



Specification For Approval

Customer : _____
Description : _____ EC FAN _____
Customer Part No. : _____ Rev : _____
Delta Model No. : _____ GTM063PUV41R-V003 _____ Rev : 01
Safety Model No. : _____ EMBP5E5FHL _____
Sample Issue No. : _____
Sample Issue Date : _____ 05/25/2022 _____

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 : Haskris

CUSTOMER P/N :

DELTA MODEL : GTM063PUV41R-V003

REV	DESCRIPTION	DRAWN	CHECKED		APPROVED	ISSUE DATE
			ME	EE		
00	Issue spec.	鍾明翰 01/17'22	鍾明翰 01/17'22	范姜朝洧 01/17'22	王可男 01/17'22	01/17'22
01	Update PQ, PD drawing, safety note, label.	鍾明翰 05/25'22	鍾明翰 05/25'22	范姜朝洧 05/25'22	王可男 05/25'22	05/25'22

Electronically Commutated (EC) Fan

Centrifugal Fan

800 x 800 x 473 mm



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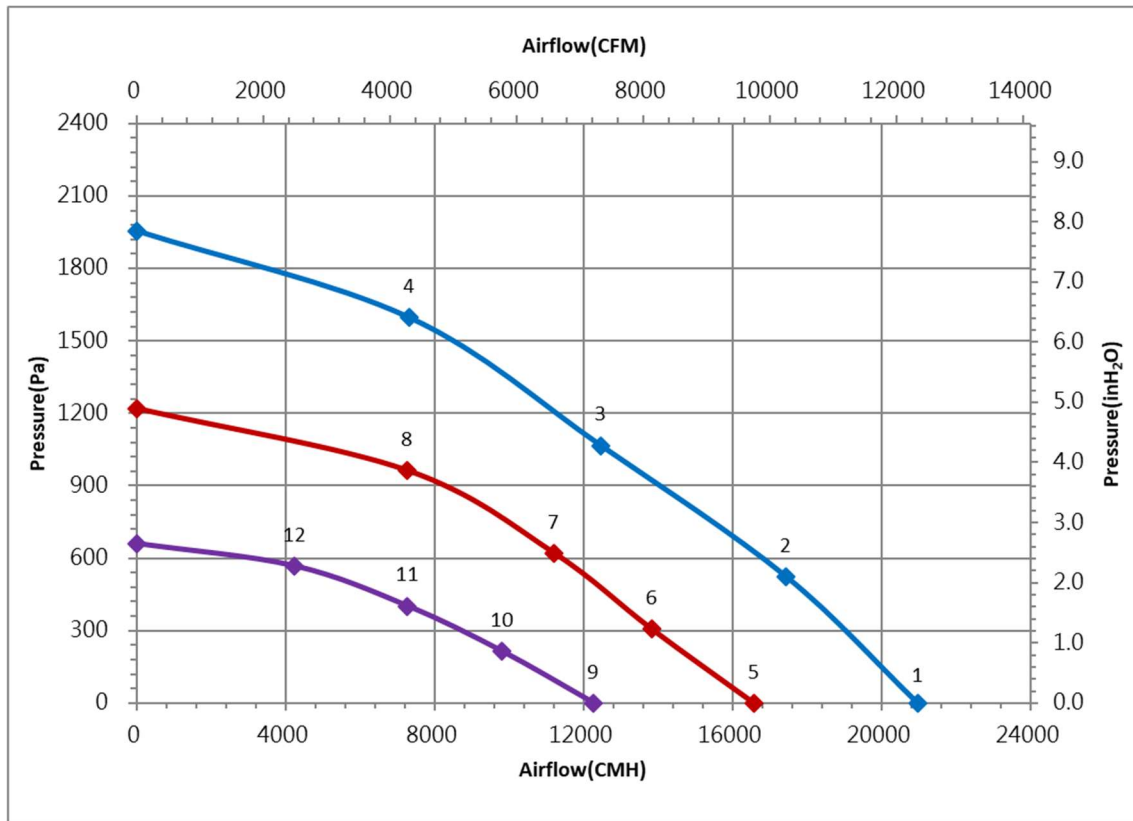
Technical features

