Specification For Approval

Customer : _____

Description : EC FAN

Customer Part No. : _____ Rev : _____

Delta Model No. : GTB019FUA07 N1 Rev : X01

Sample Issue No. : _____

Sample Issue Date : 6/1/2016

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

Approved by : _____

Date : _____

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Electronically Commutated (EC) Fan

Centrifugal Fan

190 (190 x 70 mm)

DELTA ELECTRONICS, INC.
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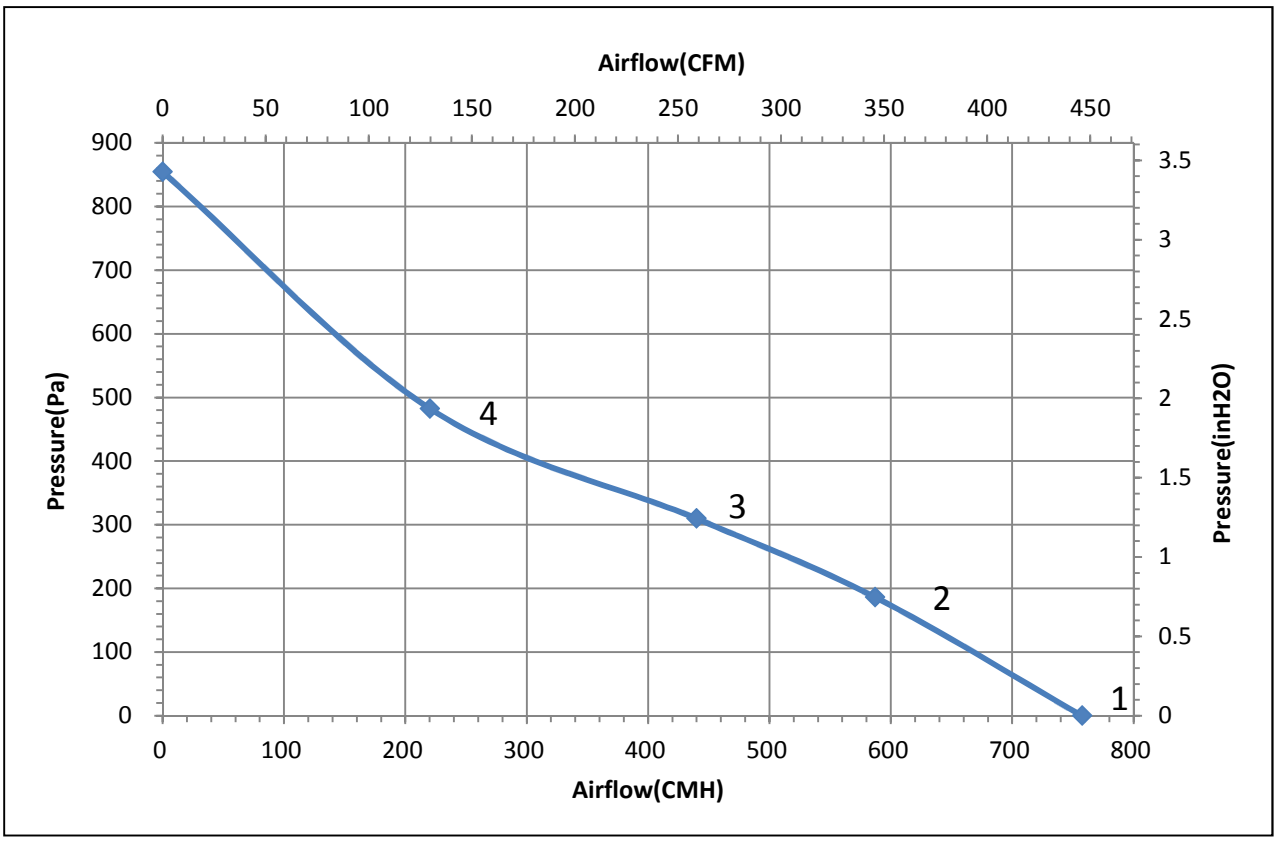
Technical features

Input Side	
Nominal Voltage	1~ 230Vac 50/60Hz
Input Source	1~ 200Vac - 240Vac
Power @ Free air	88 W
Power @ Max. load	88 W
Output Side	
Speed (RPM)	3200
Qmax. (CMH / CFM)	757.4 / 445.8
Pmax. (Pa / inAq)	855.1 / 3.433
Noise (dB-A)	70.4
Functions	
Control input 0-10VDC or PWM pattern.	
Outpur +10VDC(±10%), max. 5mA.	
Locked rotor protection, Soft start.	

