



Specification For Approval

Customer : _____
Description : _____ EC FAN _____
Customer Part No. : _____ Rev : _____
Delta Model No. : _____ GTB036EUD25R N1 _____ Rev : X04
Safety Model No. : _____ GTB036EUD25 _____
Sample Issue No. : _____
Sample Issue Date : _____ 02/21/2017 _____

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,
Taoyuan City, 33341, Taiwan

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*** SAMPLE HISTORY ***

CUSTOMER :

CUSTOMER P/N :

DELTA MODEL : GTB036EUD25R N1

REV	DESCRIPTION	DRAWN	CHECKED		APPROVED	ISSUE DATE
			ME	EE		
X04	ISSUE SPEC.	邱靜美 02/21'17	邱靜美 02/21'17	林科亦 02/21'17	顏承偉 02/21'17	02/21'17

Electronically Commutated (EC) Fan

Centrifugal Fan

φ 360 x 251 mm



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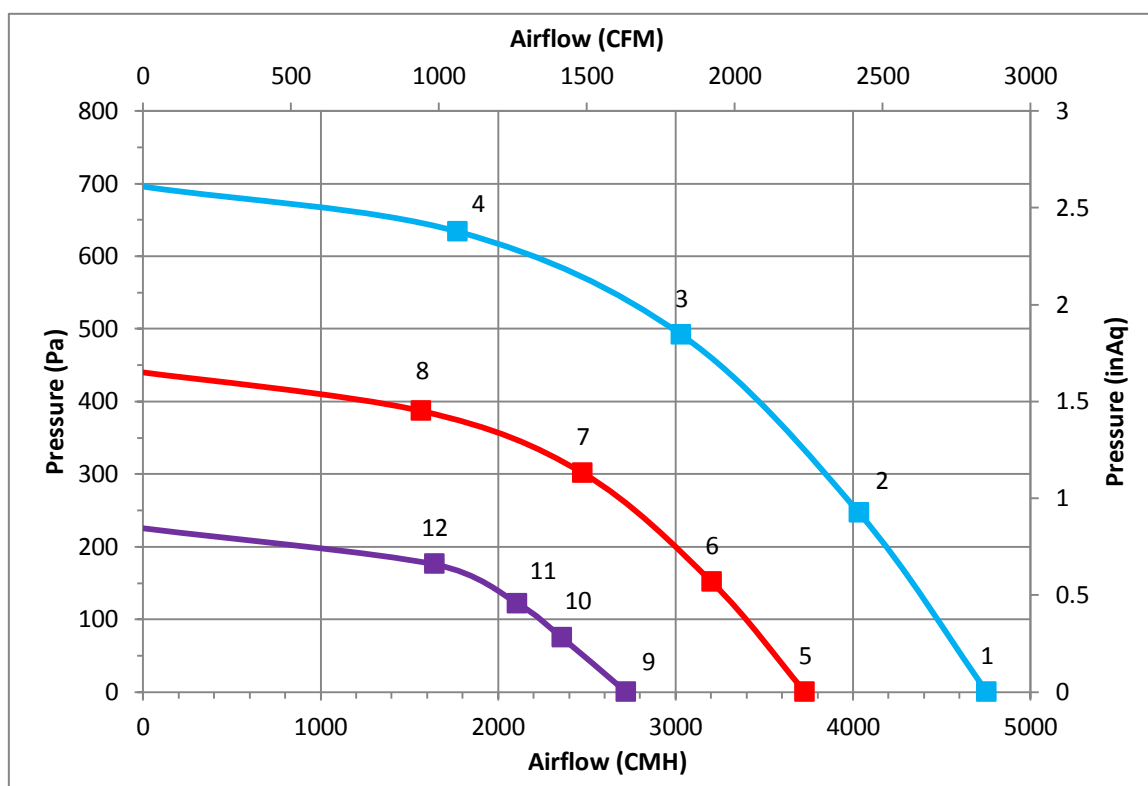
Technical features

