



## Specification For Approval

Customer : Vertiv  
Description : EC FAN  
Customer Part No. : \_\_\_\_\_ Rev : \_\_\_\_\_  
Delta Model No. : GTW050EUD19E-M001 Rev : 03  
Safety Model No. : \_\_\_\_\_  
Sample Issue No. : \_\_\_\_\_  
Sample Issue Date : 05/03/2022

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

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

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

## Electronically Commutated (EC) Fan

Axial Fan

550x550x 186 mm



GTW050EUD19E-M001 Delta Datasheet  
sales@fansco.com  
www.fansco.com

### Technical features

| Input Side   |                     |
|--|---------------------|
| Nominal voltage  | 1~ 230Vac , 50/60Hz |
| Input source   | 1~ 200Vac - 277Vac  |
| Power @ free air                                       | 566W                |
| Power @ max. load                                      | 800 W               |
| Output Side  |                     |
| Speed (RPM)  | 1500                |
| Qmax. (CMH / CFM)                                      | 9046 / 5321         |
| Pmax. (Pa / inAq)                                      | 187 / 0.75          |
| Noise (dB-A) @ Qmax                                    | 81.0                |
| Functions  |                     |
| Active power factor correction                         |                     |
| 0~10V <sub>DC</sub> analog input.                      |                     |
| Output +20V <sub>DC</sub> (±10%), max. 30mA.           |                     |
| RS485 control bus (MODBUS RTU, Baudrate:19200, 8E1,A6) |                     |
| Alarm relay, Locked rotor protection, Soft start.      |                     |
| Voltage / Current monitoring.                          |                     |

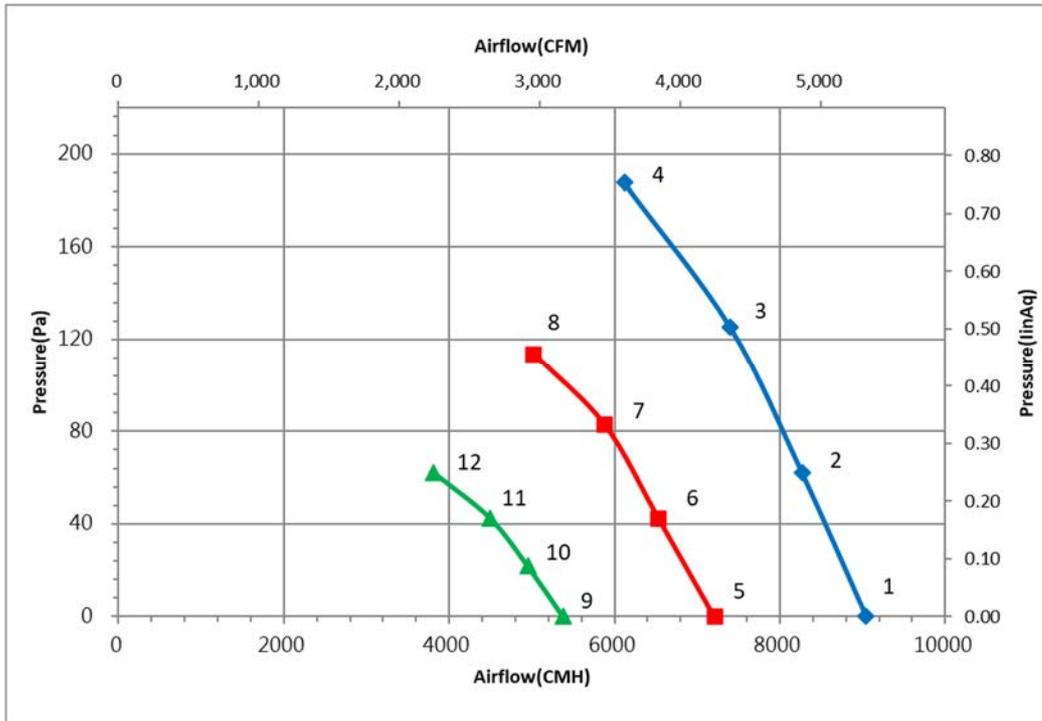
- Delta reserves the right to change specifications and other product information without prior notice.
- The Fan can be operated at 70°C ambient temperature with full loading, and the rotation speed will be decreased to 80% of full loading if ambient temperature is higher than 70°C.
- 75°C ambient temperature is the maximum workable temperature.
- The Fan can start running at ambient temperature:-40°C

| Physical                          |   |
|-----------------------------------|---|
| Nominal Rotation direction        | CCW, seen on rotor                        |
| Material (Impeller / Motor Frame) | Plastic / Die-cast aluminum               |
| Material (Walling / fan guard)    | Steel / Steel                             |
| Bearing system                    | Ball bearings                             |
| Weight (kg)                       | 17  |
| Electrical leads                  | cable                                     |
| Environmental                     |   |
| Operating temperature range       | -25 ~ +70 °C                              |
| Storage temperature range         | -40 ~ +70 °C                              |
| Safety                            |   |
| Safety                            | CE<br>(in process)                        |
| IP Level                          | IP54                                      |
| EMC                               | EN61000-6-1 , EN61000-6-3 , EN61000-3-2/3 |
| Protection class                  | I   |
| Insulation class                  | B   |
| Leakage current                   | <= 3.5 mA                                 |
| Motor protection                  | Over temperature protected                |
| Life expectance                   | 60,000 hrs at 40 °C / 15 ~ 65 %RH         |

