Smarter. Greener. Together.

GTW071PUT24E-M001

Electronically Commutated (EC) Fan

Axial Fan

850 x 850 x 243 mm

DELTA ELECTRONICS, INC.
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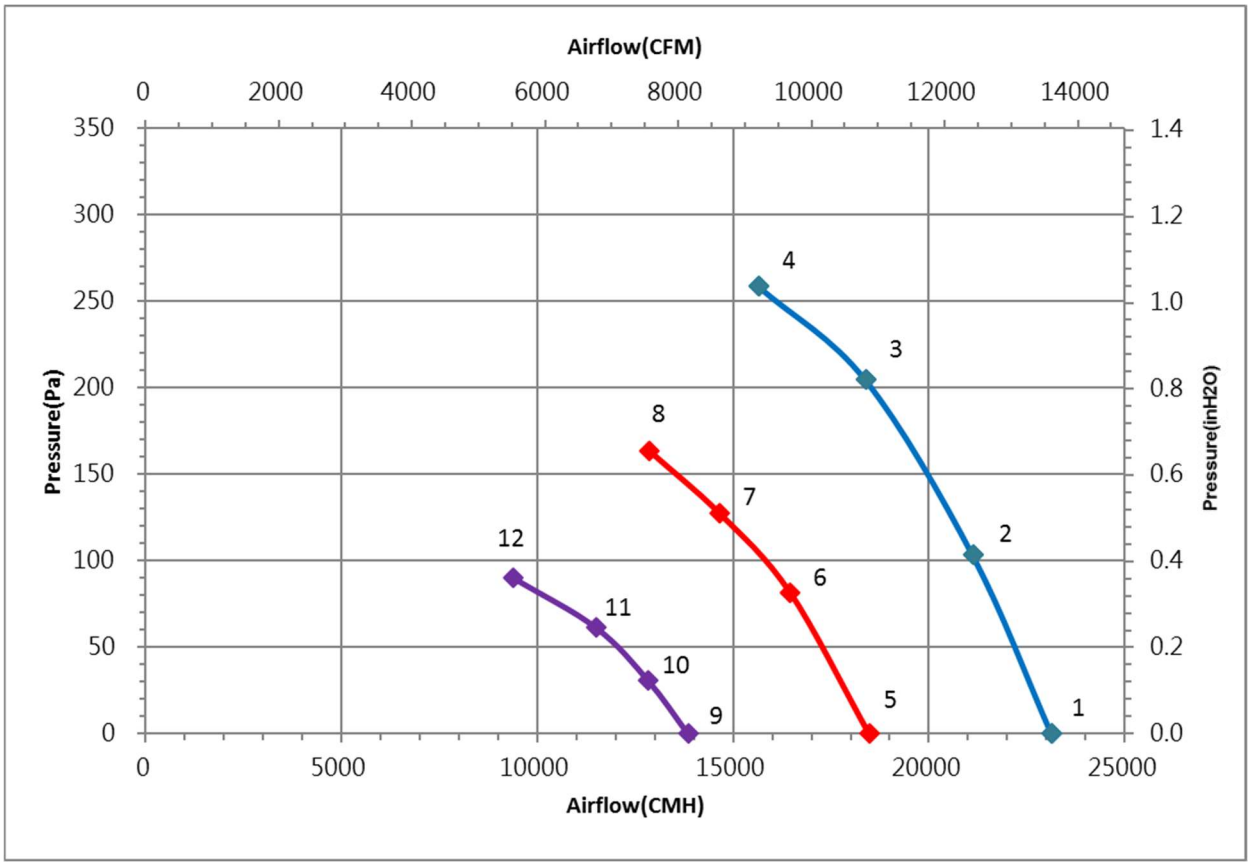
Technical features

Input Side	
Nominal Voltage	3~ 400Vac 50/60Hz
Input Source	3~ 380Vac - 480Vac
Power @ Free air	2125 W
Power @ Max. load	2700 W
Output Side	
Speed (RPM)	1250
Qmax. (CMH / CFM)	23134 / 13608
Pmax. (Pa / inAq)	259 / 1.04
Noise (dB-A) @ Qmax	82
Functions	
Passive power factor correction	
Control input 0-10VDC / PWM PATTERN / 4-20mA.	
Output +10VDC (±10%), max. 10mA.	
Control voltage output: 0-10VDC.	
RS485 control bus (MODBUS RTU / 8N1)	
Alarm relay, Locked rotor protection, Soft start.	
Speed telling, frequency generator signal.	
Voltage / Current monitoring.	

