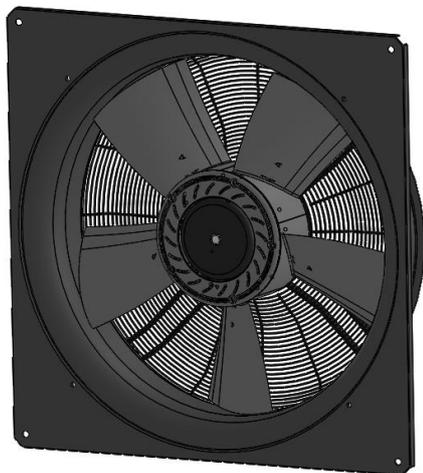


Electronically Commutated (EC) Fan

Axial Fan

970 x 970 x 260 mm



GTW080PUU23E Delta Datasheet
sales@fansco.com www.fansco.com



Technical features

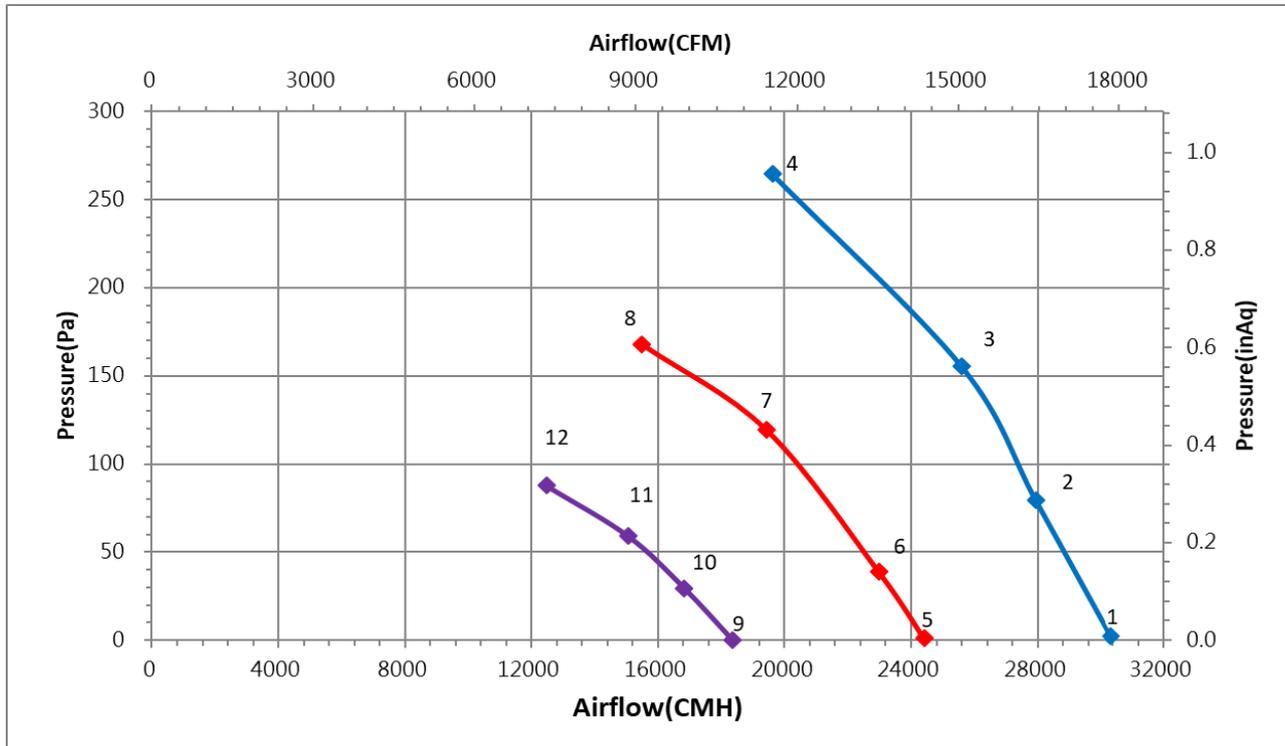
Input Side	
Nominal Voltage	3~ 400Vac 50/60Hz
Input Source	3~ 380Vac - 480Vac
Power @ Free air	2453 W
Power @ Max. load	3100 W
Output Side	
Speed (RPM)	1200
Qmax. (CMH / CFM)	30326 / 17839
Pmax. (Pa / inAq)	265 / 1.06
Noise (dB-A) @ Qmax	78
Functions	
Passive power factor correction	
Control input 0-10VDC / PWM	
Output +10VDC ($\pm 10\%$), max. 10mA.	
RS485 control bus (MODBUS (V1.3) RTU / 8N1)	
Alarm relay, Locked rotor protection, Soft start.	
Voltage / Current monitoring.	