5.The default setting is 0~10V analog control mode



**P & Q curves**



**Measure data:**

|    | P [Pa] | Q [CMH] | N [R.P.M.] | P1 [W] | I [A] | Lp [dB(A)] |
|----|--------|---------|------------|--------|-------|------------|
| 1  | 0      | 9046    | 1500       | 566    | 2.60  | 81.0       |
| 2  | 62     | 8267    | 1500       | 632    | 2.93  | 80.1       |
| 3  | 125    | 7397    | 1500       | 712    | 3.29  | 79.1       |
| 4  | 187    | 6118    | 1500       | 762    | 3.52  | 76.9       |
| 5  | 0      | 7205    | 1200       | 297    | 1.40  | 75.5       |
| 6  | 42     | 6528    | 1200       | 339    | 1.57  | 74.1       |
| 7  | 83     | 5878    | 1200       | 379    | 1.75  | 71.9       |
| 8  | 114    | 5015    | 1200       | 396    | 1.83  | 70.4       |
| 9  | 0      | 5377    | 900        | 138    | 0.67  | 68.0       |
| 10 | 22     | 4950    | 900        | 152    | 0.74  | 66.6       |
| 11 | 42     | 4492    | 900        | 168    | 0.81  | 64.6       |
| 12 | 62     | 3803    | 900        | 176    | 0.85  | 63.8       |

**Test condition:**

- Input voltage: nominal voltage
- Temperature : room temperature
- Humidity : 65%RH
- Measured with standard fanguard and wallring.
- Noise is measured at a distance of one meter from the fan intake with a sound level meter in anechoic chamber.

**ErP Directive:**

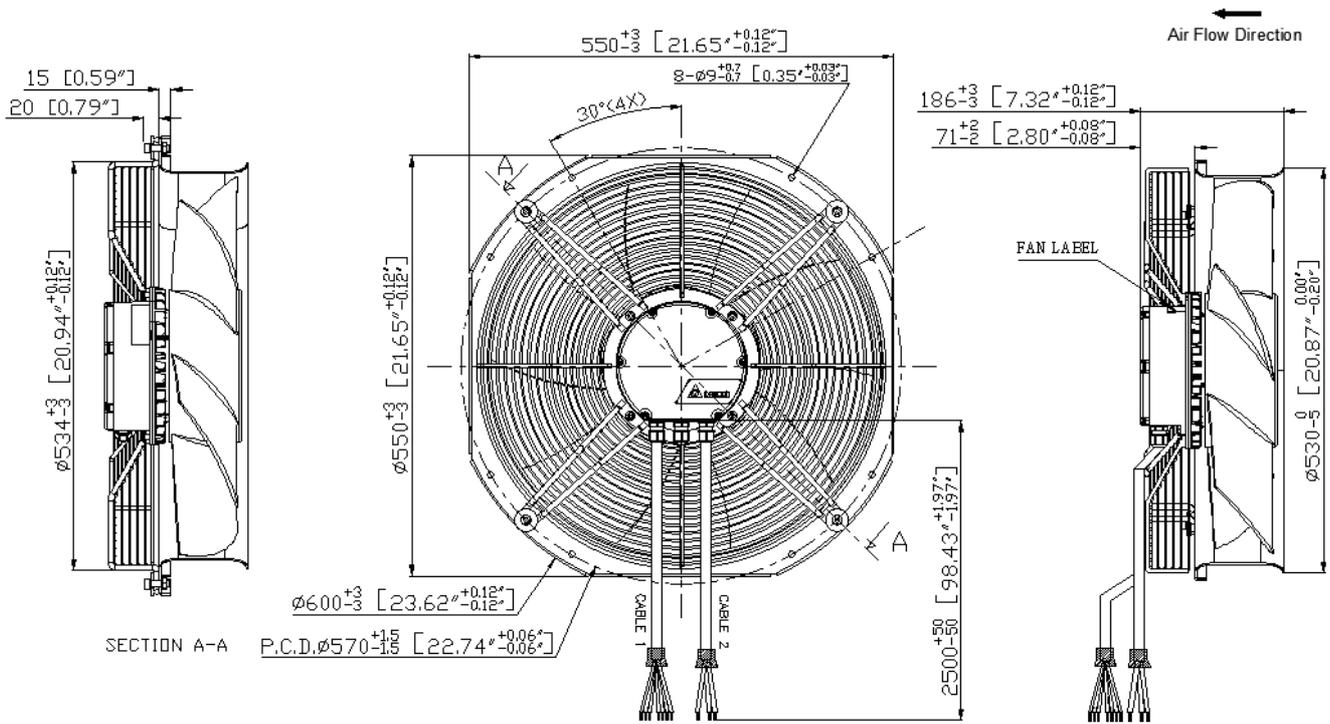
|                  | Actual | 2015 |
|------------------|--------|------|
| Over all Eff (%) | 45.6   | 32.9 |
| Eff Grade N      | 52.7   | 40   |
| Power (kW)       | 0.762  |      |
| Air flow (CMH)   | 6118   |      |
| Pressure (Pa)    | 187    |      |
| Speed (RPM)      | 1500   |      |

