



Approval Specification for Cofan Part # 30-1135-01 Rev 01

60x50x23mm Fan Heatsink

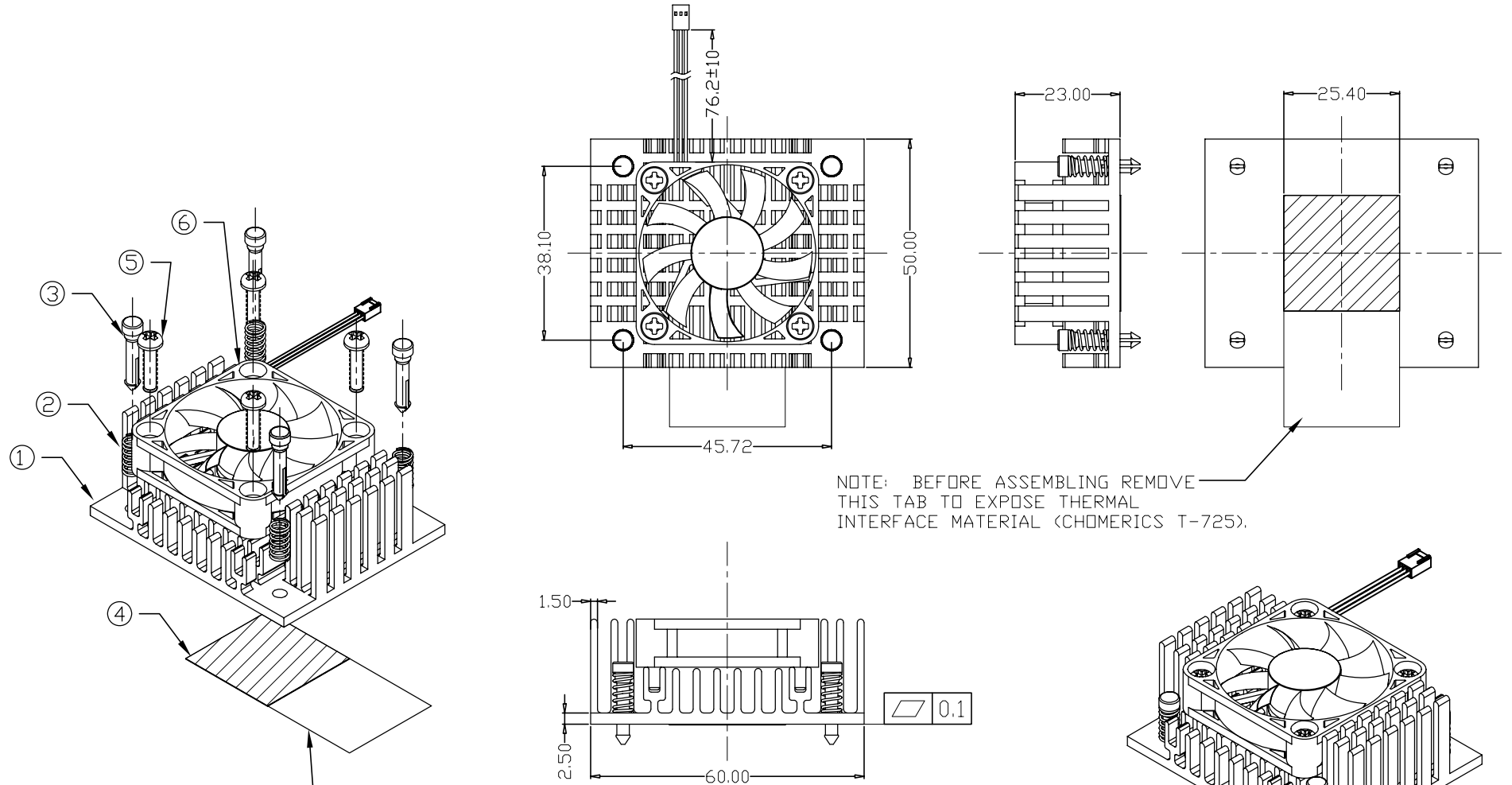
Revision Date: June-6-06

Cofan USA, 46177 Warm Springs Blvd, Fremont, CA 94539, [www.cofan-usa.com](http://www.cofan-usa.com) , (800) 766-6097

