



Customer:	
Model:	MR3010E12B1-RSR
Customer Part Number:	
Revision:	V1.1
Description:	Brushless DC Fan
Issue Date:	
Revision Date:	

Drawn By:	Checked By:	Approved By:
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SPECIFICATIONS FOR APPROVAL

Mechatronics is pleased to submit the following specifications for review. If these specifications are for a final approval, please sign, date, and return to:

Mechatronics
FAX (425) 222-5155

TEL (425) 222-5900

Customer Approval (print):	Authorized Signature:



BRUSHLESS DC FAN SPECIFICATIONS

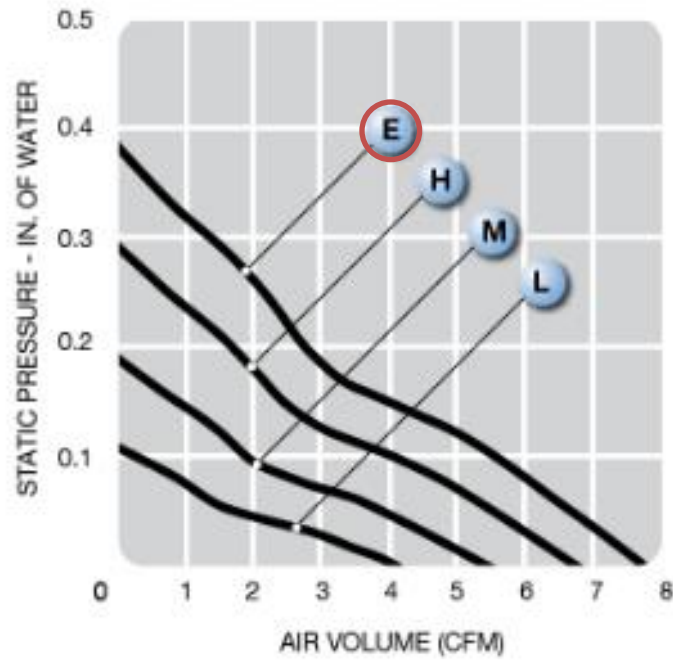
1. SCOPE

This specification applies to axial fan model: **MR3010E12B1-RSR**

2. SPECIFICATIONS

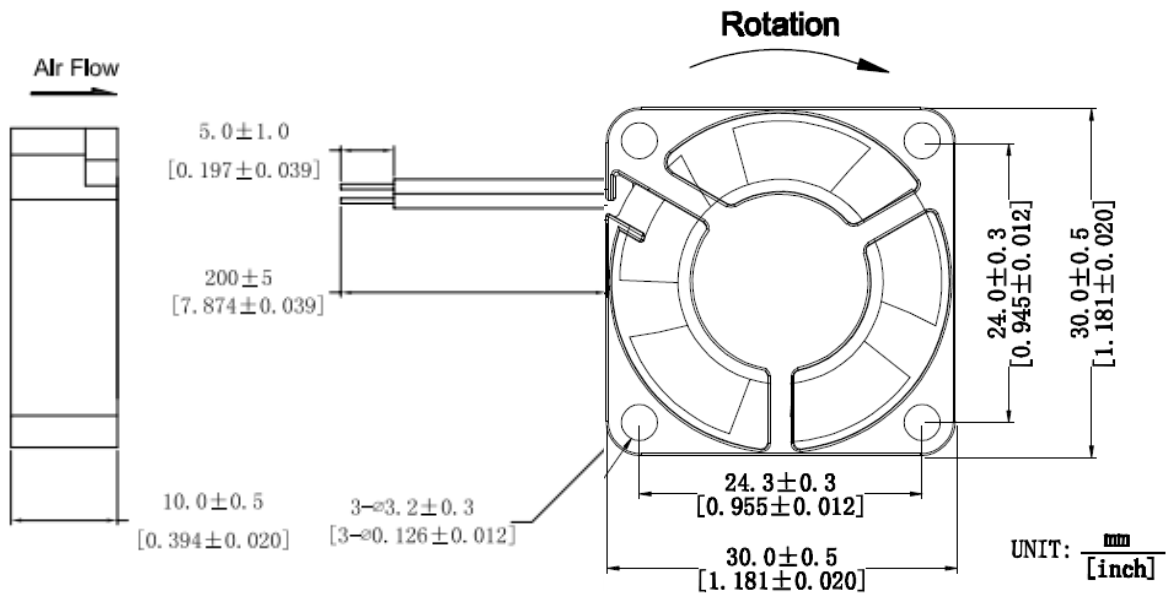
Motor Design	Brushless DC motor
Frame Material	UL94V-0 PBT
Impeller Material	UL94V-0 PBT
Mass	8g
Bearings	Ball Bearing
Motor Insulation	Class A
Maximum Free-Air Flow	7.7 CFM
Maximum Back Pressure	0.38 In H ₂ O
Rated Voltage	12.0 VDC
Operating Voltage	8.0 ~ 14.0 VDC
Rated Current	0.13 A
Power	1.56 W
Rated Speed	11,500 RPM
Operating Temperature	-10°C to +70°C
Storage Temperature	-40°C to +70°C
Sound Pressure Level	34 dB(A). As measured in a sound isolated room; background noise 20 dB or less; microphone distance 1m from intake side of fan