Input Side	
Nominal Voltage	1~ 230Vac 50/60Hz
Input Source	1~ 200Vac - 277Vac
Power @ Free air	550 W
Power @ Max. load	800 W
Output Side	
Speed (RPM)	2030
Qmax. (CMH / CFM)	4752 / 2797
Pmax. (Pa / inAq)	697 / 2.80
Noise (dB-A) @ Qmax.	78.5
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	CW, Seen on rotor
Material (Impeller / Frame)	Aluminum sheet / Die-cast aluminum
Bearing system	Ball bearings
Weight (kg)	10.5
Electrical leads	Via terminal block
Environmental	
Operating temperature range	-25 ~ +60 °C
Storage temperature range	-40 ~ +70 °C
Safety	
Safety	UL; cUL; TUV
IP Level	IP54
EMC	EN61000-6-2/3 , EN61000-3-2/3
Protection class	I
Insulation class	B
Leakage current	≤ 3.5 mA
Motor protection	Over temperature protected
Life expectancy	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:

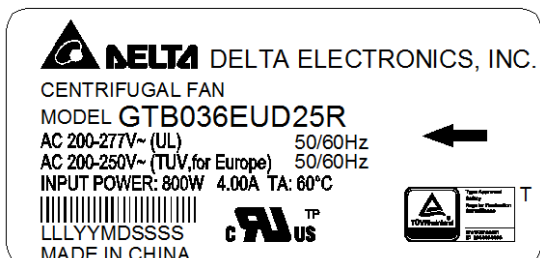
	P [Pa]	Q [CMH]	N [R.P.M.]	P1 [W]	I [A]	Lp [dB(A)]
1	0	4754	2027	532	2.36	78.5
2	246	4035	2024	683	3.00	
3	492	3034	2019	755	3.32	
4	634	1774	2032	681	2.99	
5	0	3729	1620	285	1.30	72.5
6	151	3205	1620	357	1.62	
7	301	2478	1620	394	1.78	
8	387	1569	1620	367	1.66	
9	0	2721	1197	124	0.63	64.5
10	75	2361	1197	147	0.75	
11	122	2110	1194	159	0.81	
12	176	1644	1195	166	0.85	

Test Condition :

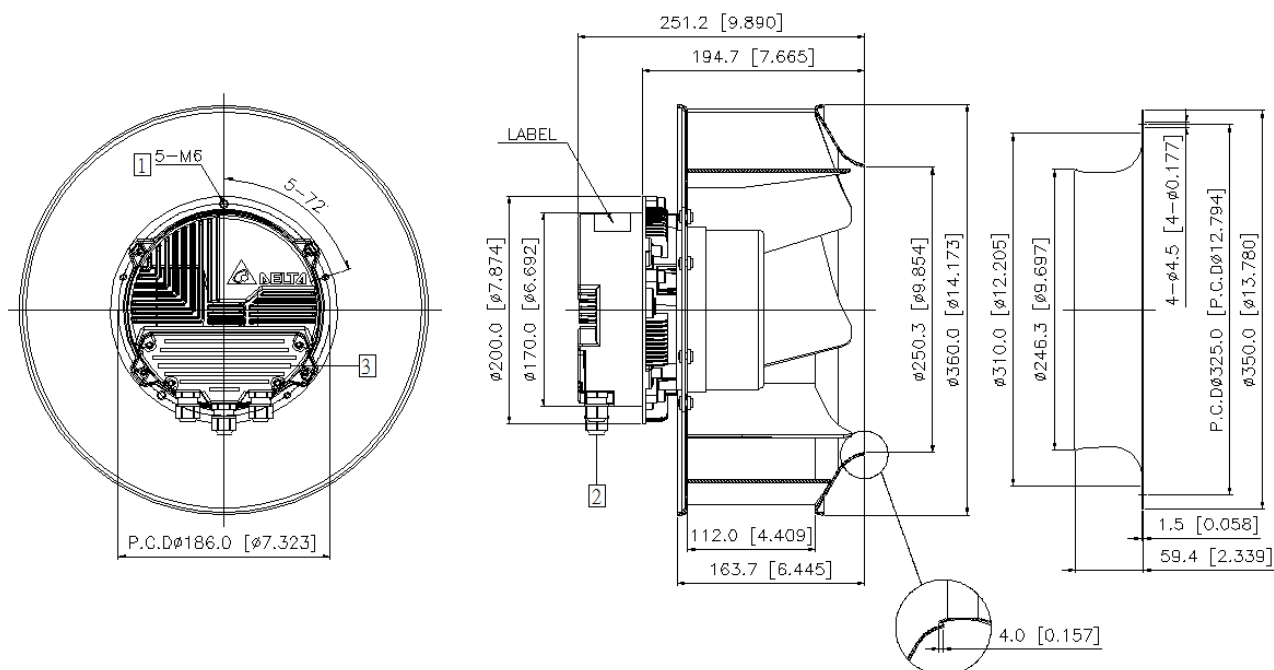
- Input Voltage: Nominal Voltage
- Temperature : Room Temperature
- Humidity : 65%RH
- Measured with inlet cone.
- Noise (Lp) is measured at a distance of one meter from the inlet side.