Physical	
Rotation Direction	CCW, seen on rotor
Material (Impeller / Frame)	Plastic / Steel
Bearing system	Ball bearings
Weight (kg)	50
Electrical leads	Via terminal block
Environmental	
Operating temperature range	-25 ~ +60 ℃
Storage temperature range	-40 ~ +70 ℃
Safety	
Safety	UL, cUL
IP Level	IP54
EMC	EN61000-6-2/4 , EN61000-3-2/3
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.

P & Q curves



Measure data:

	P [Pa]	Q [CMH]	N [R.P.M.]	P1 [W]	I [A]	Lp [dB(A)]
1	0	23134	1250	2125	3.60	82.0
2	103	21122	1250	2386	3.98	
3	205	18383	1250	2590	4.25	
4	259	15649	1241	2610	4.30	
5	0	18476	1000	1147	2.18	78.0
6	82	16455	1000	1309	2.36	
7	127	14651	1000	1362	2.40	
8	164	12851	1000	1406	2.47	
9	0	13851	750	534	1.35	71.0
10	31	12837	750	580	1.40	
11	61	11504	750	607	1.42	
12	90	9397	750	624	1.43	

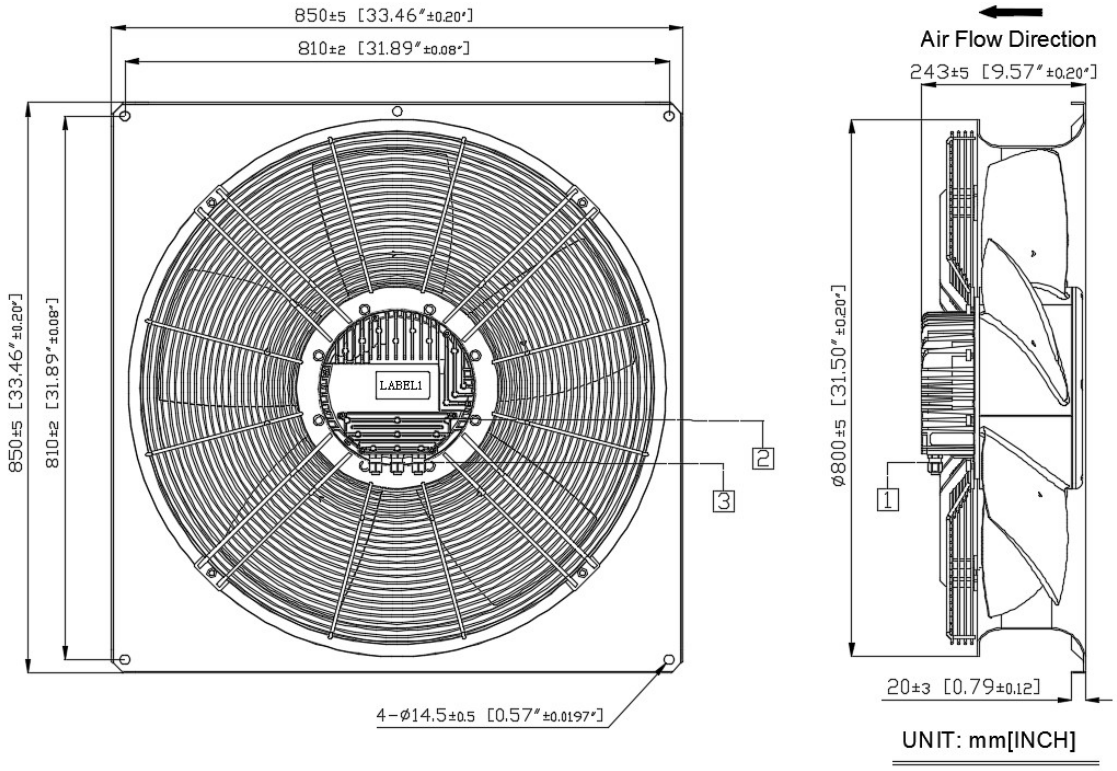
Test Condition:

- Input Voltage: Nominal Voltage
- Temperature : Room Temperature
- Humidity : 65%RH
- Measured without Fanguard
- Noise (Lp) is measured at a distance of one meter from the outlet side.

