

**SPECIFICATION FOR APPROVAL**  
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Customer:

Description:	EC FAN		
Customer P/N:		REV:	
Delta Model NO.:	GTW025FUC16	Safety Model NO.:	GTW025FUC16
Sample Rev:	01	Issue NO:	
Sample Issue Date:		Quantity:	

1. SCOPE:

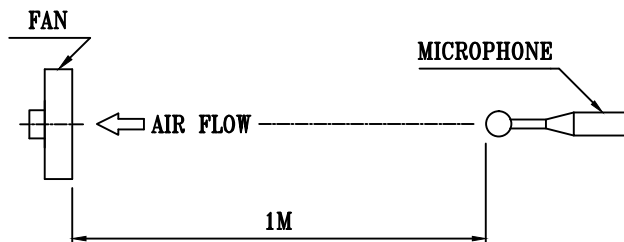
THIS SPECIFICATION DEFINES THE ELECTRICAL AND MECHANICAL CHARACTERISTICS OF THIS AXIAL FAN .

2. NOMINAL DATA:

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

ITEM	DESCRIPTION
NOMINAL VOLTAGE	1 $\phi$ 230 VAC 50/60Hz
NOMINAL VOLTAGE RANGE	1 $\phi$ 200 - 277 VAC
INPUT POWER @ FREE-AIR	288 W
INPUT POWER @ MAX. LOAD	360 W
INPUT CURRENT (MAX)	2.57 A
SPEED	3800 R.P.M. (REF.)
MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	1746 ( MIN. 1571) M <sup>3</sup> /H 1028 ( MIN. 925) CFM
MAX. AIR PRESSURE	392.4 ( MIN. 317.8) Pa 1.575 ( MIN. 1.276) inchH <sub>2</sub> O
ACOUSTICAL NOISE (AVG.) @ FREE-AIR	76.5 (MAX 81.5) 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.

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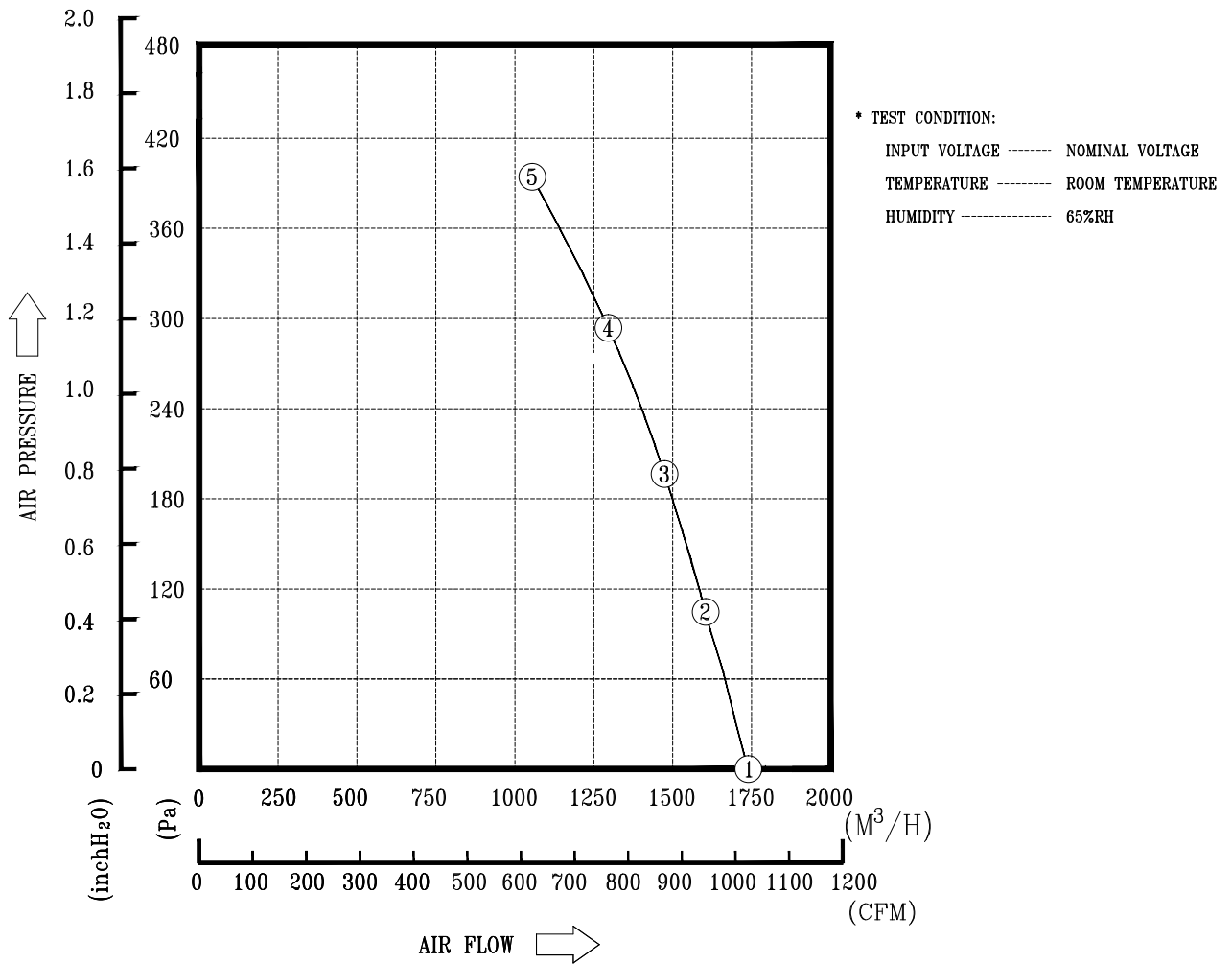
3. FEATURES:

DIRECTION OF ROTATION	<b>COUNTER-CLOCKWISE, SEEN ON ROTOR</b>
BEARING SYSTEM	BALL BEARINGS
WEIGHT	7.5 K.G. (REF.)
MATERIAL OF ELECTRONICS HOUSING	DIE-CAST ALUMINUM
MATERIAL OF IMPELLER	<b>PPE+PS+20%GF</b>
ELECTRICAL LEADS	LEAD WIRE
MOTOR PROTECTION	OVER TEMPERATURE PROTECTED
LEAKAGE CURRENT	<= 3.5 mA
INSULATION CLASS	B
TYPE OF PROTECTION	IP54
PROTECTION CLASS	I
POWER FACTOR CORRECTION	PASSTIVE
OPERATING TEMPERATURE	-25~+60 °C (REF.)
STORAGE TEMPERATURE	-40~+70 °C (REF.)
EMC	EN61000-6-1/3 , EN61000-3-2/3
SAFETY	<b>UL , cUL , TUV</b>
LIFE EXPECTANCE	* 60,000 HOURS CONTINOUS OPERATION AT 40 °C WITH 15 ~ 65 %RH.
FUNCTIONS	- <b>CONTROL INPUT 0-10VDC or PWM PATTERN</b> - <b>ALARM RELAY, LOCKED ROTOR PROTECTION, SOFT START</b> - OUTPUT FREQIEMNCY GENERATOR (FG) SIGNAL

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4. P & Q CURVE:



MEASURED DATA:

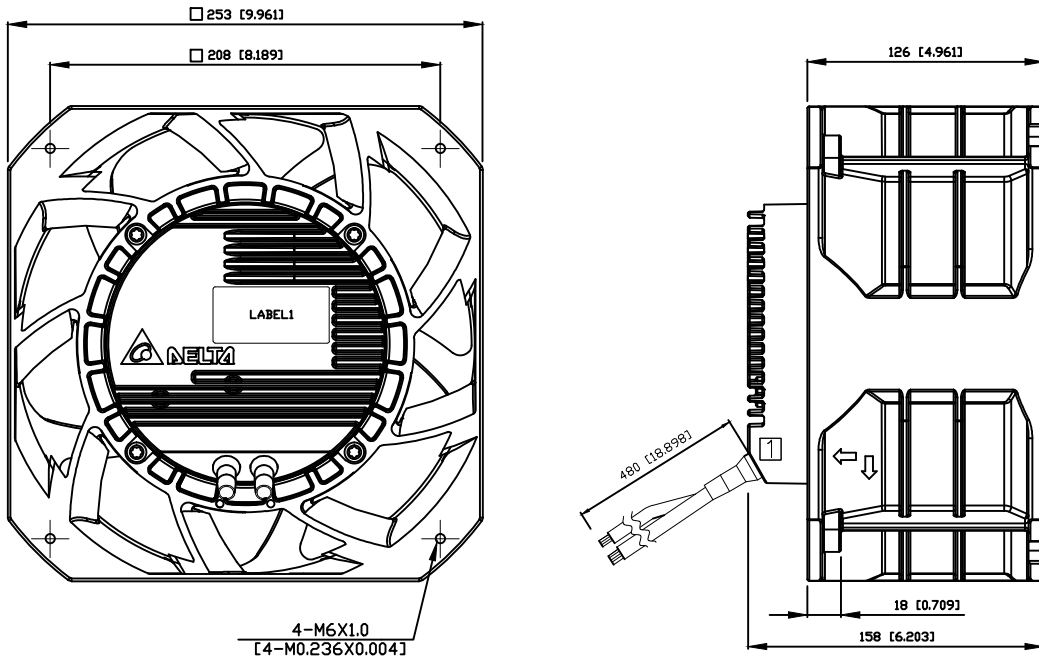
	P	Q	N	P1	I	Lp
	[Pa]	[M <sup>3</sup> /H]	[R.P.M.]	[W]	[A]	[dB(A)]
1	0	1746	3800	288	<b>1.93</b>	76.5
2	98.4	1617	3800	290	<b>1.99</b>	
3	194.2	1485	3800	314	<b>2.02</b>	
4	295.2	1309	3800	317	<b>2.10</b>	
5	392.4	1055	3800	310	<b>2.06</b>	