Dimension drawing

Label :



Fan :

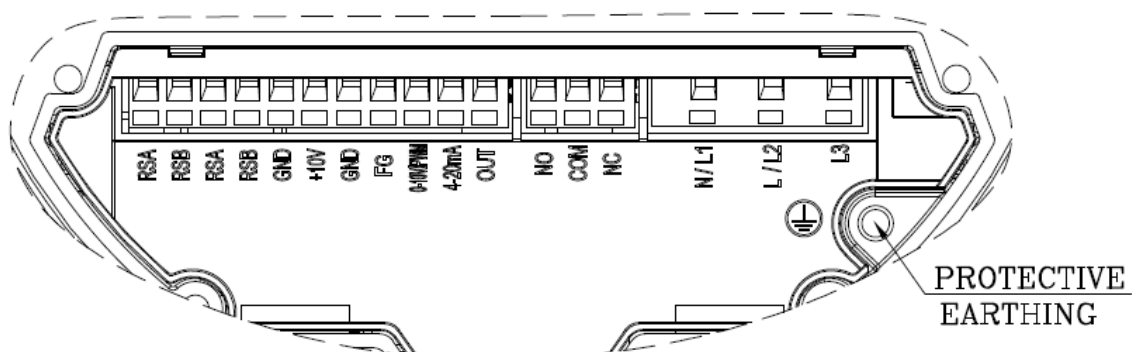


Note :

1. Depth of screw : 12 ~16 mm.
2. Cable Diameter : $\phi 6.0 \sim \phi 10.0$ mm
3. Open the cover and refer to definition of terminal block.

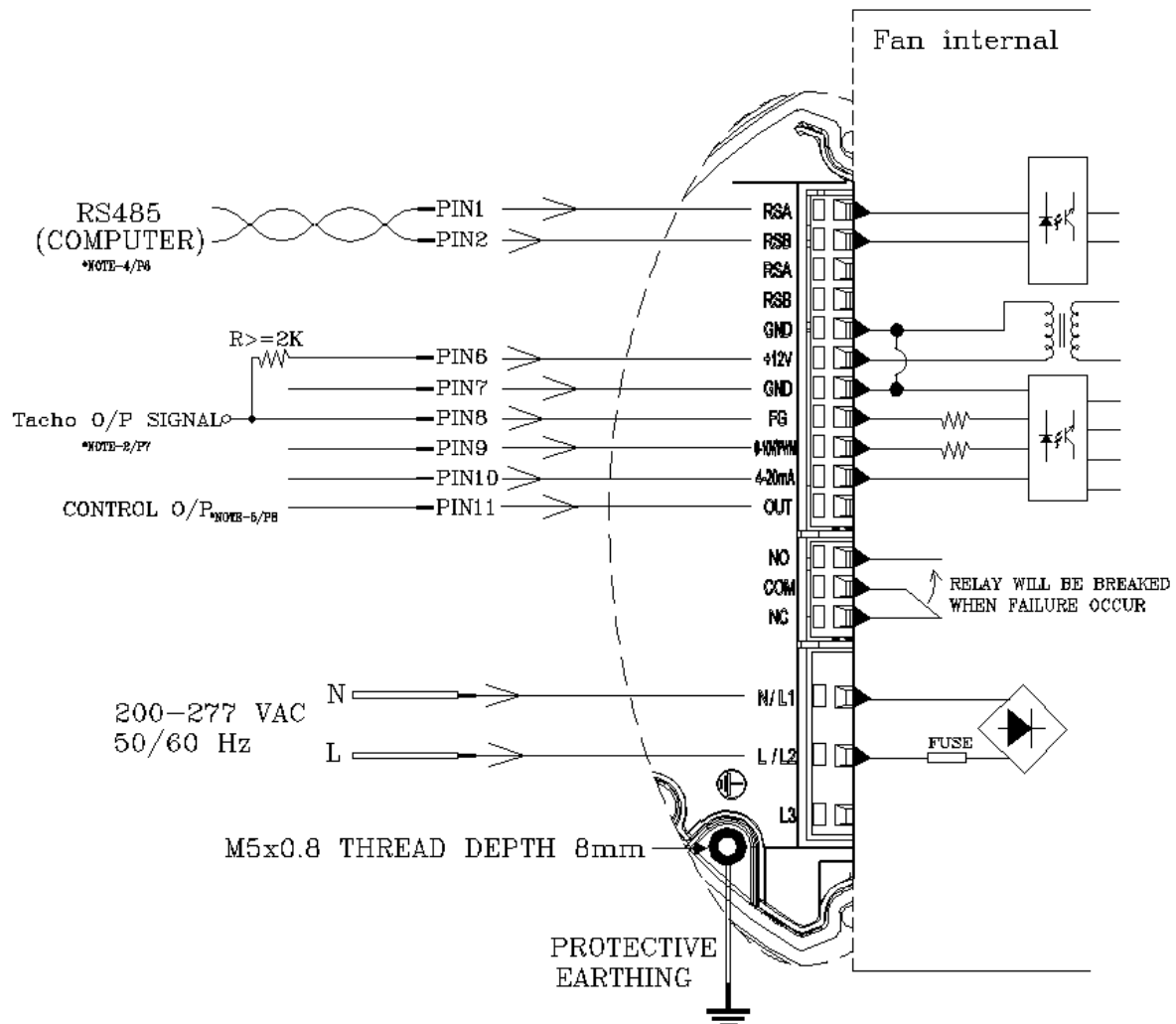
UNIT : mm[INCH]