Dimension drawing

Label :

Fan :



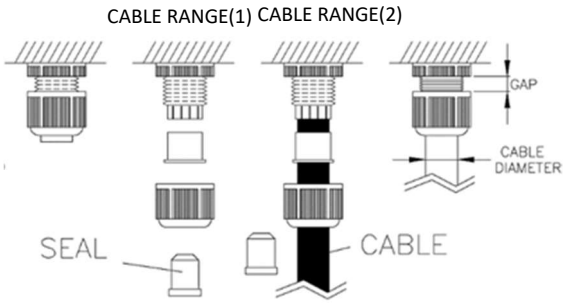


Fig1

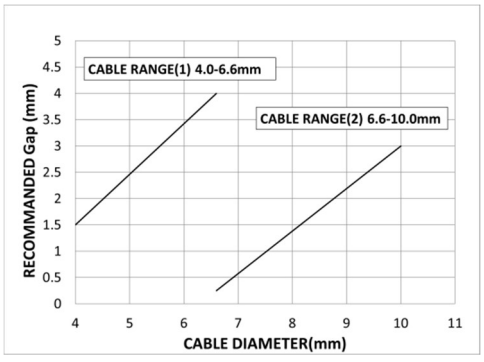
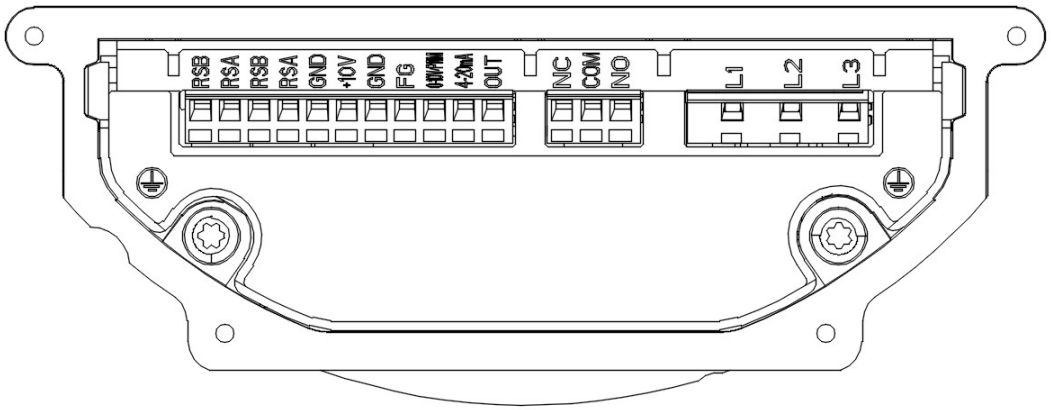


Fig2

Note :

