



Specification For Approval

Customer : _____
Description : _____ EC FAN _____
Customer Part No. : _____ Rev : _____
Delta Model No. : _____ GTB023FUA10R-V E1 _____ Rev : 03
Safety Model No. : _____ GTB023FUA10 _____
Sample Issue No. : _____
Sample Issue Date : _____ 03/10/2020 _____

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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Taoyuan City, 33341, Taiwan

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Electronically Commutated (EC) Fan

Centrifugal Fan

225 (225 x 99 mm)



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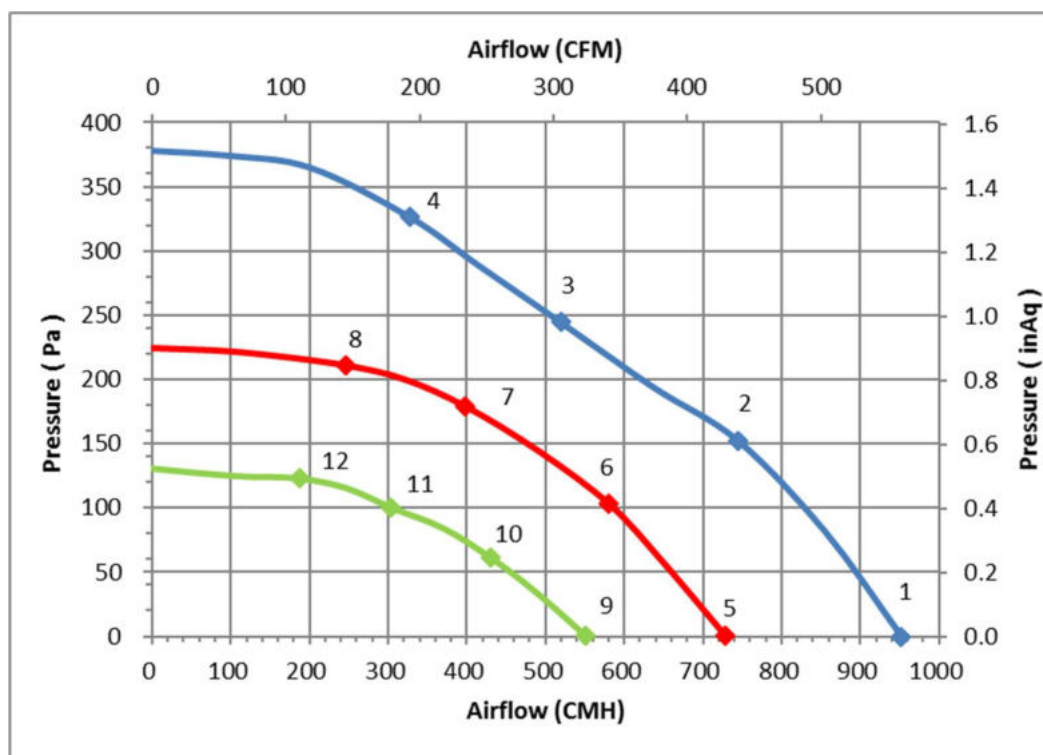
Technical features

Input Side	
Nominal Voltage	1~ 230Vac 50/60Hz
Input Source	1~ 200Vac - 240Vac
Power @ Free air	63 W
Power @ Max. load	85 W
Output Side	
Speed (RPM)	2250
Qmax. (CMH / CFM)	952 / 560
Pmax. (Pa / inAq)	378 / 1.5
Noise (dB-A) @ Qmax.	67.5
Functions	
Control input 0-10VDC or PWM pattern.	
Output +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)	1.3
Electrical leads	Lead wire
Environmental	
Operating temperature range	-25 ~ +60 °C
Storage temperature range	-40 ~ +80 °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	952	2411	60	0.45	67.5
2	153	744	2320	83	0.59	64.0
3	244	520	2226	83	0.59	60.5
4	327	327	2314	83	0.59	61.5
5	0	729	1850	28	0.25	62.5
6	103	581	1850	42	0.35	57.0
7	179	399	1850	46	0.38	58.5
8	211	247	1850	41	0.35	60.0
9	0	551	1416	14	0.13	58.0
10	61	431	1412	20	0.18	51.0
11	100	304	1415	22	0.19	52.0
12	123	188	1414	20	0.18	53.5

Test Condition :