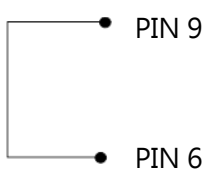
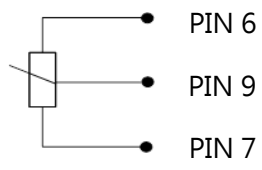
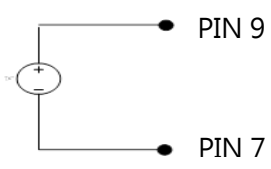
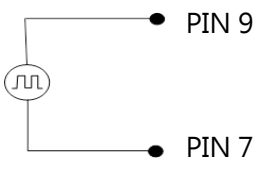
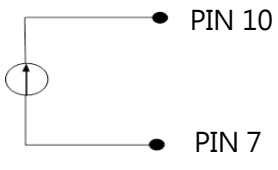
Definition of terminal block

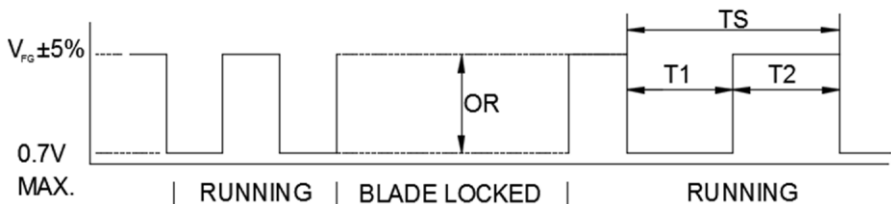


	Text	Functions
Power	N/L1	Neutral / AC mains
	L/L2	AC mains
	L3	--
Status	NO	Alarm relay, open by failure
	COM	Alarm relay, common (2A/250VAC)
	NC	Alarm relay, close by failure
Signal	RSA	RS485-A
	RSB	RS485-B
	RSA	RS485-A
	RSB	RS485-B
	GND	Ground
	+10V	+10V output, MAX 10mA (For external potentiometer)
	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 output 0-10VDC (For external potentiometer)

