



Comair Rotron  
2675 Customhouse Court, San Diego, CA 92154  
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## GENERAL ENGINEERING AND APPLICATION INFORMATION FOR AC LINE OF FANS

### AC FANS

#### Material

Motor: Two-pole shaded pole induction motor  
Impeller: Thermoplastic in black color, rated UL94V-0  
Housing: Aluminum Alloy painted black  
Bearing system: Ball Bearing

#### Leads

Two pin terminal each .11 x 0.02 in.; pitch = .315 in.

#### Weight

Information listed on the individual data sheets

#### Electrical

Rated voltage: 115VAC or 230VAC as specified individual datasheets  
Tolerances: +/- 10% for Speed and Current  
Dielectric Strength: Sustained 1800VAC for two seconds per 500 microamps maximum leakage  
Insulation Resistance: IEEE 130 temperature index  
Protection: Lock rotor protected

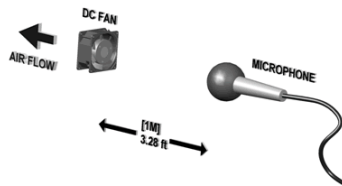
#### Environmental

(Under the following conditions stated below, the devices shall have no change in appearance, physical dimensions or functionality)  
**Operating Temperature:** -10° C to +70° C  
**Storage Temperature:** -20° C to +75° C  
**Acoustics:** Devices shall have a maximum noise level as specified in the datasheets  
**Life Expectancy:** While operating at 25° C, the fans shall have a life expectancy of 50,000 hours

#### Methods of Determining Performance Characteristics

**Power Input and Speed:** Measured after 30 minutes of continuous operation at rated voltage in free air at 25° C

**Noise:** Measured in a semi-anechoic chamber with background noise level below 18 +/- 1 dBA



**Airflow:** Measured by a double chamber. The values are recorded when the fan speed is stabilized at rated voltage and zero static pressure

#### Safety Approvals

All Gryphon AC fans are approved and certified by UL/cUL, TUV, and CE

AC APPLICATION NOTES



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## GENERAL ENGINEERING AND APPLICATION INFORMATION FOR DC LINE OF FANS

### DC FANS

#### **Material**

Motor: Brushless DC with permanent magnet motor  
Impeller: Thermoplastic in black color, rated UL94V-0  
Housing: Thermoplastic in black color, rated UL94V-0  
Bearing system: Ball Bearing

#### **Leads**

UL type, certified for use at rated temperature and voltage; color scheme (+) Red, (-) Black

#### **Weight**

Information listed on the individual data sheets

#### **Electrical**

Rated voltage and power input are stated in individual datasheets  
Tolerances: Speed +/- 10%; Current 20%  
Dielectric Strength: Sustained 1500VAC, 1mA for one second between housing and lead wire (+)  
Insulation Resistance: Measured more than 500M Ohm between internal stator and lead wire (+),  
measured by 500VDC  
Protection: Polarity protected

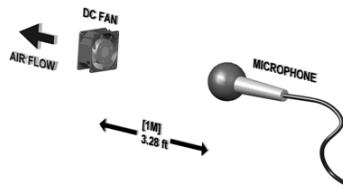
#### **Environmental**

(Under the following conditions stated below, the devices shall have no change in appearance, physical dimensions or functionality)  
**Operating Temperature:** -10° C to +70° C  
**Storage Temperature:** -40° C to +80° C  
**Acoustics:** Devices shall have a maximum noise level as specified in the datasheets  
**Life Expectancy:** While operating at 25° C, the fans shall have a life expectancy of 50,000 hours

#### **Methods of Determining Performance Characteristics**

**Power Input and Speed:** Measured after 30 minutes of continuous operation at rated voltage in free air at 25° C

**Noise:** Measured in a semi-anechoic chamber with background noise level below 18 +/- 1 dBA



**Airflow:** Measured by a double chamber. The values are recorded when the fan speed is stabilized at rated voltage and zero static pressure

#### **Safety Approvals**

All Gryphon DC fans are approved and certified by UL/cUL, TUV, and CE

DC APPLICATION NOTES



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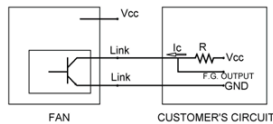
## GENERAL ENGINEERING AND APPLICATION INFORMATION FOR DC LINE OF FANS

### DC FANS (cont.)

#### Tachometer Signal Output

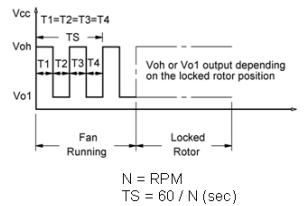
Function: The use of the third wire built-in with Gryphon DC fans creates a square-wave signal which provides a precise method of measuring the fan's rotational speed. The tachometer allows your host system to know the speed and health of your fan at any time during normal operation. The tachometer wire is colored white.

#### OUTPUT CIRCUIT



$V_{cc} = +28$  VDC max.  
 $I_c = 5$  mA max.  
 $R = V/I$  (Output "R" value calculation)

#### OUTPUT WAVE FORM



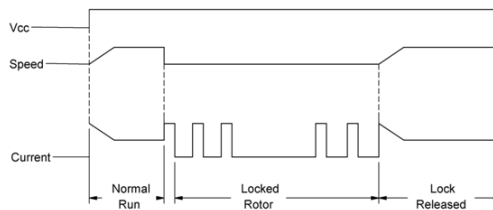
#### OUTPUT LEVEL

$V_{oh} = V_{cc} \pm 10\%$   
 $V_{ol} = 0 \sim 0.6$  V  
 $I_c = 5$  mA max.

#### Auto-Restart

Function: If the propeller is physically jammed while the fan unit is powered, the current will instantly drop to its minimum which will prevent motor coils from overheating. A pulse input will be generated to restart the rotor in seconds. The restart function allows operation to resume to normal after an obstruction has been removed, otherwise the current will drop again.

#### OUTPUT WAVE FORM



DC APPLICATION NOTES