



Specification For Approval

Customer : _____
Description : _____ EC FAN _____
Customer Part No. : _____ Rev : _____
Delta Model No. : _____ GTW040FUC15E-M001 _____ Rev : 00
Safety Model No. : _____
Sample Issue No. : _____
Sample Issue Date : _____ 11/16 '18 _____

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

Approved by : _____

Date : _____

Delta Electronics, Inc.

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Electronically Commutated (EC) Fan

Axial Fan

φ 528 x 154 mm



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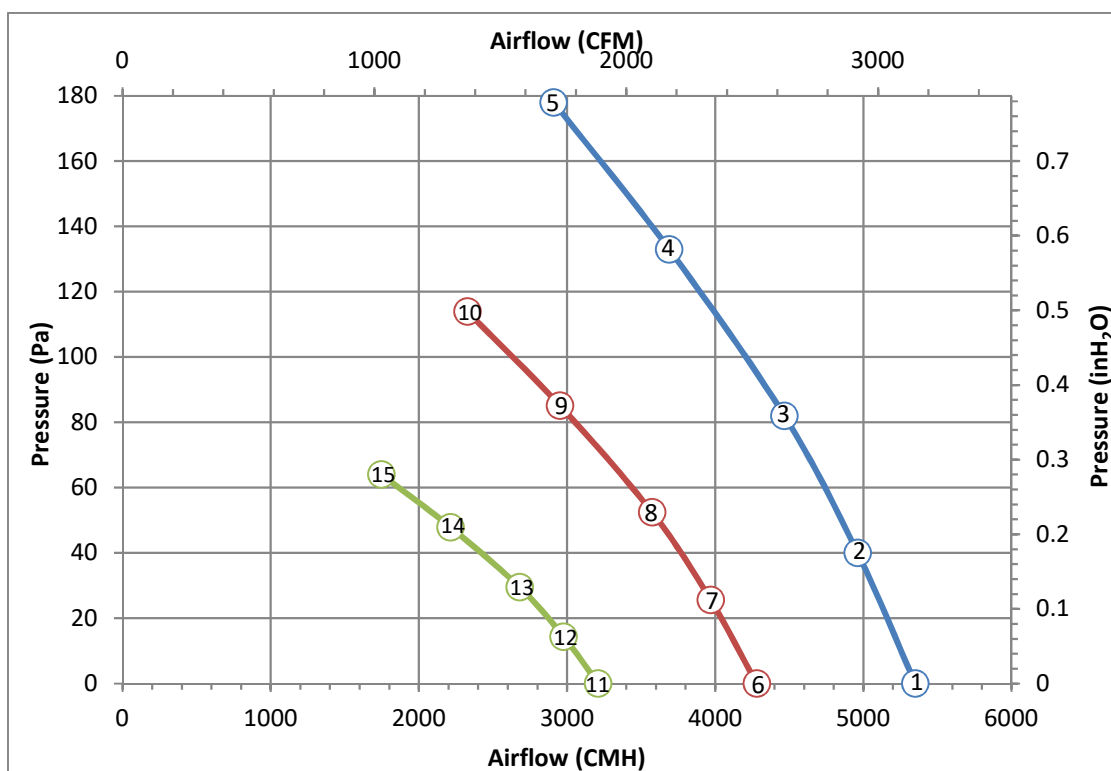
Technical features

Input Side	
Nominal voltage	1~ 230Vac 50/60Hz
Input source	1~ 200Vac - 277Vac
Power @ free air	330 W
Power @ max. load	420 W
Output Side	
Speed (RPM)	1650
Qmax. (CMH / CFM)	5350 / 3147
Pmax. (Pa / inAq)	198 / 0.8
Noise (dB-A) @ Qmax	72
Functions	
Passive power factor correction	
Control input 0~10V _{DC} / PWM pattern.	
Output +10V _{DC} (±10%), max. 10mA.	
RS485 control bus	
Alarm relay, Locked rotor protection, Soft start.	
Voltage / Current monitoring.	

