Specification For Approval

Customer : _____

Description : EC FAN

Customer Part No. : _____ Rev : ____

Delta Model No. : GTW063EUD19R Rev : 01

Safety Model No. _____

Sample Issue No. : _____

Sample Issue Date : 01/24/2017

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

Approved by : _____

Date : _____

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Smarter. Greener. Together.

GTW063EUD19R

Electronically Commutated (EC) Fan

Axial Fan

805 x 805 x 220 mm

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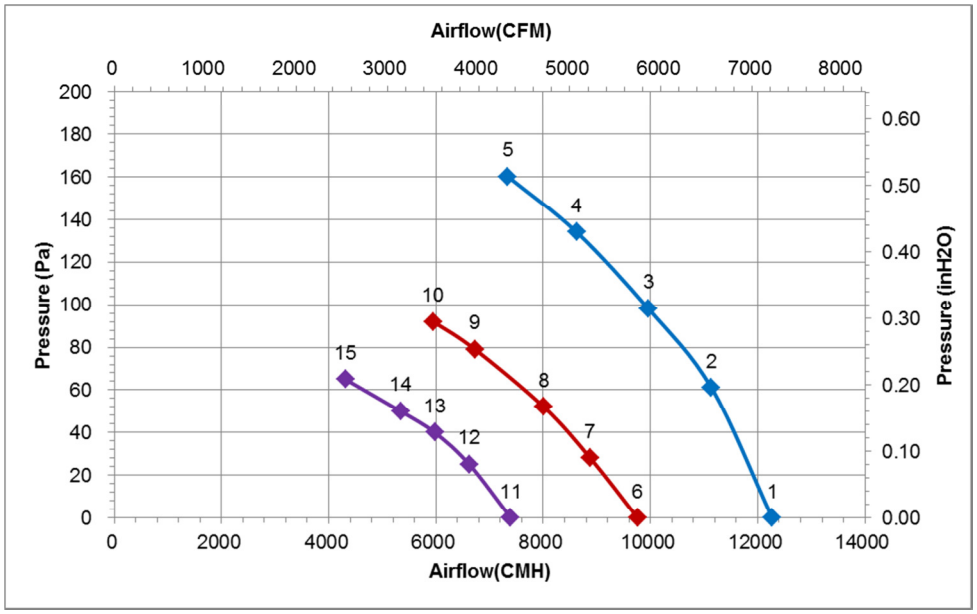
Technical features

Input Side	
Nominal Voltage	1~ 230Vac 50/60Hz
Input Source	1~ 200Vac - 277Vac
Power @ Free air	530W
Power @ Max. load	800 W
Output Side	
Speed (RPM)	1100
Qmax. (CMH / CFM)	12270 / 7222
Pmax. (Pa / inAq)	160 / 0.64
Noise (dB-A) @ Qmax	71.5
Functions	
Active power factor correction	
Control input 0-10VDC / PWM / 4-20mA.	
Output +10VDC (±10%), max. 10mA.	
Control voltage output: 0-10VDC.	
RS485 control bus	
Alarm relay, Locked rotor protection, Soft start.	
Speed telling, frequency generator signal.	
Voltage / Current monitoring.	

Physical	
Rotation Direction	CCW, seen on rotor
Material (Impeller / Frame)	Plastic / Steel
Bearing system	Ball bearings
Weight (kg)	27
Electrical leads	Via terminal block
Environmental	
Operating temperature range	-25 ~ +60 ℃
Storage temperature range	-40 ~ +70 ℃
Safety	
Safety	UL ,CUL,TUV (in progress)
IP Level	IP54
EMC	EN61000-6-2/4 , EN61000-3-2/3 (in progress)
Protection class	I
Insulation class	F
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:

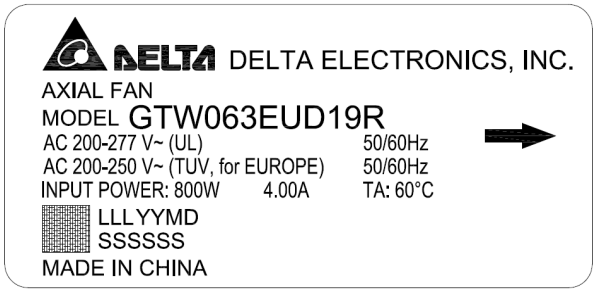
	P [Pa]	Q [CMH]	N [R.P.M.]	P1 [W]	I [A]	Lp [dB(A)]
1	0	12270	1100	530	2.4	71.5
2	61	11139	1100	667	3.0	
3	98	9965	1100	727	3.2	
4	134	8623	1100	737	3.3	
5	160	7344	1100	777	3.4	
6	0	9761	880	266	1.2	66.5
7	23	8880	880	354	1.6	
8	45	8013	880	356	1.6	
9	74	6728	880	381	1.7	
10	92	5952	880	401	1.8	
11	0	7397	660	110	0.5	60.5
12	25	6624	660	140	0.6	
13	40	5979	660	156	0.7	
14	50	5341	660	184	0.9	
15	65	4311	660	186	0.9	

Test Condition:

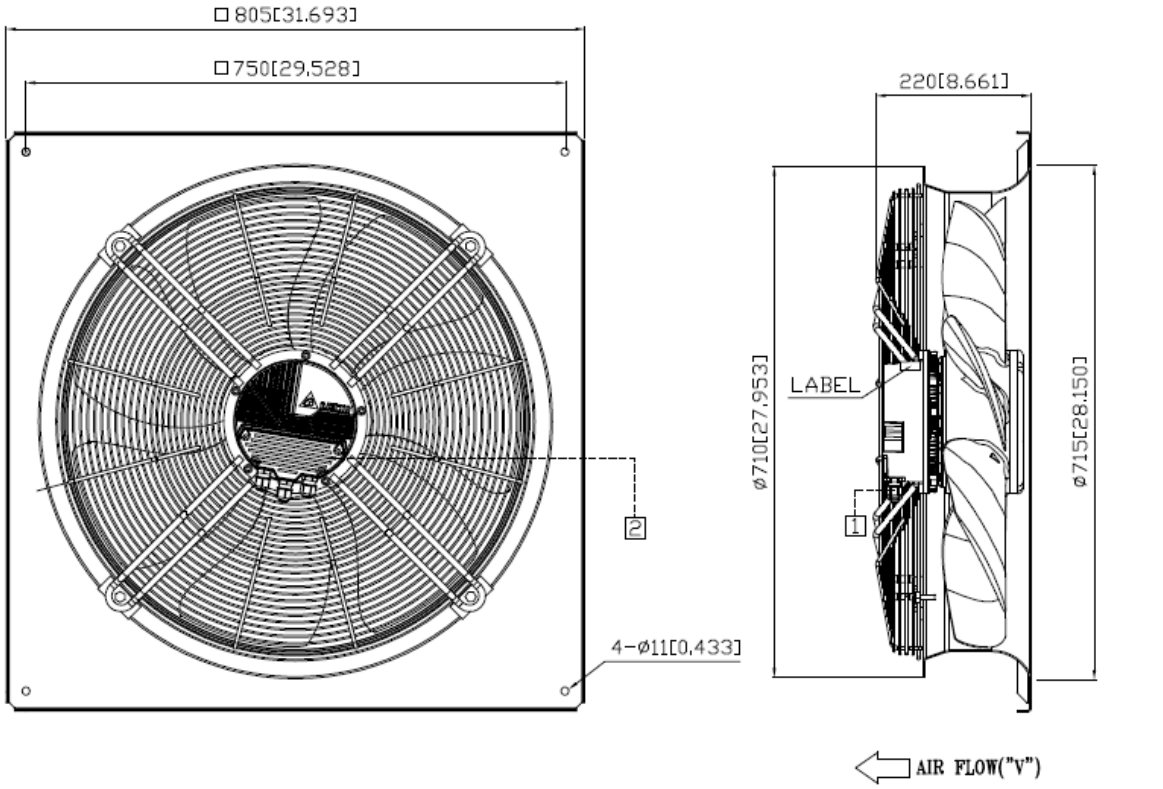
- Input Voltage: Nominal Voltage
- Temperature : Room Temperature
- Humidity : 65%RH
- Measured without Fanguard
- Noise is measured at a distance of one meter from the fan intake side

Dimension drawing

Label :



Fan :

