SuperSystems
incorporated

EVENTS INSTRUMENT AND
RELAY EXTENSION

SERIES 9015

OPERATIONS MANUAL

Super Systems Inc.
7205 Edington Drive
Cincinnati, OH 45249
513-772-0060
800-666-4330
Fax: 513-772-9466
www.supersystems.com

Table of Contents

Introduction

The 9015 Events Module and Relay Extension is designed to expand the event and relay capabilities of a 92XX controller. The 9015 is based on the 9010 eSPP with events hardware. This provides 8 output event relays and 4 event inputs (dry contact). A second 9015 can be connected to the first 9015 to seamlessly provide 16 outputs and 8 inputs.

Additional features have been added to the 9015 to provide digital I/O, combination logic, and counters to the Video Recorder.

Specifications

The following specifications are applicable to the 9015 instrument.

Item	Specification
Power Input	24VDC +/- 20% at 300 Ma
Relay Contacts	24VDC at 200 mA max
Input	Dry contact or open collector sinking common to 24VDC supply. Protected from overvoltage.
Ethernet	10-base T Modbus TCP (factory default IP 192.168.0.222)
RS-232	Modbus, 8N1, baud rates from 1200 to 115200 (factory default 19200)
RS-485 Host	Modbus, 8N1, baud rates from 1200 to 115200 (factory default 19200)
RS-485 Slave 1	Modbus, 8N1, baud rates from 1200 to 115200 (factory default 19200)
RS-485 Slave 2	Modbus, 8N1, baud rates from 1200 to 115200 (factory default 19200)
RS-485 Modbus host address	1 to 249 (factory default 222)
RS-485 Slave 1 setup	Slave instrument 1 is forced to SSI 8-8 address 222

Table 1 - 9015 Instrument Specifications

Instrument Terminals

Correct use of instrument terminals is crucial for use of the 9015 instrument. The 32 instrument terminals are pictured below in Figure 1.

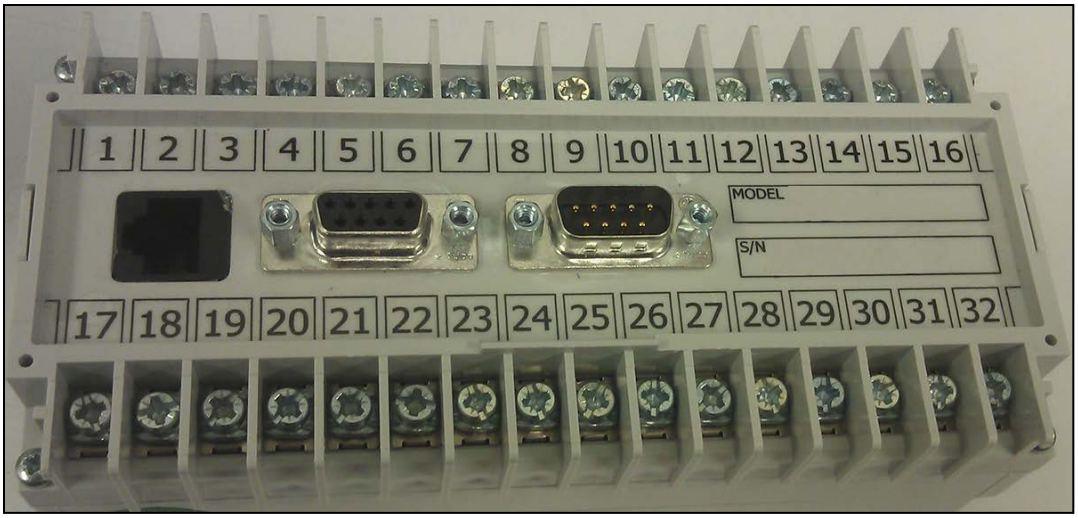

Figure 1 - Instrument Terminals

Table 2 shows the function of each terminal.