Physical	
Rotation direction	CCW, seen on rotor
Material (impeller)	Plastic
Bearing system	Ball bearings
Weight (kg)	9.7
Electrical leads	cable
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 , EN61000-6-3 , 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	5350	1650	330	2.05	72
2	40	4961	1650	336	2.09	72
3	82	4467	1650	348	2.16	71
4	133	3689	1650	369	2.29	69
5	178	2910	1650	389	2.42	72
6	0.0	4280	1320	169	1.10	67
7	26	3969	1320	172	1.15	67
8	53	3574	1320	178	1.18	65
9	85	2951	1320	189	1.20	63
10	114	2328	1320	199	1.28	66
11	0	3210	990	71	0.47	61
12	14	2977	990	73	0.48	61
13	30	2680	990	75	0.49	60
14	48	2213	990	80	0.51	56
15	64	1746	990	84	0.54	60

Test condition:

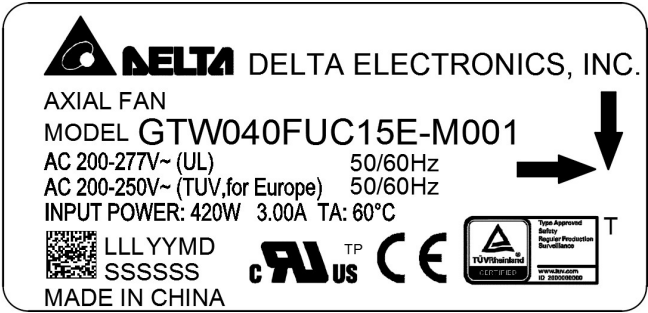
- Input voltage: nominal voltage
- Temperature : room temperature
- Humidity : 65%RH
- Measured with standard fanguard and wallring.
- Noise is measured at a distance of one meter from the fan intake with a sound level meter in anechoic chamber.

ErP Directive:

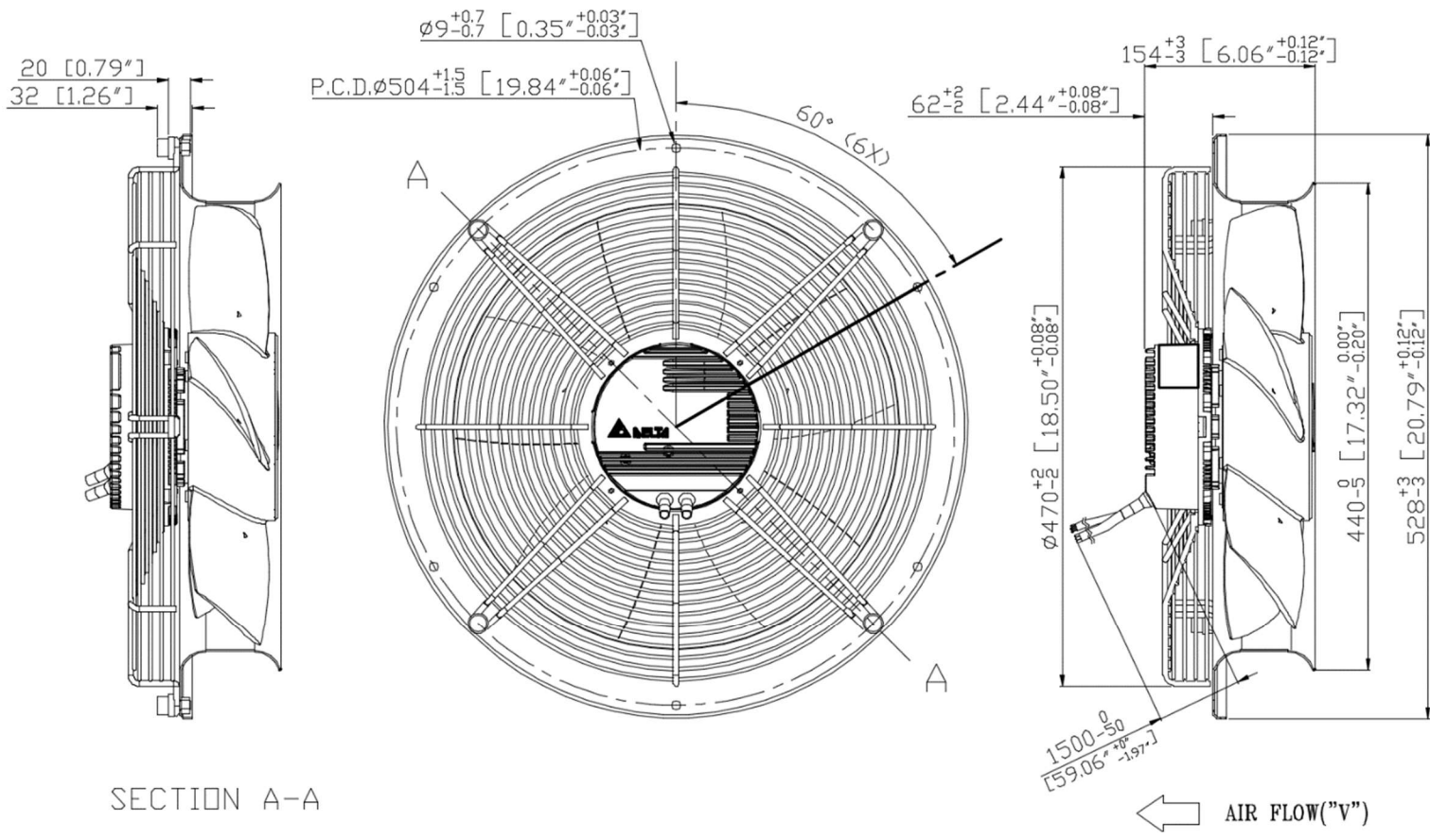
	Actual	2013	2015
Over all Eff (%)	40.6	27	31
Eff Grade N	49.6	36	40
Power (kW)	0.369		
Air flow (CMH)	3689		
Pressure (Pa)	133		
Speed (RPM)	1652		

