

1.0 Scope

This instruction covers the SuperTrend chart functions supplied as an integral part of the furnace software on many RTC, GBT and LCI infrared furnaces. SuperTrend charts can provide valuable data for fine tuning furnace performance as well as troubleshooting furnace behavior.

2.0 Description

SuperTrend charts present detailed real time charting of five parameters on a zone by zone basis. The charted parameters include:

Setpoint – Zone temperature setpoint, degrees C.

Top Power – Actual power (as percent) supplied to top lamps in zone.

Bottom Power – Actual power (as percent) supplied to bottom lamps in zone.

Temperature – Temperature measured by zone thermocouple, degrees C.

Temperature Deviation – difference between zone setpoint and measured temperatures, degrees C.

The default Real Time SuperTrend screen is shown below:

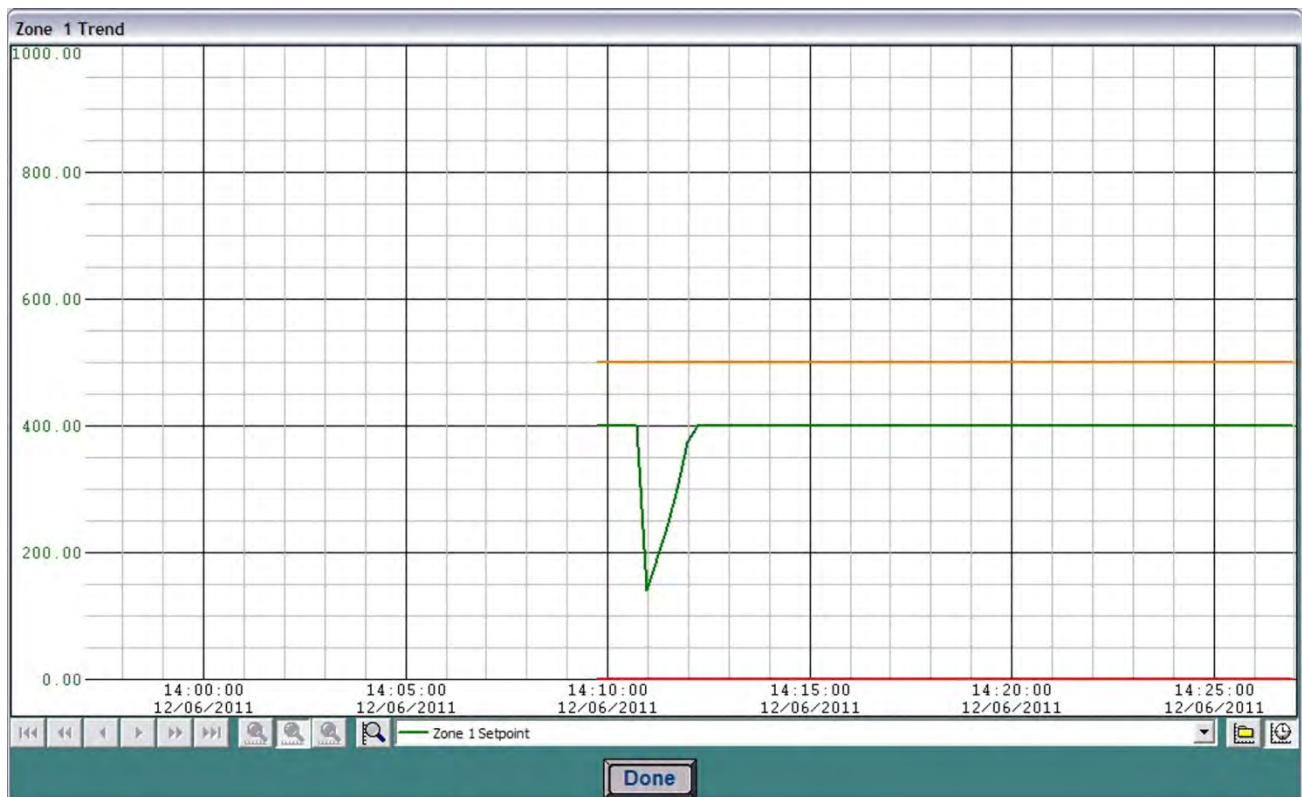


Figure 2.1 SuperTrend Real Time Screen

All charts are stored in files on the furnace computer in c:\RTC\Trendlogs directory and can be accessed from the SuperTrend screens.