Terminal	Function
1	24VDC (COM)
2	24VDC (+)
3	RS485 RT (-)
4	RS485 RT (+)
5	SLAVE 1 RS485 (-)
6	SLAVE 1 RS485 (+)
7	RELAY COMMON
8	EVENT RELAY 0
9	EVENT RELAY 1
10	EVENT RELAY 2
11	EVENT RELAY 3
12	EVENT RELAY 4
13	EVENT RELAY 5
14	EVENT RELAY 6
15	ALARM RELAY NC
16	ALARM RELAY NO

Terminal	Function
17	EVENT IN 0
18	EVENT IN 1
19	EVENT IN 2
20	EVENT IN 3
21	EVENT IN COM
22	SLAVE 2 RS485 (+)
23	SLAVE 2 RS485 (-)
24	*Not assigned*
25	*Not assigned*
26	*Not assigned*
27	*Not assigned*
28	*Not assigned*
29	*Not assigned*
30	*Not assigned*
31	*Not assigned*
32	*Not assigned*

Table 2 - Terminal List and Functions

Terminals 1 and 2 are used for powering the instrument. Terminals 3 and 4 are used to connect the instrument as a slave device to a 92XX controller. Terminals 5 and 6 are used to slave a second 9015 instrument to the first from the second 9015's terminals 3 and 4.

Setup: 9015 as Events Instrument

One of the two uses of the 9015 is its application as an Events Instrument. By connecting the 9015 as a slave instrument to a 92XX controller, you can extend the event monitoring capabilities of the 92XX controller.

In normal situations, the factory default settings in the 9015 will not have to be changed. To use with a 92XX controller, determine which slave port on the 92XX you plan to use (slave 1, for example). Connect terminals 5 & 6 on the 92XX to terminals 3 & 4 on the 9015 (for slave 1).

Then, using Configurator, open the "Slave Instrument Setup" menu while communicating to the 92XX (Figure 2).

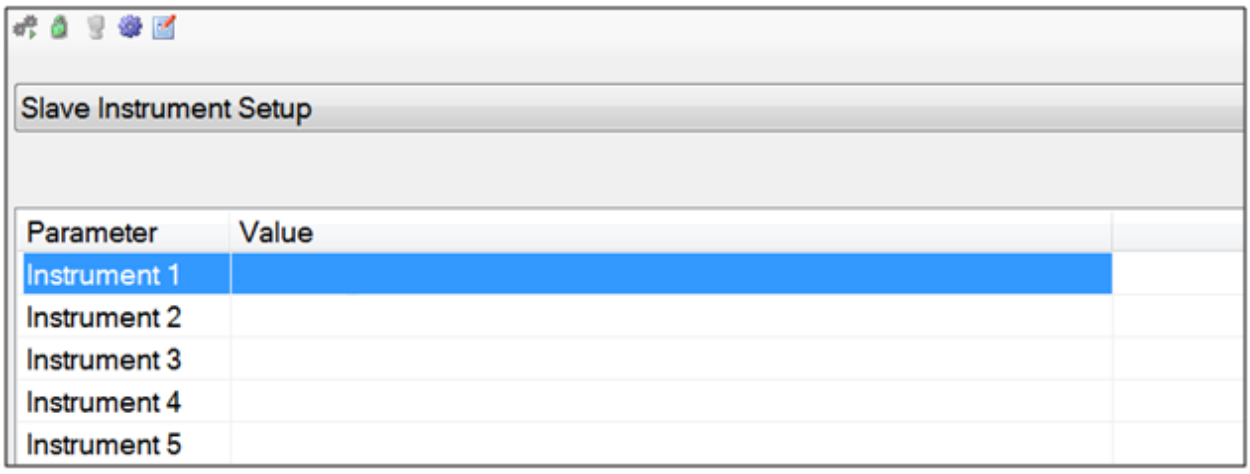

Figure 2 - Slave Instrument Setup menu (Configurator)

Select an instrument number in the parameter list to use by clicking on the desired value or instrument number. Note the instrument number selected for later reference. Set the instrument number as shown in Figure 3 and Figure 4:

- Instrument: SSI 8-8
- Address: 222
- Port: Selected slave port (for example, Slave 1).