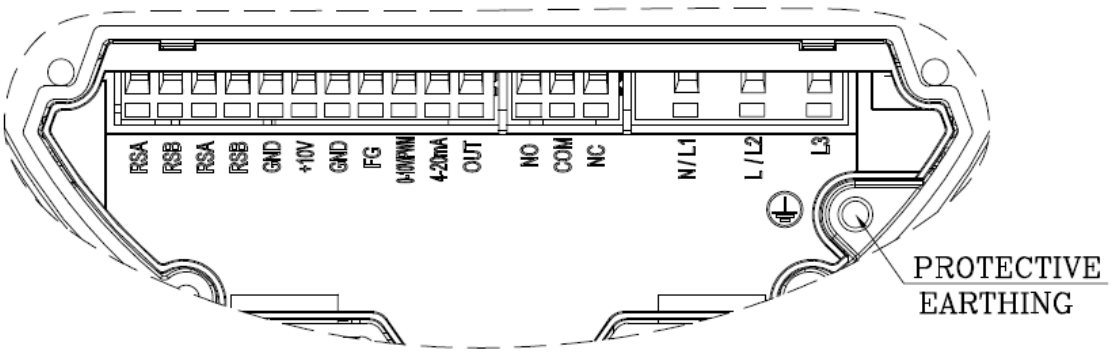


UNIT: mm[INCH]

Note:

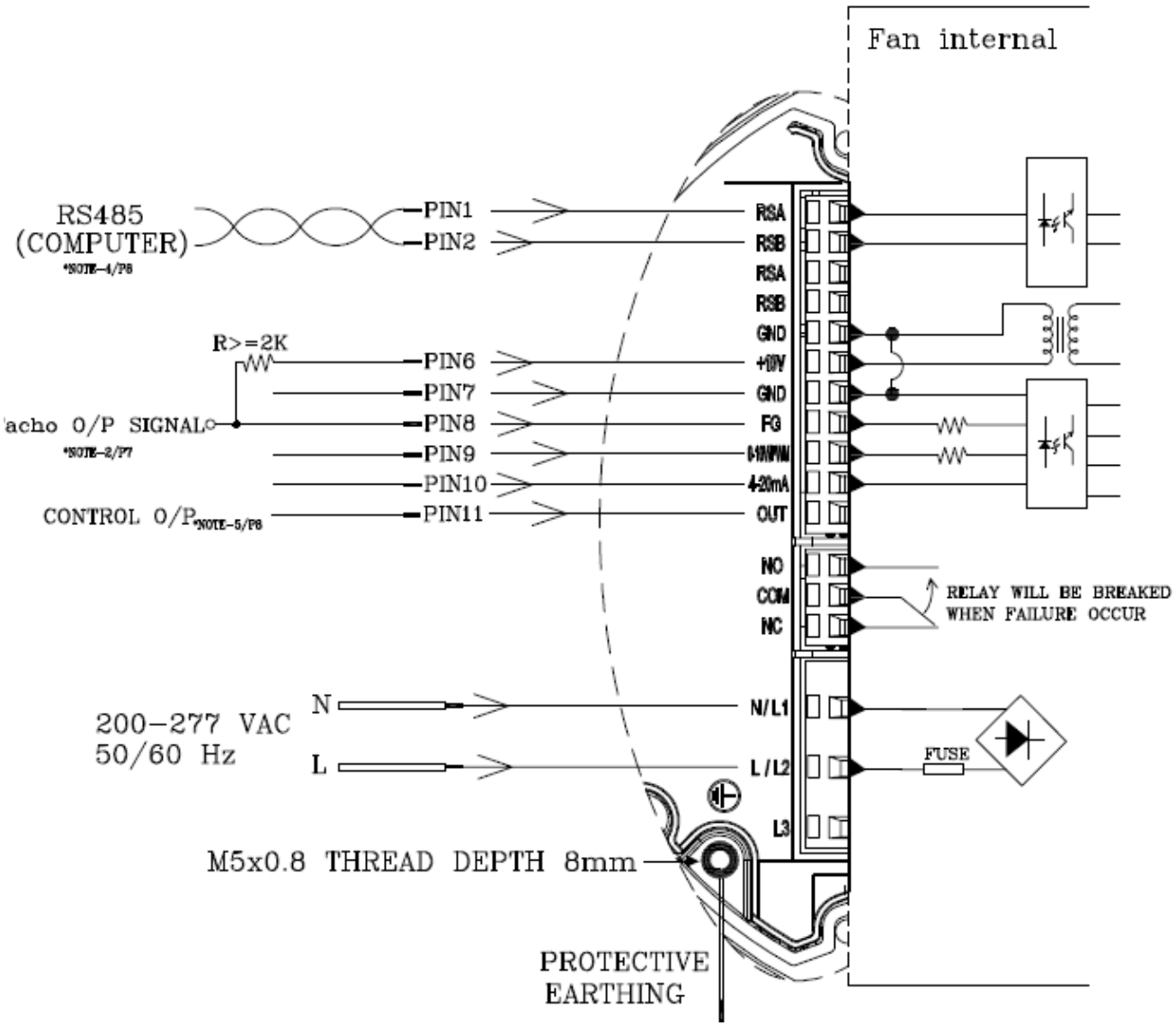
1. Cable Diameter : ϕ 6.6~ ϕ 10.0 mm
2. Open the cover and refer to definition of terminal block.

