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 : _____

GTB063PUU41R-V001 Delta Datasheet

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GTB063PUU41R-V001

Electronically Commutated (EC) Fan

Centrifugal Fan

ϕ **675 x 405 mm**

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www.fansco.com

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 ℃
Storage temperature range	-40 ~ +70 ℃

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 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
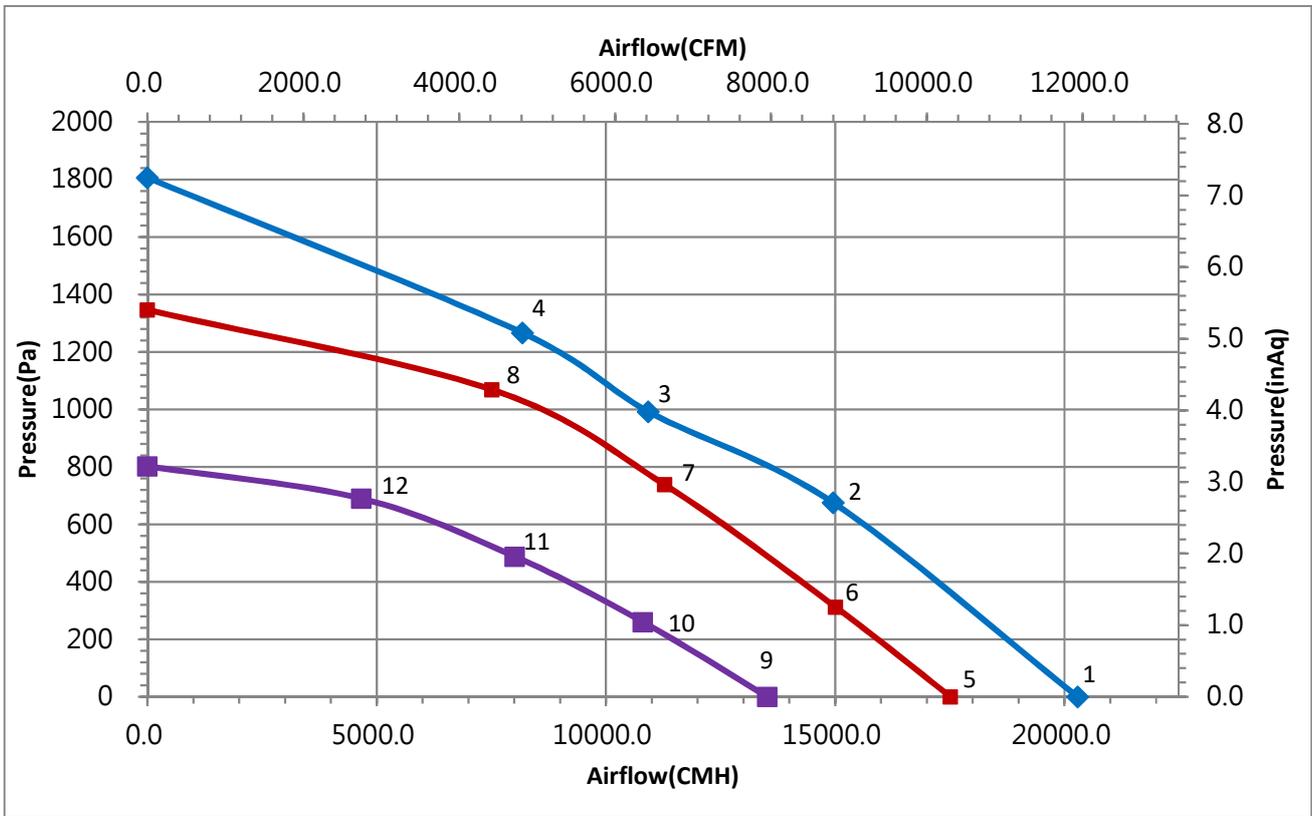
Measure data:

	P [Pa]	Q [CMH]	N [R.P.M.]	P1 [W]	I [A]	Lp [dB(A)]
1	0	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:

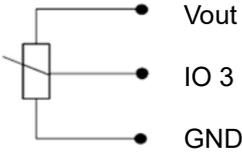|	Actual	2015
Over all Eff (%)	74.9	58.0
Eff Grade N	78.8	62.0
Power (kW)	4.2	
Air flow (CMH)	10926	
Pressure (Pa)	992	
Speed (RPM)	1696	

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Dimension drawing

Label :

Fan :
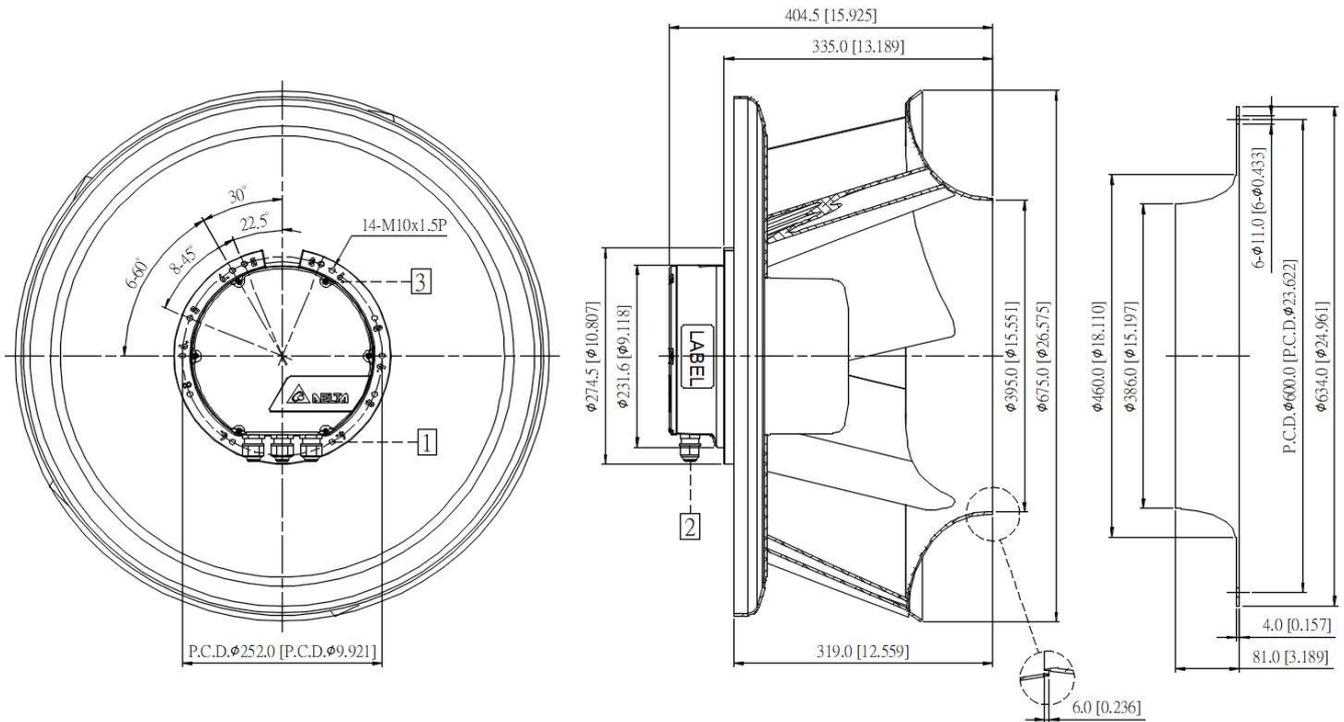
Note :
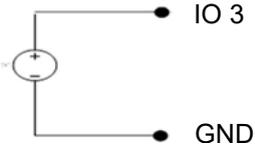
1 Depth of screw : 25mm max..