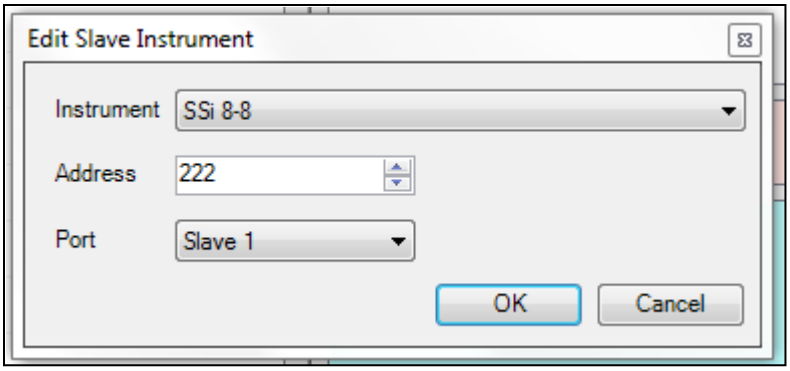

Figure 3 - Editing Slave Instrument Settings

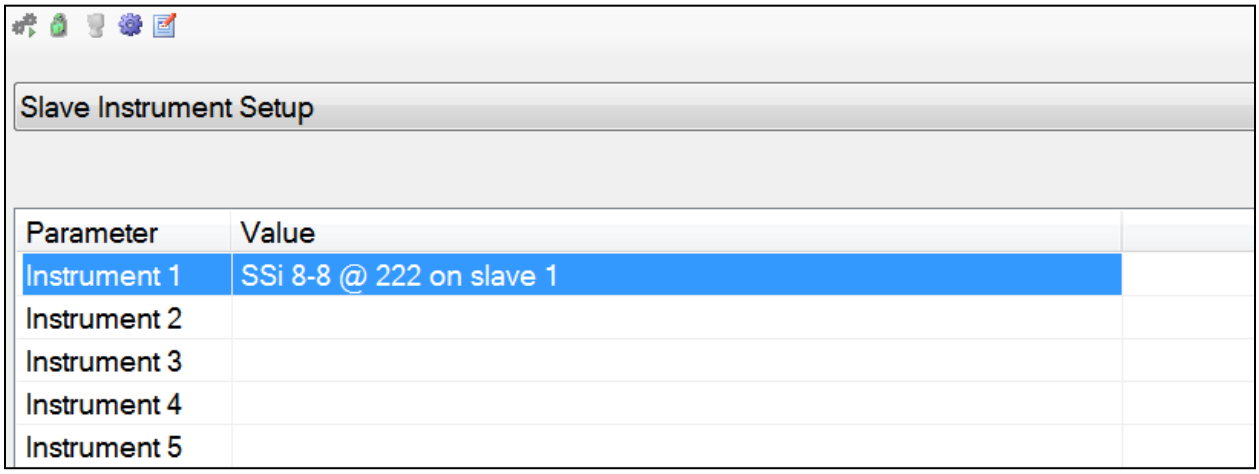

Figure 4 - Slave Instrument Setup Menu with Instrument 1 Configured

After you have completed the procedure above, "Instrument 1" under the "Slave Instruments" menu will read "Instrument 1 [OK]" in the Parameter column (see Figure 5). It may take up to 10 seconds for the indication to change to "Instrument 1 [OK]". (If communications with the slave instrument are not working, "Instrument 1 [BAD]" will be shown. If communications are being established, "Instrument 1 [N/A]??" will be shown before the indication changes to "[OK]".)

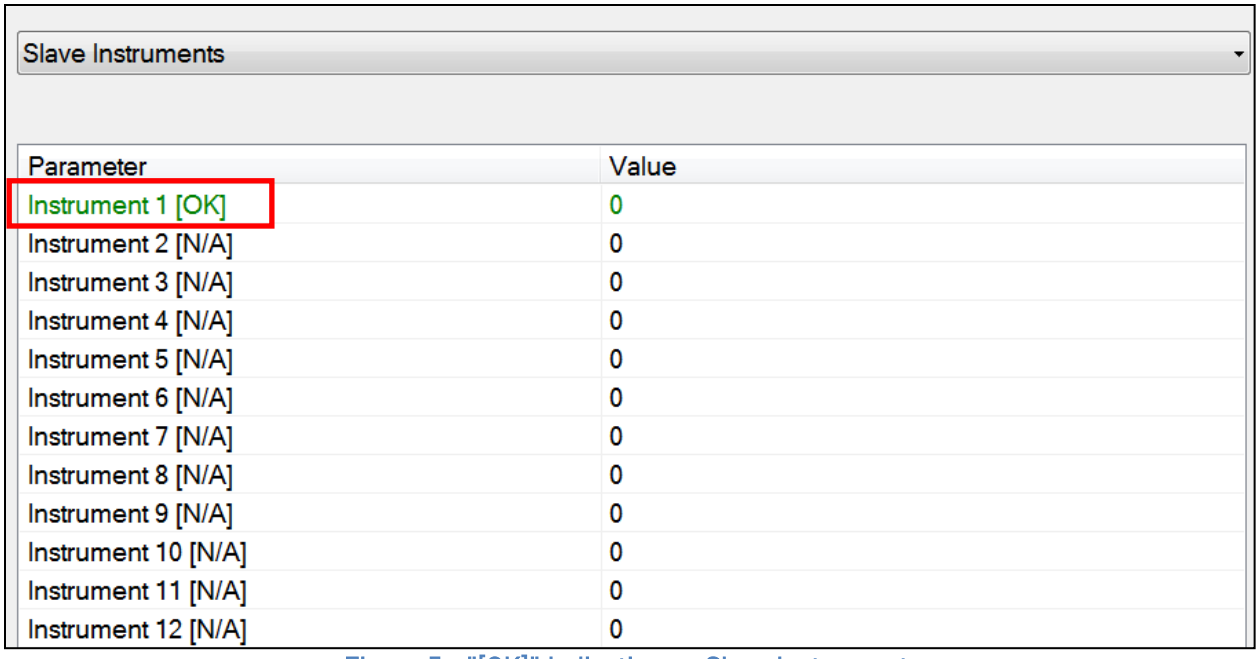

Figure 5 - "[OK]" Indication on Slave Instrument

NOTE: The "Instrument *number* [OK]" indication can also be observed on the 92XX touch screen under the main menu item "Slave Communications Status" (Figure 6).

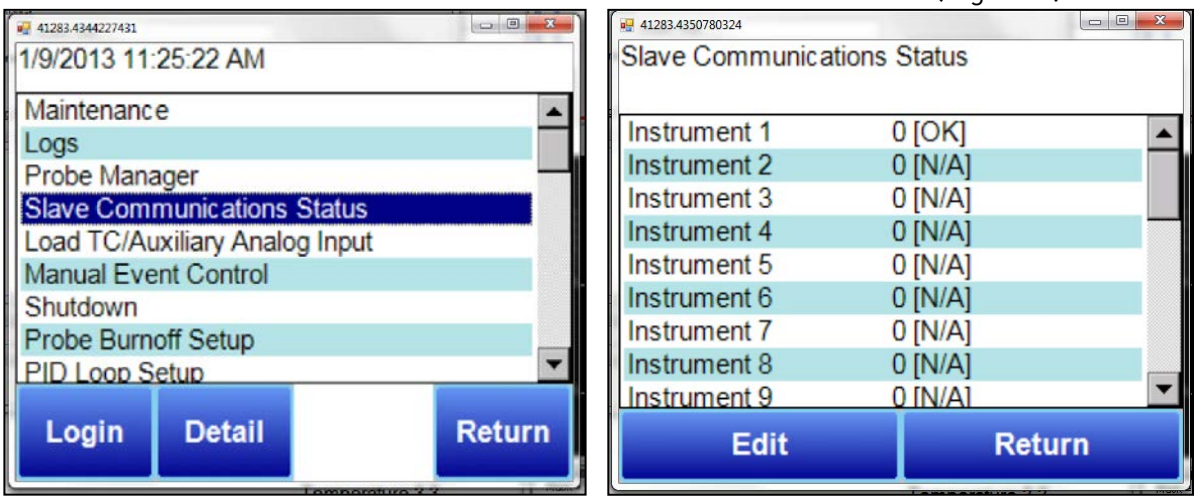

Figure 6 - Slave Communications Status on 92XX Touch Screen

In the Furnace Setup menu, set the "Event Instrument" as the instrument number you defined for 9015 in the "Slave Instrument Setup" (see Figure 7).

