Specification For Approval

Customer : _____

Description : _____ EC FAN _____

Customer Part No. : _____ Rev : ____

Delta Model No. : _____ GTB036PUS32R E1 _____ Rev : __00__

Safety Model No. : _____ MU112EP3FC7 _____

Sample Issue No. : _____

Sample Issue Date : _____ 02/15'22 _____

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

Approved by : _____

Date : _____

GTB036PUS32RE1 Delta Datasheet

sales@fansco.com

www.fansco.com

GTB036PUS32R E1

Electronically Commutated (EC) Fan

Centrifugal Fan

Ø405 x 320 mm

GTB036PUS32RE1 Delta Datasheet
sales@fansco.com www.fansco.com

Technical features

Input Side	
Nominal Voltage	3~ 400Vac 50/60Hz
Input Source	3~ 380Vac - 480Vac
Power @ Free air	1800 W
Power @ Max. load	3650 W

Output Side	
Speed (RPM)	3650
Qmax. (CMH / CFM)	8602 / 5058
Pmax. (Pa / inAq)	2585 / 10.38
Noise Lw(dB-A) @ Qmax.	90

Functions
Passive power factor correction
Control input 0-10VDC / PWM / 4-20mA.
Output +10VDC (±10%), max. 50mA.
Control voltage output: 0-10VDC.
RS485 control bus (MODBUS (V20))
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)	15
Electrical leads	Via terminal block

Environmental	
Operating temperature range	-25 ~ +60 ℃
Storage temperature range	-40 ~ +70 ℃

Safety	
Safety	UL , cUL ,CE
IP Level	IP54 (without grounding cable)
EMC	EN61000-6-2/4
Protection class	I
Insulation class	F
Leakage current	<= 3.5 mA
Motor protection	Over temperature protected
Life expectance	40,000 hrs at 40 ℃ / 15 ~ 65 %RH

NOTE : Delta reserves the right to change specifications and other product information without prior notice.

![Delta logo] Smarter. Greener. Together.

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P & Q curves
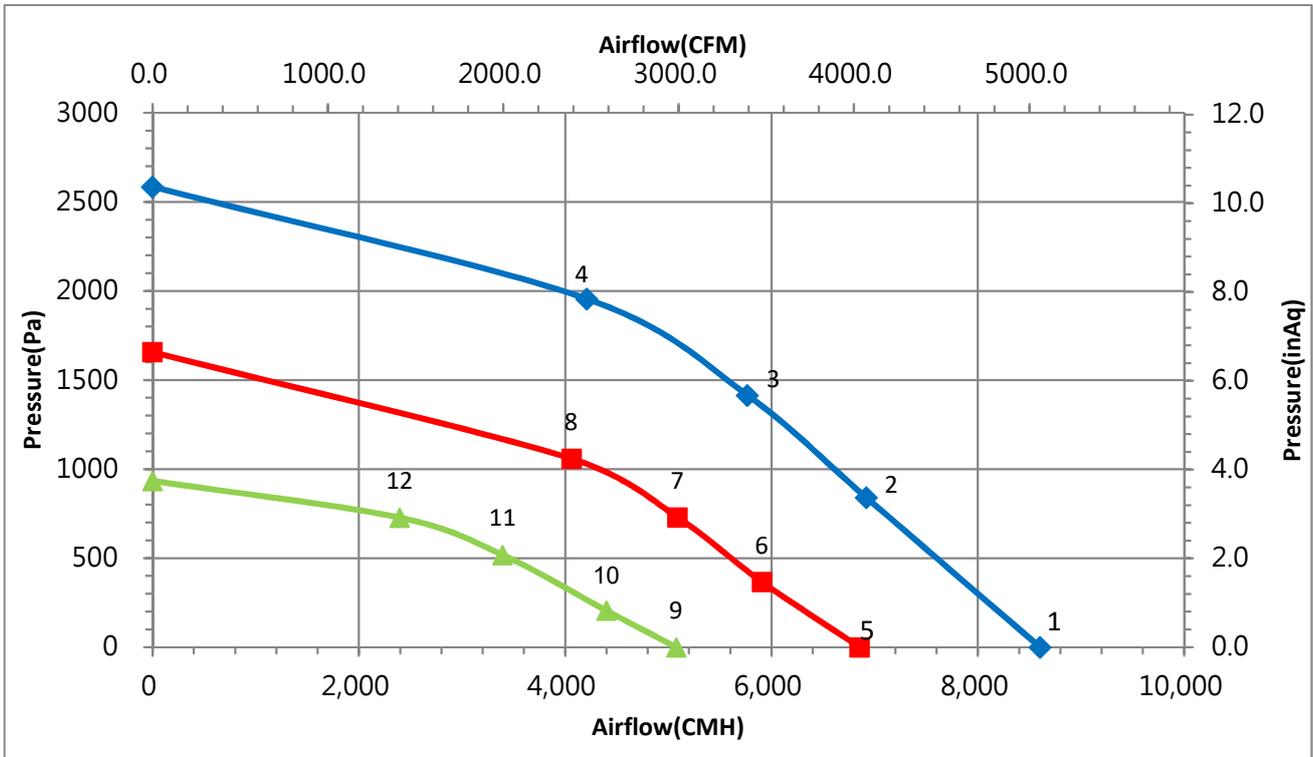
Measure data:

	P [Pa]	Q [CMH]	N [R.P.M.]	P1 [W]	I [A]	Lw [dB(A)]
1	0	8603	3645	1787	2.96	90.0
2	839	6920	3650	2878	4.72	89.0
3	1413	5768	3644	3383	5.49	86.0
4	1955	4209	3640	3543	5.76	86.5
5	0	6854	2917	981	1.65	85.0
6	366	5909	2919	1339	2.2	84.5
7	728	5089	2921	1611	2.63	81.0
8	1058	4062	2923	1811	2.91	81.0
9	0	5076	2192	424	0.85	78.0
10	205	4401	2193	587	1.09	77.5
11	518	3393	2188	770	1.34	74.0
12	727	2395	2189	800	1.39	74.5

Test Condition：

- Input Voltage : Nominal Voltage
- Temperature : Room Temperature
- Humidity : 65%RH
- Measured with inlet cone.
- Noise test method is compliance with ISO 3744.

ErP Directive:

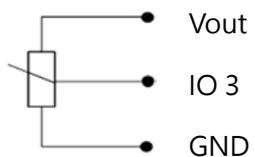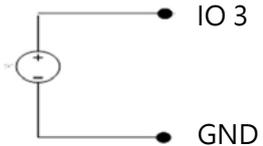|	Actual	2015
Over all Eff (%)	69.4	57.1
Eff Grade N	74.4	62.0
Power (kW)	3.38	
Air flow (CMH)	5768	
Pressure (Pa)	1413	
Speed (RPM)	3644	

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Dimension drawing
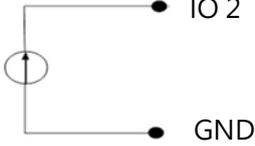
Label :

Fan :
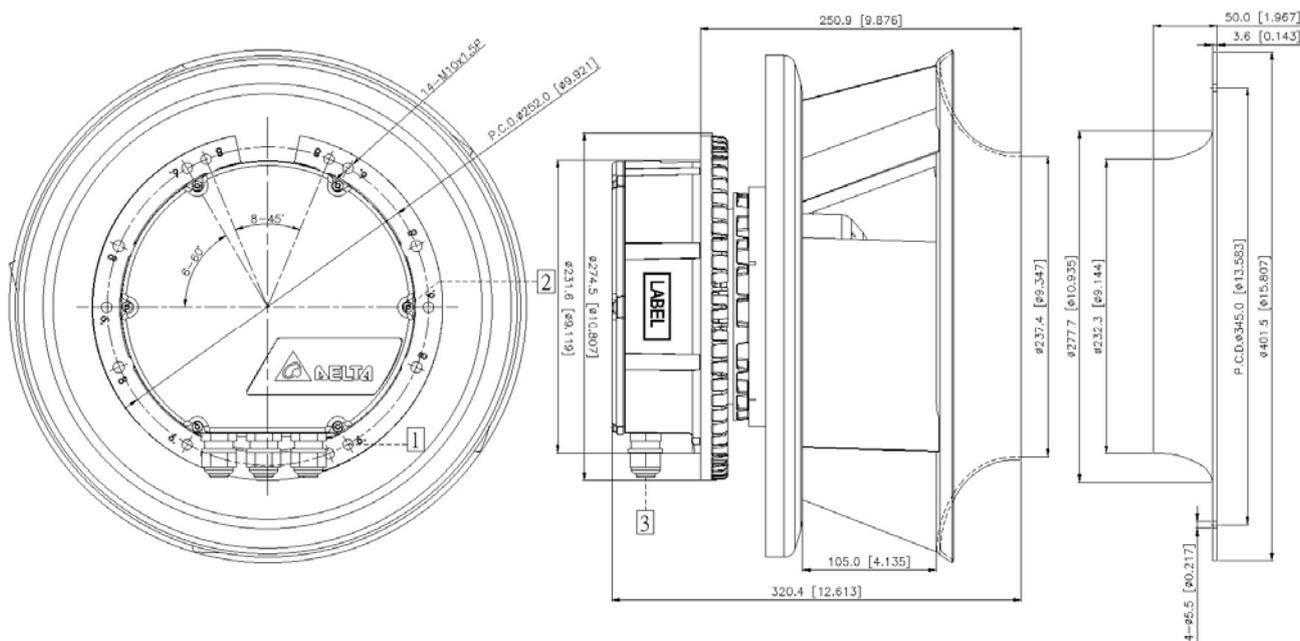
UNIT: mm [INCH]

