MODEL 9258-0108
PAN HEATER
CONTROL SYSTEM

The RAILWAY EQUIPMENT Co® Pan Heater Control System is a free standing unit that features the ability to monitor rail temperature and a 120VAC control input and control equipment dependant on these conditions.
### Contents

1.0  WARNINGS, CAUTIONS, AND NOTES ................................................................. 1

2.0  OPERATION ......................................................................................................... 2

3.0  PANEL FEATURES AND COMPONENTS ......................................................... 2
    3.1.1 Figure 1. Pan Heater Control System ........................................................... 2
    3.1.2 Digital Display .............................................................................................. 3
    3.1.3 Push Buttons .................................................................................................. 3
    3.1.4 LED Status Indicators ................................................................................... 3
    3.1.5 RAIL TEMPERATURE SENSOR ..................................................................... 4

4.0  SPECIFICATIONS ............................................................................................... 4

5.0  CONNECTIONS .................................................................................................. 4

6.0  PAN HEATERS .................................................................................................... 5
    6.1.1 Specs ........................................................................................................... 5
    6.1.2 Pan Heater Bracket Installation ..................................................................... 5
    6.1.3 Pan Heater Wiring ......................................................................................... 5
1.0 WARNINGS, CAUTIONS, AND NOTES

Please read the entire instruction manual before using the control panel.

Also, read the warnings, cautions, and notes in Table 1. Failure to observe the warnings and
cautions can lead to equipment damage or personal injury.

If you have any questions concerning the manufacture, design, function, installation, operation
or maintenance, contact Railway Equipment Company before proceeding.

Table 1. Warnings, Cautions, and Notes

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Warning" /></td>
<td>WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.</td>
</tr>
<tr>
<td><img src="image" alt="Caution" /></td>
<td>CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate personal injury. It may also be used to alert against unsafe practices.</td>
</tr>
<tr>
<td>NOTE</td>
<td>NOTE indicates explanatory information that applies to the next step in the procedure. It is used to clarify and expand upon the importance of the procedural step when needed.</td>
</tr>
<tr>
<td><img src="image" alt="Warning" /></td>
<td>If incorrectly wired, monitor can be damaged. Be sure to observe correct polarity on all DC wire connections, check the AC wiring instructions, and connect the ground wire.</td>
</tr>
</tbody>
</table>
2.0 OPERATION

The model 9258-0108 pan heater control system is equipped to monitor rail temperature and a 120VAC control signal to operate equipment. A contactor output is provided to power pan heaters, and two additional outputs are provided that can be used to power 24VDC relays. The system features programmable rail temperature set point, requiring temperature to be below the set point before contactor closure. Contact closure is maintained if temperature and control input remain within the selected parameters. The module also has a preset 10 second delay before contact closure to prevent contact chatter in case of control signal issues.

A rail temperature sensor (thermocouple) is provided. If this sensor is not installed, or is damaged (open), the system will continue to operate with sole control reverting to the 120 VAC control input signal. The rail temperature sensor is connected to the blue female connector coming out the left side of the control module.

3.0 PANEL FEATURES AND COMPONENTS

This section describes the features and components that are on the pan heater control panel (see Figure 1).
3.1.2 Digital Display

The idle screen displays the RAIL TEMPERATURE and RUN TIMER OFF (Run Timer is not applicable in this module application).

To scroll through the display screens, press the MODE button. To change the values of displayed parameters, use the INCREASE or DECREASE buttons. The screens are:

PASSWORD ___-  The password to adjust parameters is 5. It is entered by pressing the INCREASE button until 5 appears in the parameter field.

RAIL TEMP SETPOINT ___ - This displays the temperature set point below which a control on will cause pan heater activation. It is adjustable between -40F (-40C) and +100F (+37.8C).

SELECT F OR C FAHRENHEIT (CELSIUS) – This parameter selects the desired temperature display,

REV LEVEL ___________ - Software revision level.

3.1.3 Push Buttons

Below the digital display are three control push buttons:

MODE – This control is used to increment through the available screens.

INCREASE – This is used to increase the value of the displayed parameter, if enabled.

DECREASE – This button will decrease the value of the displayed parameter, if enabled.

3.1.4 LED Status Indicators

Three LEDs are used to indicate:

INPUT 1 ON – Illuminated while control on is being detected.

OUTPUT 1 ON – Indicates the pan heater contactor is activated.

TEMPERATURE – Indicates that the rail temp is below the temperature set point.
3.1.5 RAIL TEMPERATURE SENSOR

On the top left of the control module case is a temperature sensor jack. The rail temp sensor is a thermocouple that can be placed to monitor rail temperature near the pan heaters.

4.0 SPECIFICATIONS

- Input power is 240 VAC @ 20 Amps AAR connection
- Control On signal is a 120 VAC AAR connection
- 3 – 3A AGC fuses protect the Control Module: 120/240VAC, 240VAC and Output 1
- LED Status Indicators
- Digital Rail Temperature Meter (when Rail Temp Probe is connected)
- Meets or Exceeds AAR/AREMA Specifications
- Panel ready to mount in a bungalow
- 2-Year Warranty

5.0 CONNECTIONS
6.0 PAN HEATERS

6.1.1 **Specs:** Each 3.5 foot Pan Heater requires 240VAC, and draws approximately 2.5 amps, or 600W. Each Pan Heater is prewired with SOOW 14/3 cord.

6.1.2 **Pan Heater Bracket Installation:** Each Pan Heater comes with 4 mounting brackets and 8 - 3/8” x 1 ½” lag bolts and washers. Install one mounting bracket at each corner of the pan heater using the lag bolts and washers. Reference drawing 9148-1602 sheet 2.

6.1.3 **Pan Heater Wiring:** The Pan Heaters need to be wired back to the supplied junction box, and then user supplied wire is connected at the junction box back to the control panel. The wire coming out of the pan heater is protected by a ¾” thick wall hose. This can either be buried or ran on top of the ballast. From the junction box the installer will need to provide the appropriate length of wire back to the Pan Heater Controller.