# Galaxy (DC Fan)

COMAIR ROTRON PART NUMBER: **039031**
COMAIR ROTRON MODEL NUMBER: **GL24B7-E2**

| MOTOR	
Rated Voltage:	24
Operating Voltage Range:	12 - 28
Running Current: 50Hz | 60Hz (amps)	|
Locked Rotor Current: (amps)	1.35
Rated Power: 50Hz | 60Hz (watts)	|
Nominal Speed: 50Hz | 60Hz (rpm)	|

MECHANICAL	
Dimensions:	127mm x 38mm (5.0in x 1.50in)
Bearing Type:	Ball
Motor Base:	Metal
Propeller:	Polycarbonate
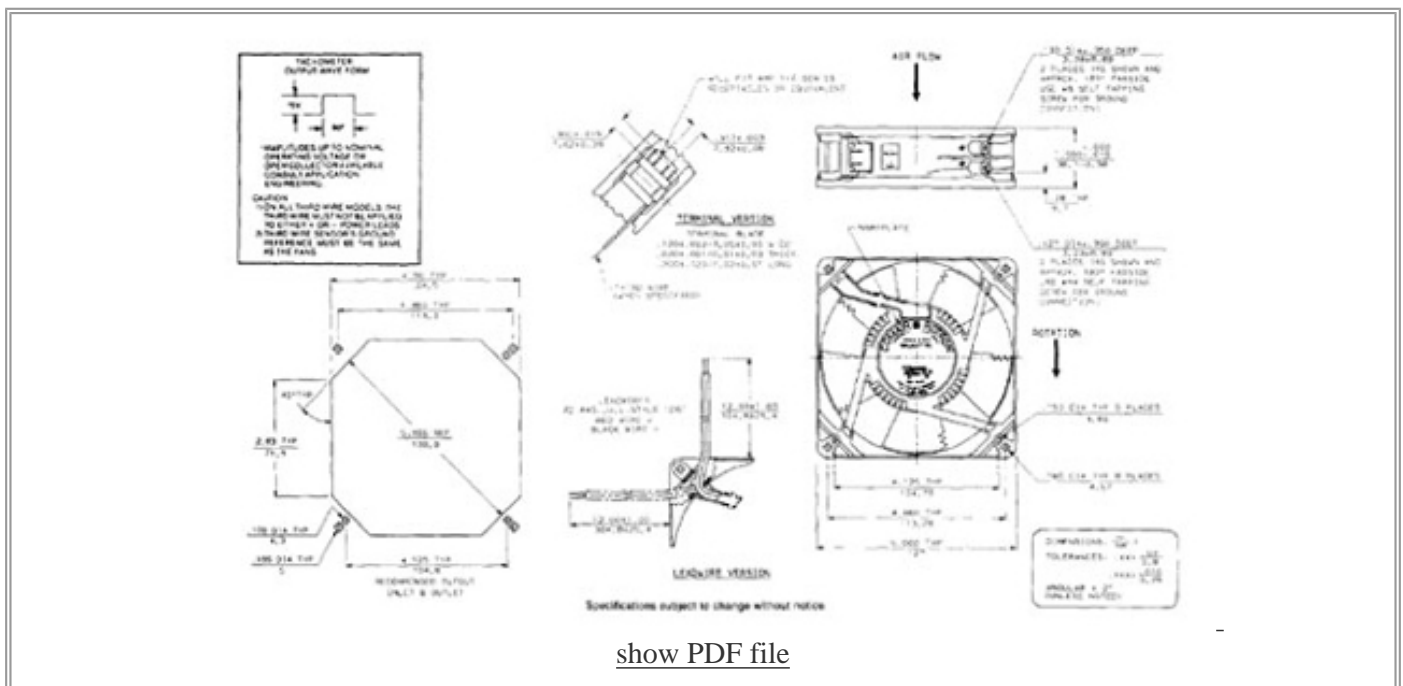
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NOTES

5 Volt TTL Tachometer Output - Two Pulses per Revolution, Environmentally Protected - Type 2

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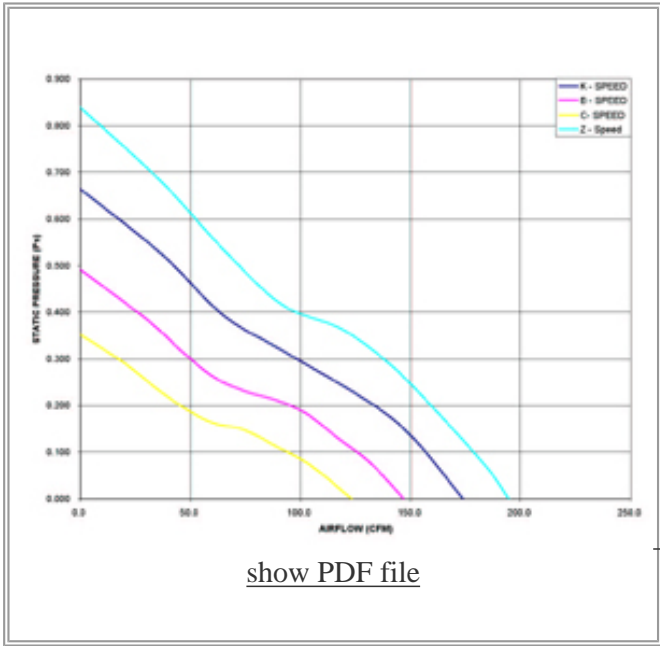
PERFORMANCE CHARACTERISTICS

