



Specification For Approval

Customer : _____
Description : _____ EC FAN _____
Customer Part No. : _____ Rev : _____
Delta Model No. : _____ GTB063PUU41R-V001 _____ Rev : 01
Safety Model No. : _____ MU150GP3FD5 _____
Sample Issue No. : _____
Sample Issue Date : _____ 04/06/2020 _____

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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Electronically Commutated (EC) Fan

Centrifugal Fan

φ 675 x 405 mm



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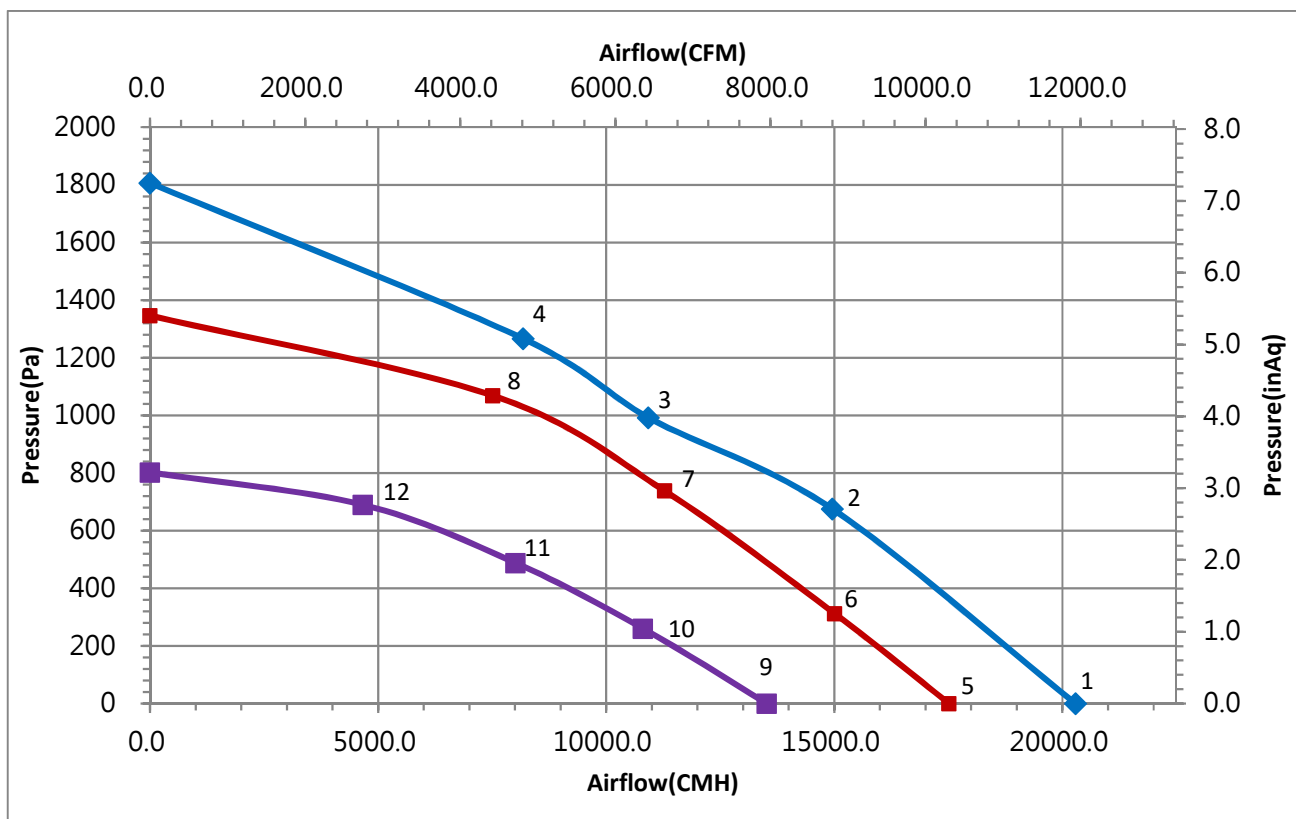
Technical features