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TO PLACE ORDER FOR THIS COMPLETE ASSY USE COFAN PART # 30-1135-01 Rev 01

REVISION HISTORY					
REV	DESCRIPTION	DRWN	CHK'D	APPVD	DATE
—	— SEE SHEET 1 —	—	—	—	—



NOTE: BEFORE ASSEMBLING REMOVE THIS TAB TO EXPOSE THERMAL INTERFACE MATERIAL (CHOMERICS T-725).

NOTE: BEFORE ASSEMBLING REMOVE THIS TAB TO EXPOSE THERMAL INTERFACE MATERIAL (CHOMERICS T-725).

RoHS  
 Compliant  
 2002/95/EC

⑥	FAN	F-4010L05BII-01 Rev 01, 3K RPM, 5V, 2 Ball, Tach		
⑤	FAN SCREW	60-1035	STEEL	ZINC PLATE
④	THERMAL PAD	70-1008	T725	N/A
③	BRASS PIN	50-1016 Rev 01	BRASS	PASSIVATE
②	SPRING	50-1008 Rev 01	SPRING STEEL	NICKLE PLATE
①	HEAT SINK	20-1310 Rev 01	AL6063-T5	BLACK ANODIZE
Item	ITEM NAME	PART #	MATERIAL	PLATING

DO NOT SCALE DRAWING  
 UNLESS OTHERWISE SPECIFIED  
 DIMENSIONS ARE IN MILLIMETRE  
 TOLERANCES ARE:

1 PLACE .X	± 0.4
2 PLACE .XX	± 0.25
3 PLACE .XXX	± 0.13
ANGLES EXCEPT 90°	± 0.5°
MAXIMUM SURFACE ROUGHNESS	6.3√

MATERIAL:	N/A	CUSTOMER DRAWING NUMBER:	COFAN USA 1400 FULTON PL. UNIT A FREMONT CA 94539		
FINISH:	N/A	CUSTOMER PART NUMBER:	NAME: CPU HEAT SINK ASSY		
DRAWN BY:	Bob.G	COFAN DRAWING NUMBER:	SCALE:	CUS REV:	COF REV:
APPR BY:		30-1135-01	1:1	--	01
		COFAN PART NUMBER:	SHEET:	DATE DRAWN:	
		30-1135-01	1 OF 1	June-6-2006	



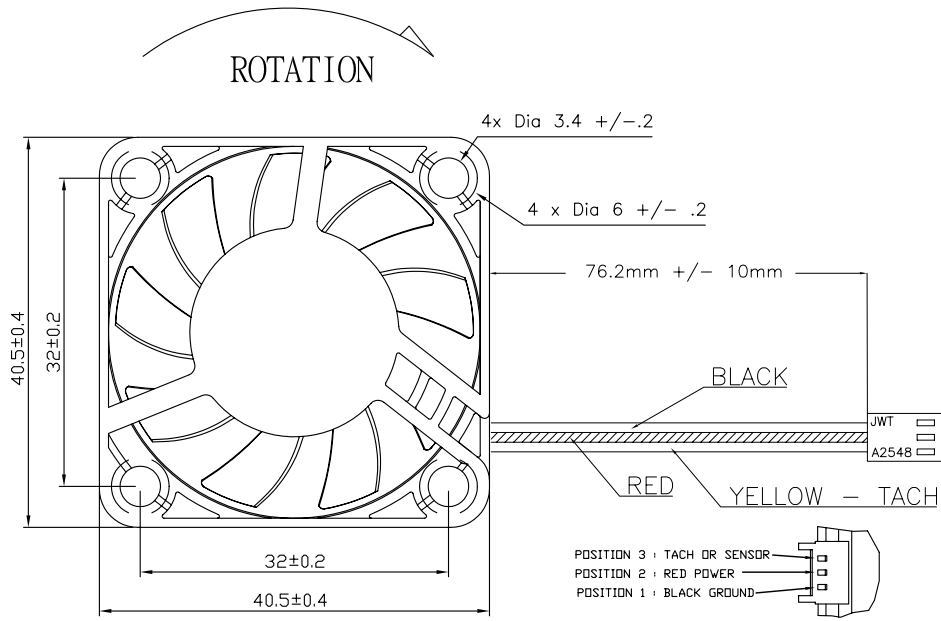
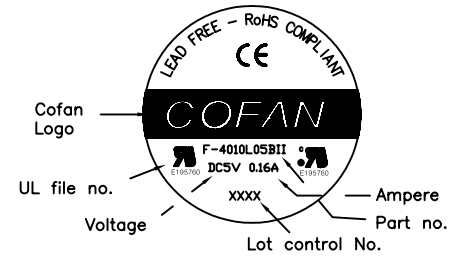
## Approval Specification for Cofan Part # F-4010L05BII-01 Rev 01

