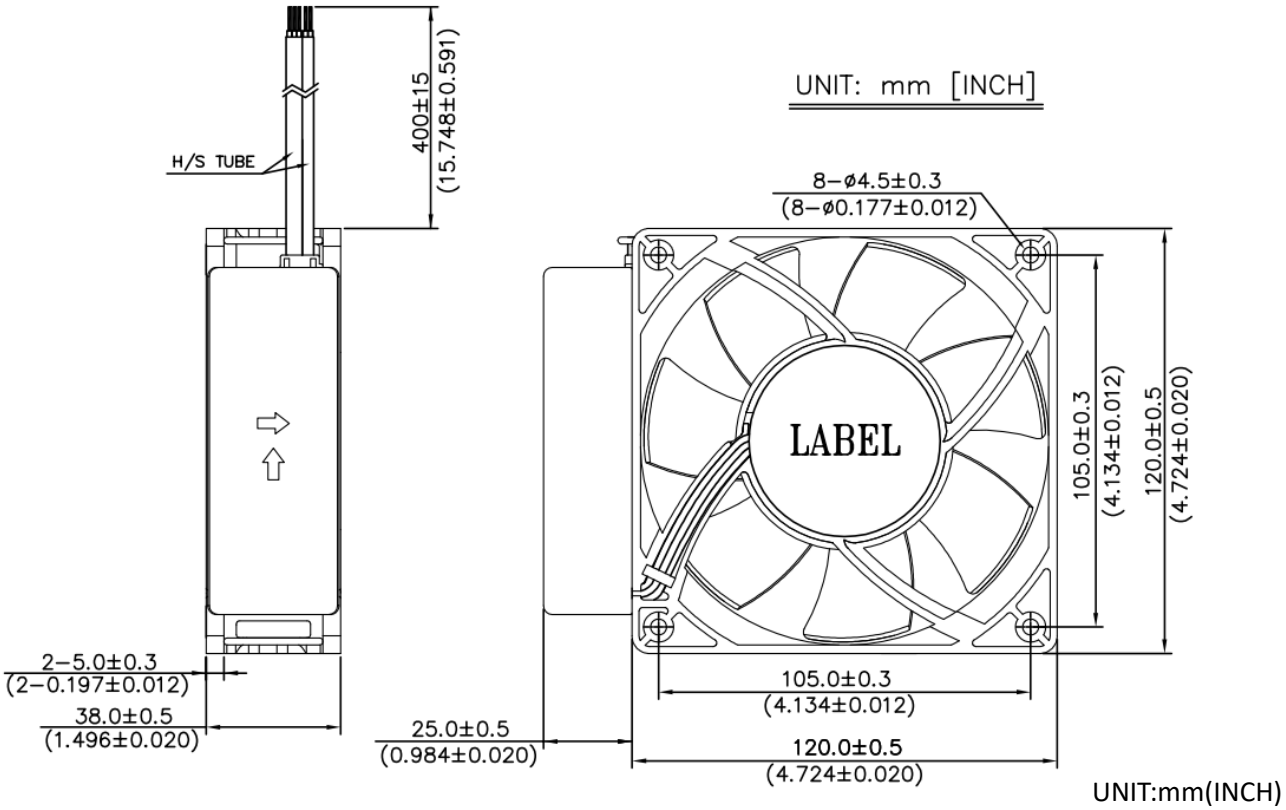
Dimension drawing

Label :

LLL: SUPPLIER LOCATION, DCD --- DELTA CHINA DONGGUAN.
YY: PRODUCTION YEAR, THE FIRST YEAR OF THIS SPECIFICATION (2012) WILL BE DENOTED AS 12, 2013 WILL BE 13 AND 2099 WILL BE 99.
M: PRODUCTION MONTH: 1 for Jan, 2 for Feb,……, 9 for Sep, X for Oct, Y for Nov, Z for Dec.
D: PRODUCTION DAY : 1 for 1st , 2 for 2nd ….., 9 for 9th , A for 10th , B for 11th …., T for 29th , U for 30th , V for 31th.
SSSSSS (6 digit): PRODUCTION SERIAL NUMBER 000001- 999999

Example:
DCD186E
123456 : from DELTA CHINA DONGGUAN ; DATE : 2018.Jun.14 ; Serial no. 123456

