



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



SPECIFICATION FOR APPROVAL

Customer:

Description: EC FAN

Customer P/N: REV:

Delta Model NO.: GTB040PUD27R Safety Model NO.: GTB040PUD27

Sample Rev: X05 Issue NO:

Sample Issue Date: Quantity:

1. SCOPE:

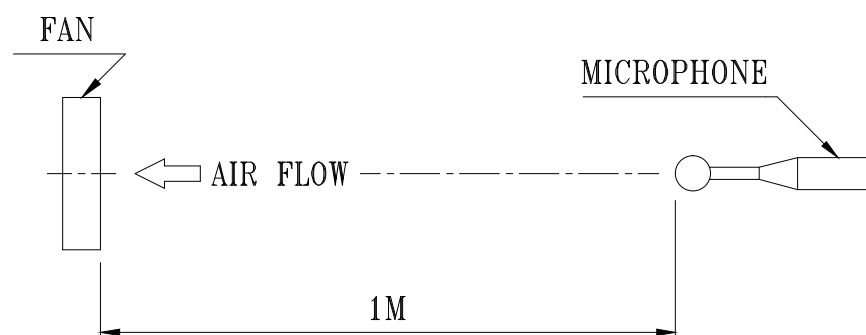
THIS SPECIFICATION DEFINES THE ELECTRICAL AND MECHANICAL CHARACTERISTICS OF THIS CENTRIFUGAL FAN.

2. NOMINAL DATA:

UNLESS SPECIFIED, ALL READINGS AND TESTS ARE BASED ON 25 DEG C, 65% RH.

ITEM	DESCRIPTION
NOMINAL VOLTAGE	3 ϕ 400 VAC 50/60Hz
NOMINAL VOLTAGE RANGE	3 ϕ 380 - 480 VAC
INPUT POWER @ FREE-AIR	690 W
INPUT POWER @ MAX. LOAD	1000 W
INPUT CURRENT (MAX)	1.75 A
SPEED	2140 R.P.M. (REF.)
MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	5270 (MIN. 4743) M ³ /H 3102 (MIN. 2792) CFM
MAX. AIR PRESSURE (AT ZERO AIR FLOW)	831.7 (MIN. 673.7) Pa 3.339 (MIN. 2.705) inchH ₂ O
ACOUSTICAL NOISE (AVG.) @ FREE-AIR	81.0 (MAX 86.0) dB(A)

- NOTES: 1. ALL READINGS ARE MEASURED AFTER STABLY WARMING UP THROUGH 10 MINUTES.
 2. THE VALUES WRITTEN IN PARENS , (), ARE LIMITED SPEC.
 3. ACOUSTICAL NOISE MEASURING CONDITION:



NOISE IS MEASURED AT NOMINAL VOLTAGE IN FREE AIR IN ANECHOIC CHAMBER WITH B & K SOUND LEVEL METER WITH MICROPHONE AT A DISTANCE OF ONE METER FROM THE FAN INTAKE.

PART NO:

DELTA MODEL: GTB040PUD27R

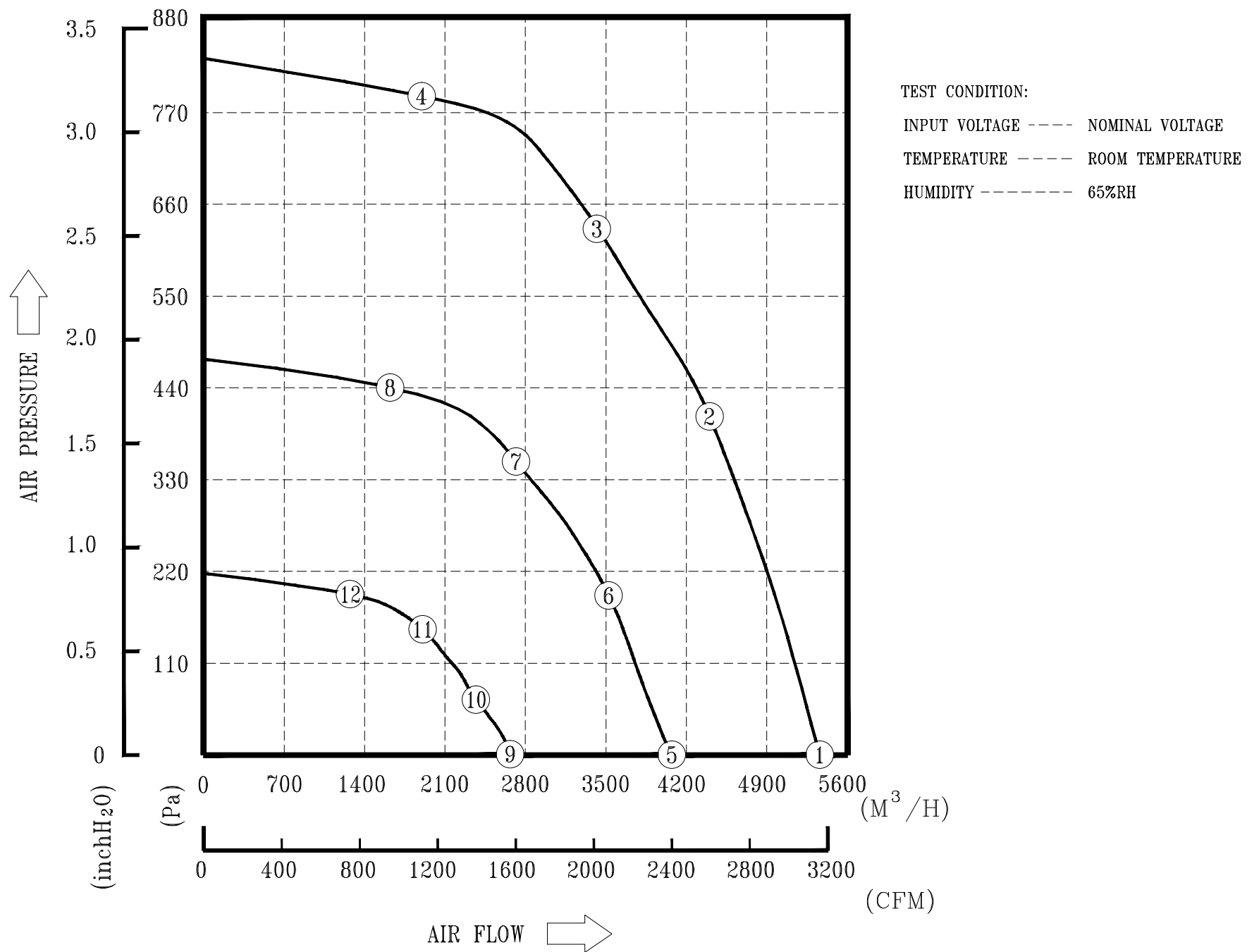
3. FEATURES:

DIRECTION OF ROTATION	CLOCKWISE, SEEN ON ROTOR
BEARING SYSTEM	BALL BEARINGS
WEIGHT	10.5 K.G. (REF.)
MATERIAL OF ELECTRONICS HOUSING	DIE-CAST ALUMINUM
MATERIAL OF IMPELLER	ALUMINUM SHEET
ELECTRICAL LEADS	VIA TERMINAL BLOCK
MOTOR PROTECTION	OVER TEMPERATURE PROTECTED
LEAKAGE CURRENT	≤ 3.5 mA
INSULATION CLASS	B
TYPE OF PROTECTION	IP54
PROTECTION CLASS	I
POWER FACTOR CORRECTION	PASSIVE
OPERATING TEMPERATURE	-25~+60 °C (REF.)
STORAGE TEMPERATURE	-40~+70 °C (REF.)
EMC	EN61000-6-2/3 , EN61000-3-2/3
SAFETY	UL , cUL , TUV
LIFE EXPECTANCE	* 60,000 HOURS CONTINUOUS OPERATION AT 40 °C WITH 15 ~ 65 %RH.
FUNCTIONS	- CONTROL INPUT 0-10VDC or PWM PATTERN or 4-20mA - OUTPUT +10VDC($\pm 10\%$), max. 10mA - CONTROL VOLTAGE OUTPUT, 0-10VDC - RS485 CONTROL BUS - ALARM RELAY, LOCKED ROTOR PROTECTION, SOFT START - SPEED TELLING, FREQUENCY GENERATOR SIGNAL - VOLTAGE/CURRENT MONITORING