NOTE : The Fan IGBT-inverter temperature can be operated at 110°C with full loading, and the rotation speed will be decreased to 80% of full loading if IGBT-inverter temperature is higher than 110°C.

Physical	
Rotation Direction	CCW, seen on rotor
Material (Impeller / Motor Frame)	Plastic / Cast iron
Material (Walling / Fan Guard)	Steel / Steel
Bearing system	Ball bearings
Weight (kg)	50
Electrical leads	Via terminal block
Environmental	
Operating temperature range	-25 ~ +60 °C
Storage temperature range	-40 ~ +70 °C
Safety	
Safety	UL, CE
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 & Q curves (without fanguard condition)



Measure data:

	P [Pa]	Q [CMH]	N [R.P.M.]	P1 [W]	I [A]	Lp [dB(A)]
1	0	30326	1200	2453	4.20	78
2	79	27955	1200	2731	4.53	
3	156	25601	1200	3002	4.91	
4	265	19626	1200	3083	5.04	
5	0	24421	960	1292	2.57	74
6	39	22974	960	1397	2.69	
7	119	19427	960	1583	2.93	
8	168	15468	960	1606	2.96	
9	0	18358	720	575	1.58	67
10	30	16826	720	637	1.69	
11	59	15052	720	685	1.75	
12	88	12470	720	699	1.77	

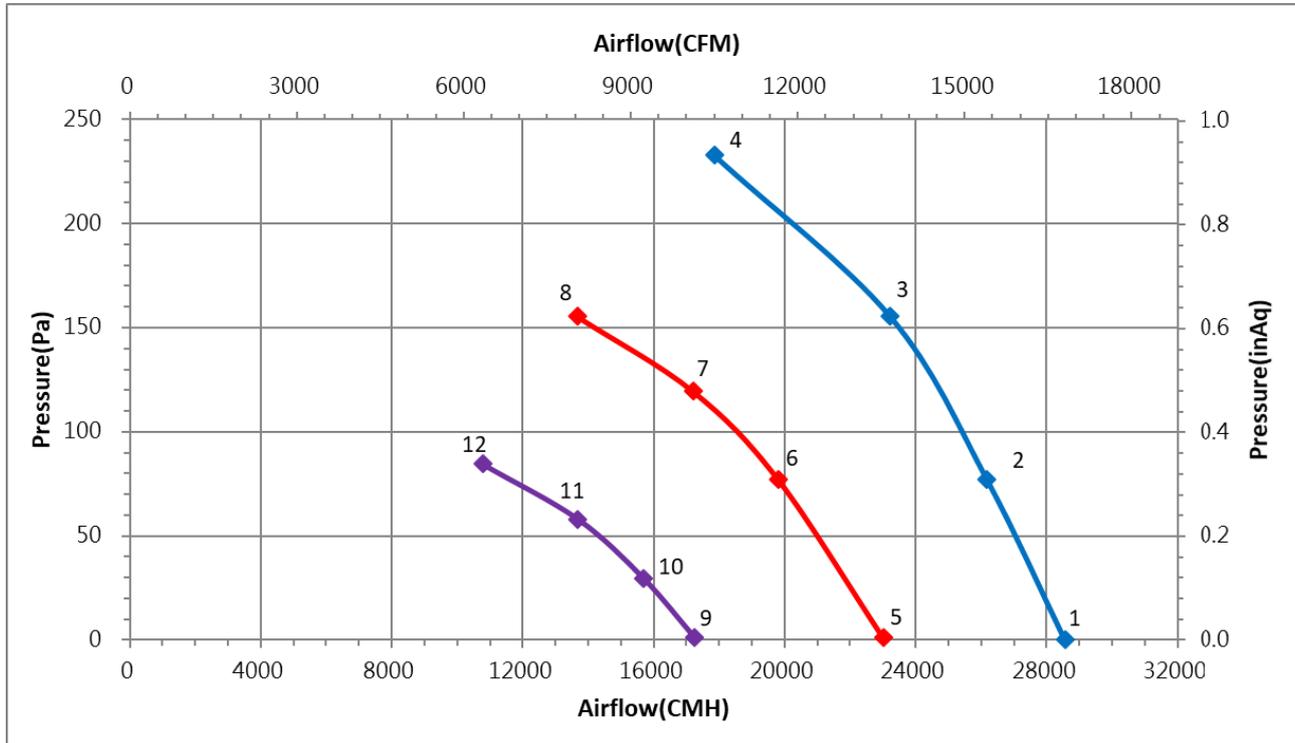
Test Condition:

- 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 (%)	49.2	36.8
Eff Grade N	52.5	40
Power (kW)	3.08	
Air flow (CMH)	19626	
Pressure (Pa)	265	
Speed (RPM)	1200	

P & Q curves (with fanguard condition)



Measure data:

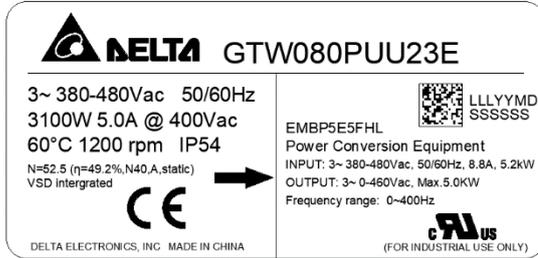
	P [Pa]	Q [CMH]	N [R.P.M.]	P1 [W]	I [A]	Lp [dB(A)]
1	0	28558	1200	2669	4.52	80
2	77	26178	1200	2895	4.80	
3	156	23223	1200	3026	4.99	
4	233	17855	1200	3095	5.10	
5	0	23011	960	1397	2.70	75
6	77	19803	960	1563	2.90	
7	119	17205	960	1577	2.92	
8	155	13668	960	1533	2.99	
9	0	17253	620	616	1.65	69
10	30	15694	620	666	1.72	
11	58	13685	620	692	1.76	
12	85	10780	620	706	1.76	

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

Dimension drawing

Label :



Fan :