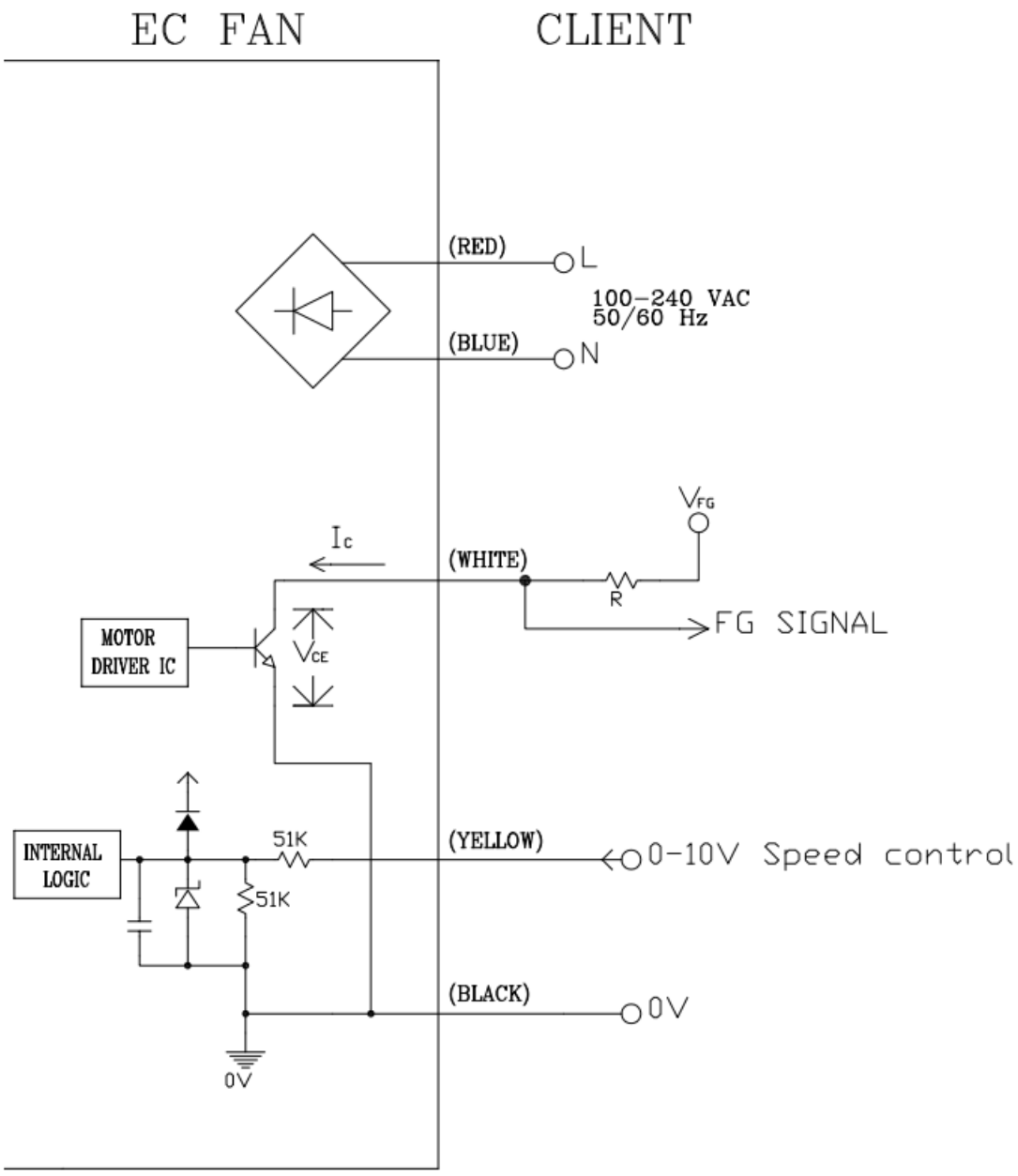
Fan :



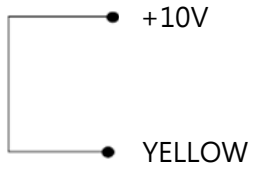
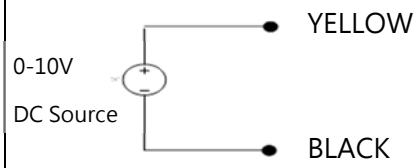
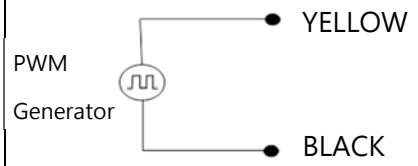
UNIT:mm(INCH)

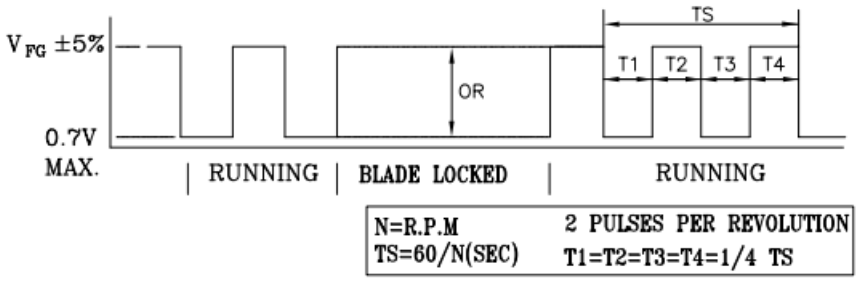
WIRE TYPE	Cable	Color	Functions
UL1007 26#AWG	Cable1 Power	Red	Line/ AC main (1~ 100-240VAC)
		Blue	Neutral/ AC main (1~ 100-240VAC)
	Cable2 Signal	White	F00
		Yellow	Speed control (0~10V_{DC}/ PWM)
		Black	0V