Dimension drawing

Label

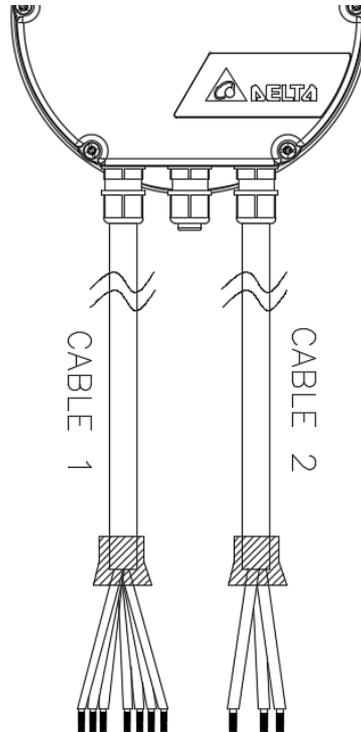


Fan :



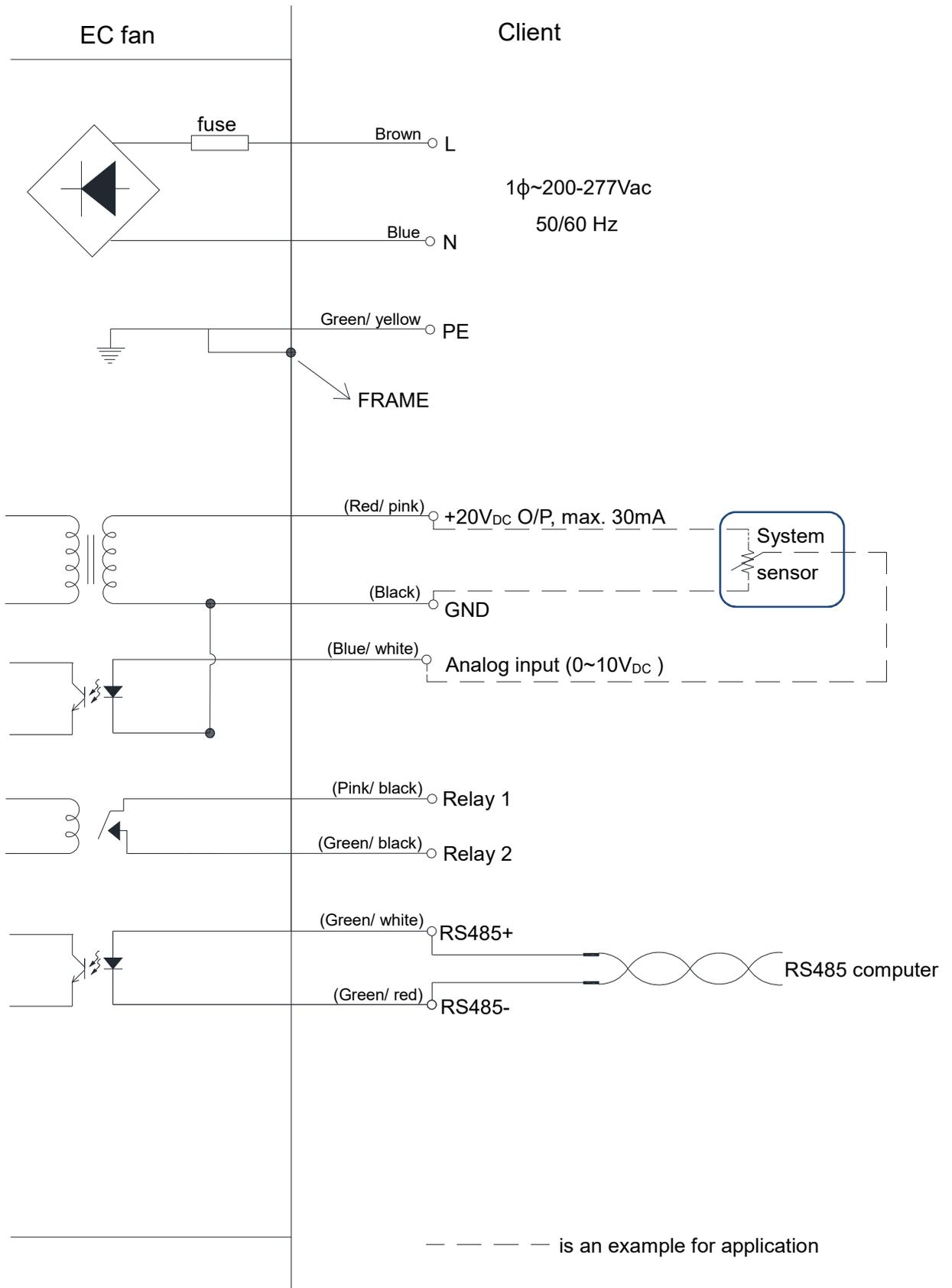
UNIT: mm [inch]