Insulation Resistance	Min 10M ohm between frame and (+) lead at 500 VDC
Dielectric Strength	Max 5 mA between frame and (+) lead at 500 VAC for 60sec, or 600 VAC for 1sec
Shock Resistance	3.2G, 11 millisecond (1/2 sine), twice to all three axes
L10 Life Expectancy	50,000 Hours at 40C
Lead Wires 3X 200+/-5mm	UL1571#28AWG (+) RED (-) BLACK (FG-Tach) YELLOW
RoHS Compliance	RoHS & Reach Compliant
Motor Protection	Locked Rotor Protection and Auto-Restart
Optional Features	Tachometer Output
Lot marking	Date code stamped on label or frame

3. PERFORMANCE



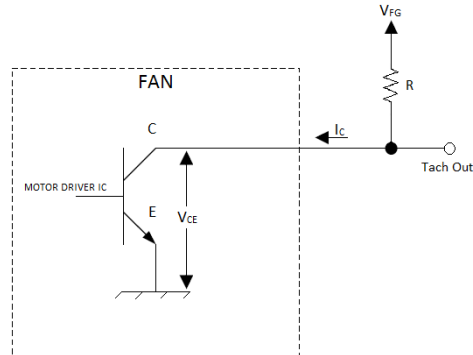
4. MECHANICAL

Dimensional Drawing – Unit: mm



5. SENSOR SPECIFICATION: Frequency Generator (Tachometer) Output

a. OUTPUT CIRCUIT



b. ELECTRICAL SPECIFICATIONS

$$V_{CE}(\text{sat}) = 0.5 \text{ V MAX}$$

$$I_C = 5 \text{ mA MAX}$$

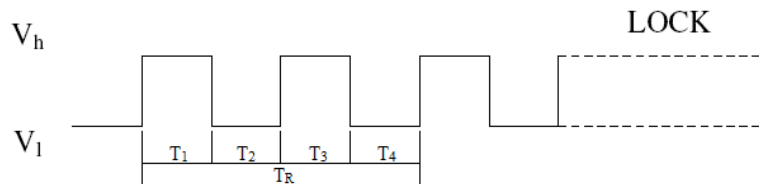
$$V_{FG} = 12 \text{ V MAX}$$

$$R = V_{FG} / I_C$$

c. WAVEFORM OUTPUT

When the rotor is turned the output will take the form of a square wave

When the rotor is locked the output will be either HI or LO



$$T_1 = T_2 = T_3 = T_4 = 1/4 T_R$$

$$N = \text{RPM}$$

$$T_R = 60/N$$