2 Ball Bearing, 40x10.5mm, 5VDC, 3 Wire, 3000 RPM, 9 Blade, 14.8 dBA,  
RoHS Compliant

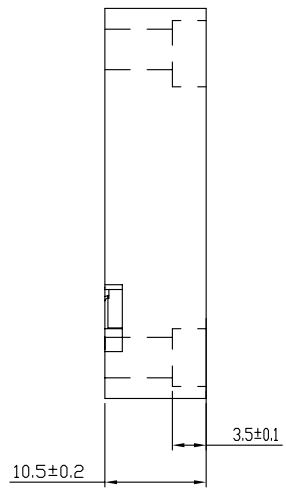
Revision Date: June 6, 2006

Cofan USA, 46177 Warm Springs Blvd, Fremont, CA 94539 [www.cofan-usa.com](http://www.cofan-usa.com) (800) 766-6097

TO ORDER FAN PER THIS DRAWING USE COFAN PART # F-4010L05BII-01 Rev 01  
 CALL (800) 766-6097 TO PLACE ORDER OR EMAIL TO:ben@cofan-usa.com  
 www.cofan-usa.com



AIR FLOW



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PARTS LIST	
①	1X FAN, F-4010L05BII, 3000 RPM
②	1X MOLEX HOUSING 22-01-3037 OR EQUIV. 3X MOLEX TERMINAL 08-50-0113 OR EQUIV.

Note:

1. MTBF to be 100K+ Hrs (2 Ball Bearing)
2. Fan to have 9 blades
3. Fan to be 3,000 RPM
4. Fan to be RoHS Compliant

RoHS  
Compliant  
2002/95/EC

UL# E195760  
 CUL# E195760  
 TUV# B 04 03 52557 002  
 CE# EN5008-1

MODEL NO	RATED VOLTAGE	OPERATING VOLTAGE	RATED CURRENT	ACTUAL CURRENT	RATED POWER	RATED SPEED	MAX AIR FLOW @ 3000 RPM		MAX PRESSURE @ 3000 RPM		NOISE LEVEL
	V	V	A	A	W	RPM	CMM	CFM	mmH <sub>2</sub> O	InH <sub>2</sub> O	
F-4010L05BII	5	4.5~6.0	0.16	0.06	0.80	3000	0.115	4.06	0.79	0.031	14.8

DO NOT SCALE DRAWING		DRAWING NUMBER: F-4010L05BII-01		COFAN USA 1400 Fulton Place Fremont CA 94589	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETRE TOLERANCES ARE:		MATERIAL:		Fan, 40 x 10mm, Cofan Model F-4010L05BII, 5V, 3K RPM, RoHS 3 Wire, Tach, 2 Ball Bearing	
1 PLACE .X	± 0.4	FINISH:		DRAWN BY: DAN	
2 PLACE .XX	± 0.25	COFAN PART NUMBER: F-4010L05BII-01		REV: 01	
3 PLACE .XXX	± 0.13	ENGINEER:		SHEET:	
ANGLES EXCEPT 90°	± 1°	DATE DRAWN: June-6-06		SCALE: 1 : 1	
MAXIMUM SURFACE ROUGHNESS	125√				