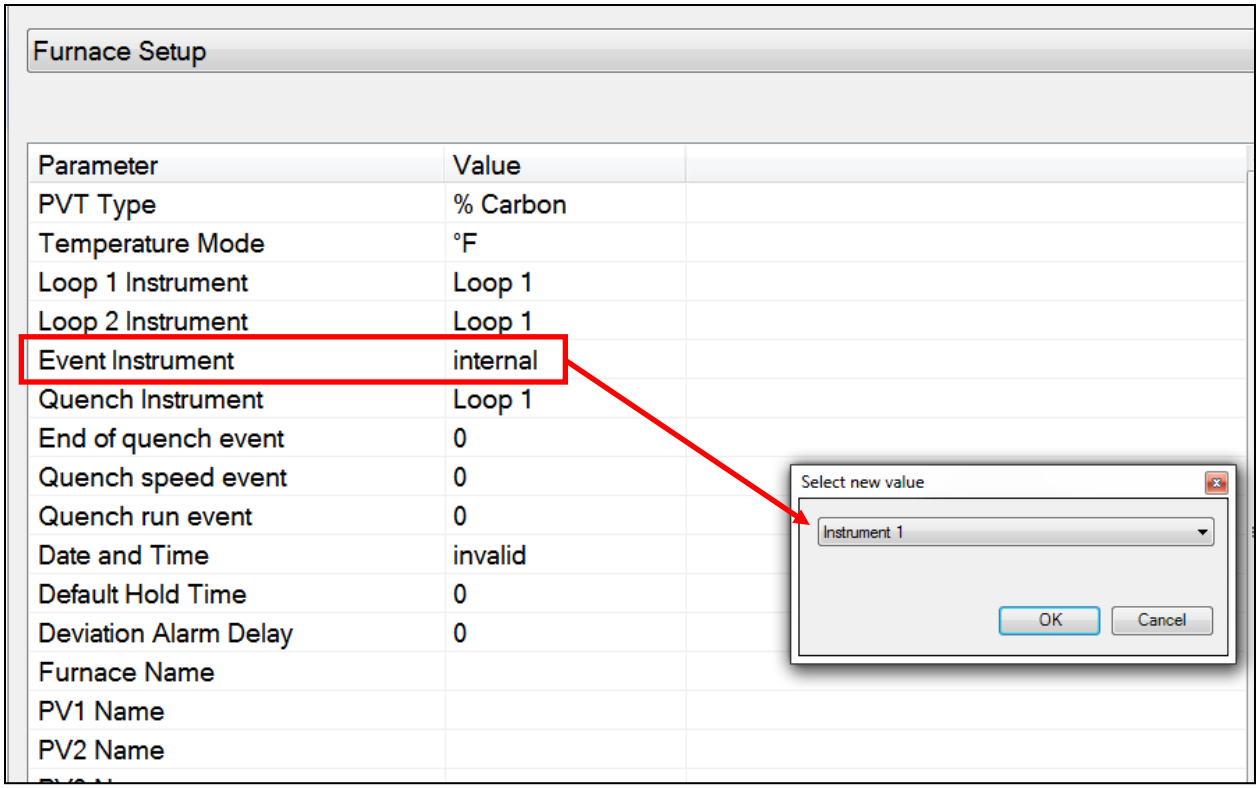

Figure 7 - Event Instrument Setup in Furnace Setup Menu

Adding a Second 9015 Instrument

To use a second 9015 for additional events, connect slave port 1 (terminals 5 & 6) to the second 9015's host port (terminals 3 & 4). In the 92XX, the event outputs of the first 9015 will be events 0 to 7 and the outputs of the second 9015 will be events 8 to 15. Likewise, the event inputs of the first 9015 are events 0 to 3 and the event inputs of the second 9015 are events 4 to 7.

Setup: 9015 as Relay Extension

In normal situations, the factory default settings in the 9015 will not have to be changed.

IMPORTANT: To use a 9015 as a relay extension, you must have a 9205 or 9220 controller with the latest firmware revision for that controller as well as an up-to-date version of SSi's Configurator 2 software.

Use Slave 2 in order to make the 9015 a relay extension. Connect terminals 22 & 23 on the 9205 or 9220 to terminals 3 & 4 on the 9015.

In the Configurator menu drop-down list, select "Port Setup". Then click on "Slave 2 Mode" and change this setting to "SSi Analog Input Board" (Figure 8).

