



Specification For Approval

Customer : _____
Description : _____ EC FAN _____
Customer Part No. : _____ N/A _____ Rev : _____
Delta Model No. : _____ GTW025FUC16 _____ Rev : 01 _____
Safety Model No. _____ GTW025FUC16 _____
Sample Issue No. : _____
Sample Issue Date : _____ 10/26/2016 _____

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

Approved by : _____

Date : _____

Electronically Commutated (EC) Fan

Axial Fan

253 x 253 x 158 mm



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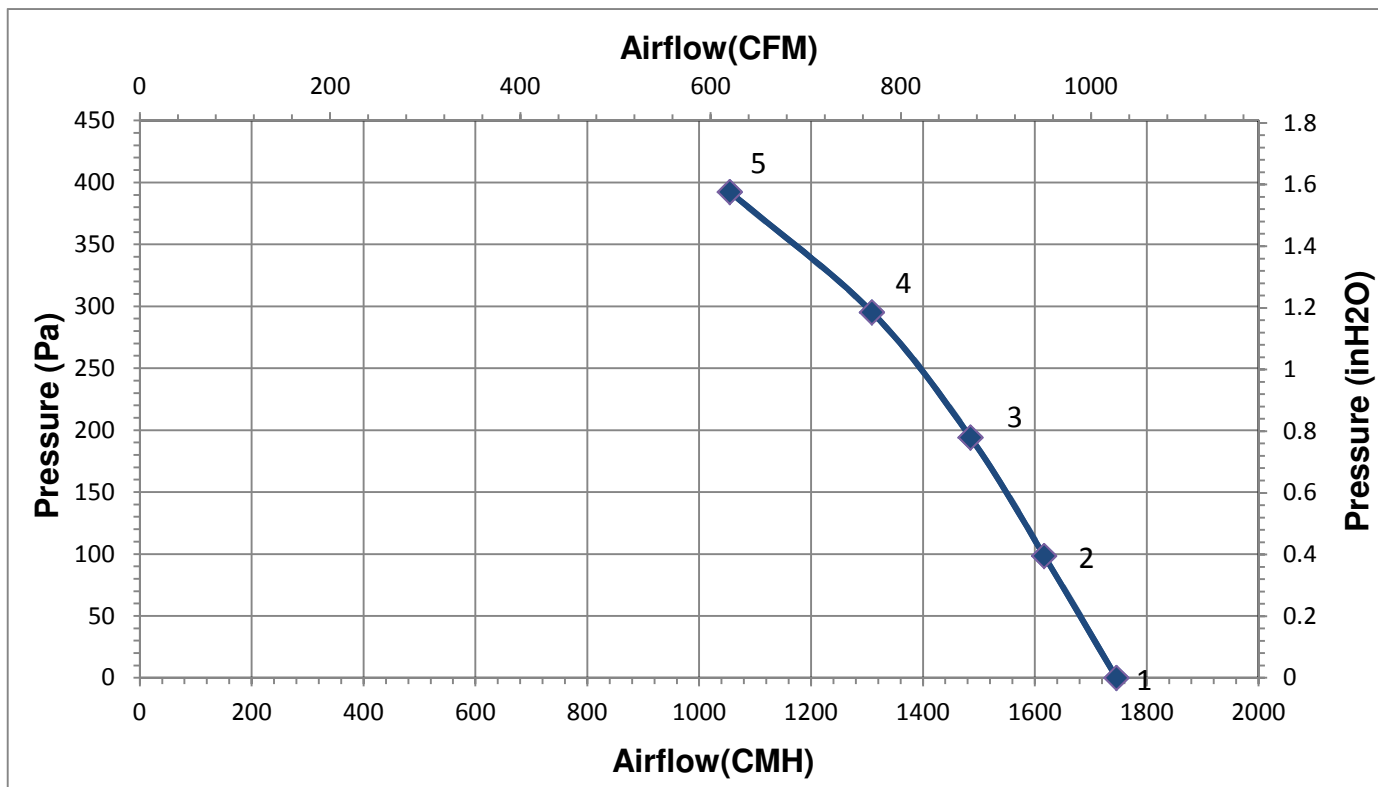
Technical features

