



## Specification For Approval

Customer : \_\_\_\_\_  
Description : \_\_\_\_\_ EC FAN \_\_\_\_\_  
Customer Part No. : \_\_\_\_\_ Rev : \_\_\_\_\_  
Delta Model No. : \_\_\_\_\_ GTB056PUT34R E1 \_\_\_\_\_ Rev : 02  
Safety Model No. : \_\_\_\_\_ EMBP5E5FHL \_\_\_\_\_  
Sample Issue No. : \_\_\_\_\_  
Sample Issue Date : \_\_\_\_\_ 03/08/2023 \_\_\_\_\_

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

Approved by : \_\_\_\_\_

Date : \_\_\_\_\_

## Electronically Commutated (EC) Fan

Centrifugal Fan

Ø 565 x 338.5 mm



GTB056PUT34RE1 Delta Datasheet  
sales@fansco.com  
www.fansco.com



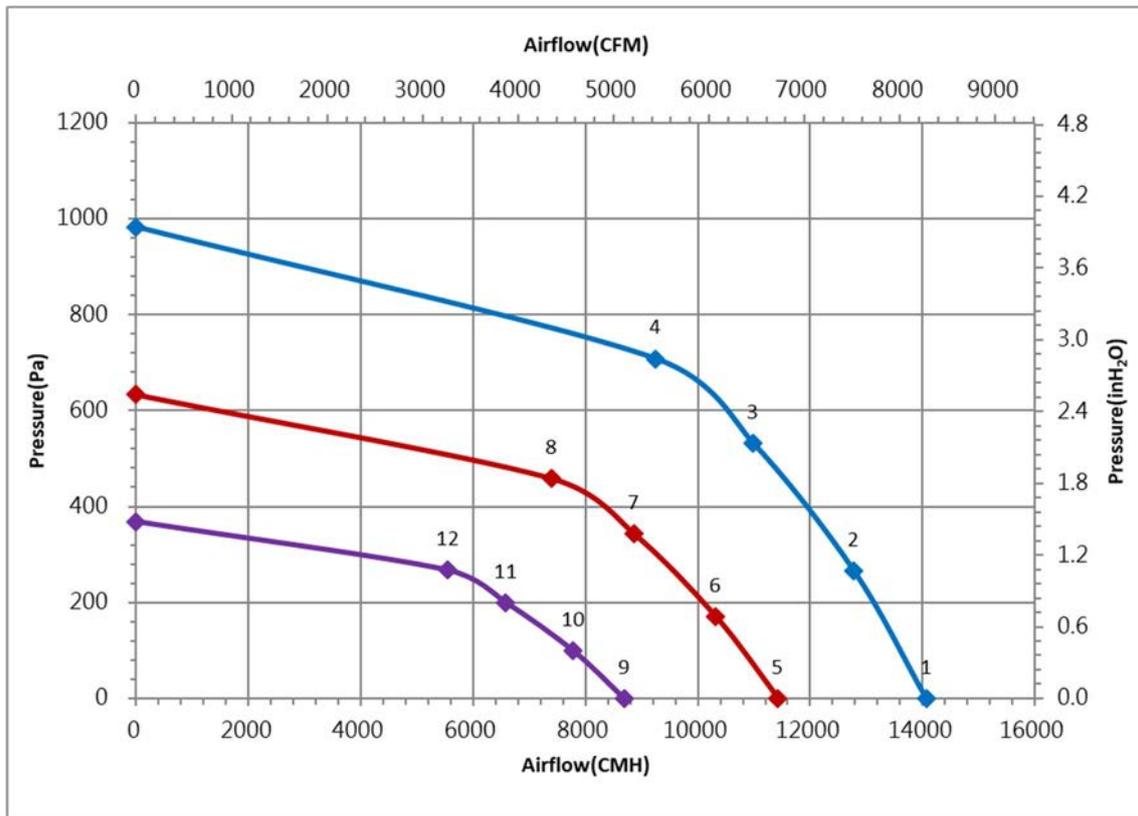
### Technical features

Input Side	
Nominal Voltage	3~ 400V <sub>ac</sub> 50/60Hz
Input Source	3~ 380V <sub>ac</sub> - 480V <sub>ac</sub>
Power @ Free air	2003 W
Power @ Max. load	3100 W
Output Side	
Speed (RPM)	1550
Qmax. (CMH / CFM)	14068 / 8275
Pmax. (Pa / inAq)	982 / 3.94
Noise (dB-A) @ Qmax.	85.5
Functions	
Passive power factor correction	
Control input 0-10V <sub>DC</sub> / PWM	
Output +10V <sub>DC</sub> (±10%), max. 10mA.	
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 sheet / Die-cast aluminum
Material (Bracket / Nozzle)	N/A / Sheet steel
Bearing system	Ball bearings
Weight (kg)	31
Electrical leads	Via terminal block
Environmental	
Operating temperature range	-25 ~ +60 °C
Storage temperature range	-40 ~ +70 °C
Safety	
Safety	UL , cUL , CE , UKCA
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 &amp; Q curves