Dimension drawing

Label :



Fan :



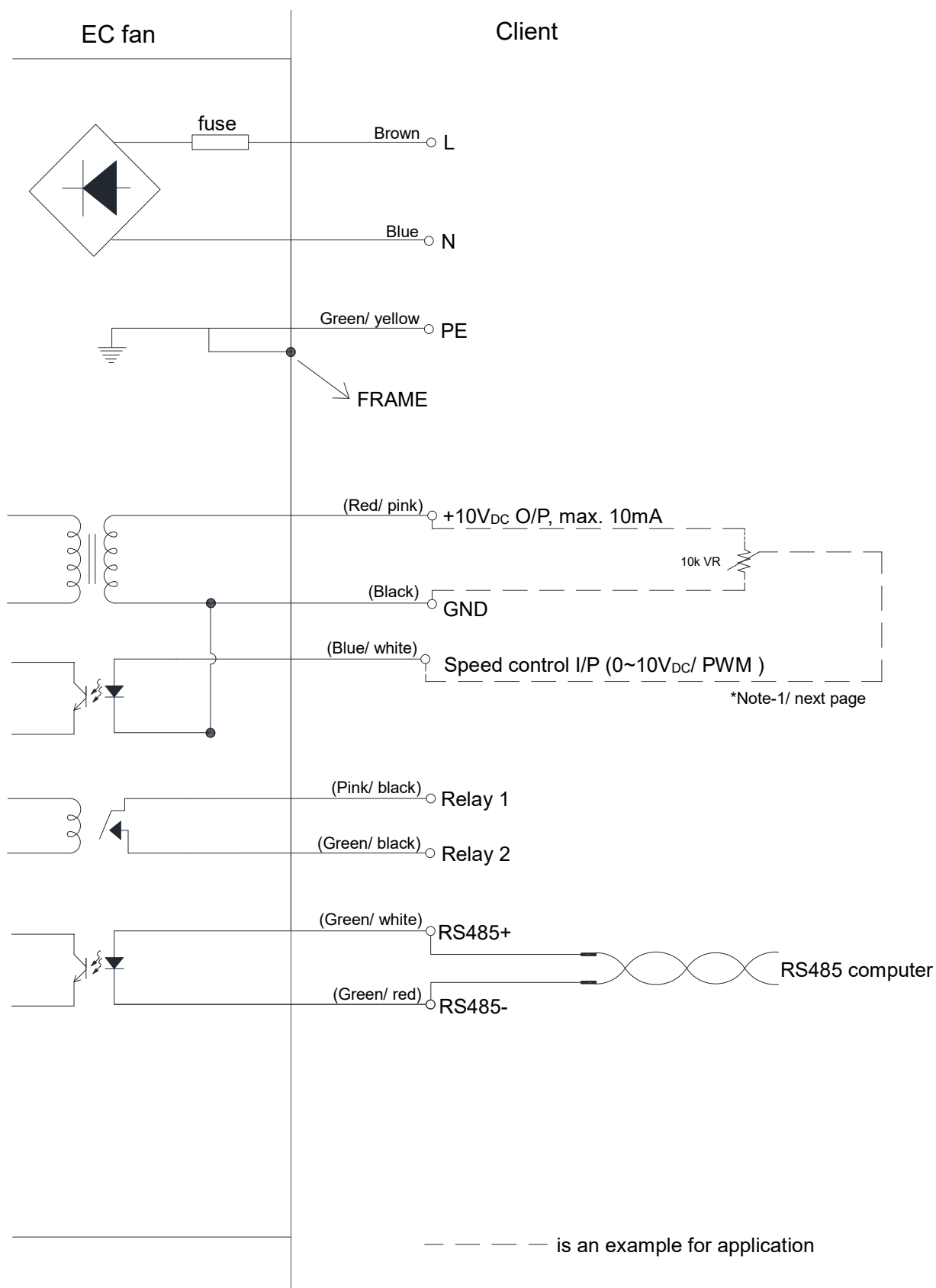
UNIT: mm [inch]