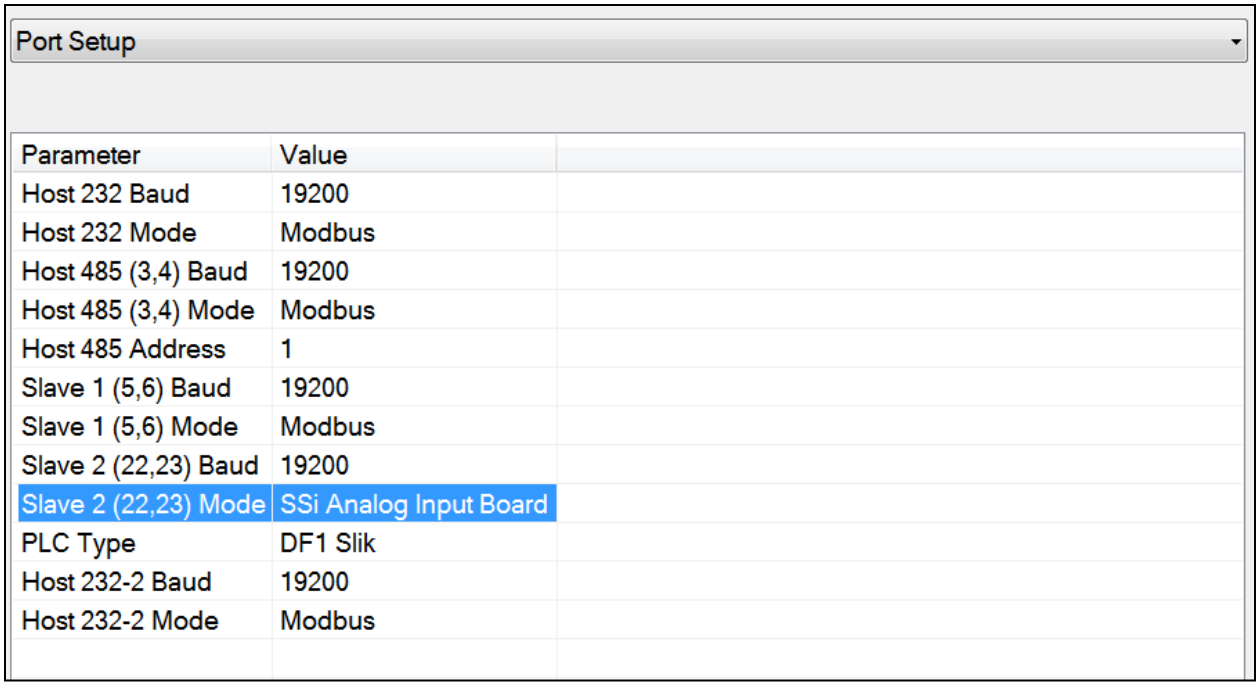

Figure 8 - Changing of "Slave 2 Mode" Setting in Port Setup Menu

Next, under the "Furnace Setup" menu, change "Slave Event Boards" to the number of 9015 instruments that you are slaving to the 9205 or 9220 (Figure 9).

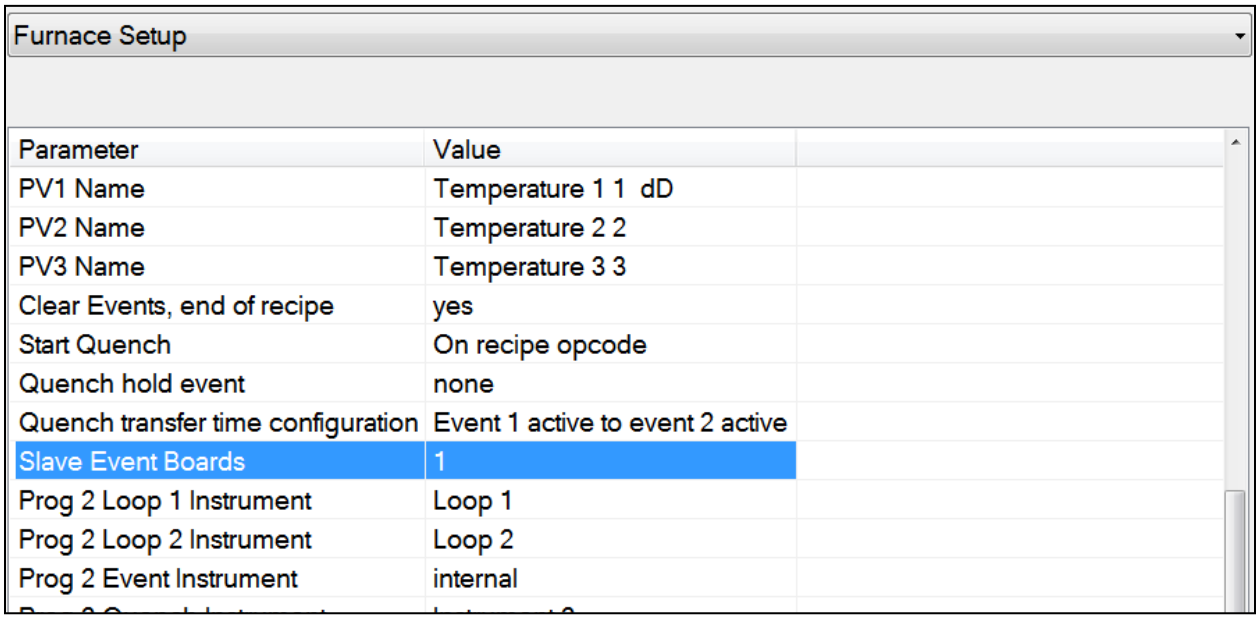

Figure 9 - Setting the Number of Slave 9015 Instruments

Next, under "Relay Assignments", change the relay assignments for the 9015 instrument module (Figure 10). Module 1 is the first 9015, starting with relay 1, instrument terminal 8.