Note :

1	Depth of screw : 16~20 mm
2	Open the cover and refer to definition of terminal block, and screw torque is 17±10% kgf-cm.
3	Cable diameter : Range : Ø6 ~ Ø10 mm.

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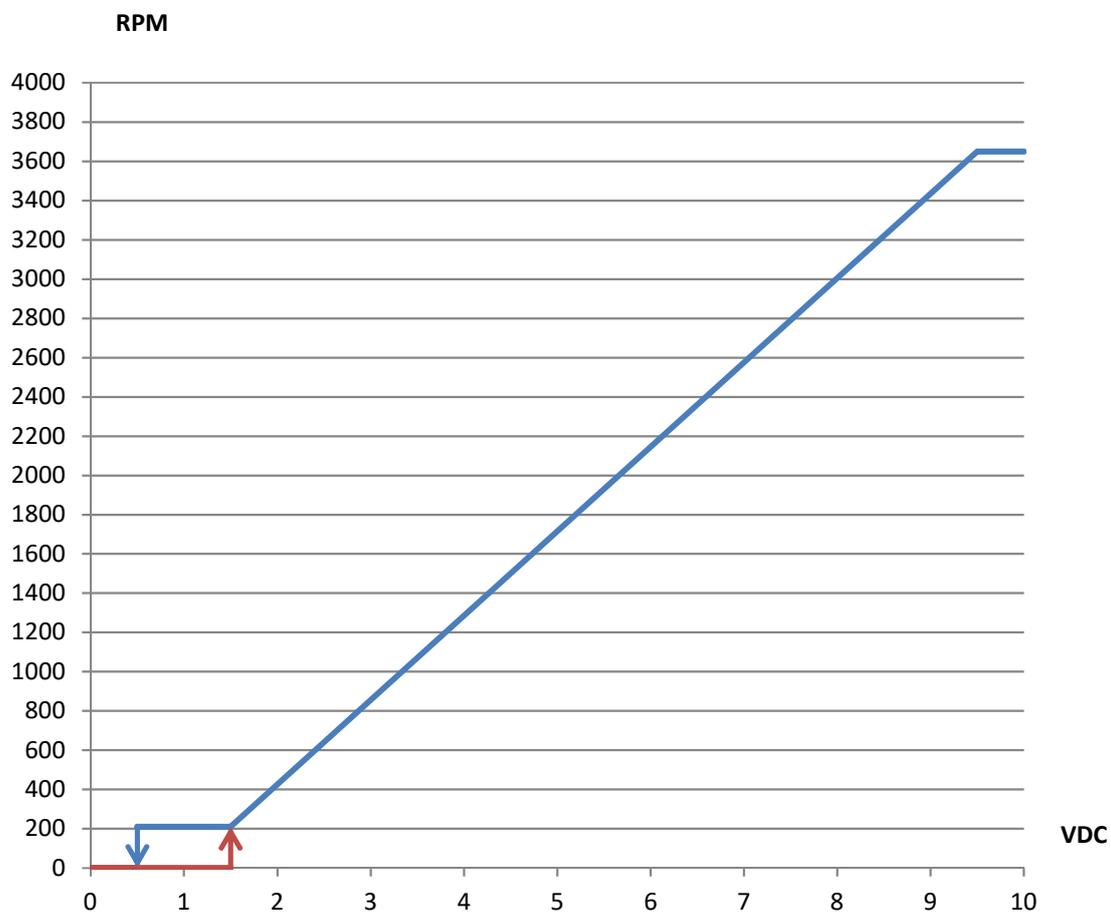## Definition of terminal block