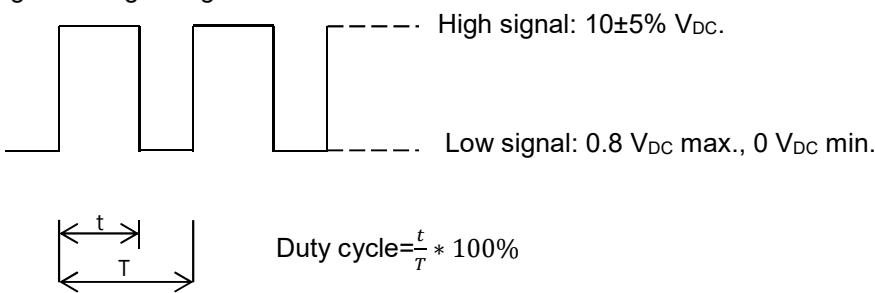
Definition of cable

Cable	Color	Functions
Cable 1 Power	Brown	L
	Blue	N
	Green/ yellow	Earth
Cable 2 Signal	Red/ pink	+10V _{DC}
	Blue/ white	PWM
	Black	GND
	Green/ red	RS485 -
	Green/ white	RS485 +
	Pink/ black	Relay 1
	Green/ black	Relay 2

Cable length: 1500mm

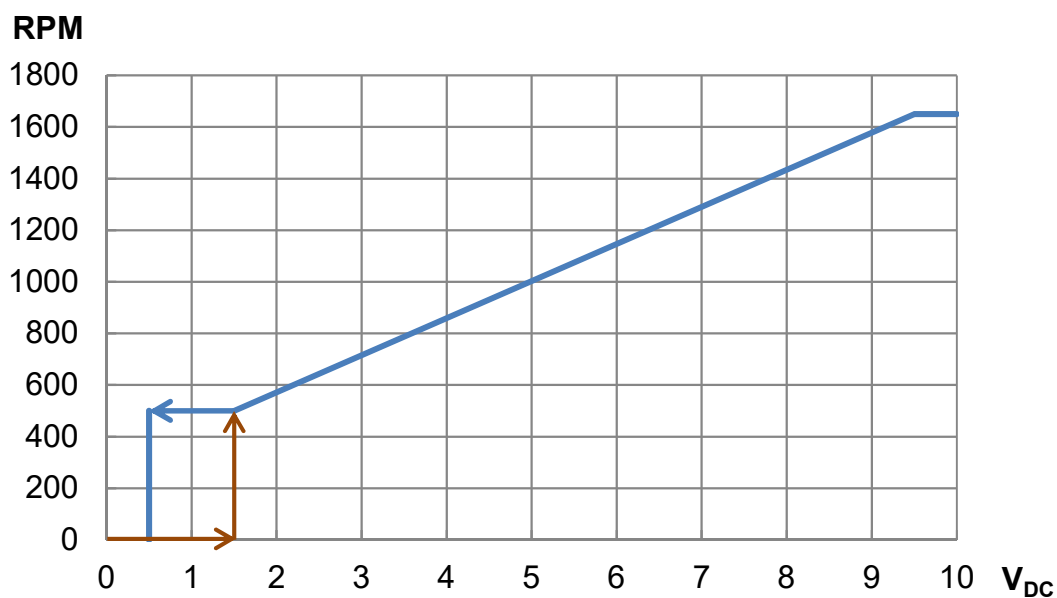
Lead wire connection:



Signal function	
Voltage control (*note-1)	-The voltage range shall be 0~10 V_{DC} -The fan will operate at max. speed, when voltage is 10 V_{DC} -The fan will be stop, When voltage is lower than 0.5 V_{DC}
PWM control (*note-1)	Signal voltage range: 10.0 V_{DC}  High signal: 10±5% V_{DC}. Low signal: 0.8 V_{DC} max., 0 V_{DC} min. Duty cycle = $\frac{t}{T} * 100\%$
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.
Relay function	Relay will be open, when fault occur

Control Voltage VS. RPM Curve

Voltage(V _{DC})	PWM Duty(%)	Speed R.P.M.(ref.)	Power(W)
0.0	0	0	<5
9.5	95	1650	420



Voltage(V_{DC}) ,and PWM duty(%)

Voltage	0	0.5	1	1.5	2	3	4	5	6	7	8	9.5	10	V _{DC}
PWM duty	0	5	1	15	20	30	40	50	60	70	80	95	100	%