Input Side	
Nominal Voltage	3~ 400V _{ac} 50/60Hz
Input Source	3~ 380V _{ac} - 480V _{ac}
Power @ Free air	2600 W
Power @ Max. load	5200 W
Output Side	
Speed (RPM)	1900
Qmax. (CMH / CFM)	20970 / 12335
Pmax. (Pa / inAq)	1955 / 7.85
Noise (dB-A) @ Qmax.	85
Functions	
Passive power factor correction	
Control input 0-10V _{DC} / PWM	
Output +10V _{DC} (±10%), max. 10mA.	
RS485 control bus (MODBUS (V1.3) RTU / 8N1)	
Alarm relay, Locked rotor protection, Soft start.	
Voltage / Current monitoring.	

Physical	
Rotation Direction	CW, Seen on rotor
Material (Impeller / Motor Frame)	Sheet Aluminum / Die-cast Aluminum
Material (Bracket / Nozzle)	Sheet steel / Plastic
Bearing system	Ball bearings
Weight (kg)	70
Electrical leads	Via terminal block
Environmental	
Operating temperature range	-25 ~ +55 °C
Storage temperature range	-40 ~ +70 °C
Safety	
Safety	UL , cUL , CE
IP Level	IP54
EMC	EN61000-6-2 , 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	20970	1887	2600	4.13	85
2	525	17433	1893	4430	7.03	
3	1067	12460	1823	5170	8.21	
4	1596	7325	1845	5171	8.21	
5	0	16576	1488	1365	2.17	80
6	307	13827	1485	2291	3.64	
7	621	11217	1490	2750	4.37	
8	963	7268	1489	2875	4.56	
9	0	12271	1094	624	0.99	72
10	215	9809	1091	1001	1.59	
11	402	7276	1091	1185	1.88	
12	568	4236	1090	1105	1.75	

Test Condition :

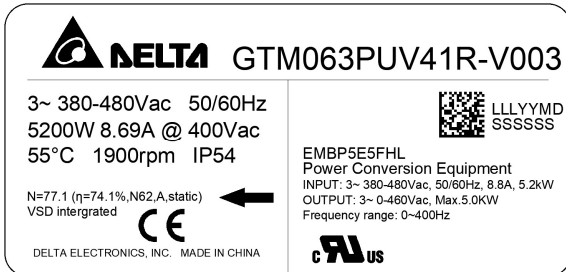
- Input Voltage : Nominal Voltage
- Temperature : Room Temperature
- Humidity : 65%RH
- Measured with inlet cone.
- Noise (Lp) is measured at a distance of one meter from the inlet side.

ErP Directive:

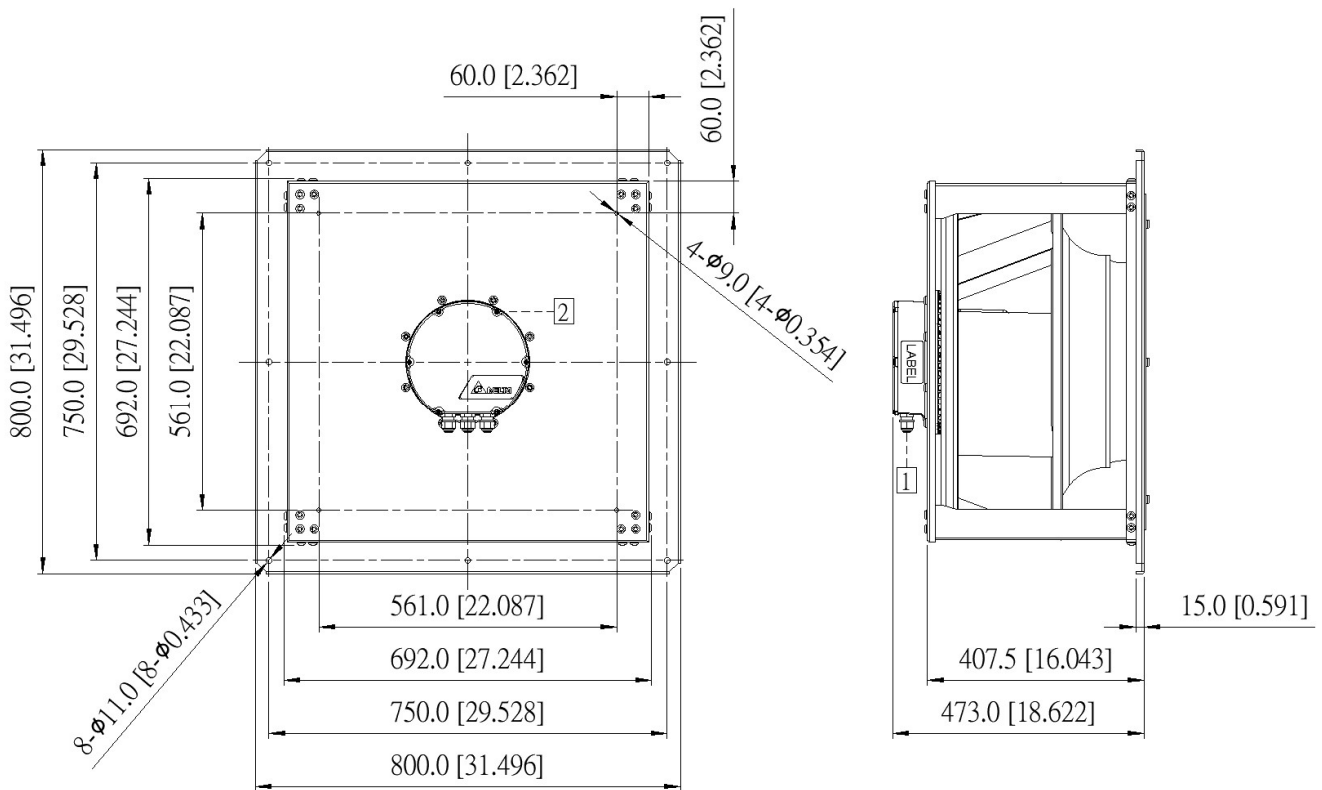
	Actual	2015
Over all Eff (%)	74.1	59.0
Eff Grade N	77.1	62.0
Power (kW)	5.2	
Air flow (CMH)	12460	
Pressure (Pa)	1067	
Speed (RPM)	1823	

Dimension drawing

Label :



Fan :