Input Side	
Nominal Voltage	3~ 400V _{ac} 50/60Hz
Input Source	3~ 380V _{ac} - 480V _{ac}
Power @ Free air	2479 W
Power @ Max. load	4200 W
Output Side	
Speed (RPM)	1800
Qmax. (CMH / CFM)	20289 / 11935
Pmax. (Pa / inAq)	1807 / 7.250
Noise (dB-A) @ Qmax.	83
Functions	
Passive power factor correction	
Control input 0-10V _{DC} / PWM / 4-20mA.	
Output +10V _{DC} (±10%), max. 10mA.	
Control voltage output: 0-10V _{DC} .	
RS485 control bus (MODBUS (V20)RTU / 8N1)	
Alarm relay, Locked rotor protection, Soft start.	
Voltage / Current monitoring.	

Physical	
Rotation Direction	CW, Seen on rotor
Material (Impeller / Frame)	Aluminum / Die-cast aluminum
Bearing system	Ball bearings
Weight (kg)	31.5
Electrical leads	Via terminal block
Environmental	
Operating temperature range	-25 ~ +40 °C
Storage temperature range	-40 ~ +70 °C
Safety	
Safety	UL , cUL
IP Level	IP54
EMC	EN61000-6-1 , EN61000-6-3
Protection class	I
Insulation class	F
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	20289	1800	2479	4	83
2	675	14959	1800	4200	6.75	
3	992	10926	1696	4200	6.75	
4	1266	8179	1692	4200	6.75	
5	0	17516	1554	1595	2.86	80
6	428	14185	1554	2750	4.5	
7	849	10107	1555	3325	5.34	
8	1069	7513	1554	3256	5.22	
9	0	13519	1205	810	1.83	74
10	260	10807	1202	1300	2.46	
11	488	8016	1202	1539	2.68	
12	690	4667	1201	1435	2.52	

Test Condition :

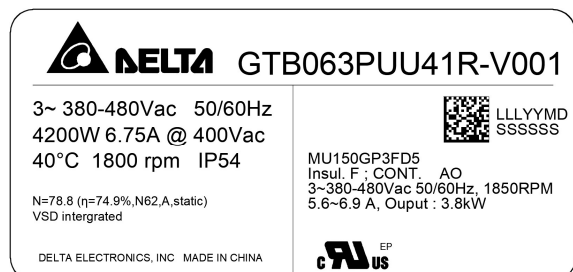
- Input Voltage : Nominal Voltage
- Temperature : Room Temperature
- Humidity : 65%RH
- Measured with inlet cone.
- Noise (Lp) is measured at a distance of one meter from the inlet side.

ErP Directive:

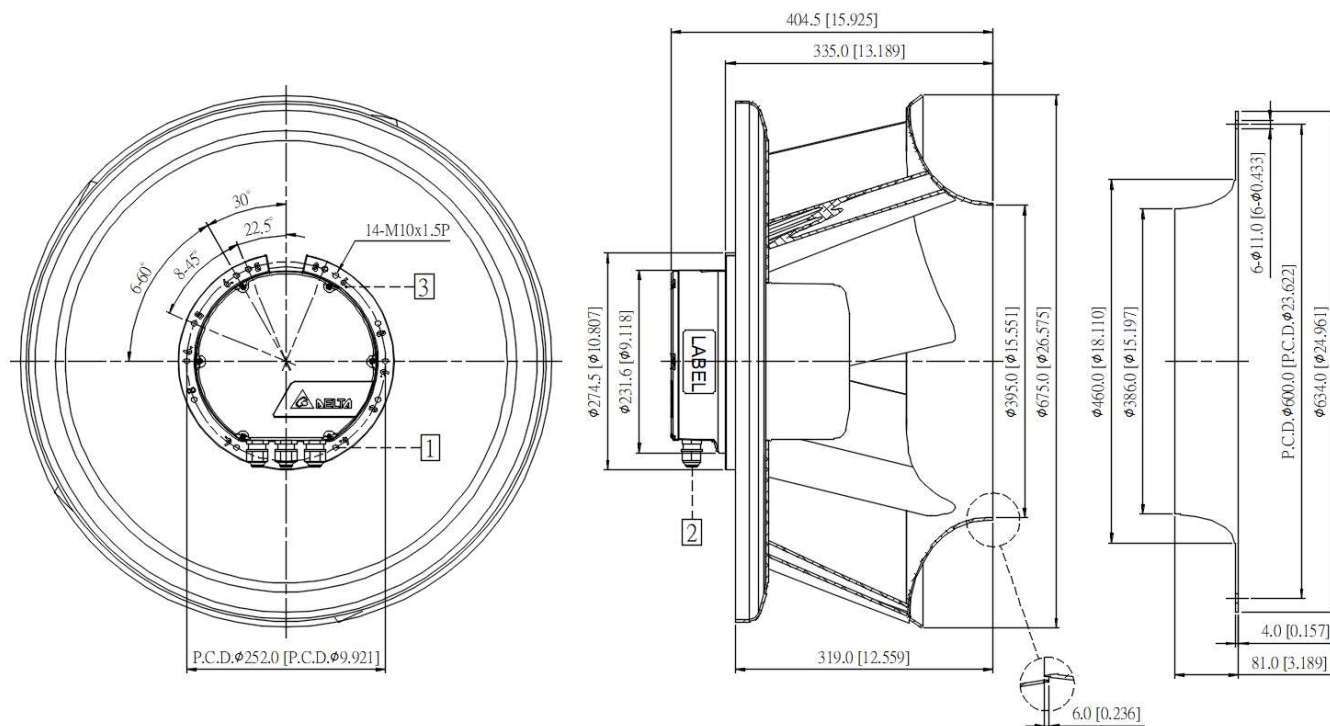
	Actual	2015
Over all Eff (%)	74.9	58.0
Eff Grade N	78.8	62.0
Power (kW)	4.2	
Air flow (CMH)	10926	
Pressure (Pa)	992	
Speed (RPM)	1696	

Dimension drawing

Label :



Fan :

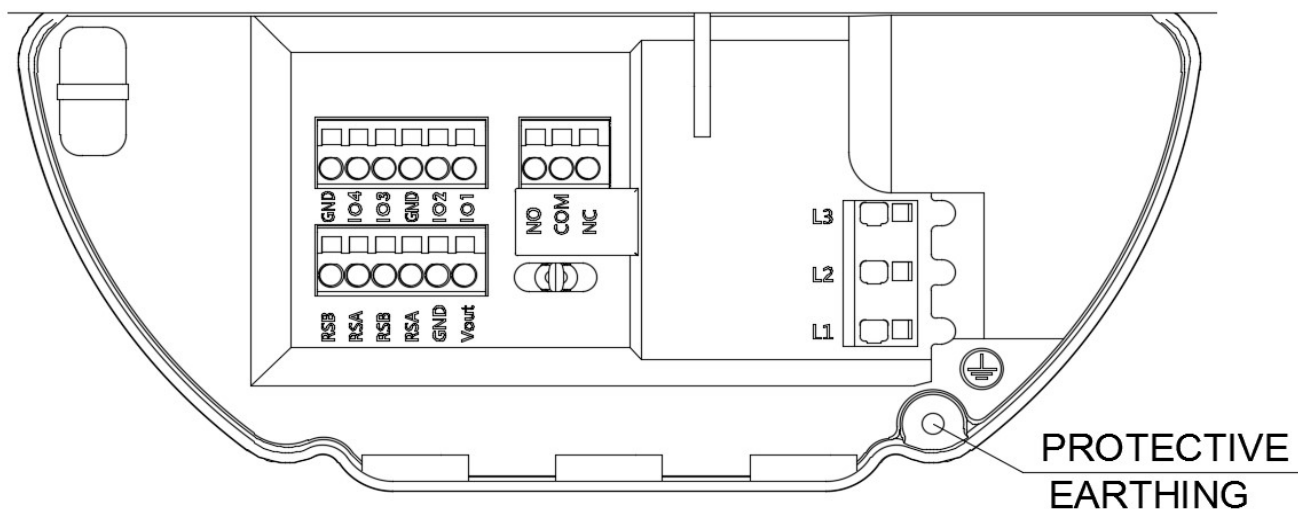


Note :

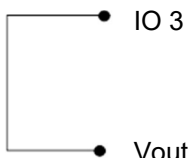
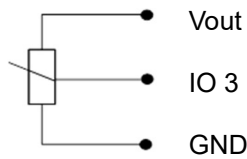
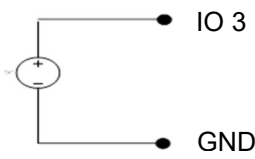
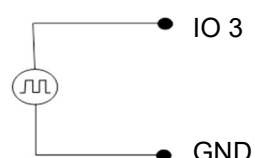
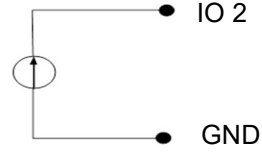
- 1 Depth of screw : 25mm max..
- 2 Cable diameter : Ø7.0 ~ Ø12.7mm.
- 3 Open the cover and refer to definition of terminal block.

UNIT : mm[INCH]

Definition of terminal block

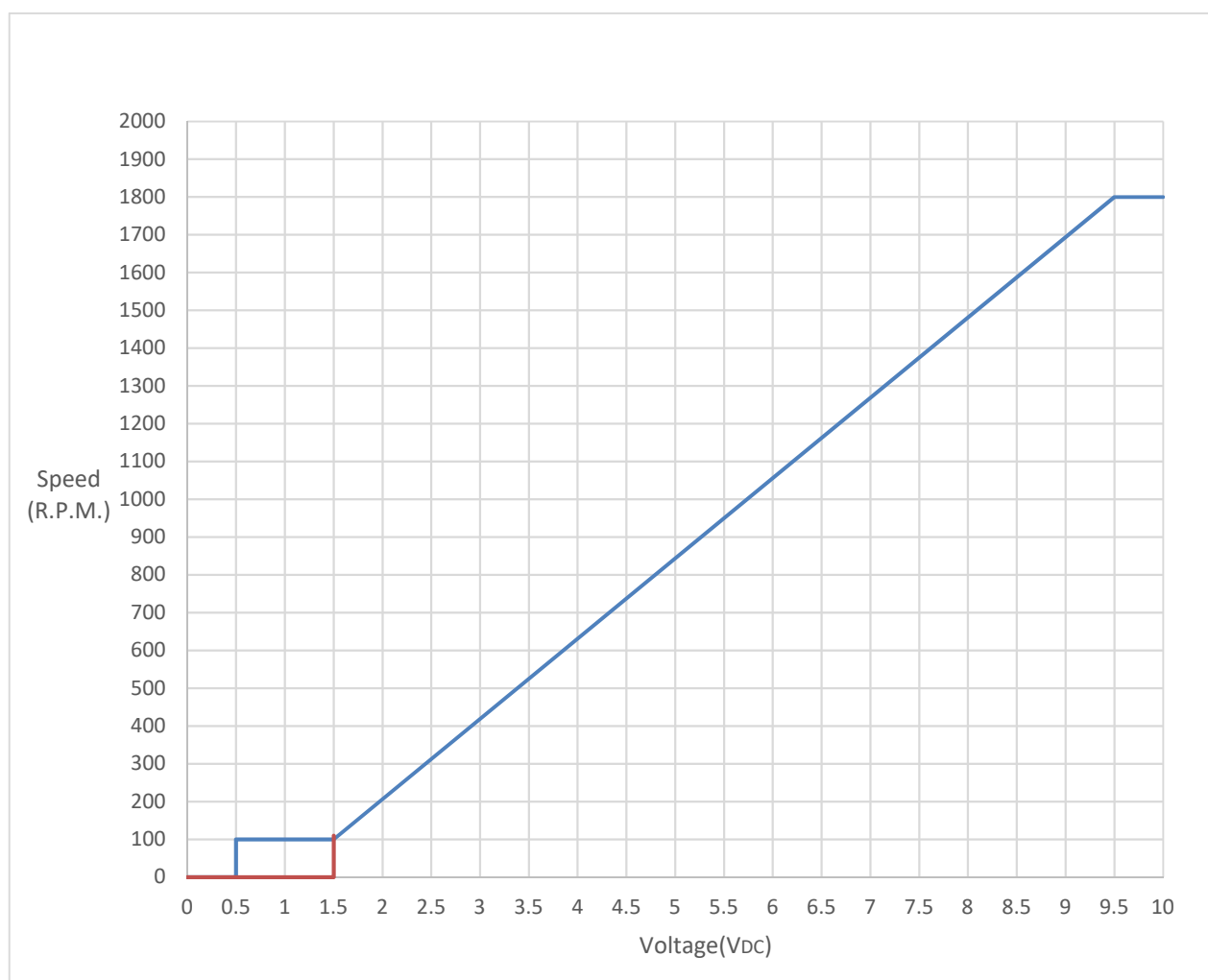


	Text	Functions
Power	L1	AC main (3~ 380-480VAC)
	L2	AC main (3~ 380-480VAC)
	L3	AC main (3~ 380-480VAC)
Status	NC	Alarm relay, open by failure
	COM	Alarm relay, common (2A/250VAC)
	NO	Alarm relay, close by failure
Signal	RSB	RS485-B
	RSA	RS485-A
	RSB	RS485-B
	RSA	RS485-A
	GND	Ground
	Vout	+3.3-24V/800mW output (default: +10V)
	GND	Ground
	IO4	Control voltage output 0-10VDC
	IO3	Speed control, input 0-10VDC/PWM
	IO2	Speed control, input 4-20mA
	IO1	Frequency generator (FG) signal

Speed setting	
Full Speed 	Short Vout & IO3 Fan will run at full speed.
	Connector 1-10kΩ variable resistor Between Vout with GND and IO 3 (0-10V/PWM) Vary the variable resistance · to change the 'IO3' voltage (0...10V), then change FAN speed °
Voltage Control B 0-10V DC Source 	Use voltage source supply 0~10V_{DC} voltage DC+ : connect to IO 3 (+) DC- : connect to GND (-)