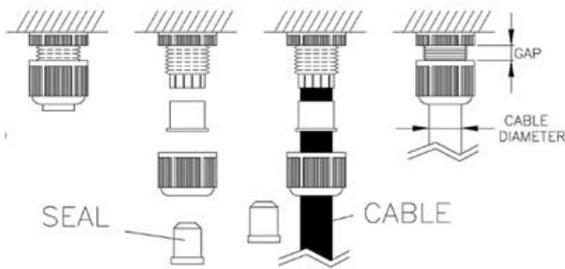
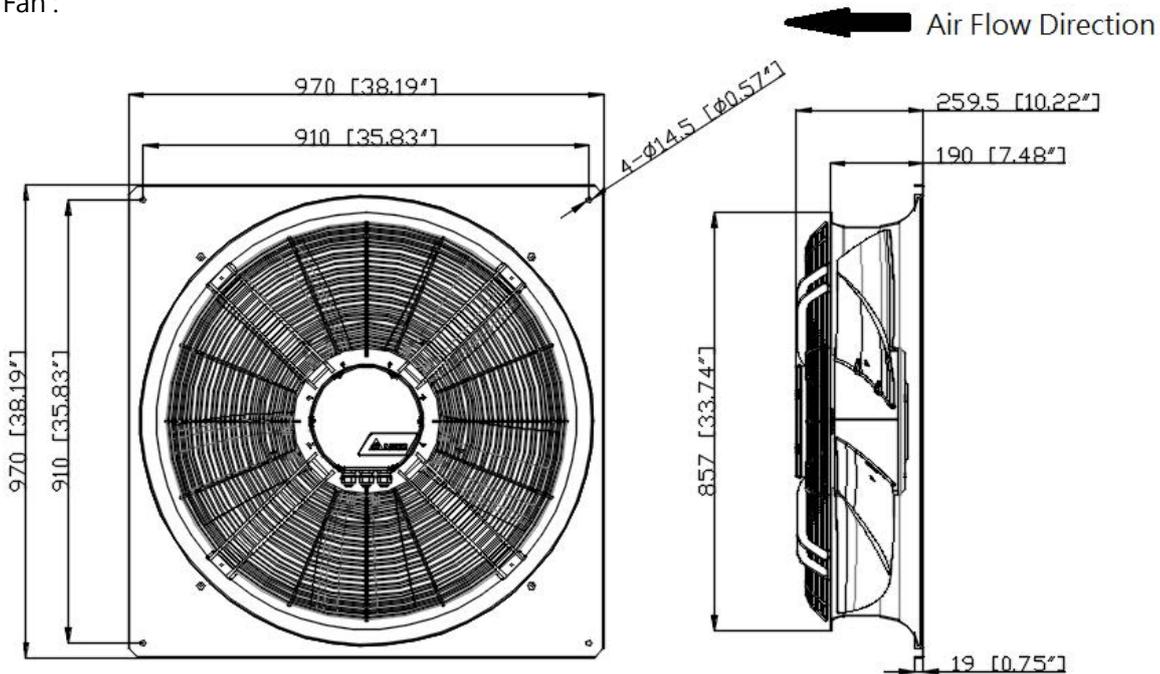


Fig1

Unit: mm [inch]

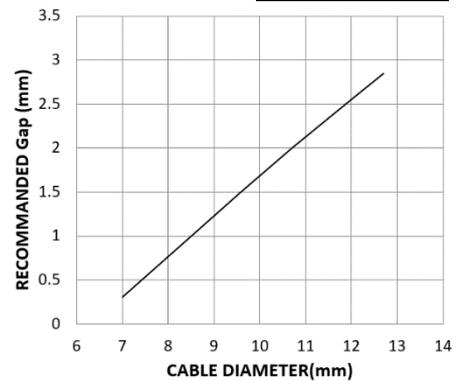
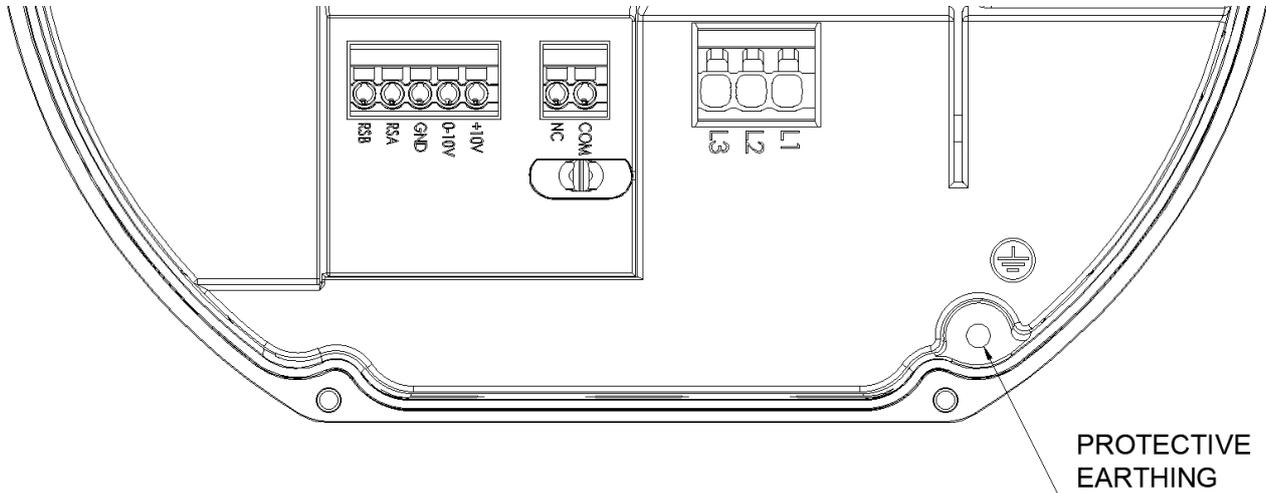


