



Specification For Approval

Customer : _____
Description : _____ EC FAN _____
Customer Part No. : _____ Rev : _____
Delta Model No. : _____ GTW071HUU26E-M001 _____ Rev : 00
Safety Model No. : _____ TUV:MU150JP5FC3 _____
Sample Issue No. : _____
Sample Issue Date : _____ 12/09/2019 _____

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

Approved by : _____

Date : _____

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*** SAMPLE HISTORY ***

CUSTOMER :

CUSTOMER P/N : N/A

DELTA MODEL : GTW071HUU26E-M001

REV	DESCRIPTION	DRAWN	CHECKED		APPROVED	ISSUE DATE
			ME	EE		
00	ISSUE SPEC.	邱奕清 12/09'19	邱奕清 12/09'19	蘇錦平 12/09'19	顏承偉 12/09'19	12/09'19

Electronically Commutated (EC) Fan

Axial Fan

850 x 850 x 257 mm



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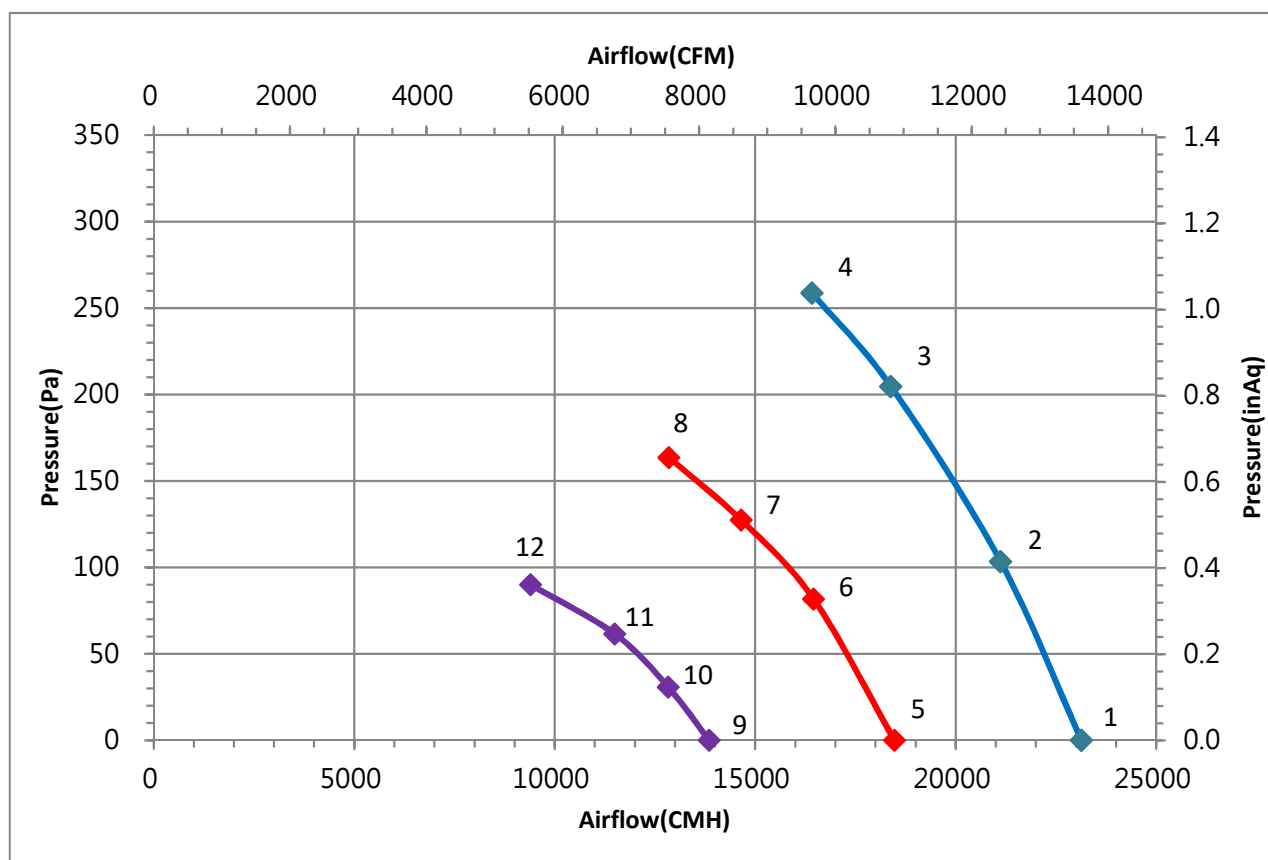
Technical features

Input Side		
Input Source	3~ 200-240Vac	3~ 380-480Vac
Nominal Voltage	3~ 230Vac	3~ 400Vac
Power @ Free air	2125W	2290W
Power @ Max. load	2700W	3100W
Output Side(with fanguard condition)		
Speed (RPM)	1250	1320
Qmax. (CMH / CFM)	23134 / 13608	24806 / 14592
Pmax. (Pa / inAq)	259 / 1.04	317 / 1.27
Noise (dB-A) @ Qmax	82.0	84.0
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(VA3) RTU / 8N1)		
Alarm relay, Locked rotor protection, Enable function.		
Soft start, Speed telling, Voltage / Current monitoring.		