PART NO:

DELTA MODEL: GTB040PUD27R

4. P & Q CURVE:



MEASURED DATA:

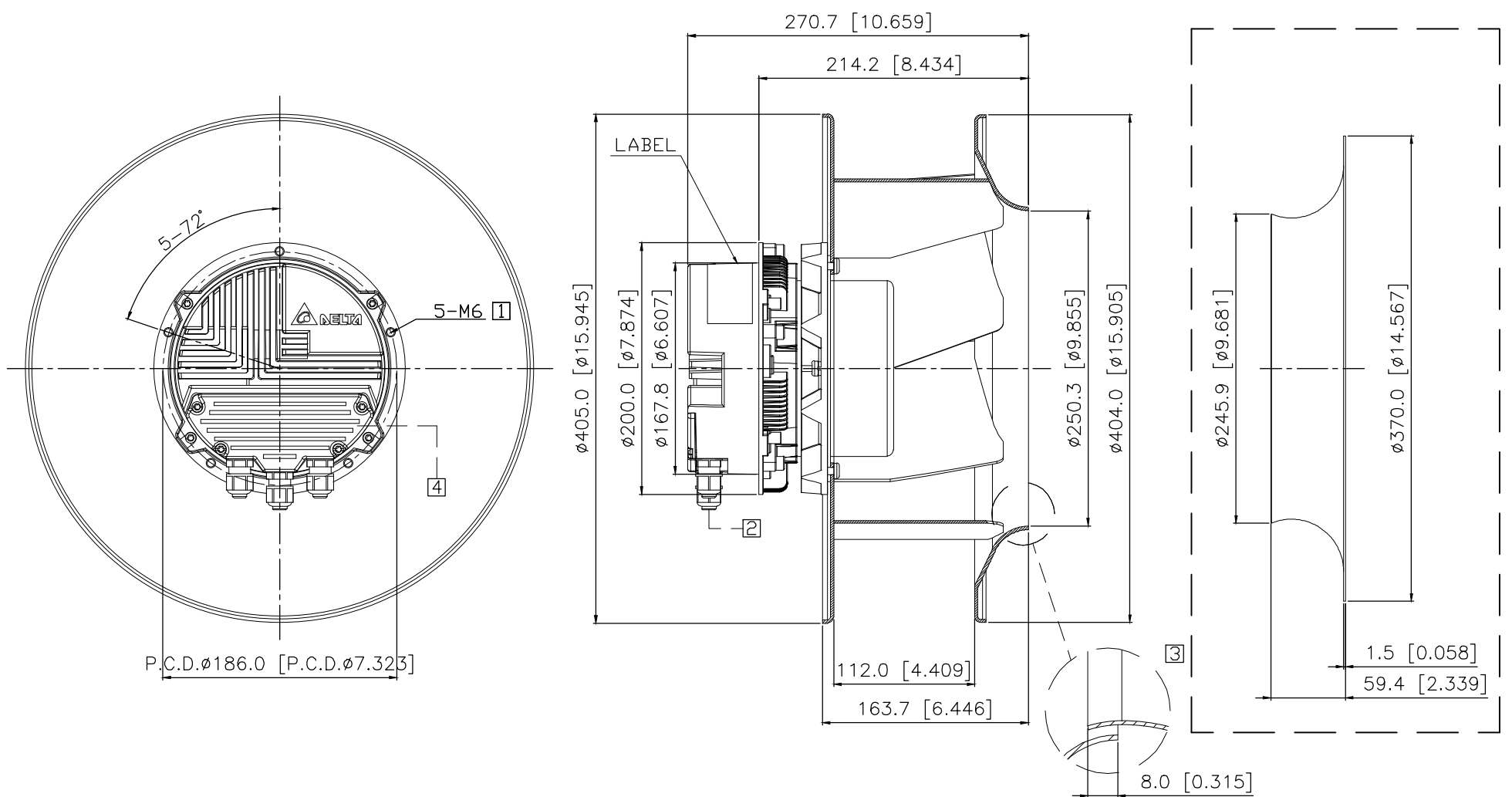
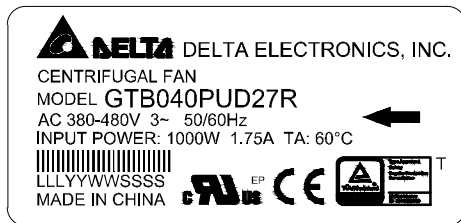
	P	Q	N	P1	I	Lp
	[Pa]	[M ³ /H]	[R.P.M.]	[W]	[A]	[dB(A)]
1	0	5270	2120	690	1.26	81.0
2	415.5	4371	2116	950	1.63	
3	626.2	3448	2114	1000	1.72	
4	786.0	2048	2119	910	1.56	
5	0	4045	1610	316	0.65	73.1
6	197.0	3514	1605	393	0.81	
7	344.0	2741	1605	440	0.86	
8	441.0	1942	1608	430	0.86	
9	0	2669	1071	101	0.26	64.3
10	78.4	2304	1065	126	0.31	
11	156.8	1852	1070	143	0.33	
12	195.0	1348	1070	141	0.33	