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5. DIMENSION DRAWING:

LABEL:



NOTE:

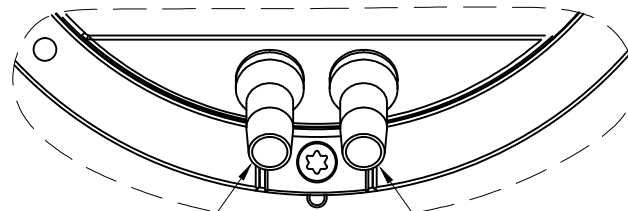
UNIT: mm [INCH]

1. CABLE DIAMETER:  $\phi 4.5 \sim \phi 7.5$ mm.
2. THIS PRODUCT IS RoHS COMPLIANT.

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6. DEFINITION OF CABLE:



CABLE 1

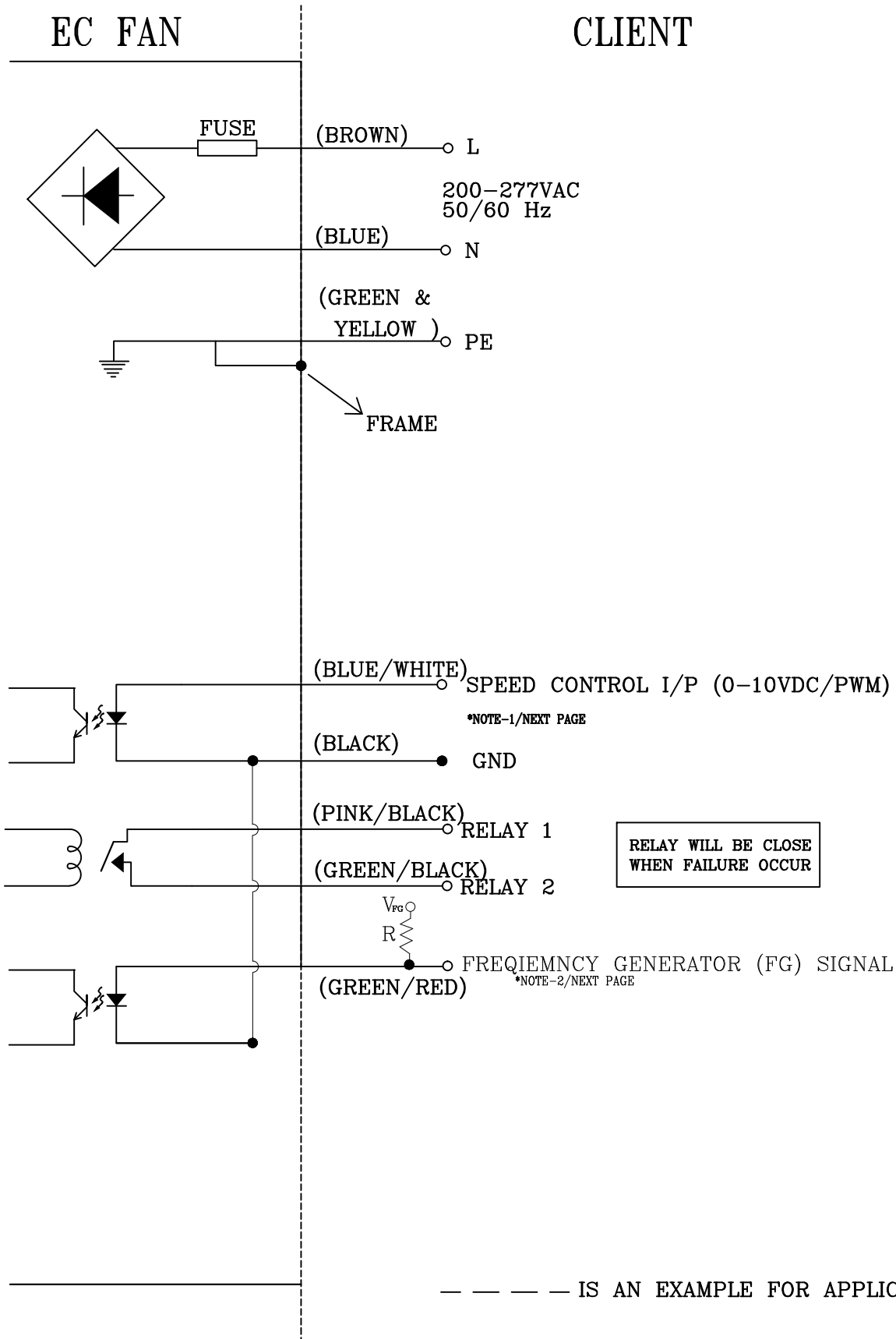
CABLE 2

CABLE	COLOR	FUNCTIONS
1	BROWN	L
1	BLUE	N
1	GREEN/YELLOW	EARTH
2	RED/PINK	-----
2	BLUE/WHITE	PWM
2	BLACK	GND
2	GREEN/RED	FREQUEMNCY GENERATOR SIGNAL (FG)
2	GREEN/WHITE	-----
2	PINK/BLACK	RELAY 1
2	GREEN/BLACK	RELAY 2

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7. LEAD WIRE CONNECTION:



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8. FUNCTION CONTROL: VOLTAGE CONTROL

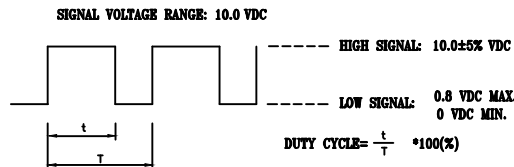