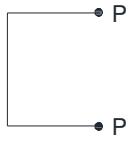
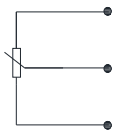
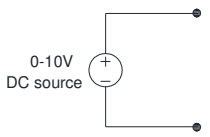
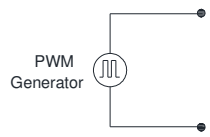
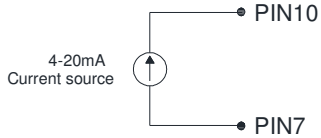
Definition of terminal block



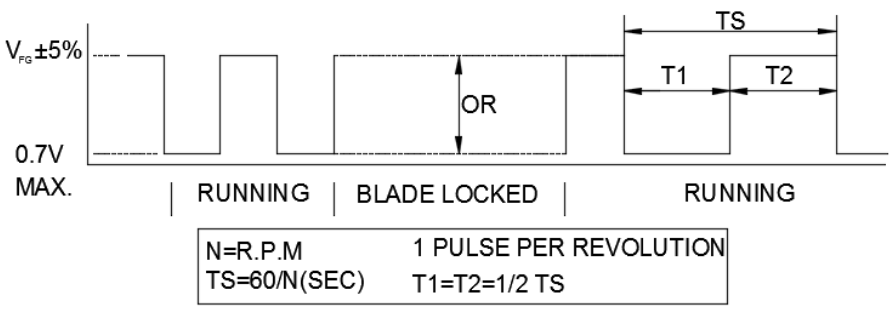
	Text	Functions
Power	N/L1	NEUTRAL/AC main (1~ 200-277VAC)
	L/L2	LINE/AC main (1~ 200-277VAC)
	L3	----------
Status	NO	Alarm relay, open by failure
	COM	Alarm relay, common (2A/250VAC)
	NC	Alarm relay, close by failure
Signal	RSA	RS485-A
	RSB	RS485-B
	RSA	RS485-A
	RSB	RS485-B
	GND	Ground
	+10V	+10V output, MAX 10mA (For external potentiometer)
	GND	Ground
	FG	Frequency generator (FG) signal
	0-10V/PWM	Speed control ,input 0-10VDC
	4-20mA	Speed control ,input 4-20mA
	OUT	Control voltage output0-10VDC (For external potentiometer)

Lead wire connection:

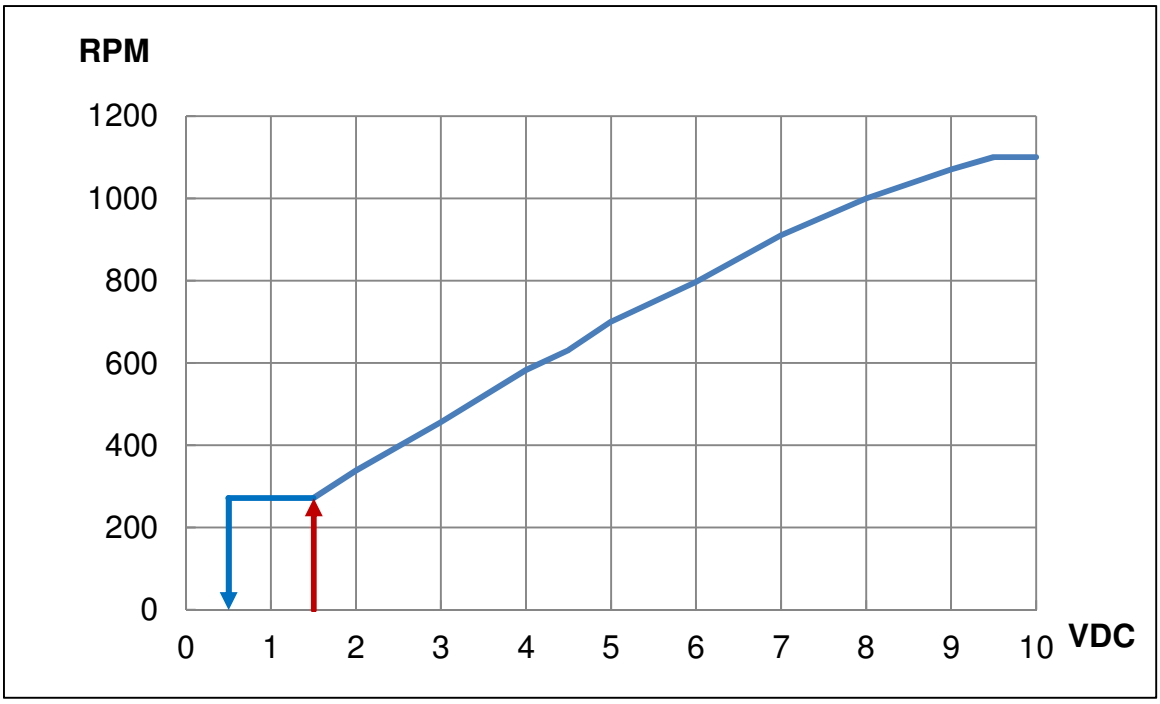


Speed setting	
Full Speed  	**Short PIN6& PIN9** Fan will run full speed.
Voltage Control A  	**Connector 1-10kΩ variable resistor** Between+**10VDC** with **GND** and **0-10V/PWM** Turn the variable resistor, can change the '**0-10V/PWM**' voltage (0...10V).
Voltage Control B  	**Use voltage source support 0~10VDC voltage** DC+ : connector PIN9(+) DC - : connectorPIN7(-)
PWM Control  	**PWM duty control** PWM amplitude is 10VDC(+-5%) Frequency Range is100Hz...100kHz -PWM duty higher than 15%, fan start up。 -PWM duty lower than 5%, fan stop。
Current Control  	**4~20mA Current Control** Open 0-10V/PWM PIN -4.3 mA → Fan Stop -6.0mA → Fan Start up -19.5 mA →Maximum Speed

<table>
<tr><th colspan="2">Signal function</th></tr>
<tr><td>RS485 control function</td><td>RS485 control function
-Select the control mode of speed, fixed speed or fixed PWM duty
-Speed and power consumption feedback.
-Allow multiple FANs control and status patrol.</td></tr>
<tr><td>Control O/P</td><td>The analog signal level is the derivative of current control level.
<table>
<tr><th>Current (mA)</th><th>Control O/P (VDC) (REF)</th></tr>
<tr><td>4.0</td><td>0</td></tr>
<tr><td>19.5</td><td>9.42</td></tr>
</table></td></tr>
<tr><td>Voltage/PWM control</td><td>The speed comparison will control level
<table>
<tr><th>Voltage (V)</th><th>PWM (%)</th><th>Speed (RPM) (REF)</th></tr>
<tr><td>0</td><td>0</td><td>0</td></tr>
<tr><td>9.5</td><td>95</td><td>1100±5%</td></tr>
</table></td></tr>
<tr><td>Current control</td><td>The speed comparison will control level
<table>
<tr><th>Current (mA)</th><th>Speed (RPM) (REF)</th></tr>
<tr><td>4.0</td><td>0</td></tr>
<tr><td>19.5</td><td>1100±5%</td></tr>
</table></td></tr>
<tr><td>Alarm state</td><td>NO and COM will OPEN ; NC and COM will CLOSE.</td></tr>
<tr><td>FG</td><td>V_{CE}(sat) = 0.7V MAX. V_{FG} = 30.0V MAX.
I_C = 5mA MAX. R ≥ V_{FG} / I_C

Frequency generator waveform
 
</td></tr>
</table>

Control Voltage VS. RPM Curve



Voltage(VDC) ,PWM duty(%), 4~20mA table

Voltage	0	0.5	1	1.5	2	3	4	5	6	7	8	9	10	VDC
PWM duty	0	5	1	15	20	30	40	50	60	70	80	90	100	%
4~20 mA	4	4.3	5.6	6	7.2	8.8	10.4	12	13.6	15.2	16.8	19	20	mA