PART NO:

DELTA MODEL: GTB040PUD27R

5. DIMENSION DRAWING:

LABEL



UNIT: mm [INCH]

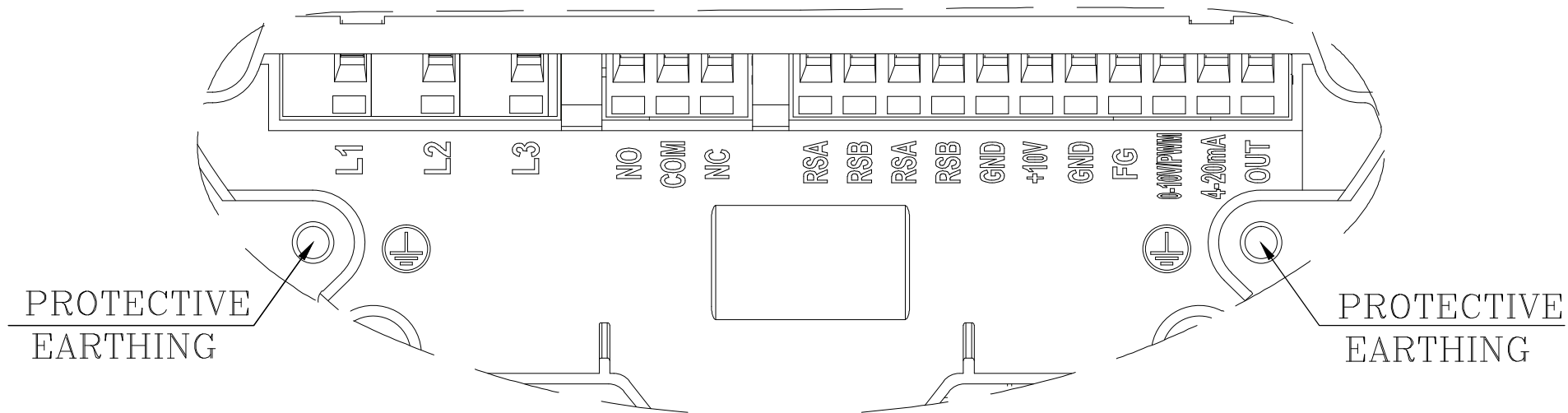
NOTE:

- ① DEPTH OF SCREW: 12~16mm.
- ② CABLE DIAMETER: $\phi 6.0 \sim \phi 10.0$ mm.
- ③ ACCESSORY: INLET NOZZLE, ALL THE PERFORMANCE DATA ARE MEASURED WITH IT.
- ④ OPEN THE COVER AND REFER TO DEFINITION OF TERMINAL BLOCK.
- ⑤ THIS PRODUCT IS RoHS COMPLIANT.

PART NO:

DELTA MODEL: GTB040PUD27R

6. DEFINITION OF TERMINAL BLOCK:



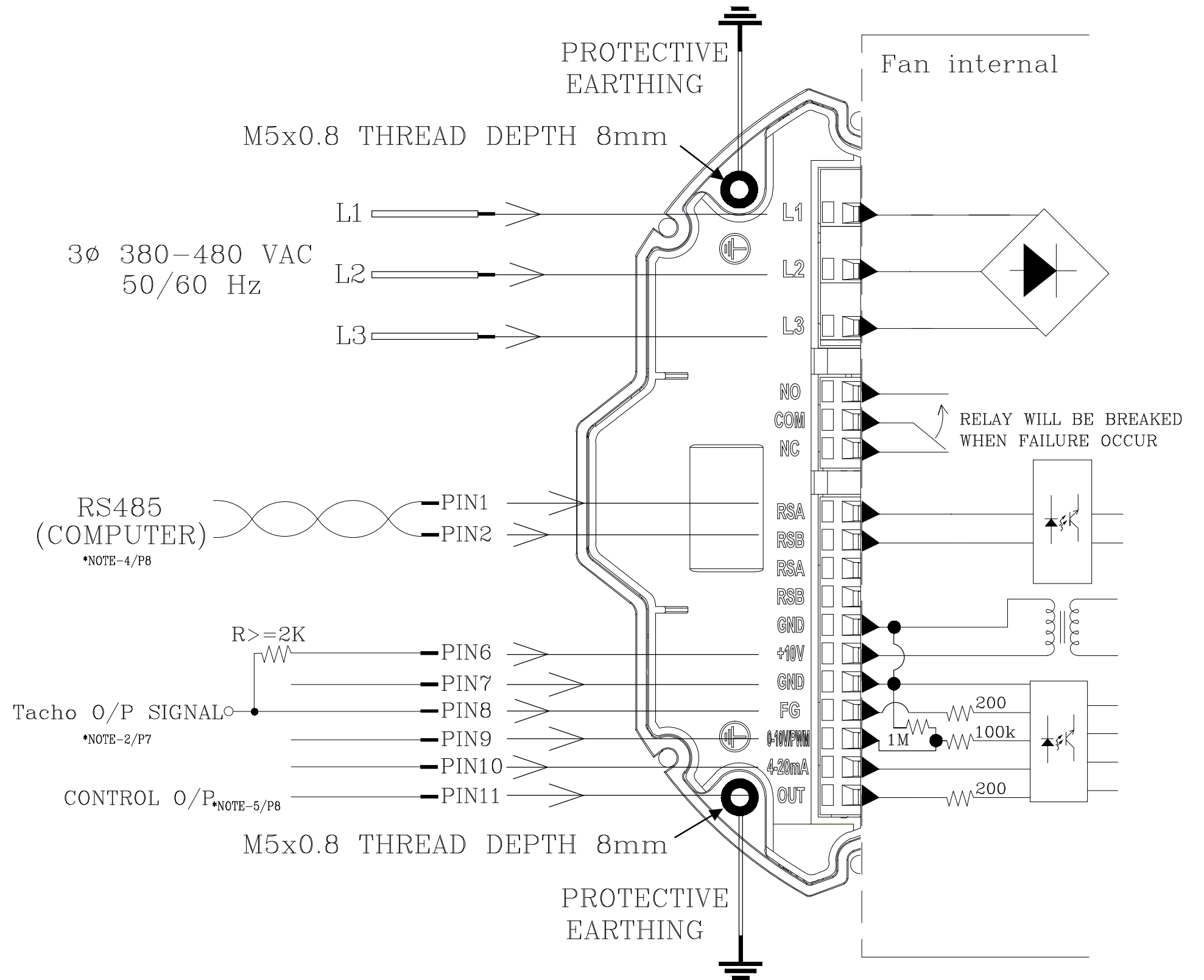
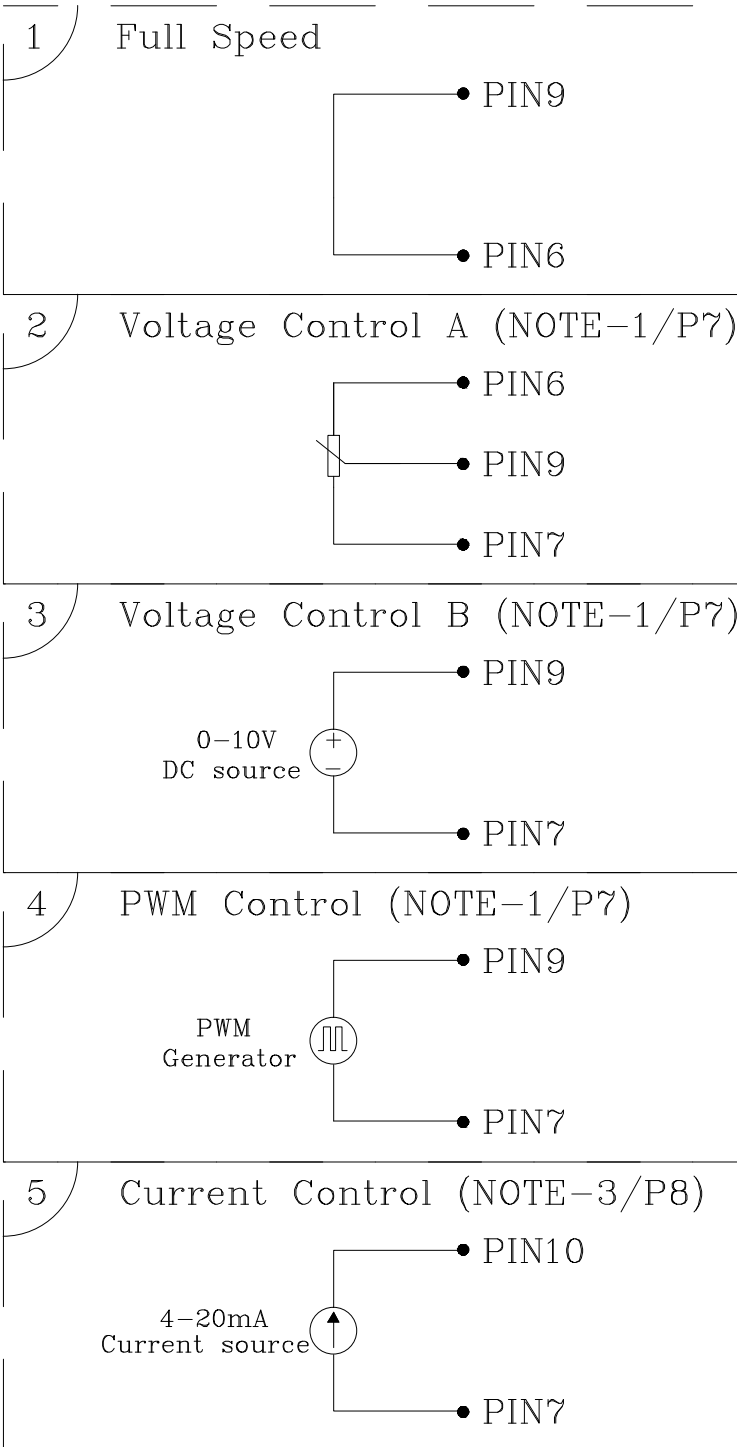
TEXT	FUNCTIONS
L1	AC MAINS
L2	AC MAINS
L3	AC MAINS
NO	ALARM RELAY, OPEN BY FAILURE
COM	ALARM RELAY, COMMON(2A/250VAC)
NC	ALARM RELAY, CLOSE BY FAILURE
RSA	RS485-A
RSB	RS485-B
RSA	RS485-A
RSB	RS485-B
GND	GROUND
+10V	+10V OUTPUT, MAX 10mA (FOR EXTERNAL POTENTIOMETER)
GND	GROUND
FG	FREQUENCY GENERATOR (FG) SIGNAL
0-10V/PWM	SPEED CONTROL, INPUT 0-10VDC
4-20mA	SPEED CONTROL, INPUT 4-20mA
OUT	CONTROL VOLTAGE OUTPUT 0-10VDC (FOR EXTERNAL POTENTIOMETER)