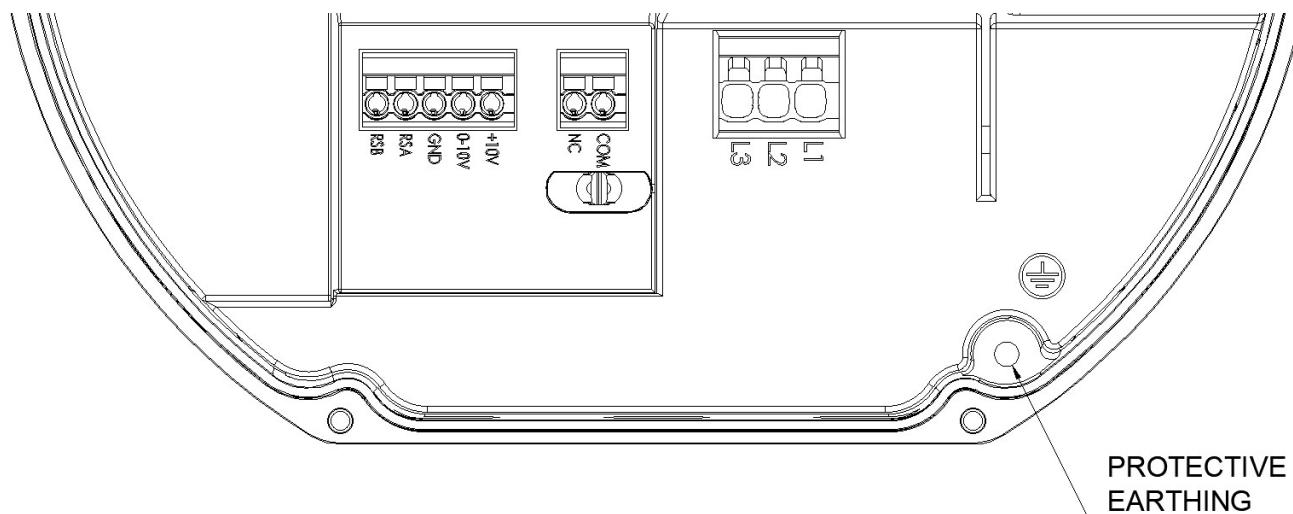


Note :

- 1 Cable diameter : $\varnothing 7.0 \sim \varnothing 12.7$ mm.
- 2 Open the cover and refer to definition of terminal block.

UNIT : mm[INCH]

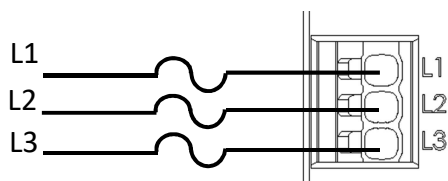
Definition of terminal block



	Text	Functions
Power	L1	AC main (3~ 380-480VAC)
	L2	AC main (3~ 380-480VAC)
	L3	AC main (3~ 380-480VAC)
Status	COM	Alarm relay, common (2A/250VAC)
	NC	Alarm relay, open by failure
Signal	+10V	10VDC output, MAX 10mA (For external potentiometer)
	0-10V	Speed control, input 0-10VDC
	GND	Ground
	RSA	RS485-A
	RSB	RS485-B

Wiring diagram

Input: 3-phase power



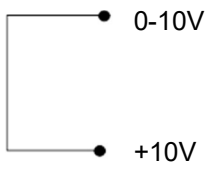
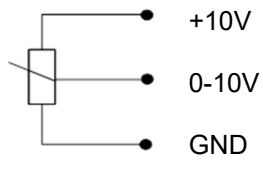
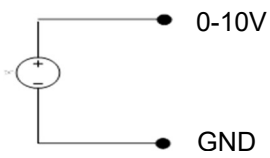
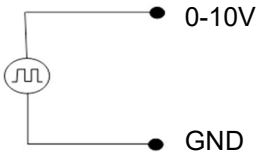
Branch Circuit Protector: 20A class CC fuse
Fuse must be UL listed and CSA certified,
or UL listed and cUL certified.

Overvoltage category - OVC II.

For use in Pollution Degree 2 Environment.