## Definition of cable



| Cable             | WIRE TYPE     | Color        | Functions          |
|-------------------|---------------|--------------|--------------------|
| Cable 1<br>Signal | UL2464 24AWG  | Red/ pink    | +20V <sub>DC</sub> |
|                   |               | Blue/ white  | ANALOG<br>INPUT    |
|                   |               | Black        | GND                |
|                   |               | Green/ red   | RS485 -            |
|                   |               | Green/ white | RS485 +            |
|                   |               | Pink/ black  | Relay 1            |
|                   |               | Green/ black | Relay 2            |
| Cable 2<br>Power  | UL 2464 18AWG | Brown        | L                  |
|                   |               | Blue         | N                  |
|                   |               | Green/yellow | EARTH              |

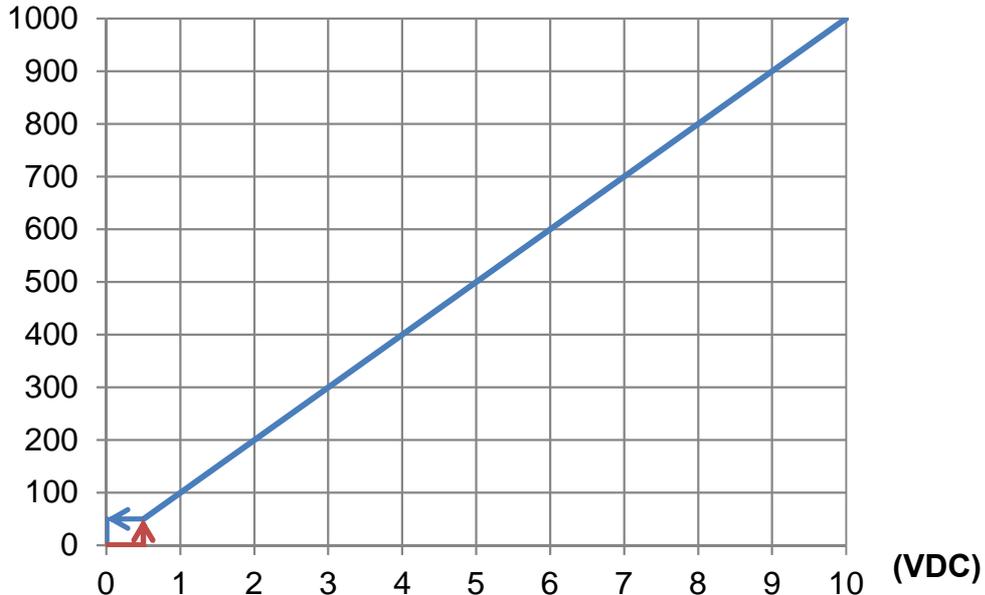
Lead wire connection:





| Signal function        |  |
|------------------------|--|
| Analog signal input    | -The input voltage range shall be 0~10 V <sub>DC</sub><br>-The input signal level can be read via RS485 communication, proportion scale value is from 0.5 V <sub>DC</sub> to 10 V <sub>DC</sub> . (note-1)   |
| RS485 control function | -Select the control mode of speed, fixed speed or fixed duty.<br>-Speed, power consumption and analog input level feedback.<br>-Allow multiple FANs control and status patrol.<br>-Safety mode function, abnormal duration and speed setting.<br>-Rotation direction control. (note-2) |
| Relay function         | Relay will be open, when fault occur   |

**(Corresponding data)**



**Analog input level(V<sub>DC</sub>) vs communication corresponding data**

**Note:**

1. The response data is based on 0-10Vdc AD signal level, 200 responding data indicates 2Vdc analog input, 1000 indicates 10Vdc analog input.
2. The reverse rotation must be controlled by communication command, and auto return to nominal direction after reverse process, as below diagram.