8 7 6 5 4 3 2 1

**Cofan USA**  
**46177 Warm Springs Blvd**  
**Fremont, CA 94539**  
**USA**

**TEL: (800) 766-6097**  
**FAX: (510) 490-7931**  
**www.cofan-usa.com**

## SPECIFICATION FOR APPROVAL

**Rev 01**

### 1. SCOPE:

This specification defines the electrical and mechanical characteristics of the following DC brushless axial flow fan:

Item		Description	
1-1	Part Number	F-4010L05BII-01 Rev 01	
1-2	Outline Dimensions	40 x 40 x 10.5 mm (see dimensions drawing #7)	
1-3	Bearing System	2 Ball Bearing	
1-4	Rated Voltage	5 VDC	
1-5	Operating Voltage	4.5 ~ 6.0 VDC	
1-6	Input Current	0.16A (.06A in running conditions)	
1-7	Input Power	0.80 W	
1-8	Speed	3000 R.P.M. +/- 10%	a. 25°C, 65% RH, b. Free Air c. Rated Voltage
1-9	Max. Air Flow (At zero static pressure)	4.06 CFM	a. Rated Voltage b. AMCA Standard
1-10	Max. Air Pressure (At zero airflow)	0.031 InH <sub>2</sub> O	c. Rated Current
1-11	Acoustical Noise (Avg)	14.8 dBA	a. Rated Voltage b. Measured in a Non-Echo Chamber c. CNS 8753 Standard d. ISO 3744 Test Condition
1-12	Life Expectance	81,229 hours 50,077 hours	a. Continuous operation @ 25°C b. Continuous operation @ 45°C
1-13	Insulation Type	UL: Class A	
1-14	Weight	11 Grams	
1-15	Rotation	Clockwise from label side	

## 2. Major Material

Materials / Parts	Specification	Remarks
Plastic Material	Frame: PBT70% + FIBER30%	UL: 94V-0
	Impeller: PBT85% + FIBER15%	UL: 94V-0
Lead Wire	(+) Red; (-) Black; (Signal) Yellow; AWG#28(3Pin) Standard wire length is 200mm, custom lengths are available at no extra charge.	UL: 1007-F
Connector	See Drawing	

## 3. Electrical Characteristics & Test Environmental:

Item	Specification / Condition
3-1	Operation Temperature -10°C ~ +70°C
3-2	Storage Temperature -40°C ~ +75°C
3-3	Operating Humidity 5 to 90% RH
3-4	Storage Humidity 5 to 95% RH
3-5	Locked Rotor Protection <ul style="list-style-type: none"> <li>a. The current will shut down when rotation is locked</li> <li>b. Automatic restart after a continuous 72 hours rotation lock at rated voltage.</li> <li>c. Impedance of motor winding protects motor from fire after 72 hours of locked rotor condition at the rated voltage.</li> <li>d. Signal Alarm- Optional</li> </ul>
3-6	Insulation Strength 10Meg Ohm min at 500VDC Between Frame and (+) terminal
3-7	Dielectric Strength Withstand 5 mA Max 500 VAC 60 Hz for one minute, (between frame and (+) terminal)
3-8	Vibration Test Vibration test in rest status, scan frequency : 5~55Hz 1OCT/Min. in the 3 directions(X.Y.Z), take 16 rotating scan for each axis.
3-9	Shock Test Test of acceleration 30G is applied in the 3 directions (X.Y.Z) and 6 faces, take 11± 1ms(Half Chord Wave), 3 times for each face.
3-10	Noise Level Measured in a semi-anechoic chamber. The fan is running in free air with Microphone at a distance of one meter from the fan intake.
3-11	Tolerance ±10% on rated power and current.
3-12	Polarity Protection Capable of withstanding reverse polarity connection