Fig2

Note :

- 1 Cable gland: M20xP1.5 (3 pcs), Material: Nylon, Cable Diameter: ϕ 7.0~ ϕ 12.7mm
Cable gland nut's gap refer Fig.1 & 2.
2. Open the cover and refer to definition of terminal block, screw tightening torque $20 \pm 10\%$ kgf-cm.

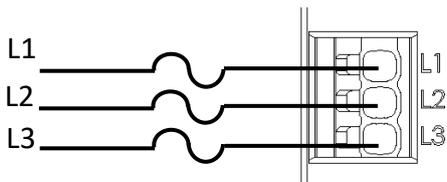
Definition of terminal block



	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.

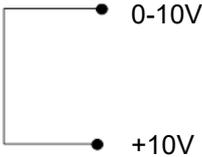
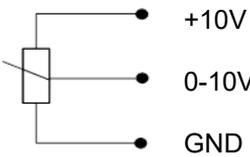
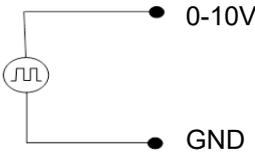
Overvoltage category - OVC II.

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.

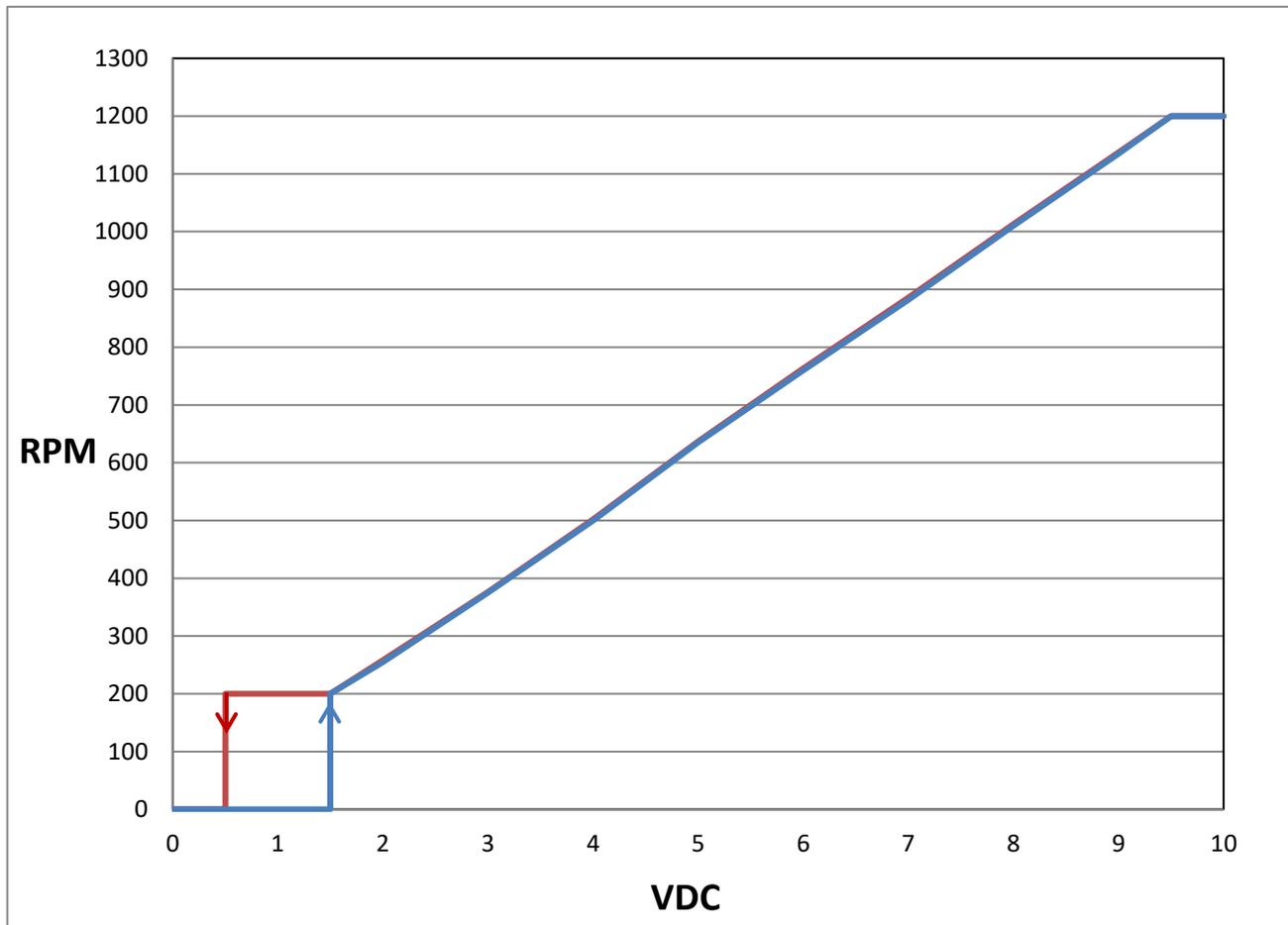
Function control:

Speed setting	
<p>Full Speed</p> 	<p>Short 0-10V & +10V Fan will run at full speed.</p>
	<p>Connector 1-10kΩ variable resistor 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>Voltage Control</p> 	<p>Use voltage source supply 0~10V_{DC} voltage DC+ : connect to (0-10V)(+) DC - : connect to GND (-)</p>
<p>PWM Control</p> 	<p>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 °</p>

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. Cable: 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 control <table border="1" data-bbox="464 645 1321 882"> <thead> <tr> <th colspan="4">The speed comparison will control level</th> </tr> <tr> <th>Voltage (V)</th> <th>PWM (%)</th> <th colspan="2">Speed (RPM)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td colspan="2">0</td> </tr> <tr> <td>1.5</td> <td>15</td> <td colspan="2">200 ± 50 RPM</td> </tr> <tr> <td>6.0</td> <td>60</td> <td colspan="2">760 ± 8%</td> </tr> <tr> <td>9.5</td> <td>95</td> <td colspan="2">1200± 5%</td> </tr> </tbody> </table>			The speed comparison will control level				Voltage (V)	PWM (%)	Speed (RPM)		0	0	0		1.5	15	200 ± 50 RPM		6.0	60	760 ± 8%		9.5	95	1200± 5%
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0	0	0																								
1.5	15	200 ± 50 RPM																								
6.0	60	760 ± 8%																								
9.5	95	1200± 5%																								
Alarm state	NC and COM will OPEN																									



Control Voltage VS. RPM Curve



Voltage(VDC) , PWM duty (%) 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	%