PROTECTIVE EARTHING
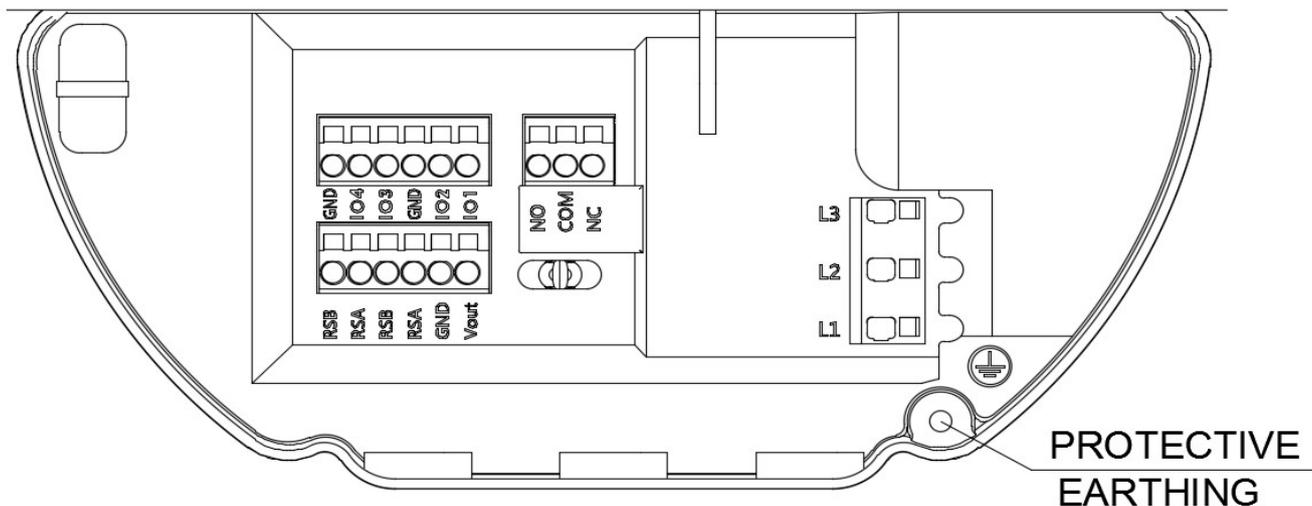
	Text	Functions
Power	L1	AC main (3~ 380-480VAC)
	L2	AC main (3~ 380-480VAC)
	L3	AC main (3~ 380-480VAC)
Status	NC	Alarm relay, open by failure
	COM	Alarm relay, common (2A/250VAC)
	NO	Alarm relay, close by failure
Signal	RSB	RS485-B
	RSA	RS485-A
	RSB	RS485-B
	RSA	RS485-A
	GND	Ground
	Vout	+3.3-24V/500mW output (default: +10V)
	GND	Ground
	IO4	Control voltage output 0-10VDC
	IO3	Speed control, input 0-10 VDC/PWM
	IO2	Speed control, input 4-20mA
	IO1	Frequency generator (FG) signal

Speed setting

Full Speed IO3 Vout	**Short Vout & IO3** Fan will run at full speed.
Vout IO 3 GND	**Connect 1-10kΩ variable resistor** Between **Vout** with **GND** and IO 3 (**0-10V control**) 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
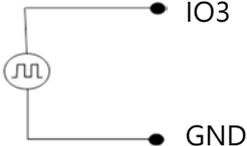 	
PWM
Generator
IO3
GND
	PWM duty control
	PWM amplitude is 10Vdc (±5%)
	Frequency Range is 100Hz…10kHz
	   -PWM duty higher than 15%±0.75%, fan start up。
	   -PWM duty lower than 5%±0.25%, fan stop。

Current Control 4-20mA Current Source IO 2 GND	**4~20mA Current Control** Open 0-10V/PWM PIN - 4.0 mA (±5%)→ Fan Stop - 6.0 mA (±5%)→ Fan Start up - 19.5 mA (±5%)→ 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 with control level.

Voltage (V) ± 5%	PWM(%)± 5%	Speed(RPM)
0 ~ 0.5	0 ~ 5	0
1.5	15	220 ± 50 RPM
6.0	60	2145 ± 8%
9.5	95	3650 ± 5%

Current Control	The speed comparison with control level.

Current (mA) ± 5%	Speed (RPM)
0 ~ 4.0	0
6.0	220 ± 50 RPM
13.6	2124 ± 8%
19.5	3650 ± 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

RPM

Voltage (VDC) , PWM duty (%), 4~20mA table

Voltage	0	0.5	1	1.5	2	3	4	5	6	7	8	9	10	VDC
PWM duty	0	5	10	15	20	30	40	50	60	70	80	90	100	%
4~20 mA	4	5	5.6	6	7.2	8.8	10.4	12	13.6	15.2	16.8	19	20	mA

Rev : 00