#### 4. Safety Approvals

Safety Approvals	File No.
UL	E195760
CUL	E195760
TUV	B 04 03 52557 002
CE	EN5008-1

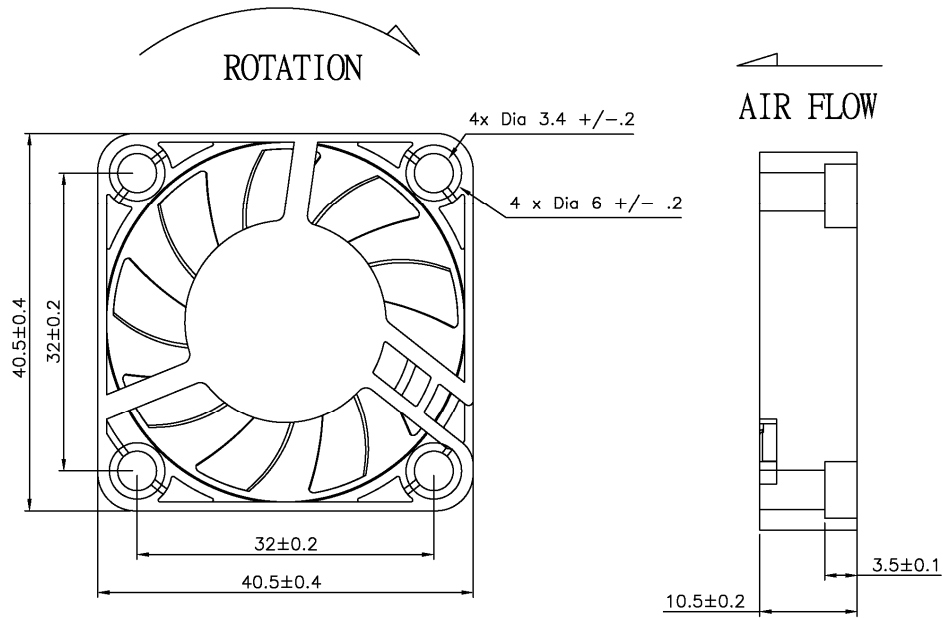
#### 5. Ozone Depleting Substances

5-1. None of our products or manufacturing processes contain or require the use of ozone-depleting chemicals such as PBB's, PBBO's, CFC's, PBBE's, PBDPE's or HCFC's.