While these screens allow the viewer to make many changes to the way the data is viewed, the SuperTrending function does not make any changes to the actual data. Vertical scale changes may be stored as new defaults, however, they can be changed at any time and do not affect the actual stored data.

3.0 Accessing SuperTrend Charts

If the SuperTrend Chart feature is activated, you will see the Trends button on the Process screen.

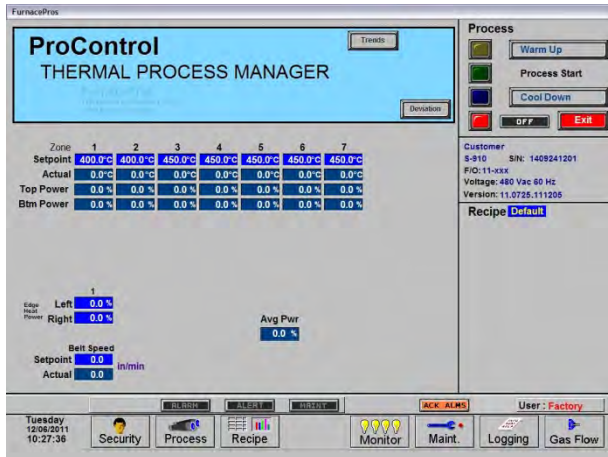


Figure 3.1 Process Screen with Trends button

Press the trends button to see the zone selector popup.

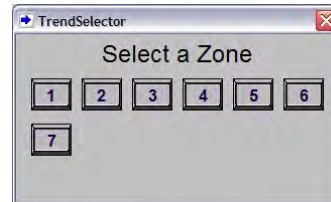


Figure 3.2 Trend Selector popup

3.1 Real Time Charts

Select the number of the zone you wish to view and the real time Chart for that zone will appear. All five charted parameters are shown. Make a selection from the dropdown menu to view the vertical scale that matches the selected parameter. The vertical scales are user adjustable. The horizontal scale shows a 30 minute duration in real time mode.



Click on the Real Time button to return to real time view.

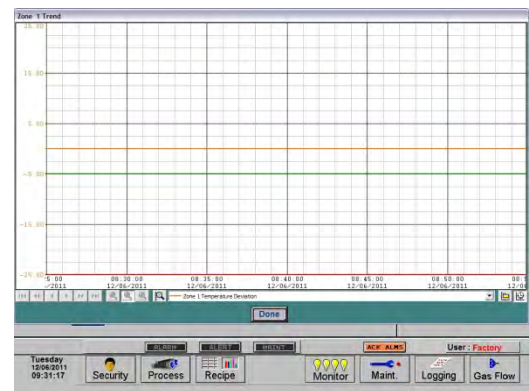


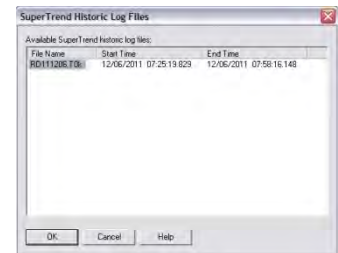
Figure 3.3 SuperTrend Real Time Screen

3.2 Historical Charts



Click on the button to open the SuperTrend Historical Log Files dialog box. Filenames are formatted as RDyymmdd. File start times and end times are shown. Select the file and click OK to view.

The historical file will be loaded and additional menu bar viewing features will be enabled.



Clicking on the face of the screen will reveal the value of the selected setpoint at that time on the chart as shown in Figure 3.4.