Measure data:

	P [Pa]	Q [CMH]	N [R.P.M.]	P1 [W]	I [A]	Lp [dB(A)]
1	0	14068	1544	2003	3.51	85.5
2	267	12778	1545	2554	4.35	
3	533	10981	1560	3010	4.91	
4	708	9244	1544	3078	5.10	
5	0	11425	1244	1065	2.43	80.0
6	171	10312	1247	1345	2.64	
7	344	8857	1245	1587	2.92	
8	458	7401	1245	1617	3.02	
9	0	8684	946	498	1.49	72.5
10	99	7781	946	616	1.67	
11	200	6577	946	718	1.83	
12	268	5539	946	729	1.83	

## Test Condition :

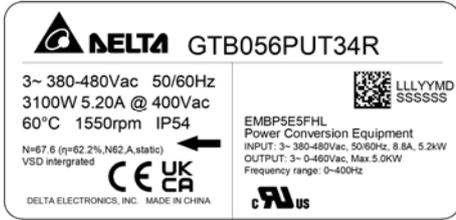
- Input Voltage : Nominal Voltage
- Temperature : Room Temperature
- Humidity : 65%RH
- Measured with inlet cone.
- Noise (Lp) is measured at a distance of one meter from the inlet side.

## ErP Directive:

	Actual	2015
Over all Eff (%)	62.2	56.6
Eff Grade N	67.6	62.0
Power (kW)	3.1	
Air flow (CMH)	9244	
Pressure (Pa)	708	
Speed (RPM)	1544	

Dimension drawing

Label :



Fan :

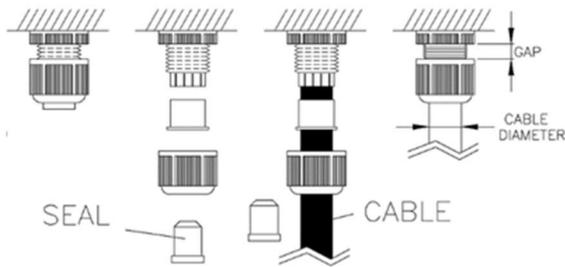
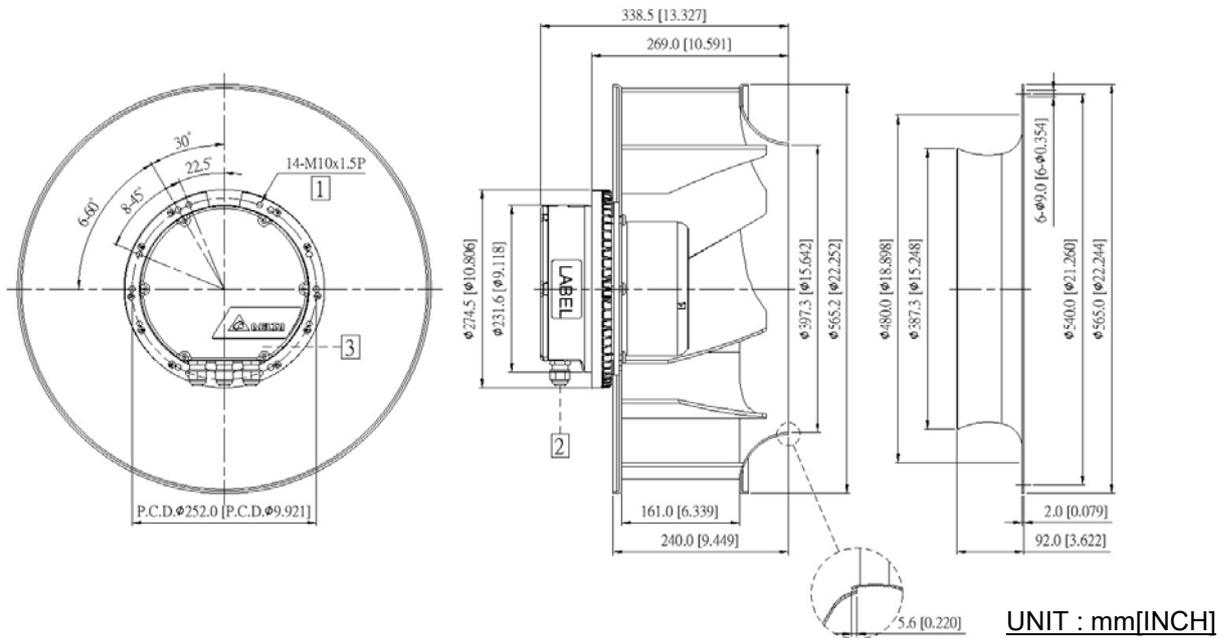