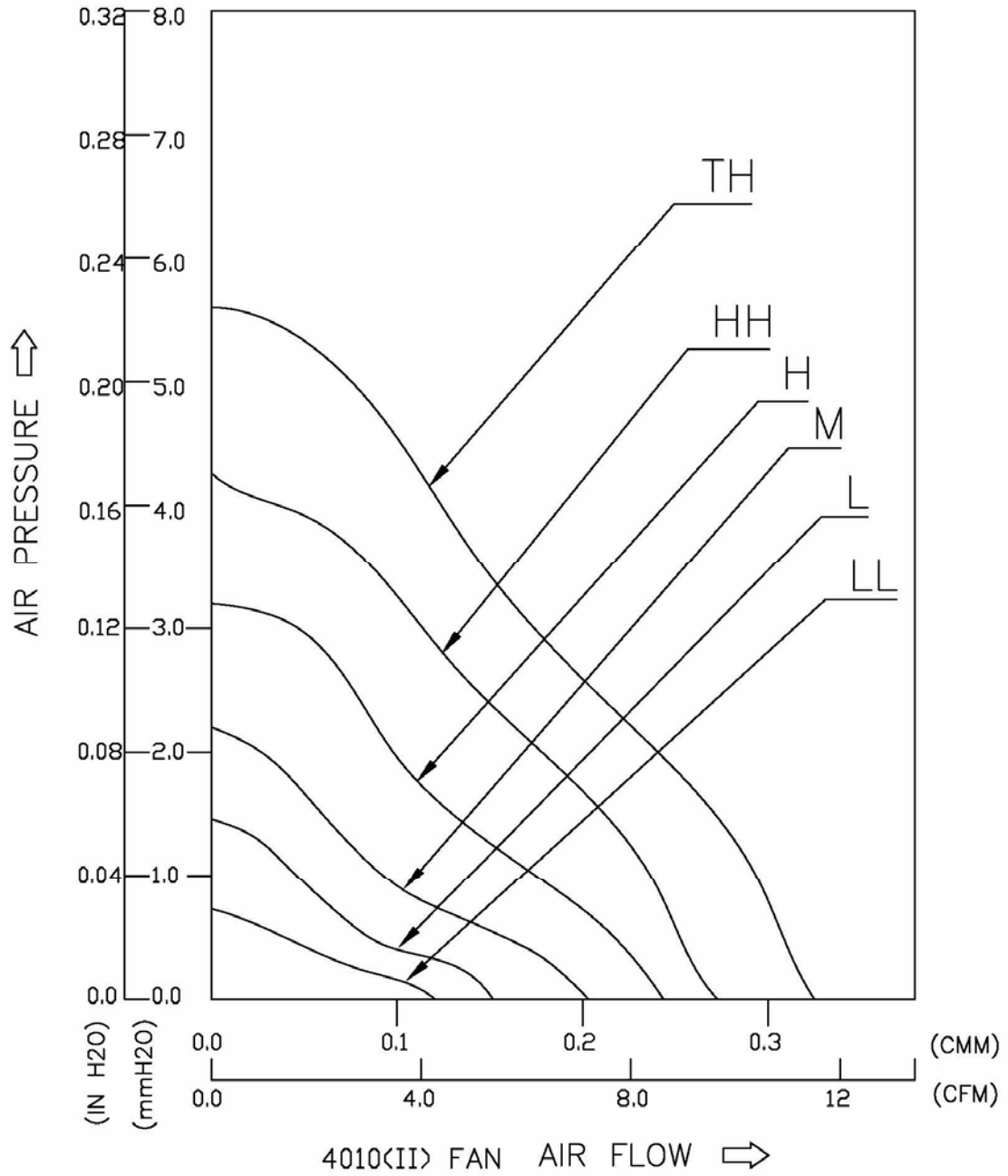
#### 6. Production Location

6-1. Products will be produced in China and Taiwan

#### 7. Dimensional Drawing



## 8. Performance Curve



## 9. Sensor Description

A. Tachometer Pulse Sensor

B. 2 Pulses Per Revolution

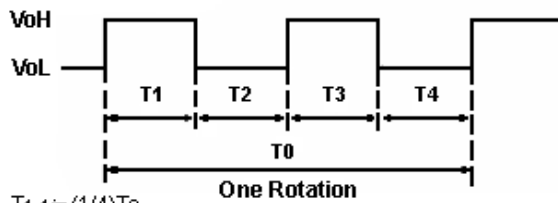
C. Drives Pin Between Nominal 0 and 12V

### Pulse Sensor

(2 Pulse per revolution signal)

Pulse sensors are used for detecting the rotational speed of the fan motor

Output Waveform



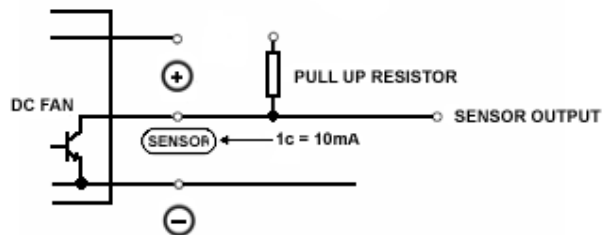
$$T_{1-4} \approx (1/4)T_0$$

$$T_{1-4} \approx (1/4)T_0$$

$$N = \text{Fan Rotational Speed (min}^{-1}\text{)}$$

### Output Circuit

Open Collector



If fan locked on VH, signal stays locked. If fan locked on VL, signal stays at VL for a few hundreds MS, then moves to VH.