Lead wire connection



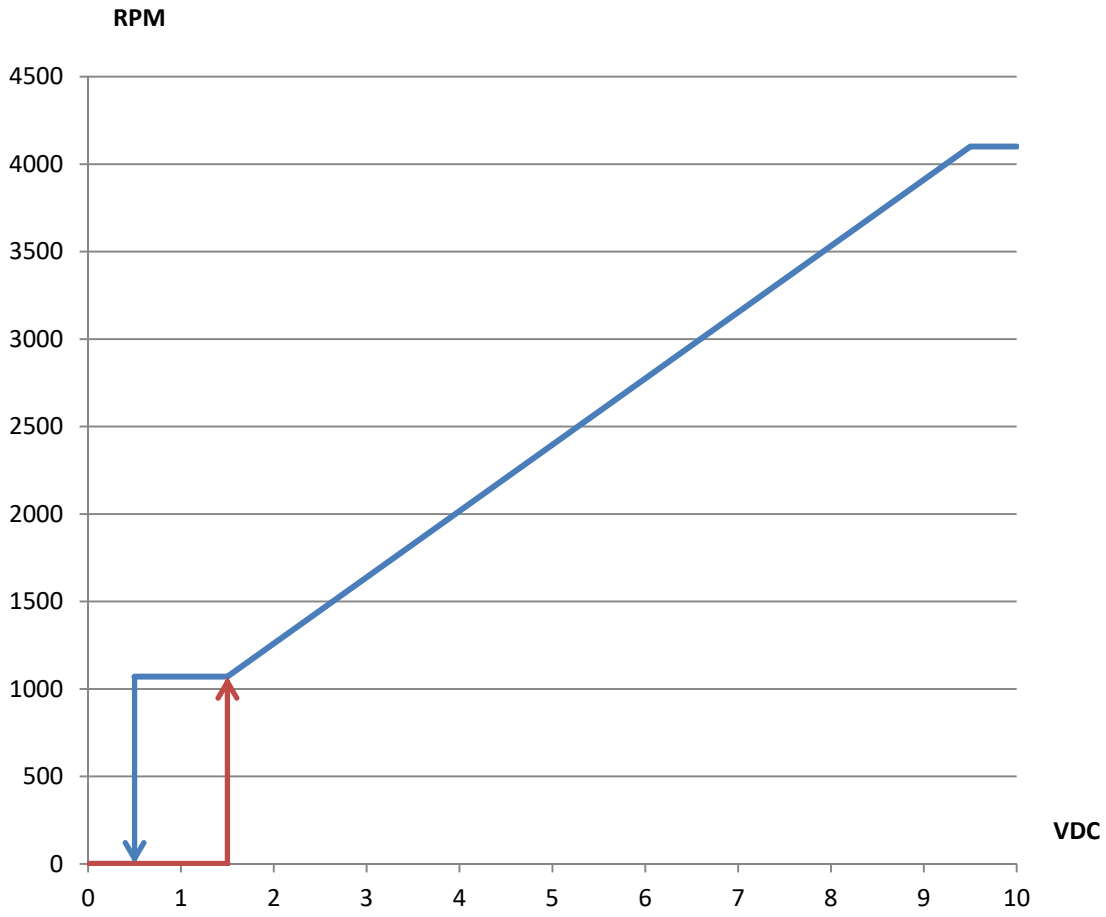
FUNCTION CONTROL

Speed setting	
Full Speed  	**Apply "+10V (external voltage source)" to "Speed control pin" (Yellow lead)** Fan will run full speed. *Note: The external +10V source (provided by client) must have capability of providing 0.1mA (min)
Voltage Control  	**Use voltage source support 0~10VDC voltage** DC+ : connector YELLOW DC - : connector BLACK -Voltage higher than 1.5VDC, fan start up. -Voltage lower than 0.5VDC , fan stop
PWM Control  	**PWM duty control** PWM amplitude is 10VDC(±5%) Frequency Range is 1kHz ~ 30kHz -PWM duty higher than 15%, fan start up。 -PWM duty lower than 5%, fan stop。

Signal function	
Voltage control	The speed comparison will control level Voltage (V) / PWM (%) / Speed (RPM) (REF) 0 / 0 / 0 9.5 / 95 / 4100
Frequency generator (FG) signal	**V_{CE}(sat) = 0.7V MAX.** **V_{FG} = 60.0V MAX.** **I_C = 5mA MAX.** **R ≥ V_{FG} / I_C** **Frequency generator waveform** 

CONTROL LEVEL & SPEED CURVE

Voltage(V)	PWM Duty(%)	Speed R.P.M.(ref.)	Power(W)
0.0	0	0	0.9
9.5	95	4100	18



Voltage(VDC) , PWM duty (%)

Voltage	0	0.5	1	1.5	2	3	4	5	6	7	8	9	10	VDC
PWM duty	0	5	10	15	20	30	40	50	60	70	80	90	100	%