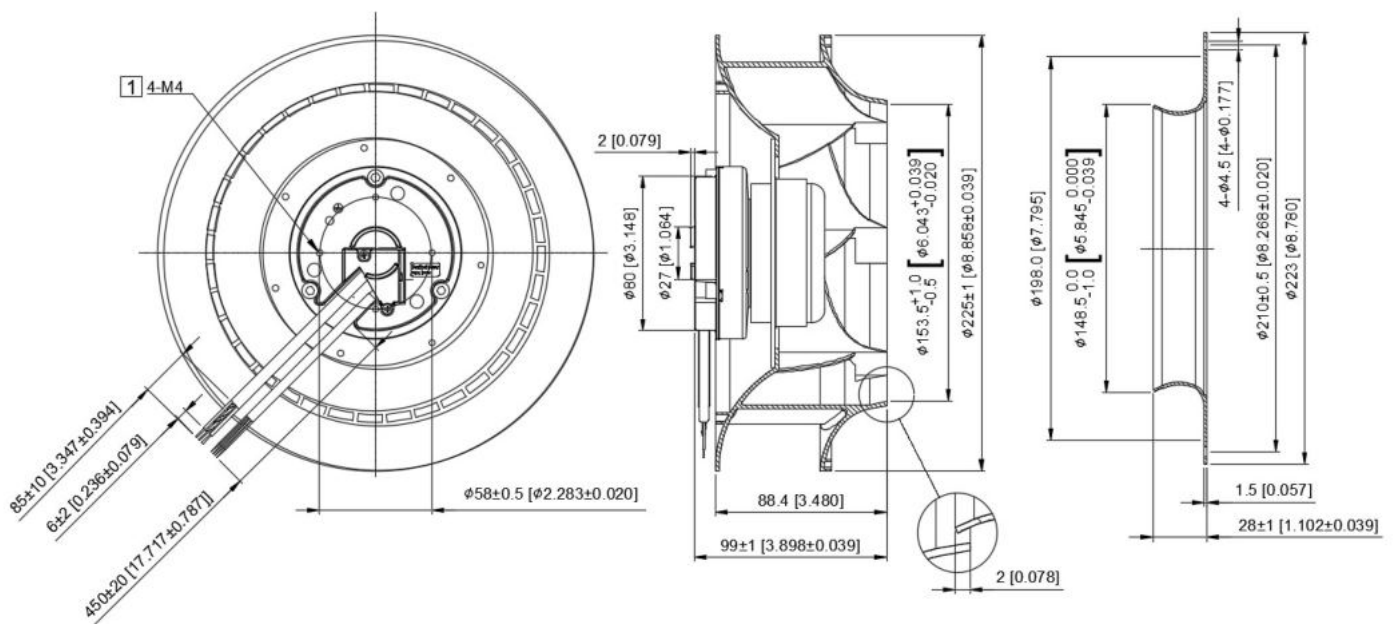
- Input Voltage: Nominal Voltage
- Temperature : Room Temperature
- Humidity : 65%RH
- Measured with inlet cone.
- Noise (Lp) is measured at a distance of one meter from the inlet side
- Testing method is compliance with ISO 3745.

Dimension drawing

Label :



Fan :

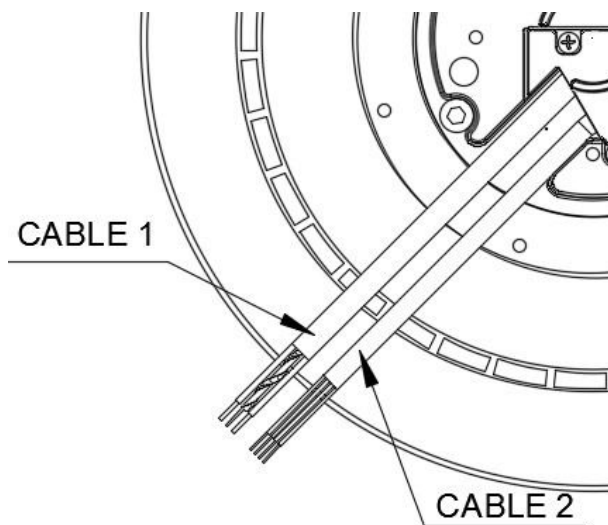


Note :

1. Depth of screw : 5 mm(max.).

UNIT : mm[INCH]