PART NO:

DELTA MODEL: GTB040PUD27R

7. LEAD WIRE CONNECTION:

SPEED CONTROL APPLICATION
(CHOOSE ONE TO USE)



PART NO:

DELTA MODEL: GTB040PUD27R

8. SPEED CONTROL SIGNAL: VOLTAGE CONTROL *NOTE-1

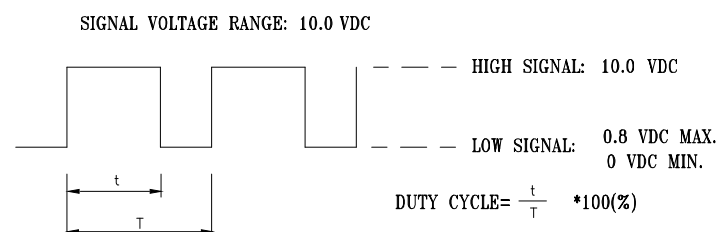
- THERE ARE TWO WAYS TO CONTROL SPEED AND MUST OPEN 4-20mA INPUT.

A. VOLTAGE CONTROL

- CONTROL VOLTAGE RANGE SHALL BE 0-10 VDC.
- VOLTAGE AT 10 VDC THE FAN WILL SPIN AT MAXIMUM SPEED.
- VOLTAGE HIGHER THAN 1.5 VDC, THE FAN WILL START UP.
- VOLTAGE LOWER THAN 0.5 VDC, THE FAN WILL STOP.

B. PWM CONTROL

- THE AMPLITUDE VOLTAGE SHALL BE 10VDC. (100Hz~100kHz)



- PWM DUTY HIGHER THAN 15 % , THE FAN WILL START UP.
- PWM DUTY LOWER THAN 5 % , THE FAN WILL STOP.

- THE SPEED COMPARISON WITH CONTROL LEVEL:

VOLTAGE(V)	PWM DUTY(%)	SPEED (R.P.M.) (REF.)
0.0	0	0
1.5	15	380
6.0	60	1420
9.5	95	2140

***NOTE-2: FREQUENCY GENERATOR (FG) SIGNAL**

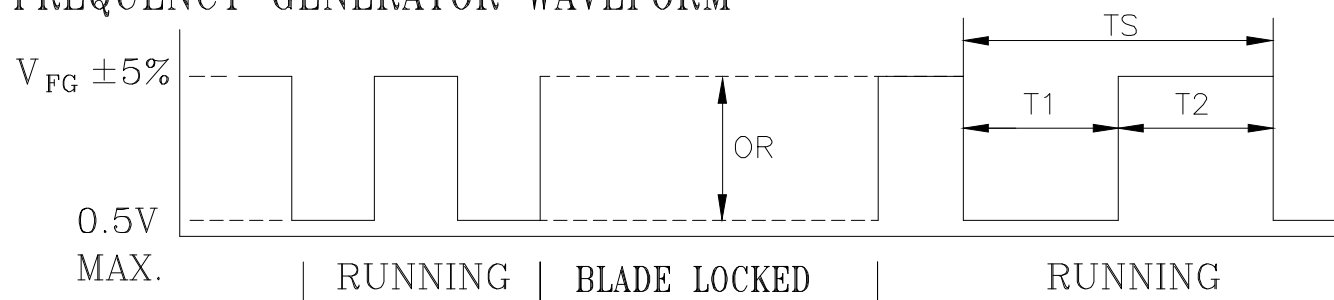
$V_{CE} (sat) = 0.7V \text{ MAX.}$

$V_{FG} = 30.0V \text{ MAX.}$

$I_c = 5mA \text{ MAX.}$

$R \geq V_{FG} / I_c$

FREQUENCY GENERATOR WAVEFORM



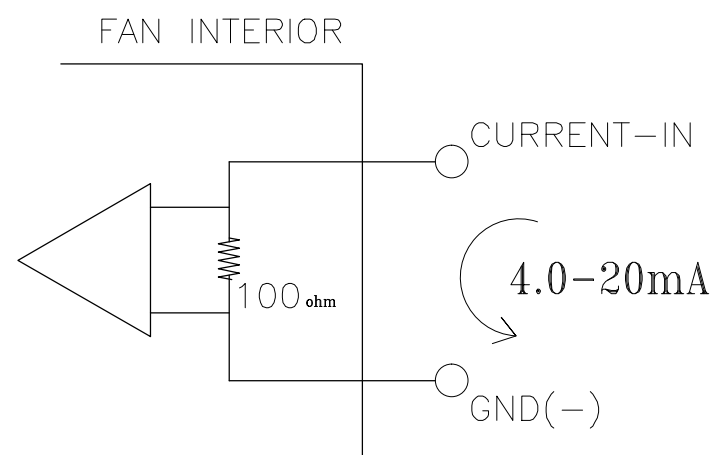
$N = \text{R.P.M}$	1 PULSE PER REVOLUTION
$T_S = 60/N(\text{SEC})$	$T_1 = T_2 = 1/2 T_S$

PART NO:

DELTA MODEL: GTB040PUD27R

9. SPEED CONTROL SIGNAL: CURRENT CONTROL *NOTE-3

- SPEED CAN BE CONTROLLED BY CURRENT LEVEL AND MUST OPEN 0-10V/PWM INPUT.
 - CONTROL VOLTAGE RANGE SHALL BE 4.0-20 mA.
 - CURRENT HIGHER THAN 19.5 mA, THE FAN WILL SPIN AT MAXIMUM SPEED.
 - CURRENT HIGHER THAN 6.0 mA, THE FAN WILL START UP.
 - CURRENT LOWER THAN 4.5 mA, THE FAN WILL STOP.



- THE SPEED COMPARISON WITH CONTROL LEVEL:

CURRENT(mA)	SPEED (R.P.M.) (REF.)
4.0	0
6.3	380
14.0	1450
19.5	2140

10. FUNCTION CONTROL: RS485 CONTROL

***NOTE-4: 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.

11. CONTROL O/P *NOTE-5

- THIS ANALOG SIGNAL LEVEL IS THE DERIVATIVE OF CURRENT CONTROL LEVEL.
- THE SIGNAL WILL BE 0-10 VDC.

CURRENT(mA)	CONTROL O/P(VDC) (REF.)
4.0	0
6.3	1.54
14.0	6.15
19.5	9.33

PART NO:

DELTA MODEL: GTB040PUD27R

12. CONTROL VOLTAGE(PWM DUTY) & SPEED CURVE:
(SPEED CONTROL PIN)