Physical	
Rotation Direction	CCW, seen on rotor
Material (Impeller / Frame)	Plastic / Steel
Bearing system	Ball bearings
Weight (kg)	53.0
Electrical leads	Via terminal block
Environmental	
Operating temperature range	-25 ~ +60 °C
Storage temperature range	-40 ~ +70 °C
Safety	
Safety	UL, CUL(in process), TUV
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 expectance	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(without fanguard condition)



Measure data:

	P [Pa]	Q [CMH]	N [R.P.M.]	P1 [W]	I [A]	Lp [dB(A)]
1	0	23134	1250	2125	5.75	83.0
2	103	21122	1250	2386	6.45	
3	205	18383	1250	2585	6.98	
4	259	15649	1241	2615	7.06	
5	0	18476	1000	1147	3.12	78.5
6	82	16455	1000	1309	3.56	
7	127	14651	1000	1362	3.70	
8	164	12851	1000	1406	3.80	
9	0	13851	750	530	1.49	72.0
10	31	12837	750	588	1.65	
11	61	11504	750	607	1.70	
12	90	9397	750	624	1.73	

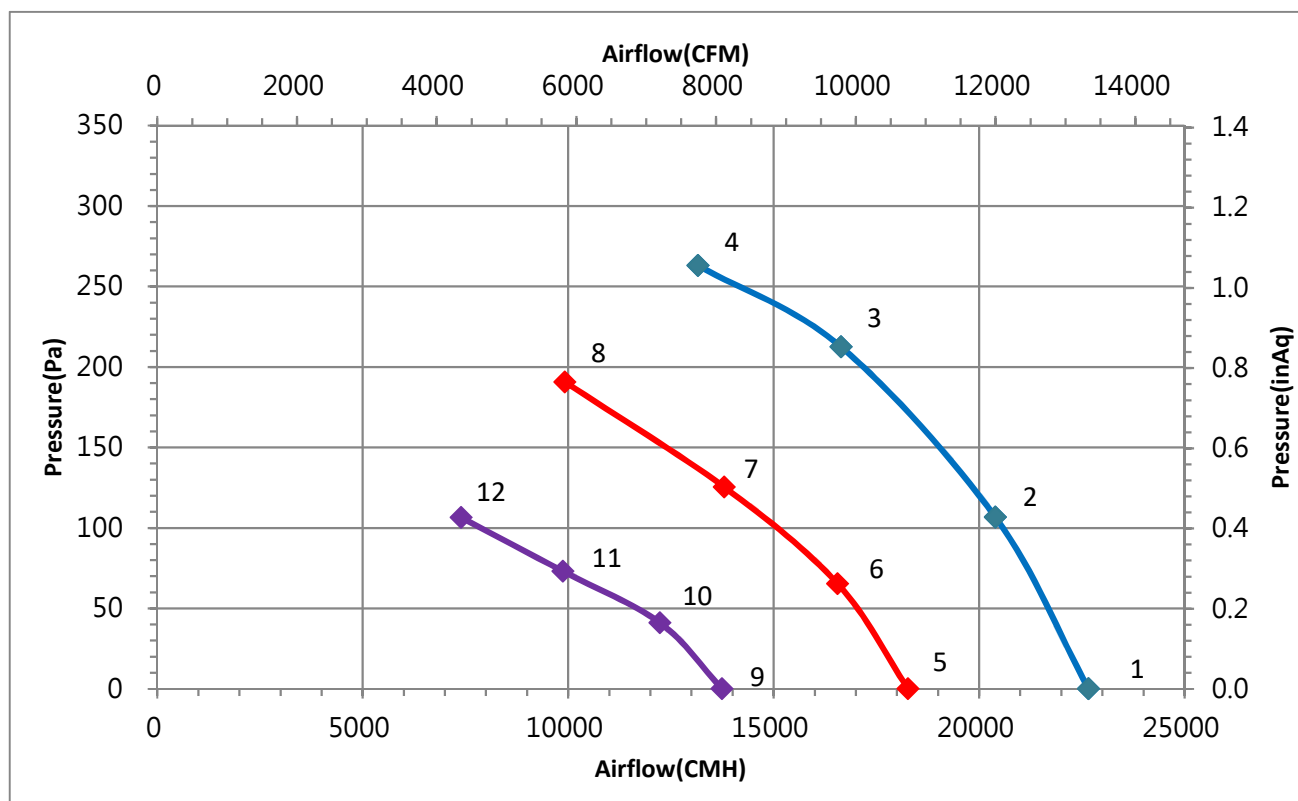
Test Condition:

- Input Voltage: 3~230Vac
- Temperature : Room Temperature
- Humidity : 65%RH
- Noise (Lp) is measured at a distance of one meter from the inlet side.
- Testing method is compliance with ISO 3745

ErP Directive

	Actual	2015
Over all Eff (%)	45.6	36.3
Eff Grade N	49.2	40
Power (kW)	2.615	
Air flow (CMH)	15649	
Pressure (Pa)	259	
Speed (RPM)	1250	

P & Q curves(with fanguard condition)



Measure data:

	P [Pa]	Q [CMH]	N [R.P.M.]	P1 [W]	I [A]	Lp [dB(A)]
1	0	22661	1250	2149	5.86	84.5
2	107	20395	1250	2402	6.54	
3	212	16639	1250	2588	7.04	
4	263	13164	1232	2569	6.98	
5	0	18273	1000	1186	3.21	79.5
6	65	16558	1000	1291	3.48	
7	125	13799	1000	1373	3.70	
8	191	9920	1000	1431	3.80	
9	0	13743	750	535	1.45	73.0
10	41	12230	750	596	1.61	
11	73	9877	750	612	1.65	
12	106	7396	750	639	1.72	

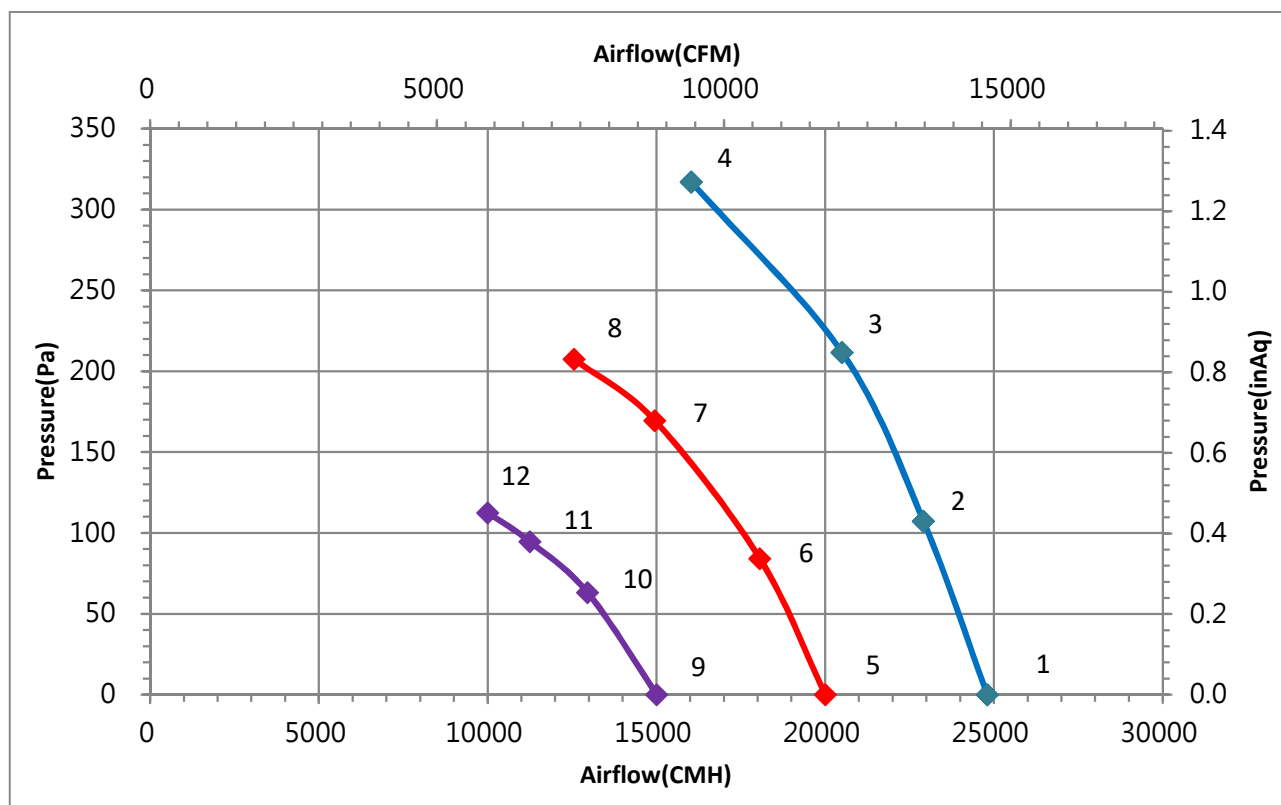
Test Condition:

- Input Voltage: 3~230Vac
- Temperature : Room Temperature
- Humidity : 65%RH
- Noise (Lp) is measured at a distance of one meter from the inlet side.
- Testing method is compliance with ISO 3745

ErP Directive

	Actual	2015
Over all Eff (%)	40.2	36.3
Eff Grade N	43.9	40
Power (kW)	2.588	
Air flow (CMH)	16639	
Pressure (Pa)	212	
Speed (RPM)	1250	

P & Q curves(without fanguard condition)



Measure data:

	P [Pa]	Q [CMH]	N [R.P.M.]	P1 [W]	I [A]	Lp [dB(A)]
1	0	24806	1320	2290	3.81	84.5
2	107	22914	1320	2602	4.18	
3	212	20501	1320	2821	4.53	
4	317	16035	1320	3021	4.82	
5	0	20006	1056	1235	2.20	80.0
6	84	18064	1056	1413	2.45	
7	169	14959	1056	1551	2.65	
8	207	12567	1056	1598	2.71	
9	0	15015	792	560	1.32	73.5
10	63	12966	792	656	1.44	
11	95	11258	792	689	1.49	
12	113	10006	792	699	1.51	

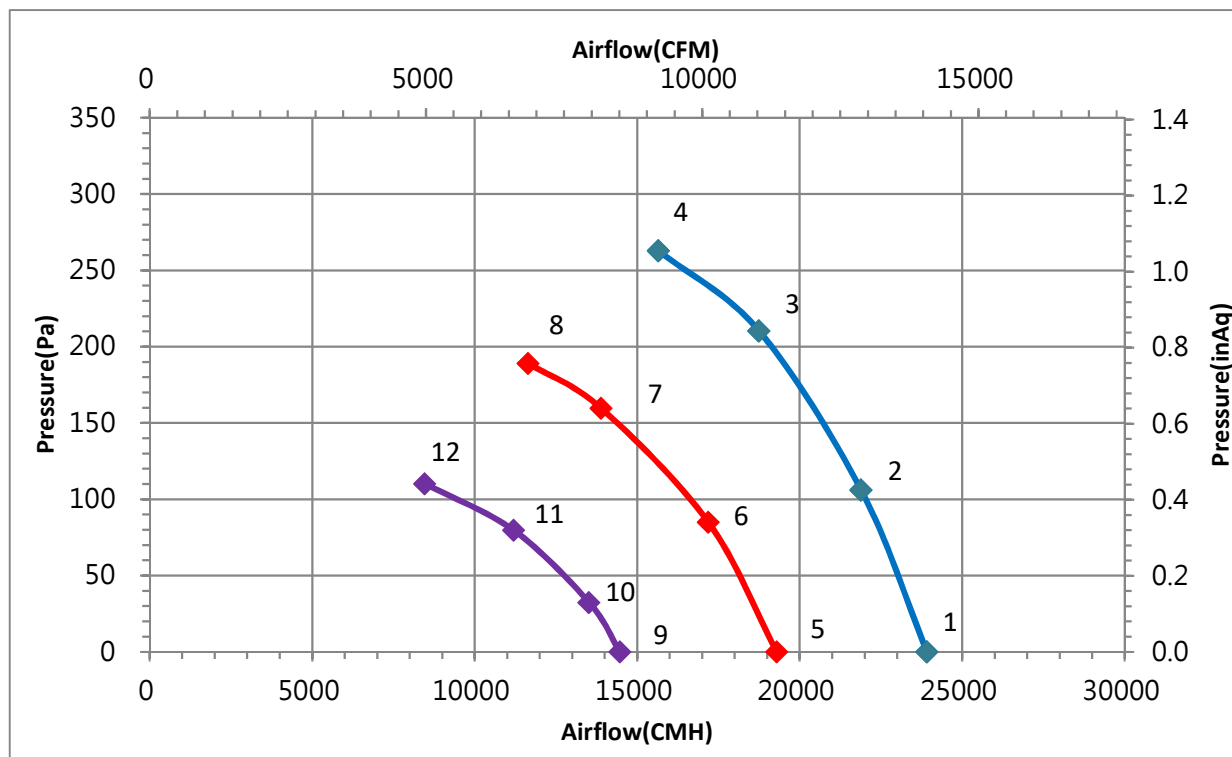
Test Condition:

- Input Voltage: 3~400Vac
- Temperature : Room Temperature
- Humidity : 65%RH
- Noise (Lp) is measured at a distance of one meter from the inlet side.
- Testing method is compliance with ISO 3745

ErP Directive

	Actual	2015
Over all Eff (%)	49.3	36.7
Eff Grade N	52.6	40
Power (kW)	3.021	
Air flow (CMH)	16035	
Pressure (Pa)	317	
Speed (RPM)	1320	

P & Q curves(with fanguard condition)



Measure data:

	P [Pa]	Q [CMH]	N [R.P.M.]	P1 [W]	I [A]	Lp [dB(A)]
1	0	23919	1320	2419	3.91	86.0
2	106	21888	1320	2683	4.28	
3	210	18745	1320	2916	4.59	
4	263	15647	1310	3031	4.76	
5	0	19293	1056	1303	2.32	81.0
6	85	17187	1056	1464	2.55	
7	160	13885	1056	1567	2.66	
8	189	11647	1056	1613	2.72	
9	0	14469	792	587	1.35	74.5
10	32	13519	792	636	1.43	
11	80	11198	792	684	1.46	
12	110	8458	792	710	1.50	

Test Condition:

- Input Voltage: 3~400Vac
- Temperature : Room Temperature
- Humidity : 65%RH
- Noise (Lp) is measured at a distance of one meter from the inlet side.
- Testing method is compliance with ISO 3745

ErP Directive

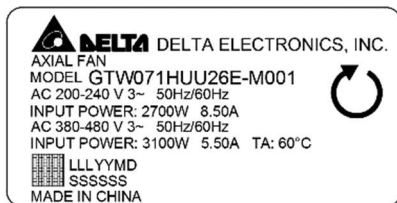
	Actual	2015
Over all Eff (%)	39.8	36.7
Eff Grade N	43.1	40
Power (kW)	3.031	
Air flow (CMH)	15647	
Pressure (Pa)	263	
Speed (RPM)	1310	

Dimension drawing

Label :

Label 1

Label 2



Fan :

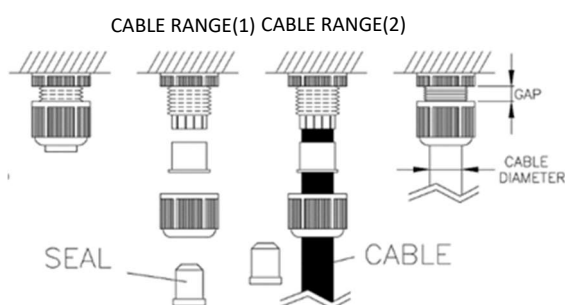
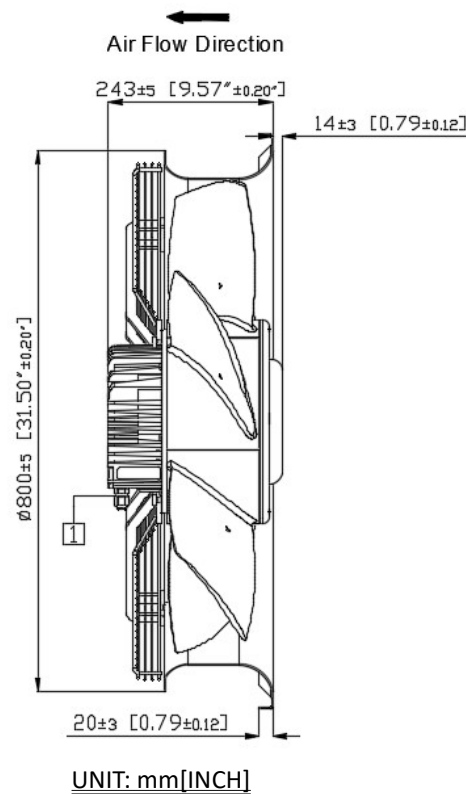
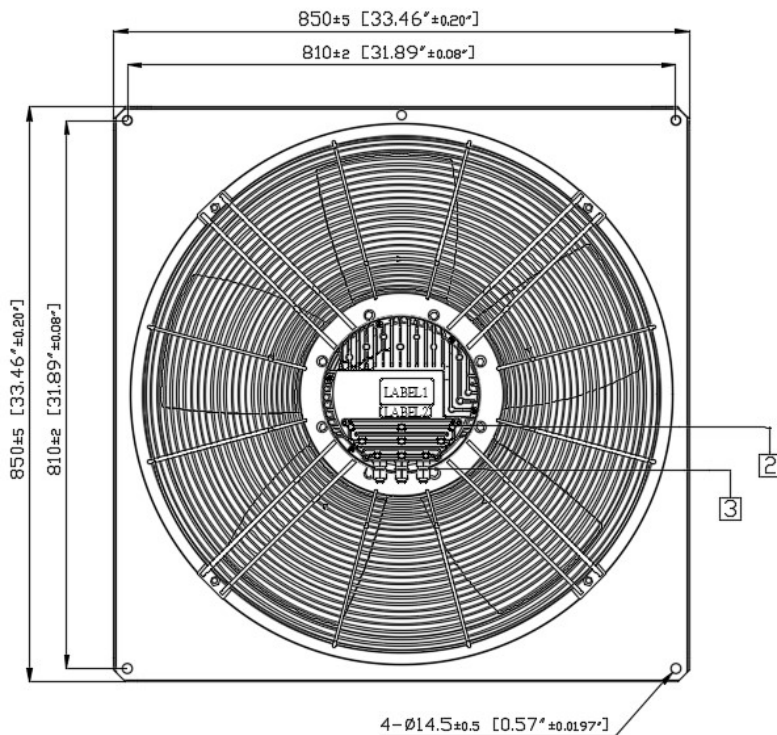