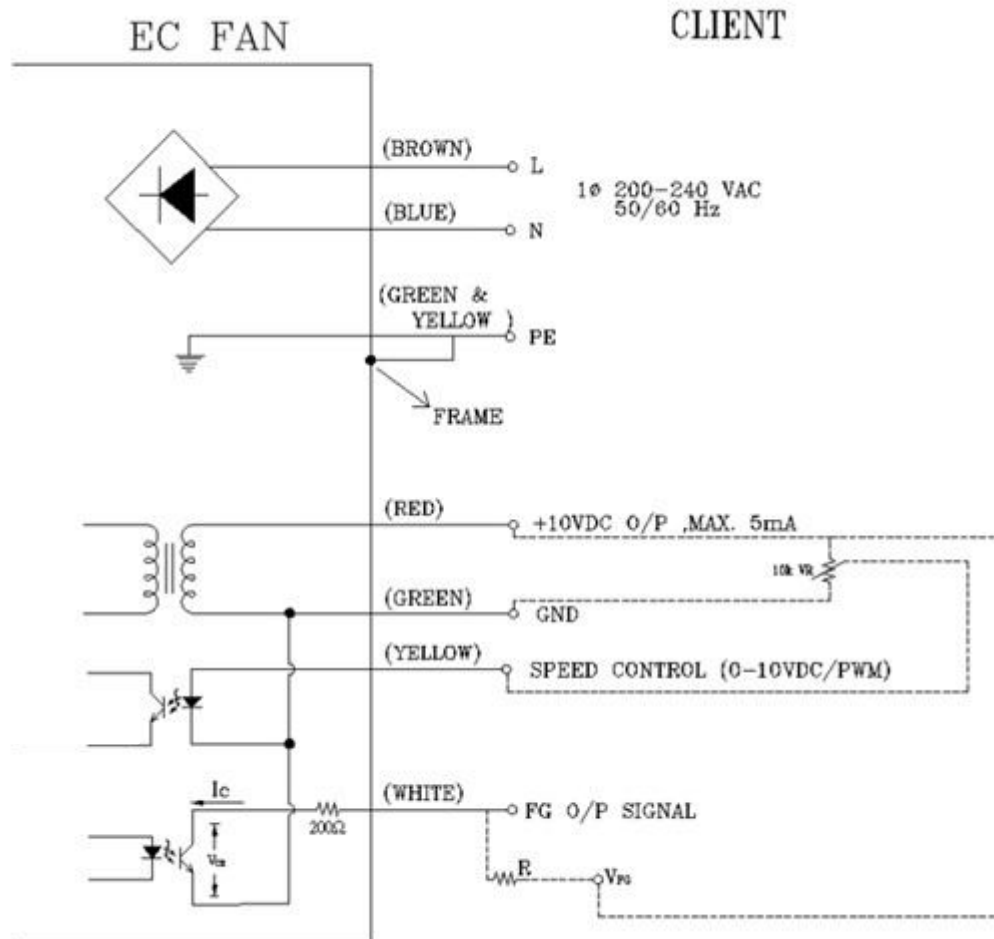
Definition of terminal block

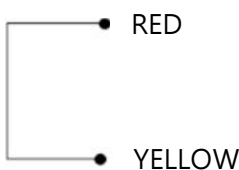
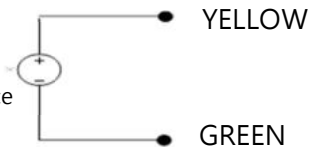


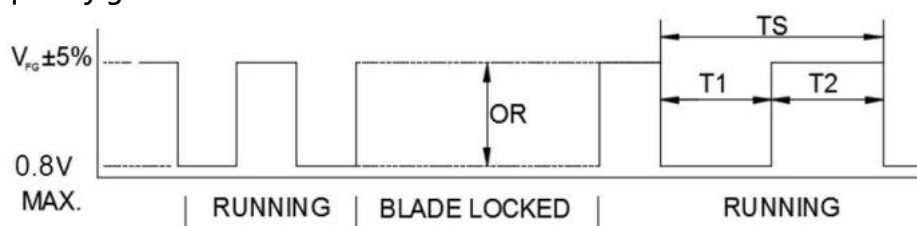
Cable	Wire Type	Color	Functions
1	UL2464 18#AWG	Brown	Line/ AC main
		Blue	Neutral/AC main
		Green / Yellow	Protective Earth

Cable	Wire Type	Color	Functions
2	UL2464 24#AWG	Green	Ground
		Red	+10V output
		White	F00
		Yellow	0-10VDC / PWM