Fig1

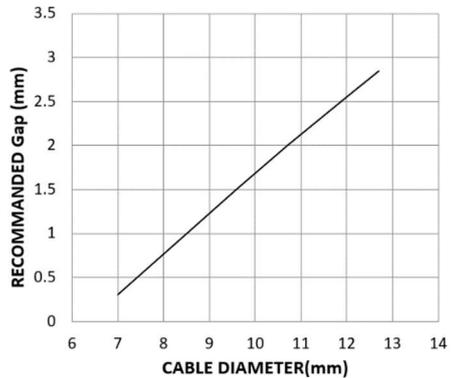
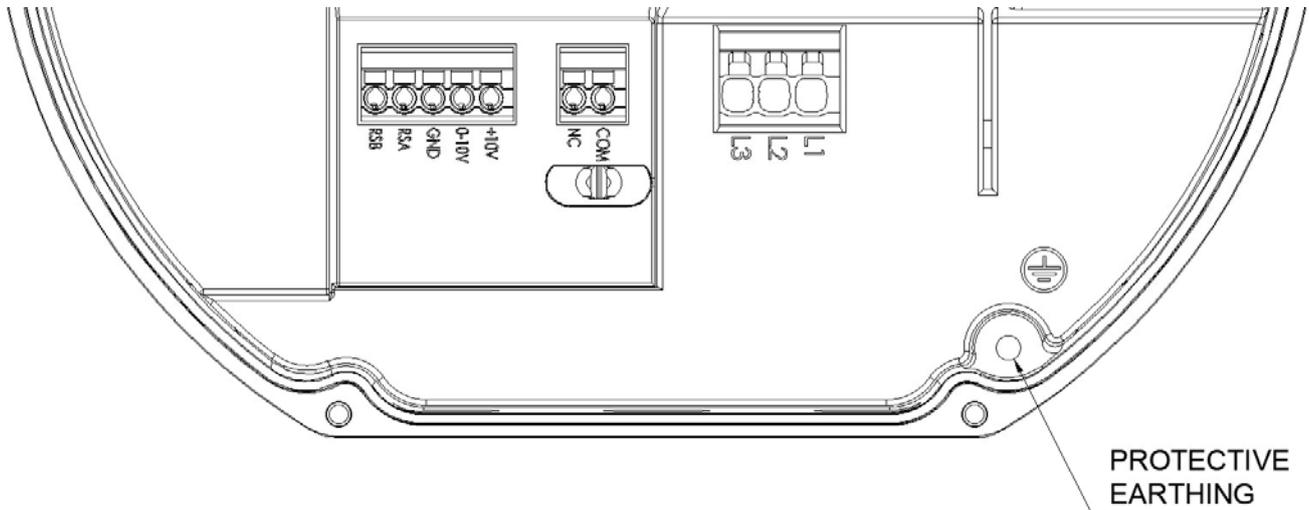


Fig2

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, screw tightening torque  $17 \pm 10\%$ kgf-cm.

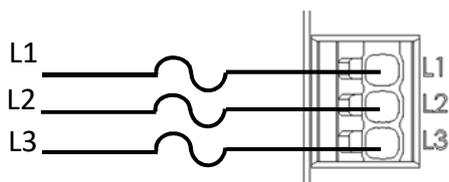
## Definition of terminal block



	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



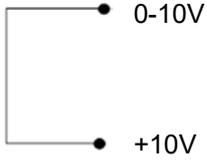
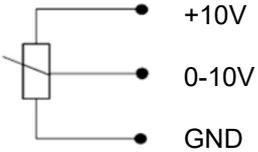
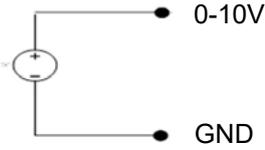
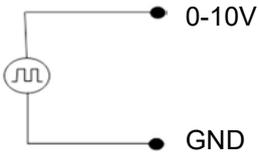
Branch Circuit Protector: 20A class CC fuse  
Fuse must be UL listed and CSA certified,  
or UL listed and cUL certified.

Overvoltage category - OVC II.

For use in Pollution Degree 2 Environment.