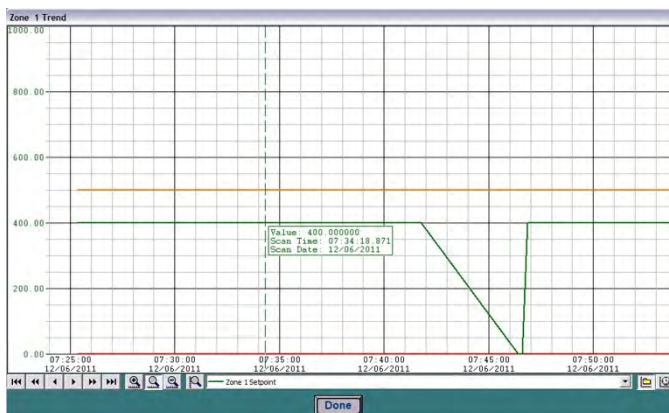


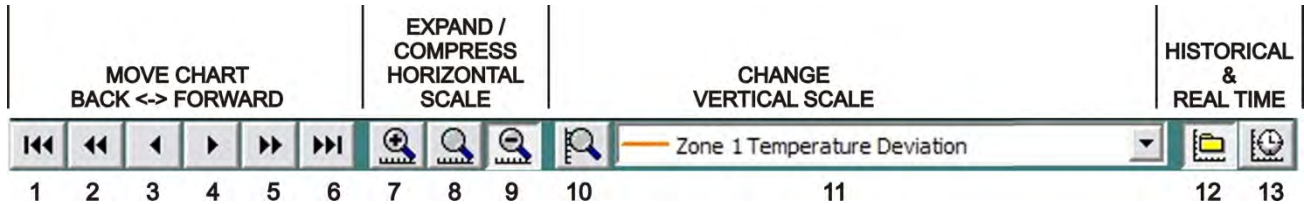
Figure 3.4 SuperTrend Historical Log Screen

Click on the Real Time button to return to real time view.



4.0 SuperTrends Menu Bar

The menu bar allows users to select and change views of real time and historical log files. In the Real Time mode users can change the vertical scaling to increase or decrease chart resolution. In the Historical Log mode users can also compress and expand the horizontal time scale and move forward and back to view data stored at different times in the file.



1	Move to beginning of file	8	Reset horizontal time scale to 30 minutes
2	Move 30 minutes back in file	9	Compress time scale (more time shown)
3	Move 5 minutes back in file	10	Change vertical scale selected in 11
4	Move 5 minutes ahead in file	11	Dropdown to select vertical scale to show
5	Move 30 minutes ahead in file	12	Select historical log file
6	Move forward to end of file	13	Return to view real time chart
7	Expand time scale (less time shown)		

4.1 Changing Parameters

Use the dropdown (Table 4-1, item 11) to change the vertical scale shown. Note when changing parameters, the vertical axis numbers change to correspond to the parameter selected. However, since all 5 parameters are continuously tracked, their relative size and each scale remains the same until its parameter scale is changed.



Figure 4.1 Change Parameter Scale

4.2 Changing a Parameter's Scale

Expanding the scale of a parameter allows the viewer to see more of the data that might be out of range. Conversely reducing the scale shows greater detail. For example default scale for Temperature deviation is typically set to +/-25C. After the furnace is setup and stable, the user can reduce the scale to +/-10C or +/- 5C to exaggerate the temperature deviation and allow for finer tuning.

Parameter scales are stored for each zone. So if Zone 1 Temperature scale is changed to 0-200C, Zone 2 Temperature scale will remain at 0-1000C until changed. Each file when opened will be viewed with the current parameter scale settings

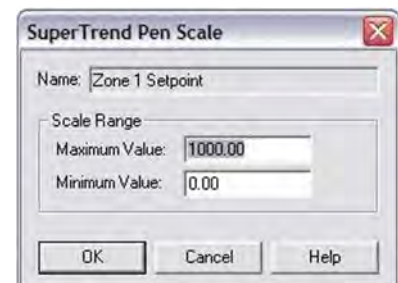
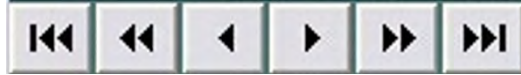



Figure 4.2 Change Vertical Scale popup


4.3 Changing the Time Viewed and Time Scale

In the Historical Log Mode additional views are enabled. Clicking on the forward and back buttons (Table 4-1, buttons 1 through 6) presents the earliest data in the selected file to the last data in the file.




To expand the time scale to see more detail in less time, press the  button (Figure 4.5).



To compress the time scale and see a longer period in one screen, press the  button (Figure 4.3)



To reset the scale to 30 minutes press the  button (Figure 4.4)

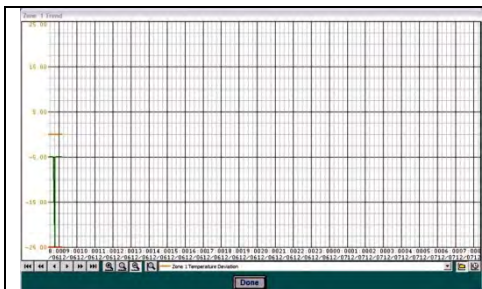


Figure 4.3 Compressed time scale



Figure 4.4 Default time scale (30 min)



Figure 4.5 Expanded time scale