2 Cable diameter : Ø7.0 ~ Ø12.7mm.

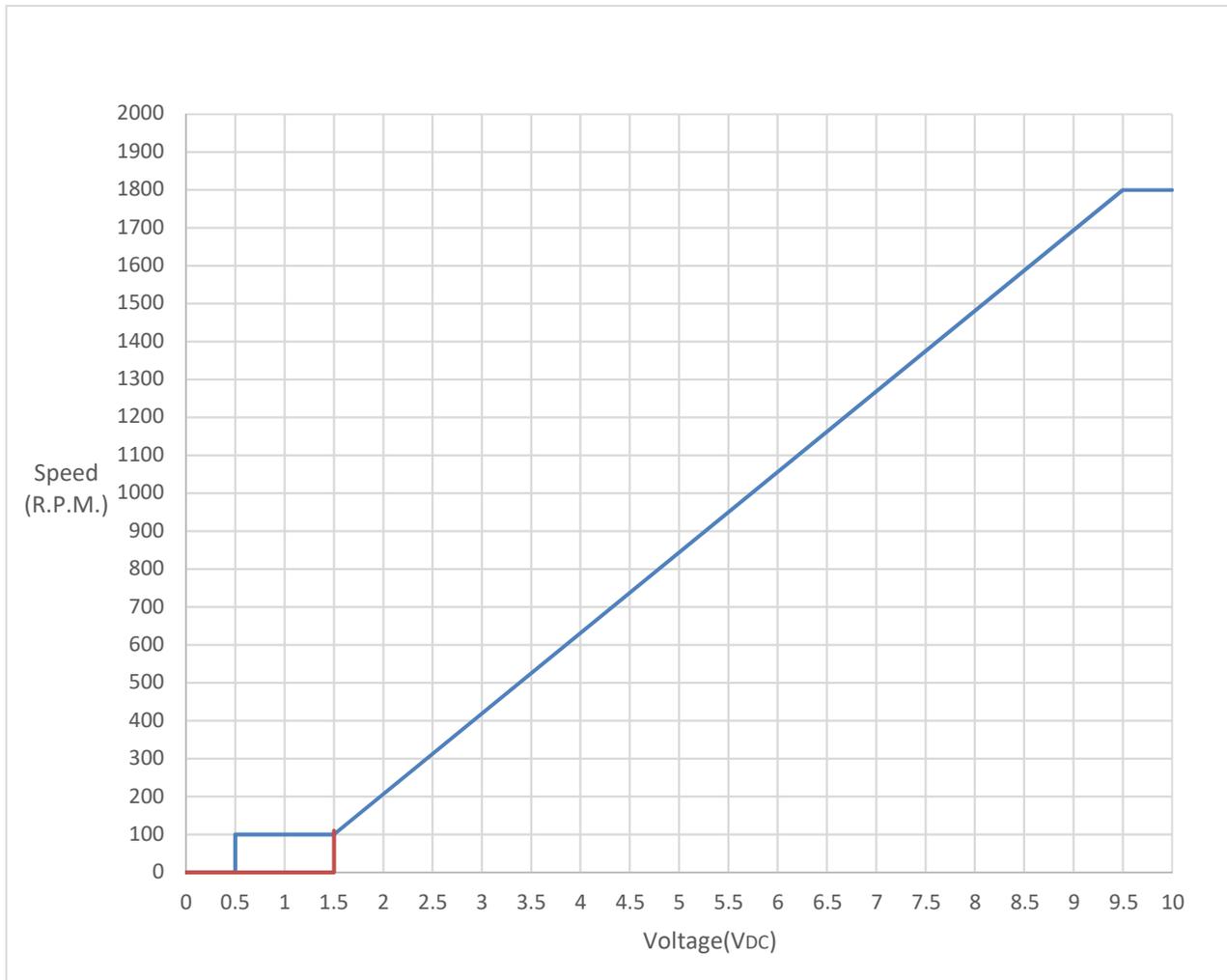3 Open the cover and refer to definition of terminal block.