Physical	
Rotation Direction	CW, seen on rotor
Material (Impeller / Frame)	Plastic / Aluminum
Bearing system	Ball bearings
Weight (kg)	1.1
Electrical leads	Lead wire
Environmental	
Operating temperature range	-25 ~ +60 ℃
Storage temperature range	-40 ~ +70 ℃
Safety	
Safety	UL & CSA & TUV & CE (in progress)
IP Level	IP54
EMC	EN61000-3-2/3 , EN61000-3-2/3 (in progress)
Protection class	I
Insulation class	B
Leakage current	≤ 3.5 mA
Motor protection	Over temperature protected
Life expectance	60,000 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:

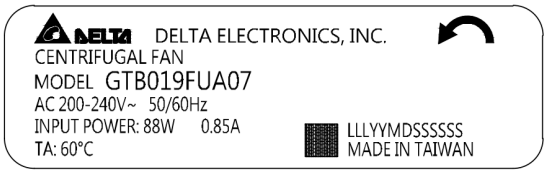
	P [Pa]	Q [CMH]	N [R.P.M.]	P1 [W]	I [A]	Lp [dB(A)]
1	0.0	757.5	3558	88	0.8	70.4
2	186.3	586.9	3300	88	0.8	
3	309.8	439.7	3193	88	0.8	
4	482.6	220.1	3400	88	0.8	

Test Condition:

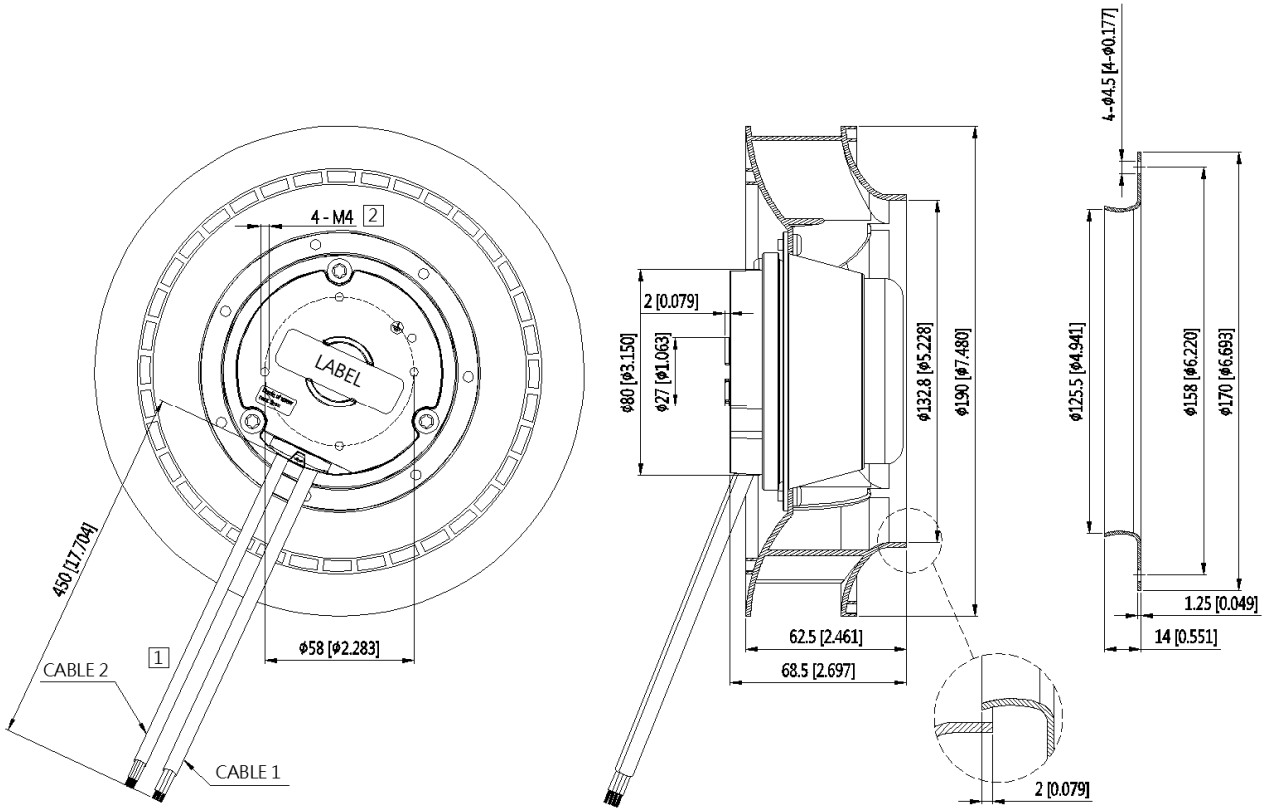
- Input Voltage: Nominal Voltage
- Temperature : Room Temperature
- Humidity : 65%RH
- Measured with inlet cone
- Noise (Lp) is measured at a distance of one meter from the outlet side.