Air Flow: (CFM)	150
Static Pressure:	.492

TERMINATION

Leadwires:	12" Leadwires

SAFETY

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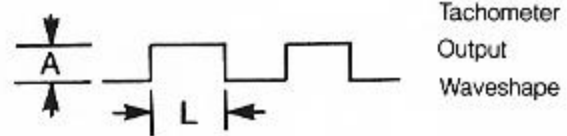
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Tachometer Output Option

For Speed And Fan Failure Sensing In DC Fans And Blowers

Brushless DC airmovers use a commutating sensing circuit for motor operation. An additional Hall Device may be added to the PC board from which digital pulses can be derived and supplied to the design engineer via a third lead referenced to ground. This will allow direct pulse to speed relationships to be derived. These digital pulses can then be conditioned to provide alarms for fan failures such as lights, buzzers, etc.

ISOLATED OR NON-ISOLATED

The standard tachometer output is offered with non-isolated circuitry. The non-isolated tachometer output fan has three leadwires. The power for the tachometer circuit is derived internally from the motor circuit. (See Diagram #1) The isolated tachometer output fan has 5 leadwires. The tachometer circuit is powered separately and therefore isolated from the motor circuit. (See Diagram #2)

Each output is designed around a Hall Device which generates a square-wave output. This output signal must then be conditioned externally by the customer's electronic circuitry to yield a discrete pass or fail signal. The non-isolated tachometer output must be used with the same ground reference as the fan.

NON-ISOLATED TACHOMETER OUTPUT

ISOLATED TACHOMETER OUTPUT

I_S = The sink capability of the collector of the hall cell = 15 mA maximum. R_1 and Z_1 are added to Tachometer Output fans to produce a fixed amplitude of V_{OUT}.

NOTE: 5V tach out $\rightarrow R_1$ = 10K
Open Collector $\rightarrow$ Omit R_1 and Z_1

Tachometer
Output
Waveshape

A = Amplitude of Tachometer Output. Fixed amplitude of Tachometer Output, available at any voltage up to input voltage for fan. Contact Comair Rotron Application Engineering Department.
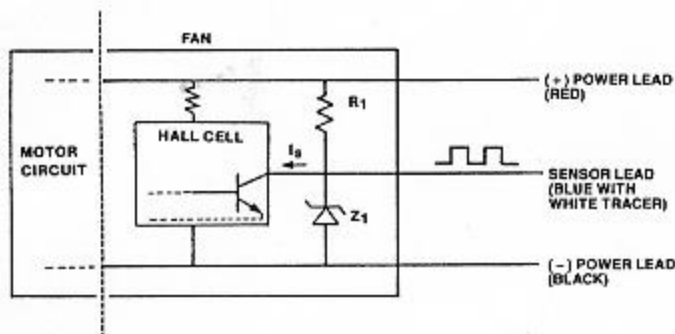
$$L \text{ [ms]} = \left(\frac{60,000 \text{ ms}}{\text{RPM of fan}} \right) \Big/ 2 \times (\text{Pulses per Revolution})$$
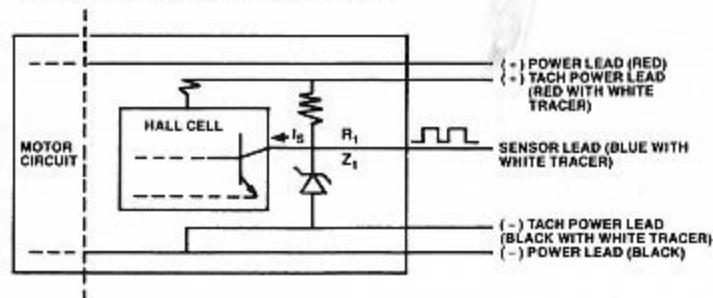
DC TACHOMETER OUTPUT

Model	Sensor Circuit Isolation		Output			
	Isolated	Non-Isolated	Open Collector	T.T.L. Compatible (5V Amplitude)	Fixed Voltage	Pulses Per Revolution
Sprint DC	N/A	S	O	S	O	2
Sprite DC	O	S	O	S	O	1
Muffin DC	N/A	S	O	S	O	2
Whisper XL-DC	O	S	O	S	O	1
Muffin XL-DC	O	S	O	S	O	1
Major DC	O	S	O	S	O	2
Patriot DC	O	S	O	S	O	2
Biscuit DC	N/A	S	O	S	O	2
Spinnaker DC	O	S	O	S	O	2
Flight II DC	N/A	S	S	O	O	2
Viking DC	O	S	O	S	O	1
Galaxy DC	N/A	S	O	S	O	2
Whiffet DC	N/A	S	O	S	O	2

S = Standard   O = Optional   N/A = Not Available

Caution:

On all Tachometer models, the output wire must not be applied to either + or − power leads.