PWM Control PWM Generator 	PWM duty control PWM amplitude is 3.3~24V _{DC} Frequency Range is 100Hz...10kHz -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 - 4.0 mA → Fan Stop - 6.0 mA → Fan Start up - 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. Note: 1. A MODBUS over Serial Line Cable must be shielded. At one end of each cable its shield must be connected to protective ground.		
Voltage / PWM	The speed comparison will control level.		
	Voltage (V) ± 5%	PWM(%) ± 5%	Speed (RPM)
	0 ~ 0.5	0 ~ 5	0
	1.5	15	100 ± 50 RPM
	6.0	60	1056 ± 8%
	9.5	95	1800 ± 5%
Current Control	The speed comparison will control level.		
	Current (mA) ± 5%	Speed (RPM)	
	0 ~ 4.0	0	
	6.0	100 ± 50 RPM	
	13.6	1056 ± 8%	
	19.5	1800 ± 5%	
IO4 OUT (Control O/P) * 'OUT' outputs a 0-10V voltage, for series fan connection. (fan1→ fan2 → ...→fan(n)). Which apply a voltage command, all fans run in same RPM.	The OUT voltage Vs. current control input (almost linear ,4~20mA).		
	Current (mA) ± 5%	OUT (VDC) ± 5%	
	4.0	0.5	
	6.0	1.5	
	13.6	6.0	
	19.5	9.5	
Alarm state	1. NC and COM will OPEN. 2. NO and COM will CLOSE.		

Control Voltage VS. RPM Curve



Voltage (V_{DC}) , PWM duty (%) , 4~20mA table

Voltage $\pm 5\%$	0	0.5	1	1.5	2	3	4	5	6	7	8	9	10	VDC
PWM duty $\pm 5\%$	0	5	10	15	20	30	40	50	60	70	80	90	100	%
4~20 mA $\pm 5\%$	0	4.0	5.0	6.0	6.9	8.5	10.2	12.0	13.6	15.3	17.0	18.7	20.0	mA