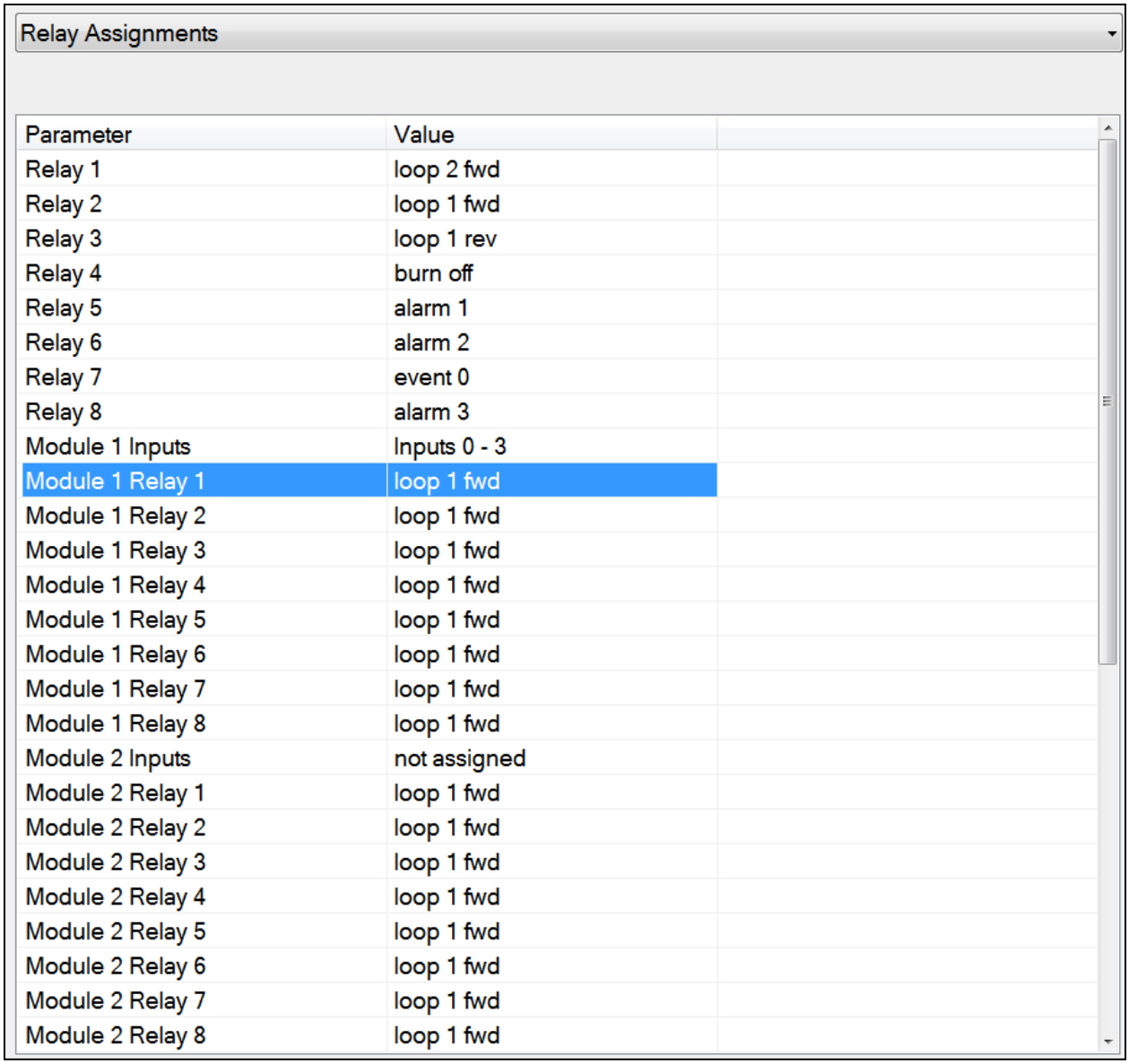

Figure 10 - Changing Relay Assignments

Revision History

Rev.	Description	Date	MCO #
A	November 2012 Release	11/21/2012	2110
B	Updated manual to include use of instrument as relay extension, new figures, and added functional explanations	05/08/2013	2119