Fig1

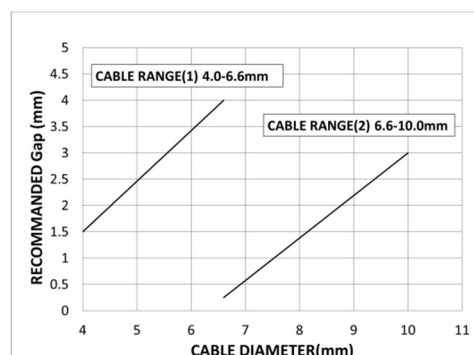
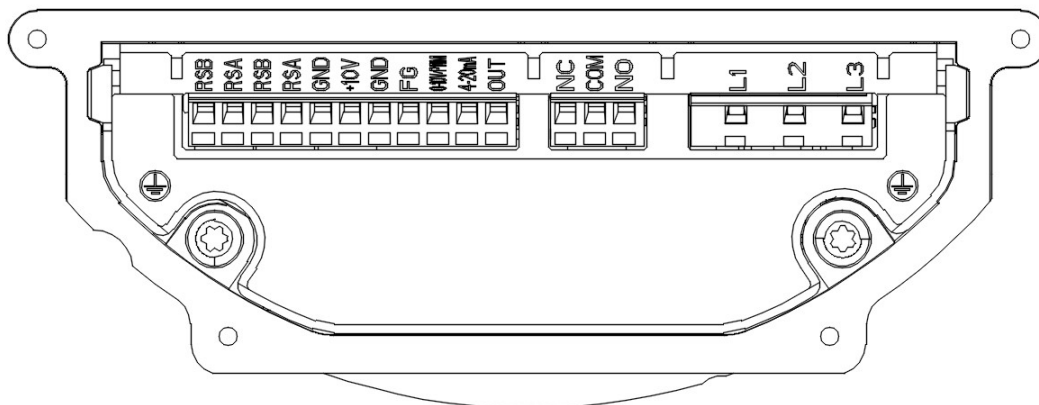


Fig2

Note :