Input Side	
Nominal Voltage	1~ 230Vac 50/60Hz
Input Source	1~ 200Vac - 277Vac
Power @ Free air	288 W
Power @ Max. load	360 W
Output Side	
Speed (RPM)	3800
Qmax. (CMH / CFM)	1746 / 1028
Pmax. (Pa / inAq)	392.4 / 1.575
Noise (dB-A) @ Qmax	76.5
Functions	
Control input 0-10VDC or PWM pattern.	
Passive power factor correction	
Alarm relay, Lock rotor protection, Soft start	
Fan speed signal output	

Physical	
Rotation Direction	CCW, seen on rotor
Material (Impeller / Frame)	Plastic / Steel
Bearing system	ball bearings
Weight (kg)	7.5
Electrical leads	Lead Wire
Environmental	
Operating temperature range	-25 ~ +60 °C
Storage temperature range	-40 ~ +70 °C
Safety	
Safety	UL, cUL, TUV
IP Level	IP54
EMC	EN61000-6-1/3 , EN61000-3-2/3
Protection class	I
Insulation class	B
Leakage current	<= 3.5 mA
Motor protection	Over temperature protected
Life expectance	60,000 hrs at 40 °C / 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	1746	3800	288	1.93	76.5
2	98.4	1617	3800	290	1.99	
3	194.2	1485	3800	314	2.02	
4	295.2	1309	3800	317	2.10	
5	392.4	1055	3800	310	2.06	

Test Condition:

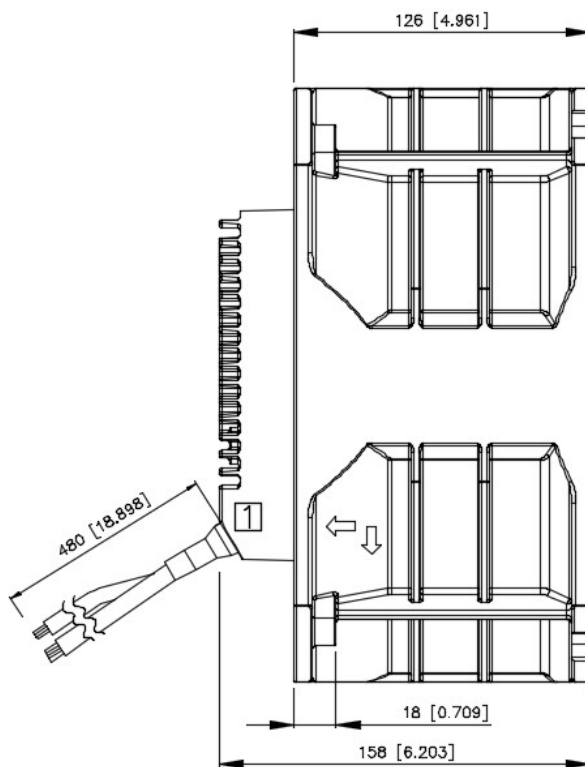
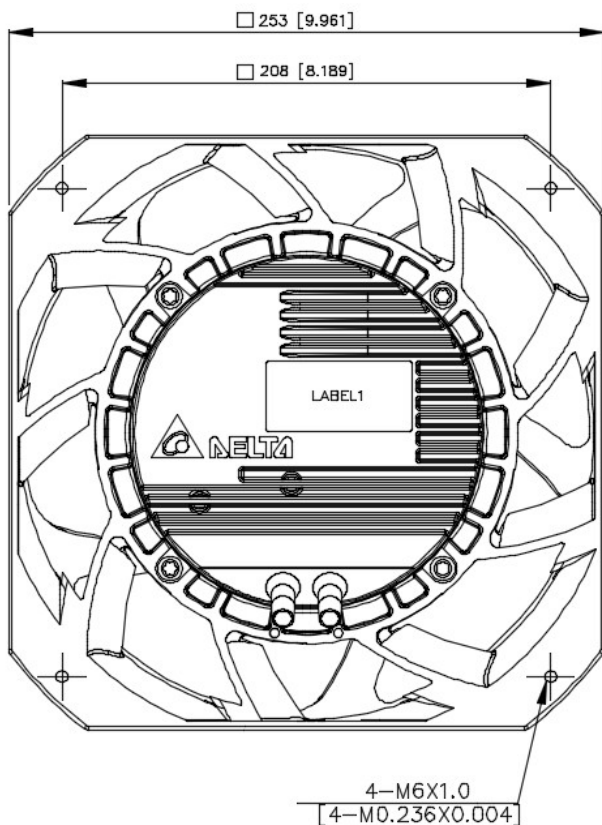
- Input Voltage: Nominal Voltage
- Temperature : Room Temperature
- Humidity : 65%RH
- Measured without Fanguard
- Noise (Lp) is measured at a distance of one meter from the outlet side.