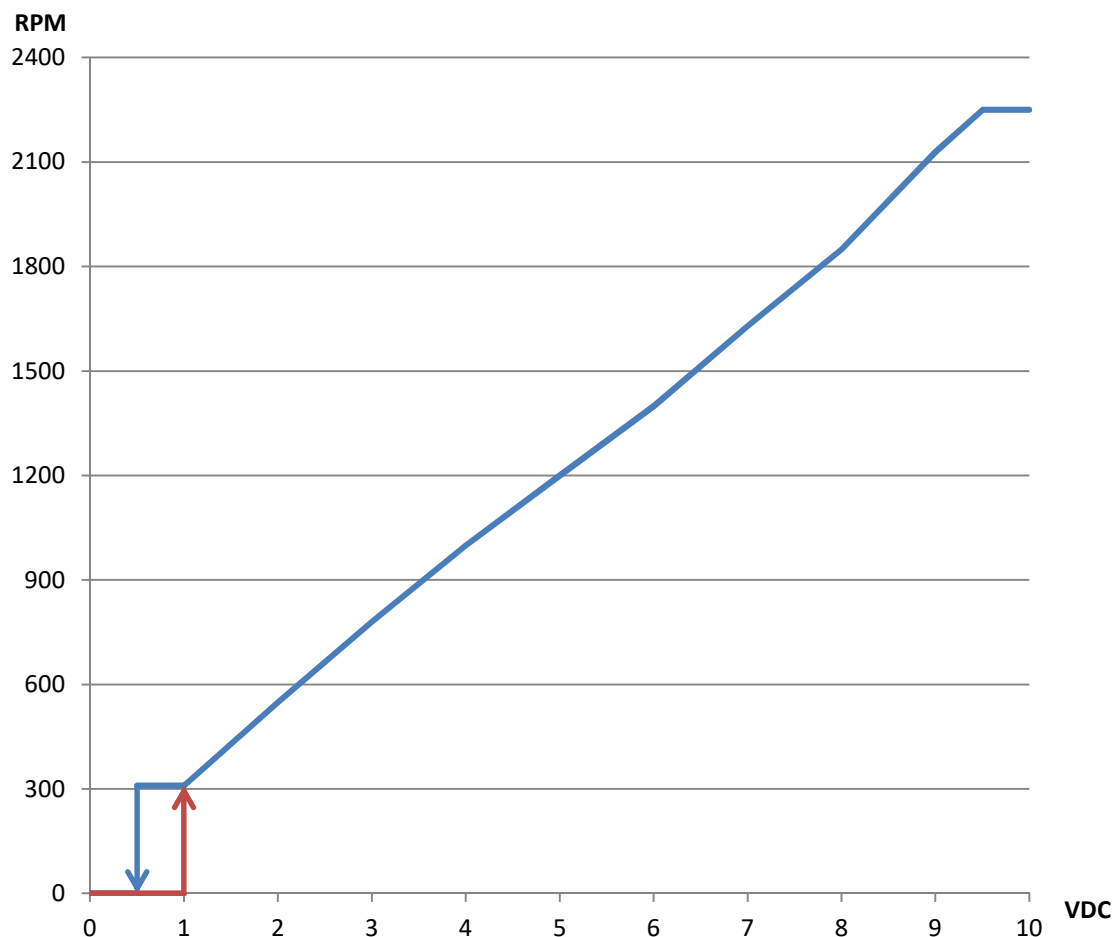
Lead wire connection



Speed setting	
Full Speed 	Short RED & YELLOW Fan will run full speed.
Voltage Control 0-10V DC Source 	Use voltage source support 0~10VDC voltage DC+ : connect to YELLOW DC- : connect to GREEN -Voltage higher than 1.0 VDC, fan start up. -Voltage lower than 0.5 VDC , fan stop
PWM Control PWM Generator 	PWM duty control PWM amplitude is 10VDC(+/-5%) Frequency Range is 100Hz ~ 100kHz -PWM duty higher than 10%, fan start up ° -PWM duty lower than 5%, fan stop °

Signal function														
Voltage/PWM control	The speed comparison will control level at Nominal Voltage <table><tr><th>Voltage (V)</th><th>PWM (%)</th><th>Speed (RPM)</th></tr><tr><td>0</td><td>0</td><td>0</td></tr><tr><td>1</td><td>10</td><td>310 ± 50RPM</td></tr><tr><td>10</td><td>99</td><td>2250⁽¹⁾ ± 5%</td></tr></table> (1) Depending on power consumption conditions, speed might be different.		Voltage (V)	PWM (%)	Speed (RPM)	0	0	0	1	10	310 ± 50RPM	10	99	2250 ⁽¹⁾ ± 5%
Voltage (V)	PWM (%)	Speed (RPM)												
0	0	0												
1	10	310 ± 50RPM												
10	99	2250 ⁽¹⁾ ± 5%												
FG	$V_{CE(sat)} = 0.8V \text{ MAX.}$ $I_C = 5mA \text{ MAX.}$ $V_{FG} = 30.0V \text{ MAX.}$ $R \geq V_{FG} / I_C$ Frequency generator waveform  N=R.P.M TS=60/N(SEC) 1 PULSE PER REVOLUTION T1=T2=1/2 TS													

Control Voltage VS. RPM Curve at Nominal Voltage



Note: If the fan is used on heavy load, the speed will be limited by power consumption.

Voltage	0	0.5	1	2	3	4	5	6	7	8	9	10	VDC
PWM duty	0	5	10	20	30	40	50	60	70	80	90	100	%

Protection Standard

ITEM	Standard
Rain	IEC 60529 IPX4
Dust/sand	IEC 60529 IP5X
Gas corrosion	GR-63-CORE
Salt mist	IEC 60068-2-11

FAN MATERIAL:

- ① Blades: Plastic (PA66+15%GF)
- ② Rotor: Steel
- ③ Pillow: Polyester (BMC)
- ④ Bottom Cover: Die-cast aluminum