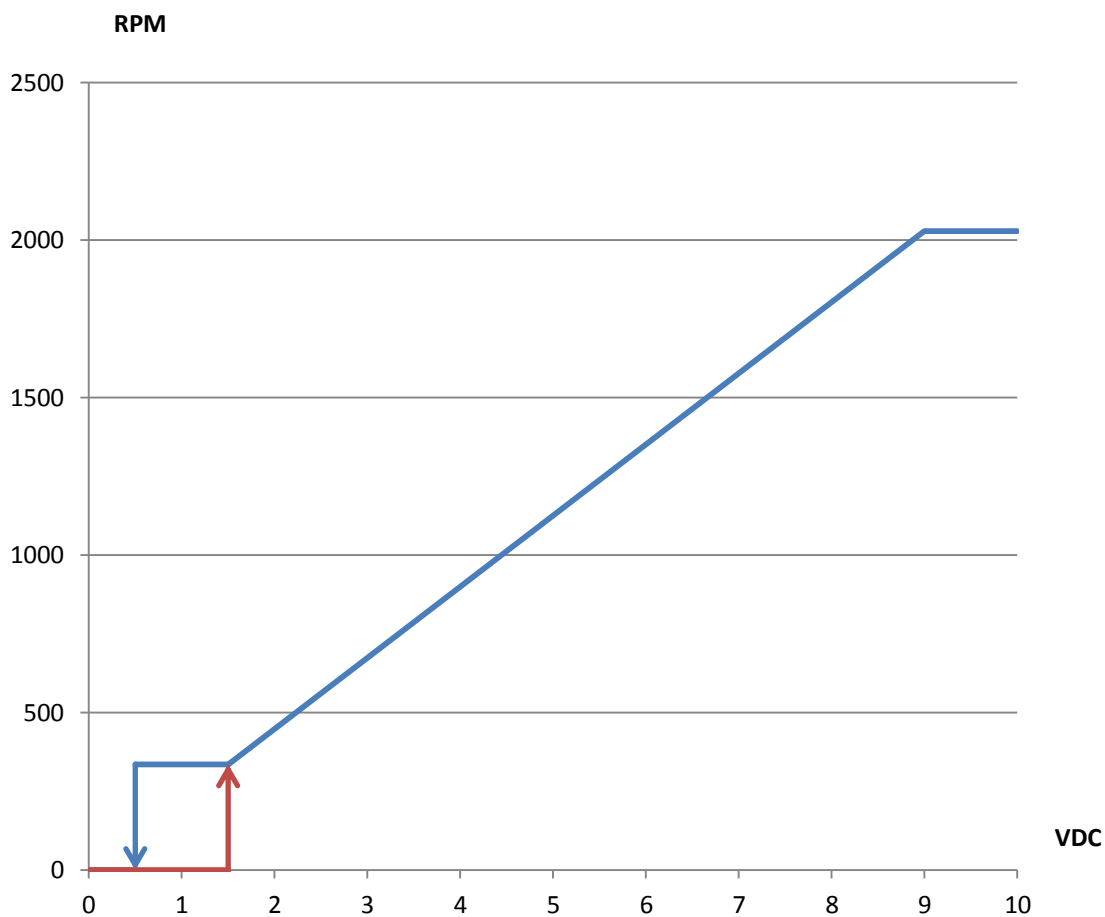
Lead wire connection:



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 0-10V DC Source 	Use voltage source support 0~10VDC voltage DC+ : connector PIN9(+) DC - : connector PIN7(-)
PWM Control PWM Generator 	PWM duty control PWM amplitude is 10VDC(+ -5%) Frequency Range is 100Hz...100kHz -PWM duty higher than 15%, fan start up ° -PWM duty lower than 5%, fan stop °
Current Control 4-20mA Current Source 	4~20mA Current Control Open 0-10V/PWM PIN - Lower than 4.5 mA → Fan Stop - Higher than 6.0 mA → Fan Start up - Higher than 19.5 mA → Maximum Speed

Signal function																	
RS485 control function	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.																
Control O/P	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>0.2</td></tr><tr><td>6.2</td><td>1.47</td></tr><tr><td>13.7</td><td>5.96</td></tr><tr><td>18.7</td><td>8.95</td></tr><tr><td>20.0</td><td>9.65</td></tr></table>		Current (mA)	Control O/P (VDC) (REF)	4.0	0.2	6.2	1.47	13.7	5.96	18.7	8.95	20.0	9.65			
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Alarm state	NO and COM will OPEN ; NC and COM will CLOSE.																
FG	$V_{CE(sat)} = 0.7V \text{ MAX.}$ $I_C = 5mA \text{ MAX.}$ $V_{FG} = 30.0V \text{ MAX.}$ $R \geq V_{FG} / I_C$ Frequency generator waveform <table><tr><td>N=R.P.M</td><td>1 PULSE PER REVOLUTION</td></tr><tr><td>TS=60/N(SEC)</td><td>T1=T2=1/2 TS</td></tr></table>		N=R.P.M	1 PULSE PER REVOLUTION	TS=60/N(SEC)	T1=T2=1/2 TS											
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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	10	15	20	30	40	50	60	70	80	90	100	%
4~20 mA	4	5	5.6	6	7.2	8.8	10.4	12	13.6	15.2	16.8	19	20	mA