Dimension drawing

Label :



Fan :

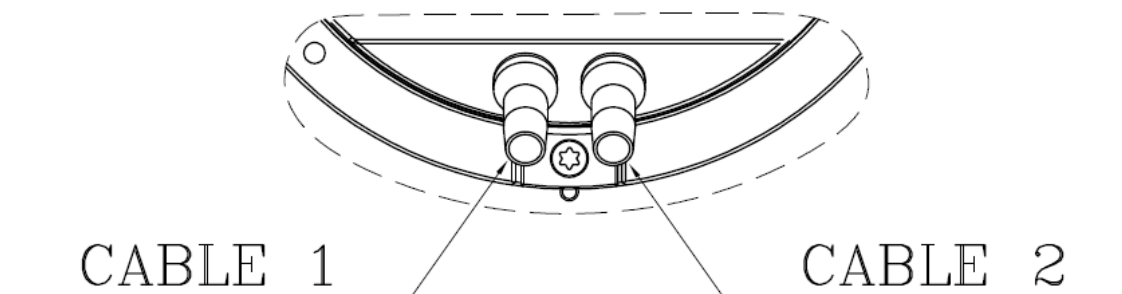


UNIT: mm [INCH]

Note:

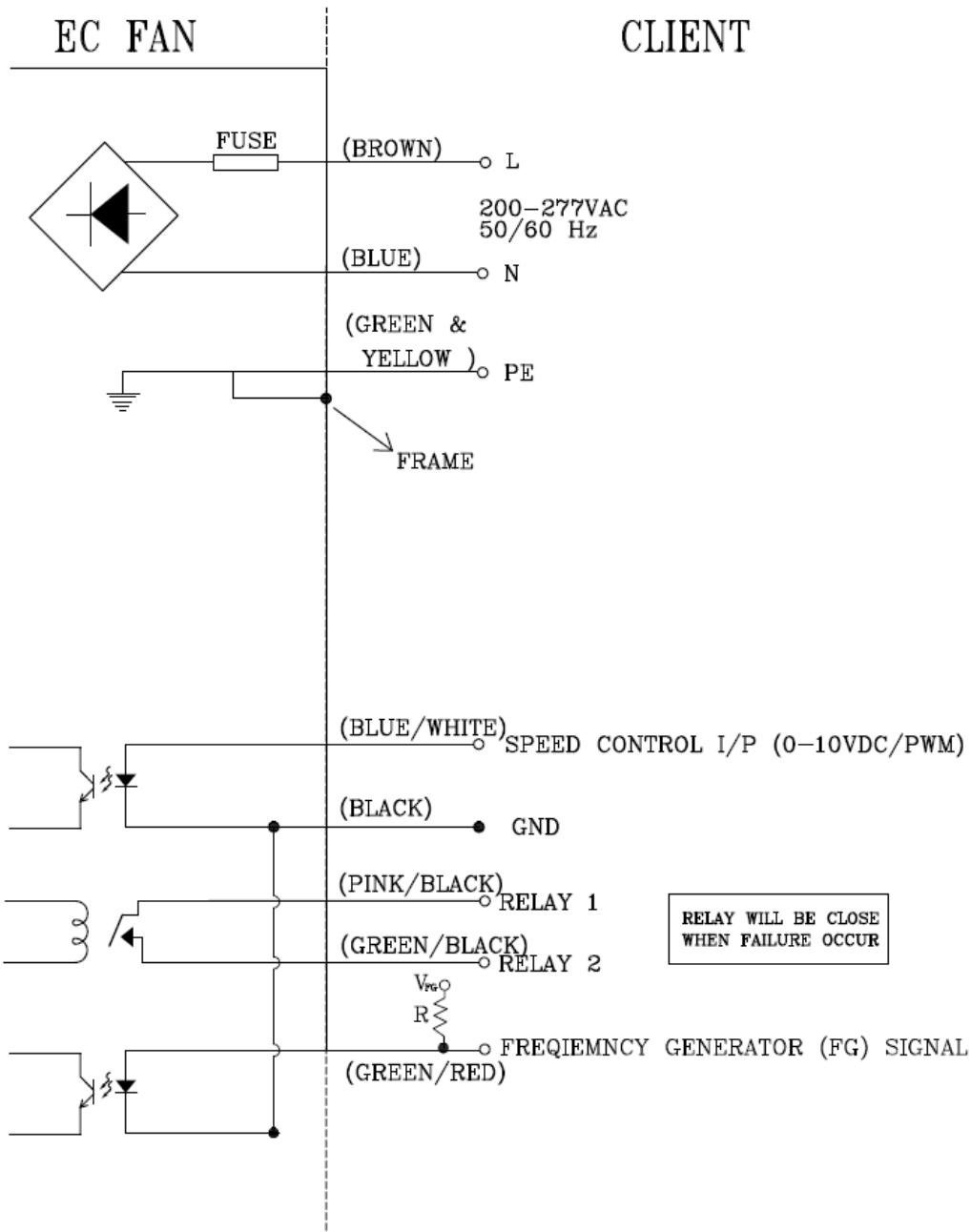
- 1. CABLE DIAMETER : ϕ 4.5~ ϕ 7.5mm

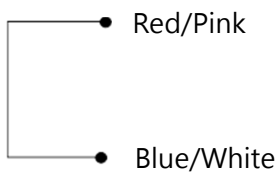
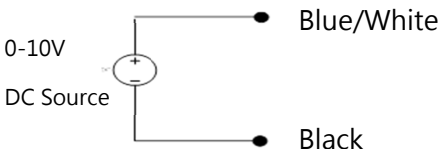
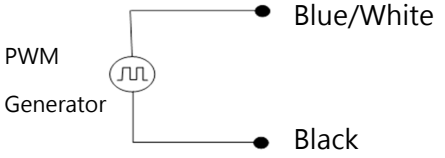
Definition of terminal block

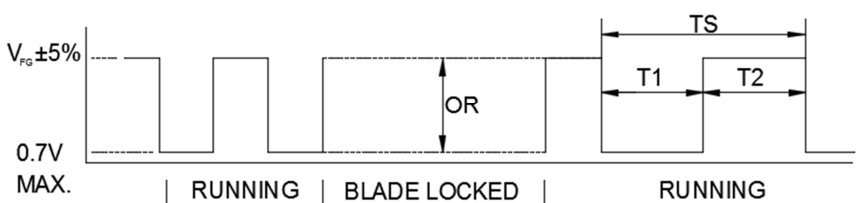


Cable	Color	Functions
1	Brown	Line/ AC main (1~ 200-277VAC)
1	Blue	Neutral/ AC main (1~ 200-277VAC)
1	Green / Yellow	Protective Earth
2	Red/Pink	-----
2	Blue/White	Speed control(0-10VDC/PWM)
2	Black	GND
2	Green/Red	Frequency Generator Signal (FG)
2	Green / White	-----
2	Pink / Black	Relay 1
2	Green / Black	Relay 2

Lead wire connection:

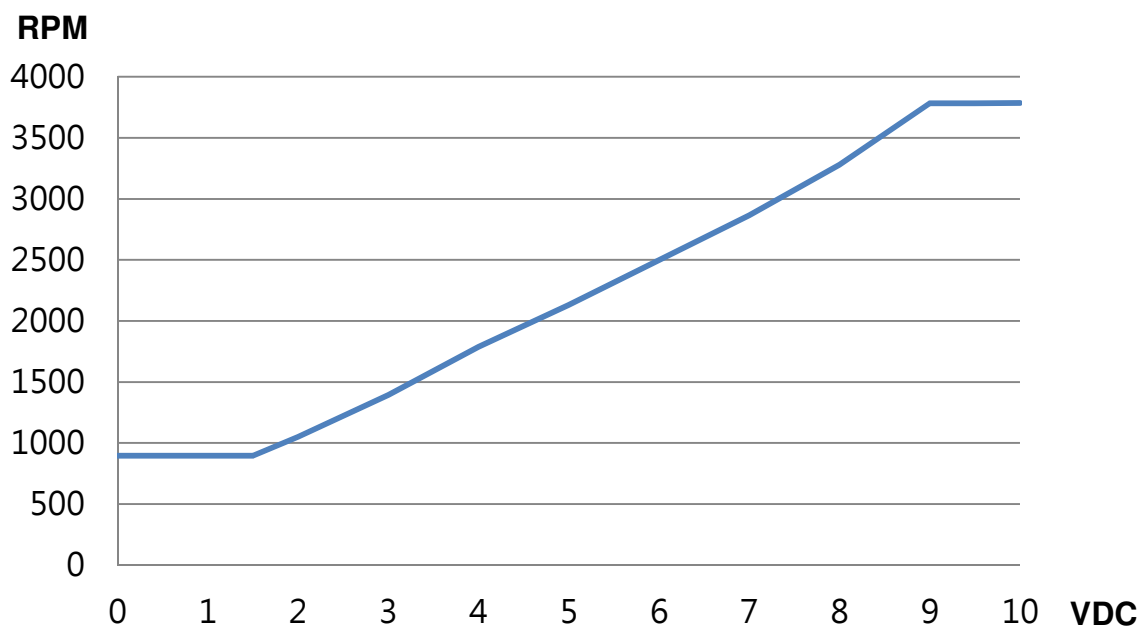


Speed setting	
<p>Full Speed</p> 	<p>Short Red/Pink & Blue/White Fan will run full speed.</p>
<p>Voltage Control</p> 	<p>Use voltage source support 0~10VDC voltage DC+ : connector Blue/White DC - : connector Black -Voltage lower than 1.5V, fan will be to initial mode. (900 RPM)</p>
<p>PWM Control</p> 	<p>PWM duty control PWM amplitude is 10VDC(±5%) Frequency Range is 100Hz ~ 100kHz -PWM duty lower than 15% , fan will be to initial mode. (900 RPM)</p>

Signal function							
<p>Voltage control</p>	<p>The speed comparison will control level</p> <table border="1"> <thead> <tr> <th>Voltage (V)</th> <th>Speed (RPM) (REF)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>900</td> </tr> <tr> <td>9.5</td> <td>3800</td> </tr> </tbody> </table>	Voltage (V)	Speed (RPM) (REF)	0	900	9.5	3800
Voltage (V)	Speed (RPM) (REF)						
0	900						
9.5	3800						
<p>FG</p>	<p> $V_{CE(sat)} = 0.7V \text{ MAX.}$ $V_{FG} = 20.0V \text{ MAX.}$ $I_C = 2mA \text{ MAX.}$ $R \geq V_{FG} / I_C$ </p> <p>Frequency generator waveform</p>  <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p> $N=R.P.M$ 1 PULSE PER REVOLUTION $TS=60/N(\text{SEC})$ $T1=T2=1/2 TS$ </p> </div>						

Control Voltage VS. RPM Curve

Voltage(V)	PWM Duty(%)	Speed R.P.M.(ref.)
0.0	0	900
9.5	95	3800



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	%