Dimension drawing

Label :



Fan :



UNIT: mm[INCH]

Note:

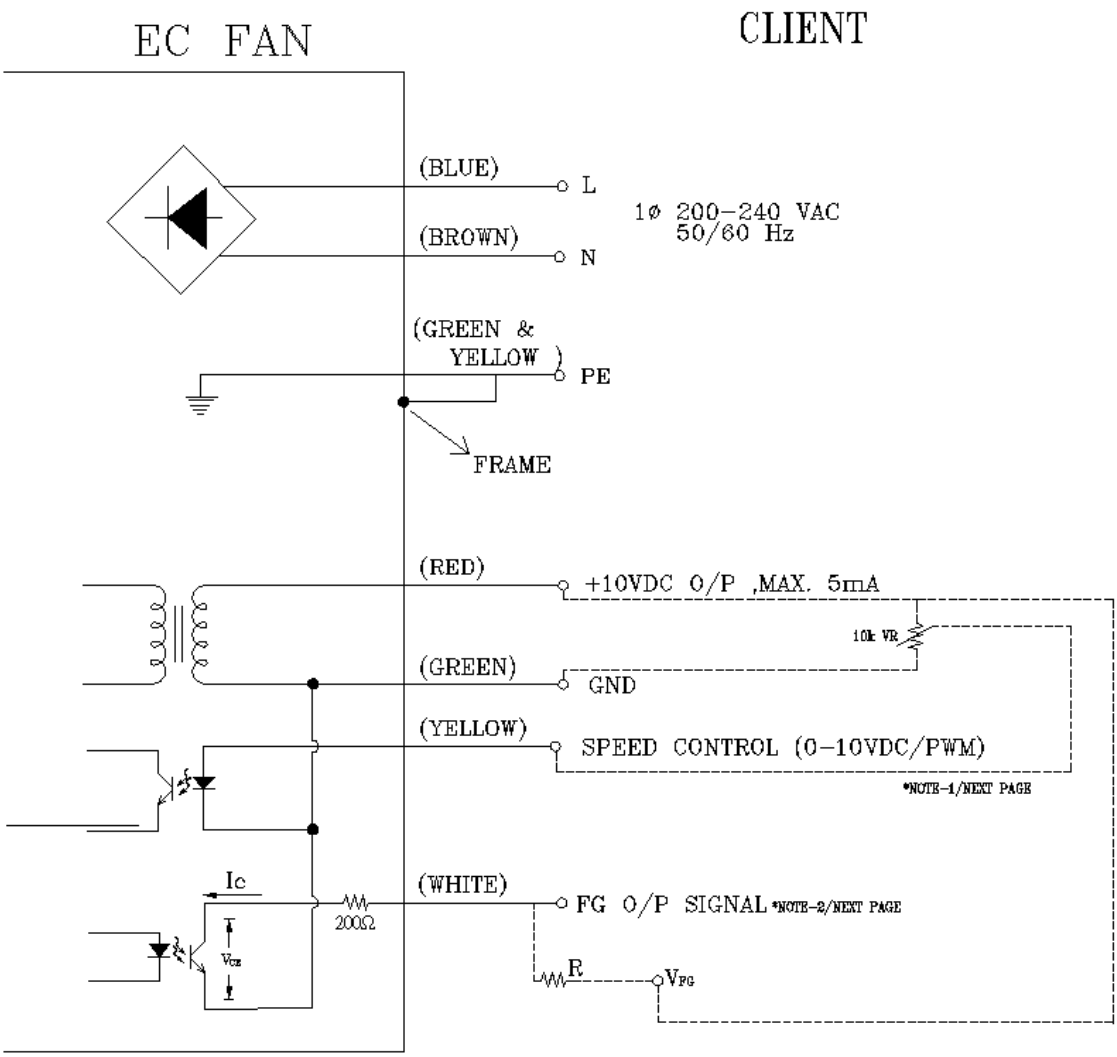
1. Lead wire

Cable 1(UL2464 18AWG):
Blue wire : AC MAINS(L)
Brown wire : AC MAINS(N)
Green & Yellow wire : Protective earth

Cable 2(UL2464 24AWG):
Red wire : 10VDC OUT
Green wire : GND
Yellow wire : Speed control(0-10VDC/PWM)
White wire : FG O/P

2. Depth of screw max. 5mm.

Lead wire connection



Function control:

* Note-1 : Speed control signal

-- There are two ways to control fan speed.

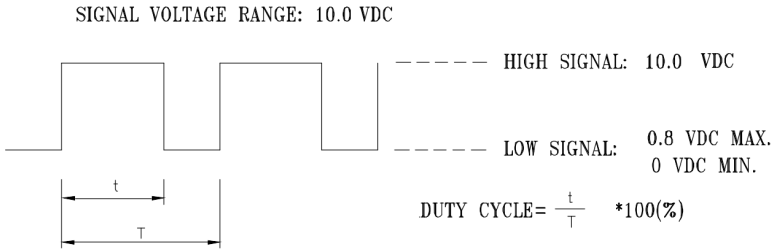
- Voltage control

  -- Control voltage range shall be 0-10 VDC.

  -- Voltage at 10VDC the fan will spin at maximum speed.

- PWM control

  -- The amplitude voltage shall be 10VDC.(100Hz~100kHz)



-- The speed comparison with control level :

Voltage(V)	PWM Duty(%)	Speed R.P.M.(ref.)	Power(W)
0.0	0	0	3.0
5.0	50	2050±10%	26.0
10.0	100	3200±10%	88.0

*Note-2 : Frequency generator(FG) signal

V_{CE}(sat) = 0.7V MAX. V_{FG} = 30.0V MAX.

I_C = 5mA MAX. $R \geq V_{FG} / I_C$

Frequency generator waveform