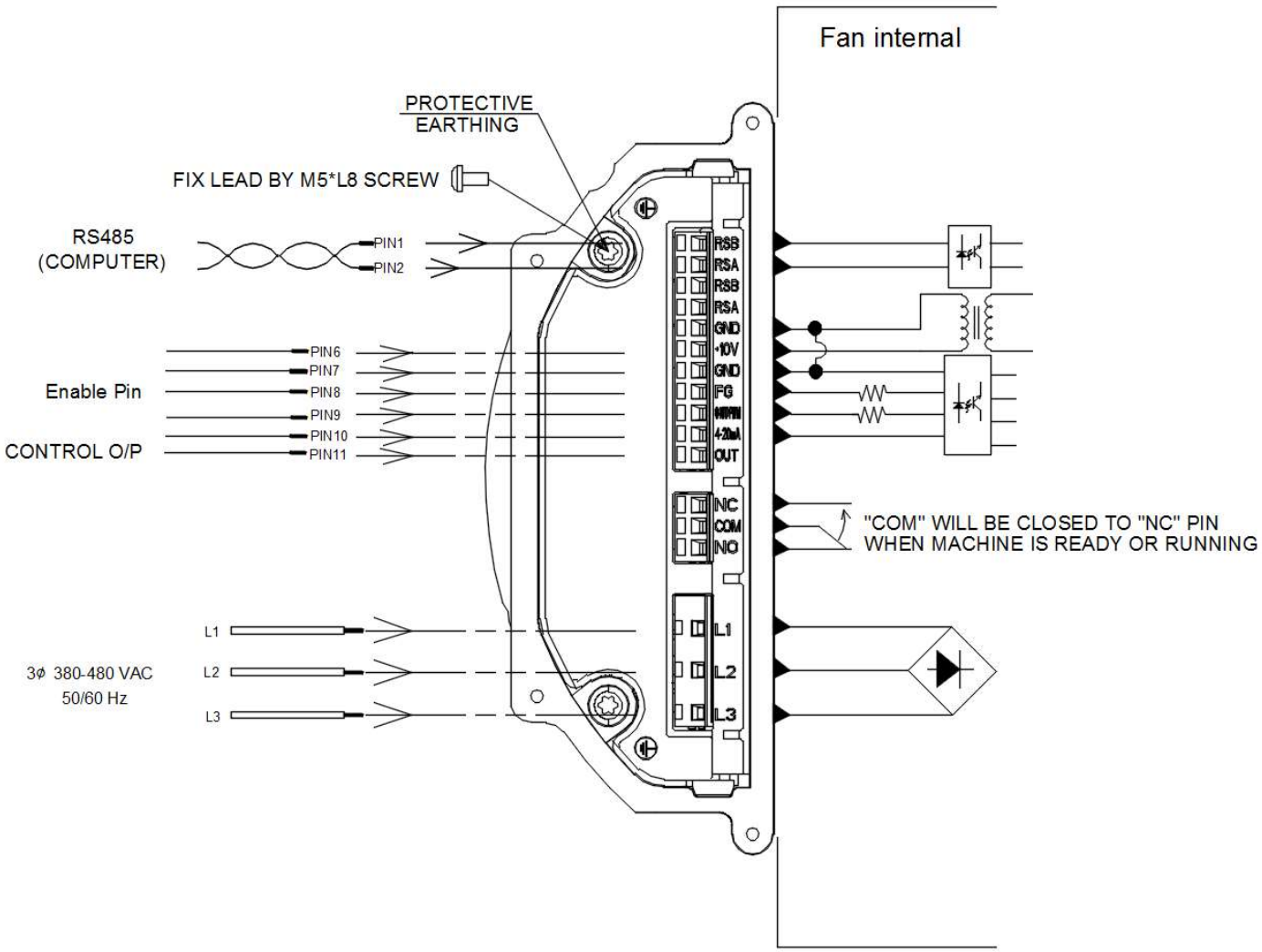
1. Cable diameter : Ø4.0 ~ Ø10mm.
2. Open the cover and refer to definition of terminal block.
   Screws tighten torque 20±2 Kgf-cm ,when close the cover.
3. Cable sealing nut's gap refer Fig 1 & 2.

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	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
	+10V	+10V output, MAX 10mA (For external potentiometer)
	GND	Ground
	FG	Enable function
	0-10V/PWM	Speed control ,input 0-10VDC
	4-20mA	Speed control ,input 4-20mA
	OUT	Control voltage output0-10VDC (For external potentiometer)

Lead wire connection:



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.

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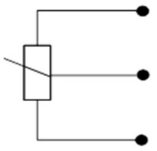
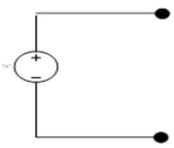
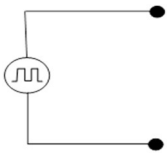
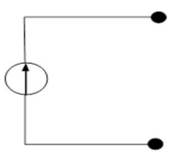
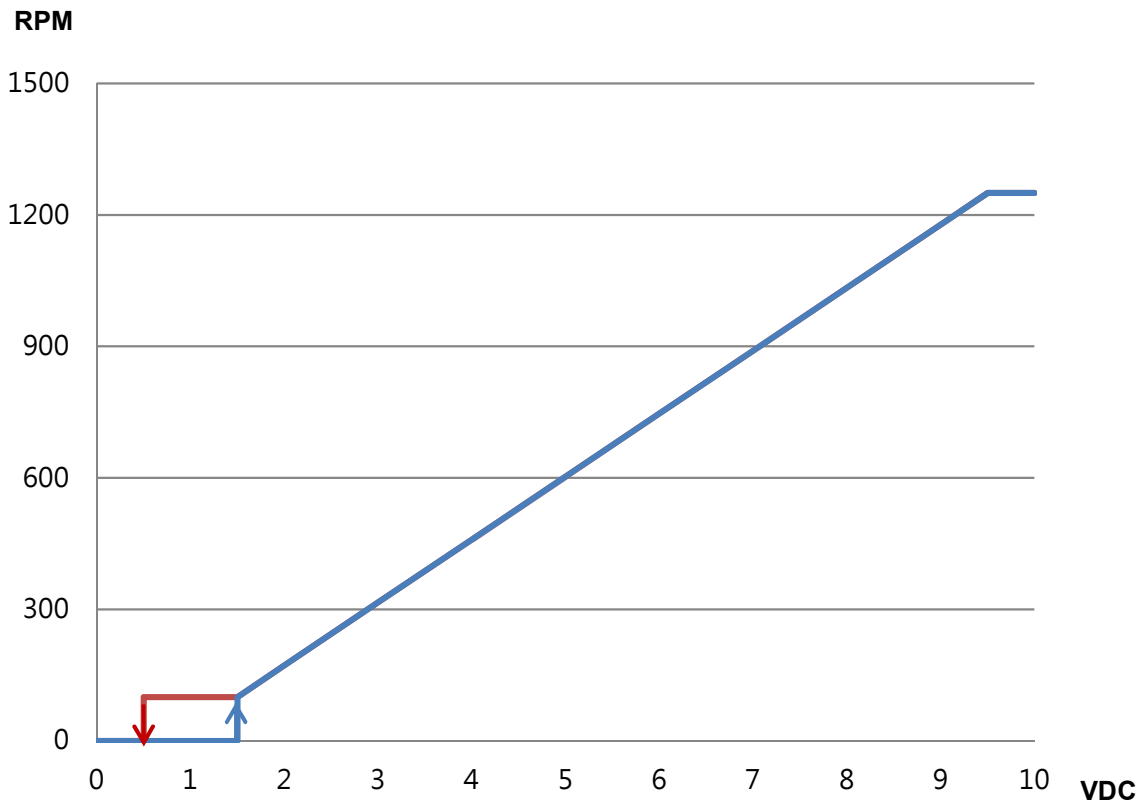
Speed setting	
Full Speed  	**Short PIN6 & PIN9** Fan will run full speed.
Voltage Control A (NOTE-1/P7)  	**Connector 1-10kΩ variable resistor** Between **+10VDC** with **GND** and **0-10V/PWM** Turn the variable resistor，can change the ‘**0-10V/PWM**’ voltage (0...10V)。
Voltage Control B 0-10V DC Source  	**Use voltage source support 0~10VDC voltage** DC+ : connector PIN9(+) DC - : connector PIN7(-)
PWM Control PWM Generator  	**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。
Current Control 4-20mA Current Source  	**4~20mA Current Control** Open 0-10V/PWM PIN - 4.5 mA → Fan Stop - 6.0 mA → Fan Start up - 19.5 mA → Maximum Speed

<table>
<tr><th colspan="2">Signal function</th></tr>
<tr><td>RS485 control function</td><td>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.</td></tr>
<tr><td>Control O/P</td><td>The analog signal level is the derivative of current control level.
<table>
<tr><th>Current (mA)</th><th>Control O/P (VDC) (REF)</th></tr>
<tr><td>4.0</td><td>0</td></tr>
<tr><td>6.3</td><td>1.60</td></tr>
<tr><td>14.0</td><td>6.03</td></tr>
<tr><td>19.5</td><td>9.19</td></tr>
</table></td></tr>
<tr><td>Voltage/PWM control</td><td>The speed comparison will control level
<table>
<tr><th>Voltage (V)</th><th>PWM (%)</th><th>Speed (RPM) (REF)</th></tr>
<tr><td>0</td><td>0</td><td>0</td></tr>
<tr><td>1.5</td><td>15</td><td>100 ± 50 RPM</td></tr>
<tr><td>6.0</td><td>60</td><td>745 ± 8%</td></tr>
<tr><td>9.5</td><td>95</td><td>1250± 5%</td></tr>
</table></td></tr>
<tr><td>Current control</td><td>The speed comparison will control level
<table>
<tr><th>Current (mA)</th><th>Speed (RPM) (REF)</th></tr>
<tr><td>4.0</td><td>0</td></tr>
<tr><td>6.3</td><td>100 ± 50 RPM</td></tr>
<tr><td>13.6</td><td>745 ± 8%</td></tr>
<tr><td>19.5</td><td>1250 ± 5%</td></tr>
</table></td></tr>
<tr><td>Alarm state</td><td>1. NC and COM will OPEN
2. NO and COM will CLOSE.</td></tr>
<tr><td>FG</td><td>Enable function.
1. FG is H or Blank, the fan is enable
2. FG is L, the fan is disable
※ H : 9.5 ~ 10V
L : 0 ~ 0.7V</td></tr>
</table>

Control Voltage VS. RPM Curve



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