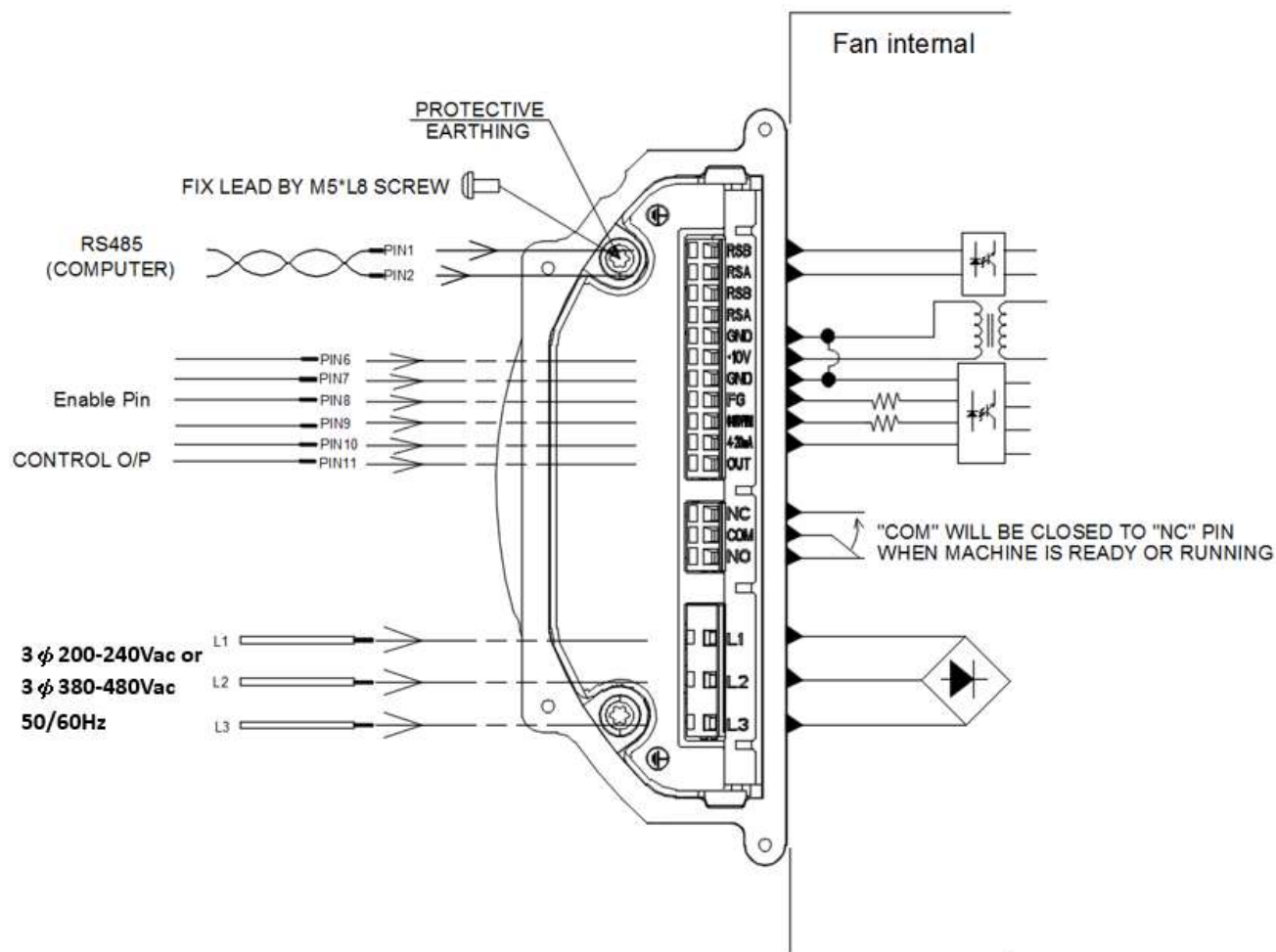
- 1 Cable diameter : Ø4.0 ~ Ø10mm.
- 2 Open the cover and refer to definition of terminal block.
Screws tighten torque 20 ± 2 Kgf-cm ,when close the cover.
- 3 Cable sealing nut's gap refer Fig 1 & 2.

Definition of terminal block



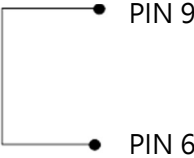
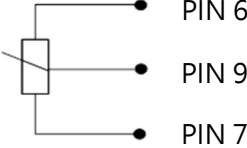
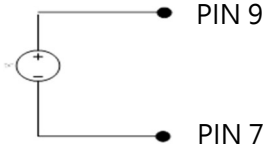
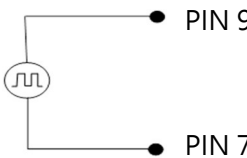
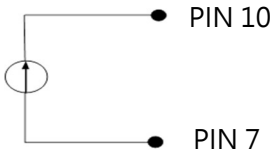
	Text	Functions
Power	L1	AC main (3~ 200-240Vac or 3~ 380-480Vac)
	L2	AC main (3~ 200-240Vac or 3~ 380-480Vac)
	L3	AC main (3~ 200-240Vac or 3~ 380-480Vac)
Status	NC	Alarm relay, open by failure
	COM	Alarm relay, common (2A/250VAC)
	NO	Alarm relay, close by failure
Signal	RSB	RS485-B
	RSA	RS485-A
	RSB	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:



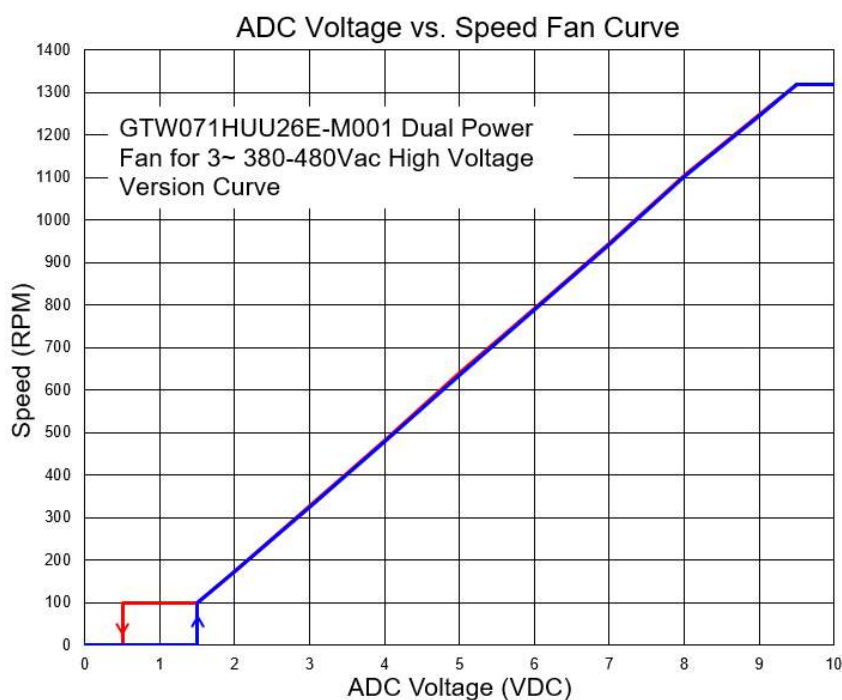
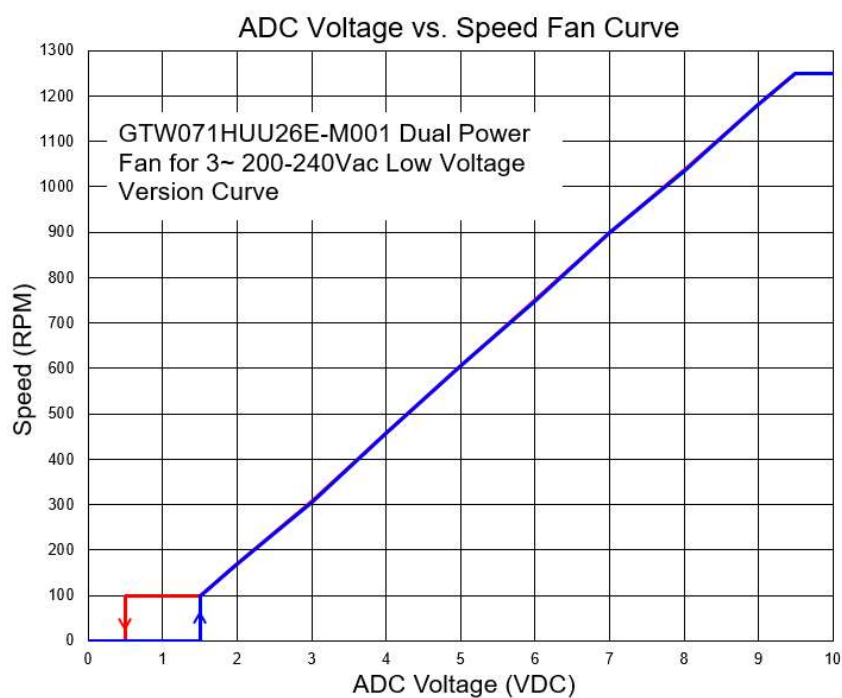
Note:

1. A MODBUS over Serial Line Cable must be shielded. At one end of each cable its shield must be connected to protective ground.
2. If want to change the input voltage range from 3~200-240Vac to 3~380-480Vac or from 3~380-480Vac to 3~200-240Vac, Please power off AC input source and wait 20sec to reboot.

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

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.			
Control O/P	The analog signal level is the derivative of current control level.			
	Current (mA)		Control O/P (VDC) (REF)	
	4.0		0	
	6.3		1.65	
	14.0		6.30	
	19.5		9.45	
Voltage/PWM control for Dual power fan	The speed comparison will control level			
	Voltage (V)	PWM (%)	3~ 200-240Vac	3~ 380-480Vac
			Speed (RPM)	Speed (RPM)
	0	0	0	0
	1.5	15	100 ± 50	100 ± 50
	6.0	60	750 ± 10%	795 ± 10%
	9.5	95	1250 ± 5%	1320 ± 5%
Current control for Dual power fan	The speed comparison will control level			
	Current (mA)	3~ 200-240Vac	3~ 380-480Vac	
		Speed (RPM))	Speed (RPM))	
	4.0	0	0	
	6.3	100 ± 50	100 ± 50	
	13.6	750 ± 10%	795 ± 10%	
	19.5	1250 ± 5%	1320 ± 5%	
Alarm state	1. NC and COM will OPEN 2. NO and COM will CLOSE.			
FG	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			

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	6.1	6.9	8.4	10	11.9	13.5	15.1	16.7	18.6	20	mA