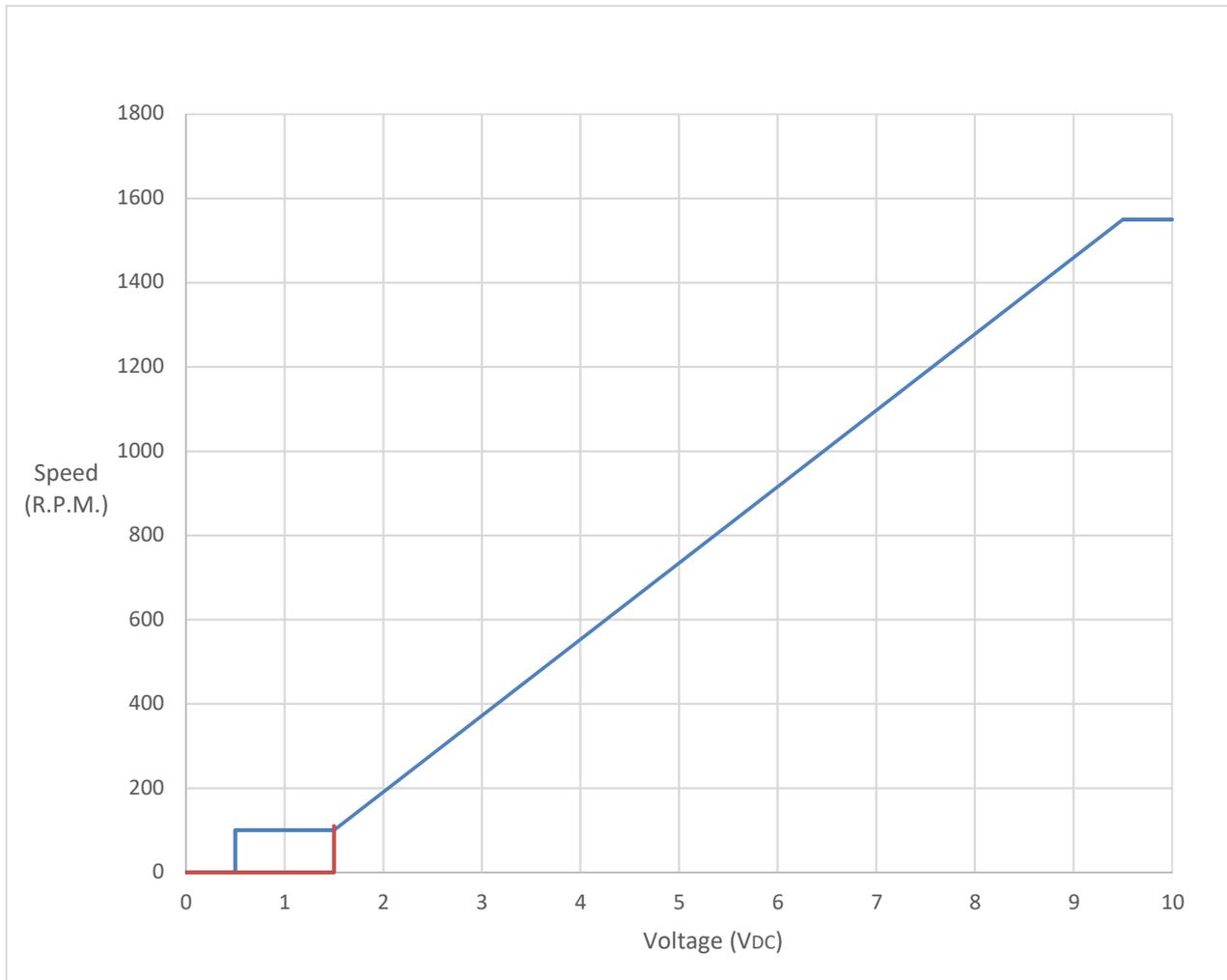
The drive is suitable for use in a circuit capable of delivering not more than 5000 rms symmetrical amperes, 480 volts maximum.

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

Speed setting	
<p><b>Full Speed</b></p> 	<p><b>Short 0-10V &amp; +10V</b> Fan will run at full speed.</p>
	<p><b>Connector 1-10kΩ variable resistor</b> 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><b>Voltage Control</b></p> <p>0-10V DC Source</p> 	<p><b>Use voltage source supply 0~10V<sub>DC</sub> voltage</b> DC+ : connect to (0-10V)(+) DC- : connect to GND (-)</p>
<p><b>PWM Control</b></p> <p>PWM Generator</p> 	<p><b>PWM duty control</b> 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		
	<ul style="list-style-type: none"> <li>-Select the control mode of speed, fixed speed or fixed PWM duty</li> <li>-Speed and power consumption feedback.</li> <li>-Allow multiple FANs control and status patrol.</li> </ul> <p>Note: A MODBUS over Serial Line Cable must be shielded. At one end of each cable its shield must be connected to protective ground.</p>		
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	100 $\pm$ 50 RPM
	6.0	60	920 $\pm$ 8%
	9.5	95	1550 $\pm$ 5%
Alarm state	<p>Normal State: NC and COM will CLOSE.</p> <p>Alarm State: NC and COM will OPEN.</p>		

## Control Voltage VS. RPM Curve

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

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	%