\*NOTE-1: SPEED CONTROL SIGNAL

A. VOLTAGE CONTROL

- CONTROL VOLTAGE RANGE SHALL BE 0-10 VDC.
- VOLTAGE AT 10VDC 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 BE INTO THE INITIAL MODE (900 RPM).

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 BE INTO THE INITIAL MODE (900 RPM).

- THE SPEED COMPARISON WITH CONTROL LEVEL:

VOLTAGE(V)	PWM DUTY(%)	SPEED (R.P.M.) (REF.)
0.0	0	900
9.5	95	3800

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

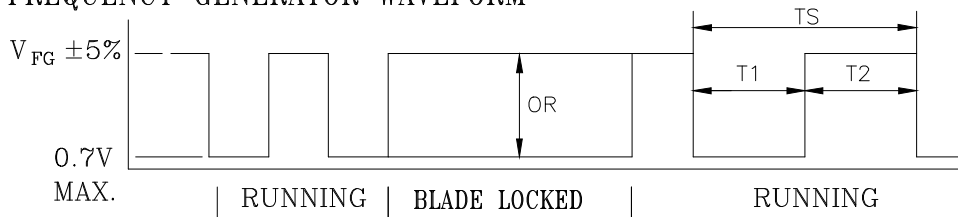
$V_{CE} \text{ (sat)} = 0.7V \text{ MAX.}$

$V_{FG} = 20.0V \text{ MAX.}$

$I_c = 2mA \text{ MAX.}$

$R \geq V_{FG} / I_c$

FREQUENCY GENERATOR WAVEFORM



$N = \text{R.P.M}$	1 PULSE PER REVOLUTION
$TS = 60/N(\text{SEC})$	$T1 = T2 = 1/2 TS$

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9. CONTROL LEVEL & SPEED CURVE:

