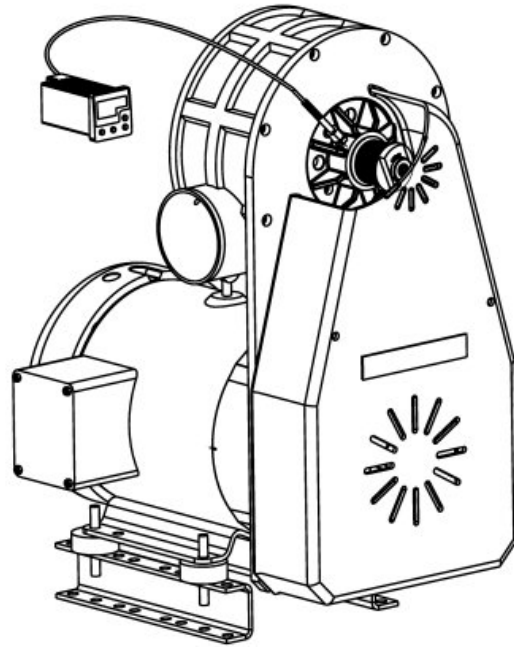




Operation and Maintenance Manual

Predictive Maintenance Monitor For Sonic Centrifugal Blowers



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Operation and Maintenance Manual

Predictive Maintenance Monitor

For Sonic Centrifugal Blowers

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Safety

Safety glasses should always be worn while working on or around Sonic or any rotating equipment. Always use qualified electrical and mechanical personnel for installation and maintenance of Sonic Centrifugal Blowers and accessories. No work should be performed on a Sonic Blower unit until the power has been turned off and an isolation device has been locked. Disconnect the electrical power at the fuse box or circuit breaker before working on the blower. Keep tools, clothing and hands away from rotating or moving parts while the blower unit is running. Observe good safety habits at all times and use care to avoid personal injury or damage to the equipment.

Introduction

As a Sonic Centrifugal Blower runs under normal operating conditions, the bearings maintain a normal temperature range of approximately 110°F to 150°F. When the bearings reach the end of their life cycle, the bearing temperature gradually increases. The Predictive Maintenance uses a temperature sensor probe to detect this temperature rise which warns of imminent bearing failure. The signal can be utilized in a variety of ways, from as simple as activating a warning light to integration with Programmable Logic Circuits (PLC's) The trip temperature is factory set to 175°F.

The Predictive Maintenance Monitor greatly reduces the risk of expensive non-scheduled downtime.

Components



Controller and Thermocouple Assembly



Controller





Thermocouple (10ft Cord)



Retainer

Part Numbers and Optional Accessories

Predictive Maintenance Monitor Kit	110V Single Phase 60HZ	220V Single Phase 50HZ	24V
	Part# 14538	Part# 14538	Part# 15071
Optional Warning Light	110V Single Phase 60HZ	220V Single Phase 50HZ	24V
	Part# 15167	Part# 15169	Part# 15168

Installation

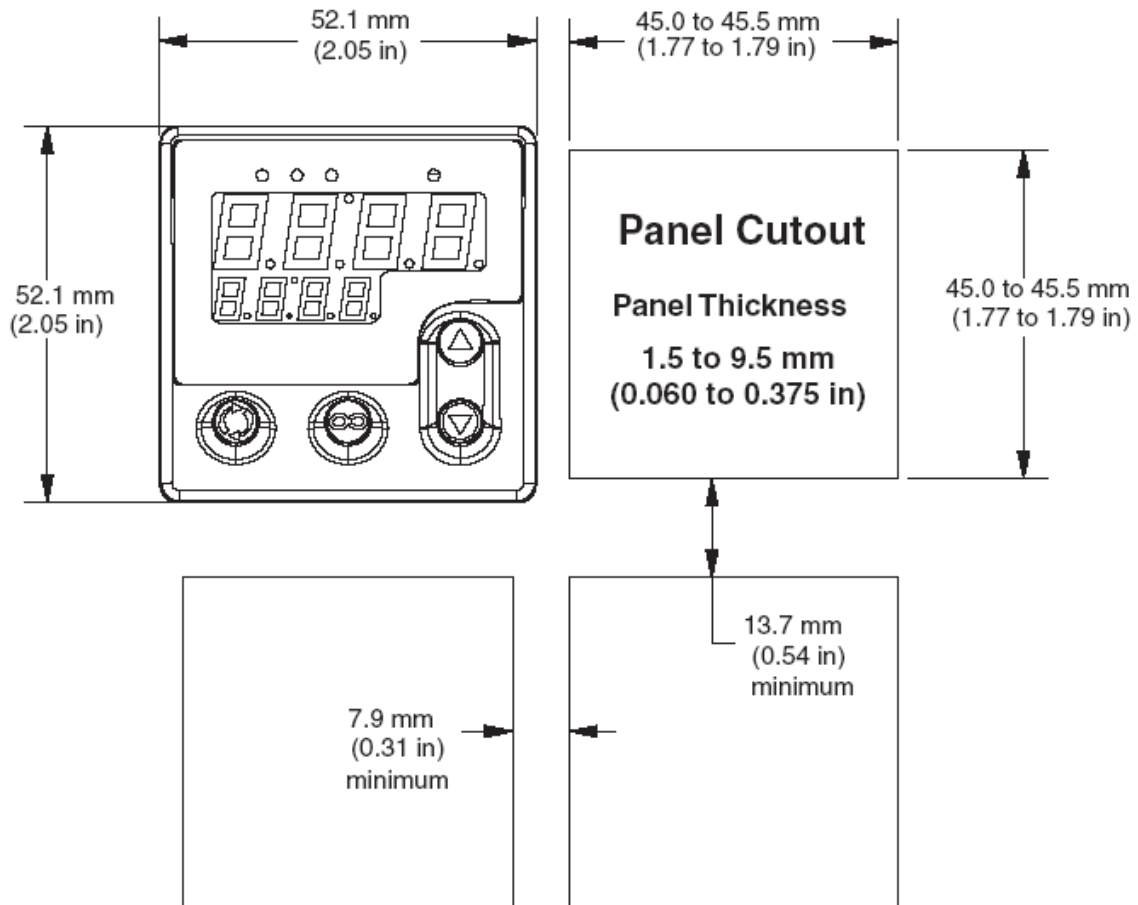


Figure 1 - Controller Cutout Dimensions

Controller Installation

The controller is designed to be panel mounted in a standard 1/16 DIN opening. The opening must be 1.77 inch to 1.79 inch (45.0 mm to 45.5 mm) square and the panel thickness range is .060 inch to .375 inch (1.5 mm to 9.5 mm).

The controller opening should be a minimum of .50 inch (7.9 mm) from any other existing equipment.

- 1) Slide the Controller through the square cutout
- 2) Slide the Retainer over the Controller until it engages and the gasket is firmly in place

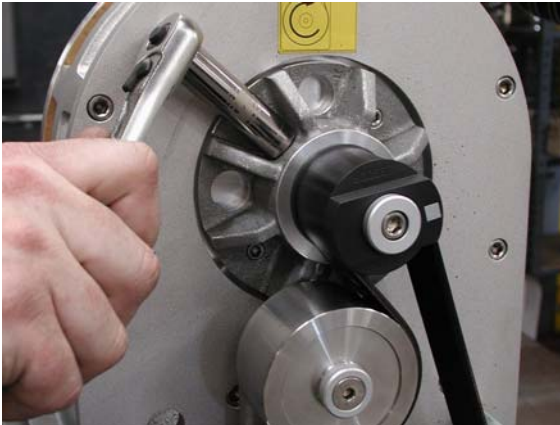
Sensor Installation



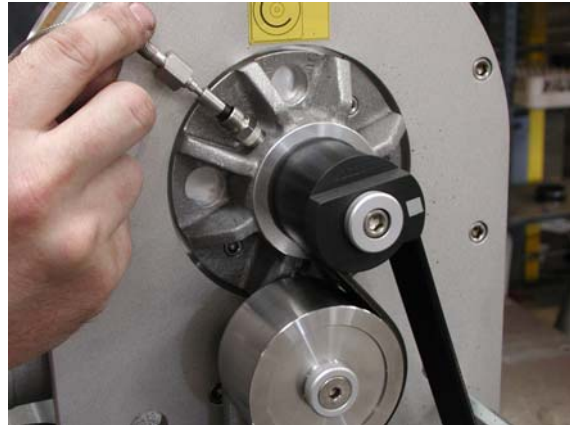
1) Remove Plug from Bearing Housing



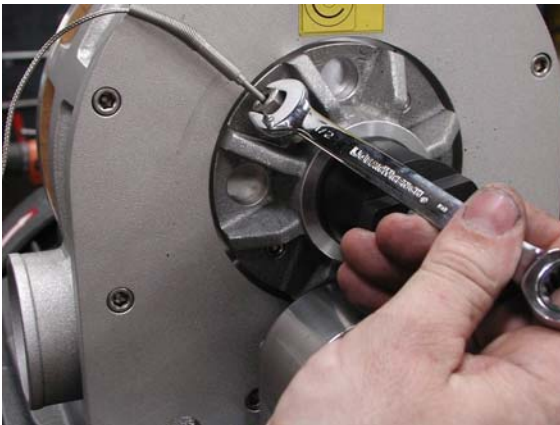
2) Apply Teflon Tape and install Sensor Pipe Fitting



3) Fully tighten Sensor pipe fitting



4) Install Sensor until probe makes contact with and **BOTTOMS OUT ON OUTER BEARING RACE**



5) Fully tighten Sensor compression fitting

Controller Wiring

Use National Electric (NEC) or other country-specific standard wiring and safety practices when wiring and connecting this product to a power source and to electrical sensors or peripheral devices. Failure to do so may result in damage to equipment and property, and/or injury or loss of life.

Note:

Maximum wire size termination and torque rating:

- 0.0507 to 3.30mm² (30 to 12AWG) single wire termination or two 1.31 mm² (16AWG)
- 0.8 Nm (7.0 lb.-in) torque

Note:

To prevent damage to the Controller, do not connect wires to unused terminals.

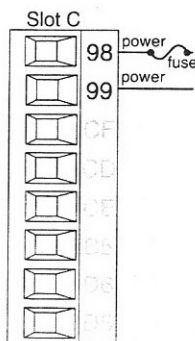
Note:

Maintain electrical isolation between analog 1, digital input-outputs, and process outputs to prevent ground loops

Note:

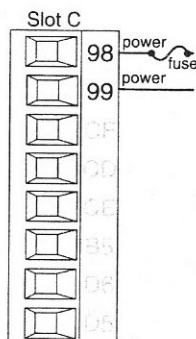
The control output common terminal and the digital common terminal are referenced to different voltages and must remain isolated.

High Power



- 85 to 264V~ (ac)
- 100 to 240V~ (ac) Semi Sig F47
- 47 to 63 Hz
- 10VA maximum power consumption

Low Power



- 12 to 40V= (dc)
- 20 to 28V~ (ac)
- 20 to 28V~ (ac) Semi Sig F47
- 47 to 63 Hz
- 10VA maximum power consumption