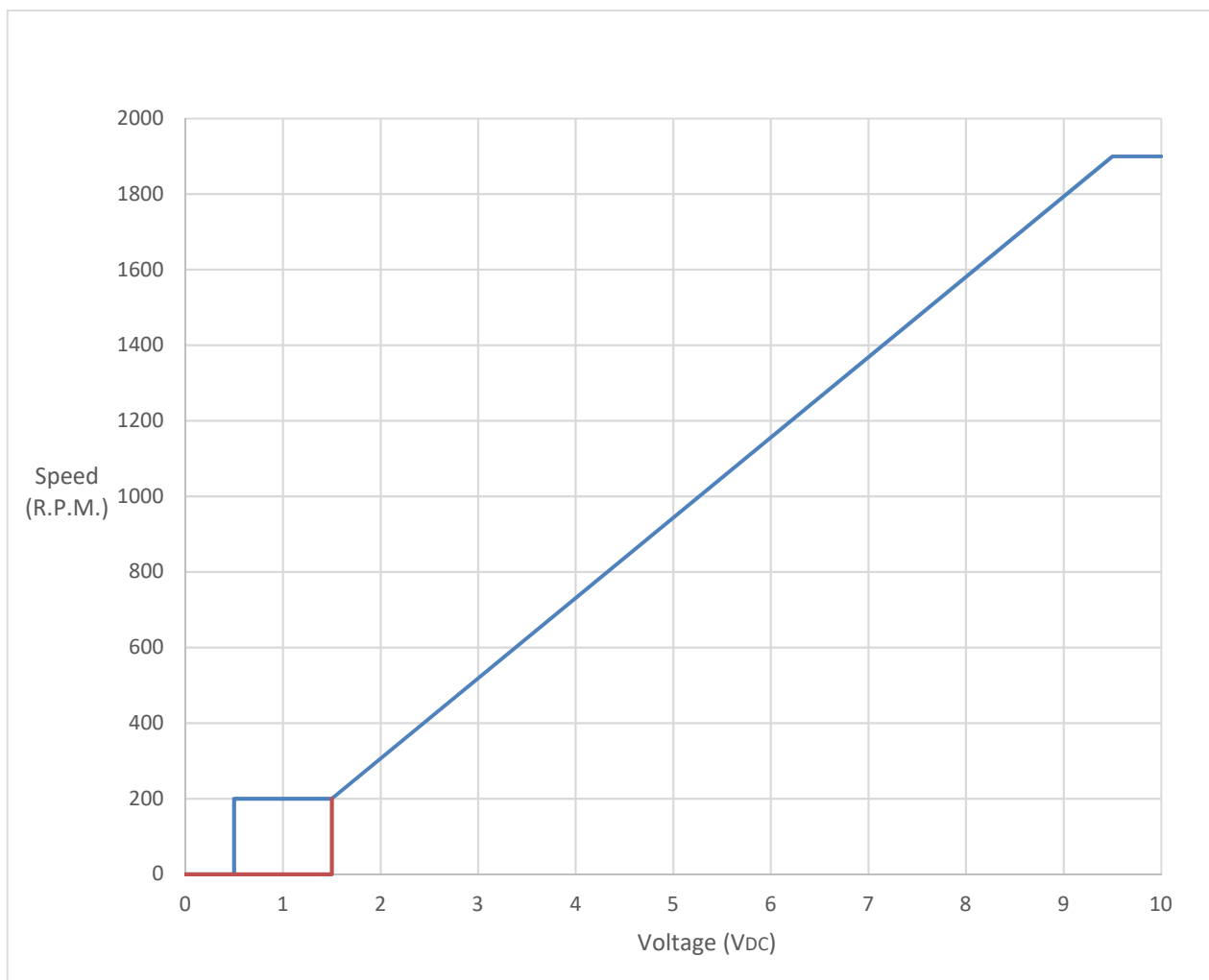
The drive is suitable for use in a circuit capable of delivering not more than 5000 rms symmetrical amperes, 480 volts maximum.

The power input wire shall be copper conductors rated 60/75°C.

Speed setting	
<p>Full Speed</p> 	<p>Short 0-10V & +10V Fan will run at full speed.</p>
	<p>Connector 1-10kΩ variable resistor Between +10V with GND and 0-10V Vary the variable resistance · to change the '(0-10V)' voltage (0...10V), then change FAN speed ◦</p>
<p>Voltage Control</p> <p>0-10V DC Source</p> 	<p>Use voltage source supply 0~10V_{DC} voltage DC+ : connect to (0-10V) (+) DC - : connect to GND (-)</p>
<p>PWM Control</p> <p>PWM Generator</p> 	<p>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 ◦</p>

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: 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) $\pm 5\%$	PWM (%) $\pm 5\%$	Speed (RPM)
	0 ~ 0.5	0 ~ 5	0
	1.5	15	200 ± 50 RPM
	6.0	60	1100 $\pm 8\%$
	9.5	95	1900 $\pm 5\%$
Alarm state	Normal State: NC and COM will CLOSE. Alarm State: NC and COM will OPEN.		

Control Voltage VS. RPM Curve



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