UNIT : mm[INCH]

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Definition of terminal block

PROTECTIVE EARTHING
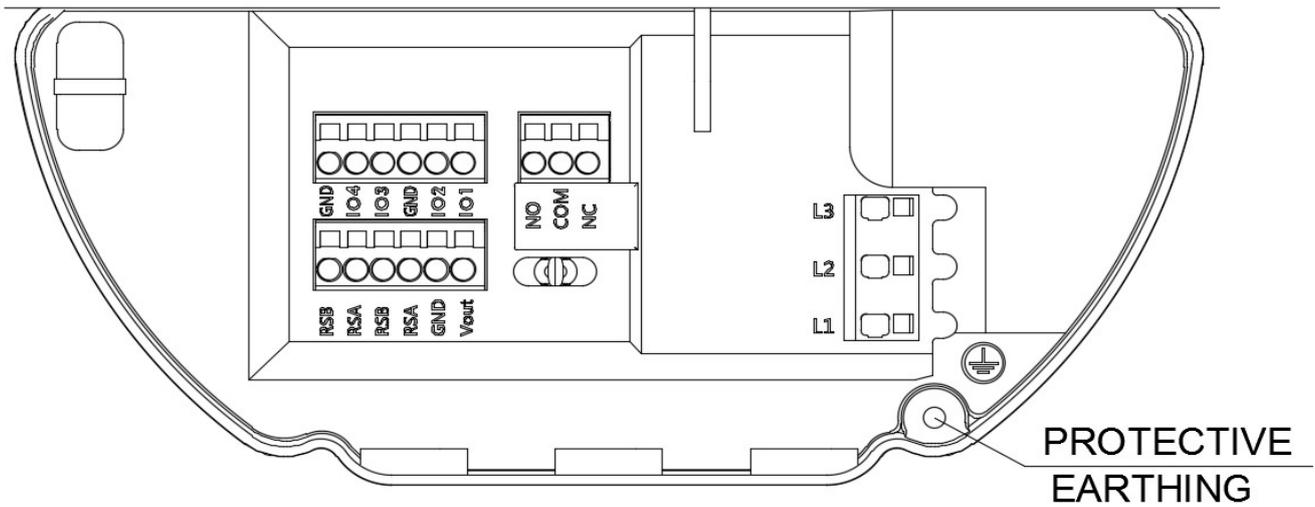
	Text	Functions
Power	L1	AC main (3~ 380-480VAC)
	L2	AC main (3~ 380-480VAC)
	L3	AC main (3~ 380-480VAC)
Status	NC	Alarm relay, open by failure
	COM	Alarm relay, common (2A/250VAC)
	NO	Alarm relay, close by failure
Signal	RSB	RS485-B
	RSA	RS485-A
	RSB	RS485-B
	RSA	RS485-A
	GND	Ground
	Vout	+3.3-24V/800mW 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 • IO 3 • Vout	**Short Vout & IO3** Fan will run at full speed.
• Vout • IO 3 • GND	**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 • IO 3 • GND	**Use voltage source supply 0~10V$_{DC}$ voltage** DC+ : connect to IO 3 (+) DC - : connect to GND (-)

PWM Control
 	
PWM
Generator
 	
• IO 3
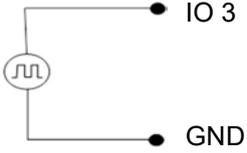 	
• GND
	PWM duty control
	PWM amplitude is 3.3~24V$_{DC}$
	Frequency Range is 100Hz…10kHz
	  -PWM duty higher than 15%, fan start up。
	  -PWM duty lower than 5%, fan stop。

Current Control
 	
4-20mA
Current Source
 	
• IO 2
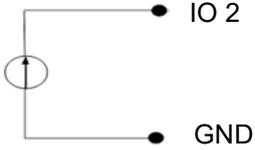 	
• GND
	4~20mA Current Control
	  Open 0-10V/PWM PIN
	  - 4.0 mA → Fan Stop
	  - 6.0 mA → Fan Start up
	  - 19.5 mA → Maximum Speed

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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)
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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.

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Control Voltage VS. RPM Curve

Voltage (V$_{DC}$) , PWM duty (%), 4~20mA table

Voltage ± 5%	0	0.5	1	1.5	2	3	4	5	6	7	8	9	10	VDC
PWM duty ± 5%	0	5	10	15	20	30	40	50	60	70	80	90	100	%
4~20 mA ± 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