Output 1 Mechanical Relay, Form C

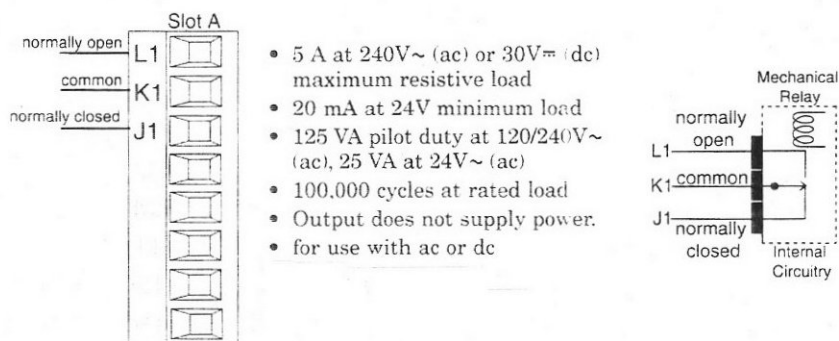


Figure 2 – Output 1 Mechanical Relay Form C

Output 2 Mechanical Relay, Form A

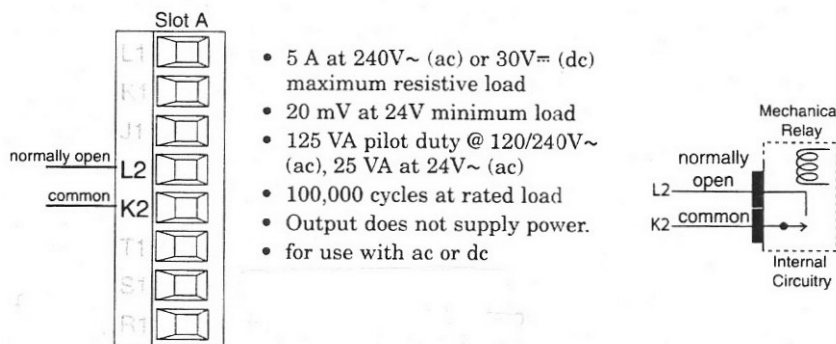


Figure 3 - Output 2 Mechanical Relay

Input 1 Thermocouple

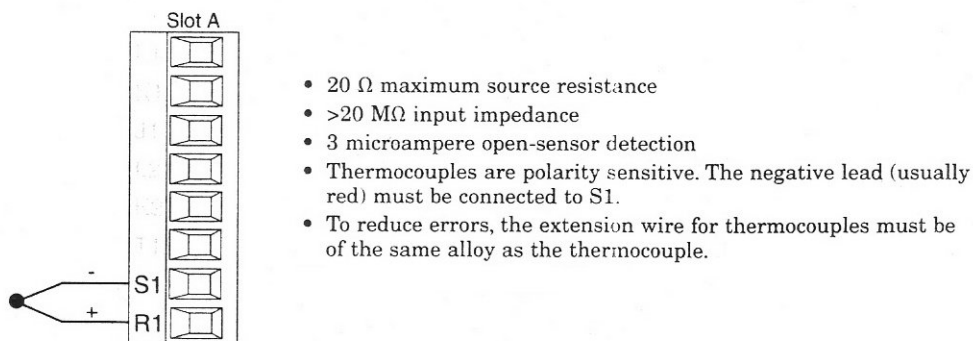


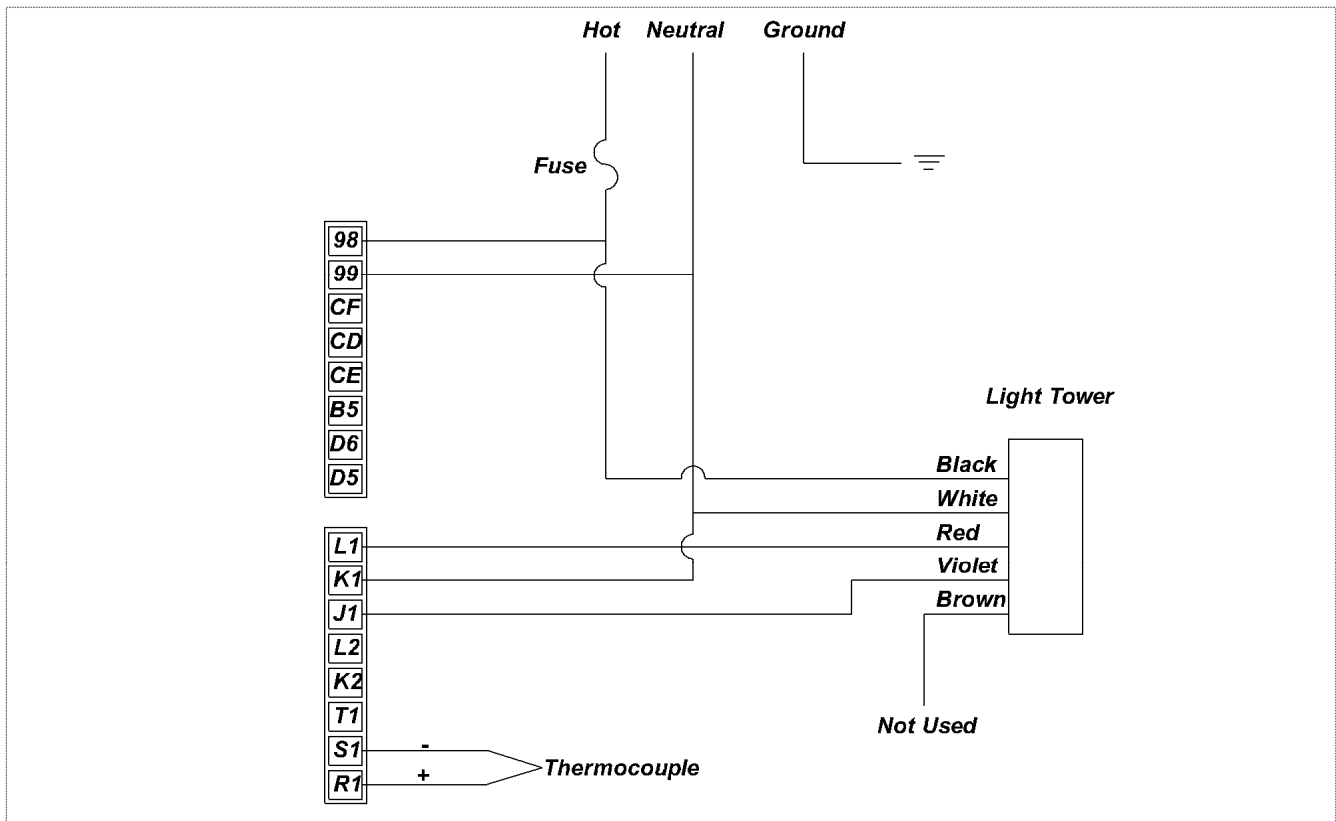


Figure 4 - Input 1 Thermocouple

Changing Temperature from °C to °F

1. To go to the Setup Page from the Home Page, press both the Up and Down keys for (6) seconds
2. "A1" will appear in the upper display and "Set" will appear in the lower display.
3. Press the Up or Down key to move through the menus until you see "GL.bL" on upper display
4. Press the Advance Key 
5. Use Up or Down arrow to select desired setting between °C or °F
6. Use Infinity Key  to go back to main screen

Wiring Diagram – Light Tower



110VAC only – 50/60Hz

Please consult a qualified electrician during installation