Using Base Registers 420 and 421 to customize Slate Base GUI application information

The SLATE Base GUI Status menu indicates if a loaded kit is functioning properly or has been disabled due to missing modules or other possible errors which prevent the program from proceeding. An Application status of "Running" means that everything is ok the and program is active. An Application status of "Disabled" means the program has been stopped due to a kit item not matching the current condition (missing module, changed module serial number, software/firmware compatibility, etc.).

In addition to this information, the Base GUI can be edited to show additional information under the Application header. Not only can it display the status of the current program (Kit), but it can show additional information edited by the designer.

In the following article, we will show how to use the Base registers 420 and 421 to edit the Application row in the Base GUI.

Register 420 is used to show a numerical value that may represent demand, flame signal, firing rate, etc.

Register 421 is a text string that can be edited to accompany register 420 as a label or it can be shown on its own without register 420, such as "Dial XXX-XXX-XXXX for service".

In the following example, we will add "Firing Rate" to the Base GUI, along with the actual Firing Rate value (R113 from the Fuel/Air module).
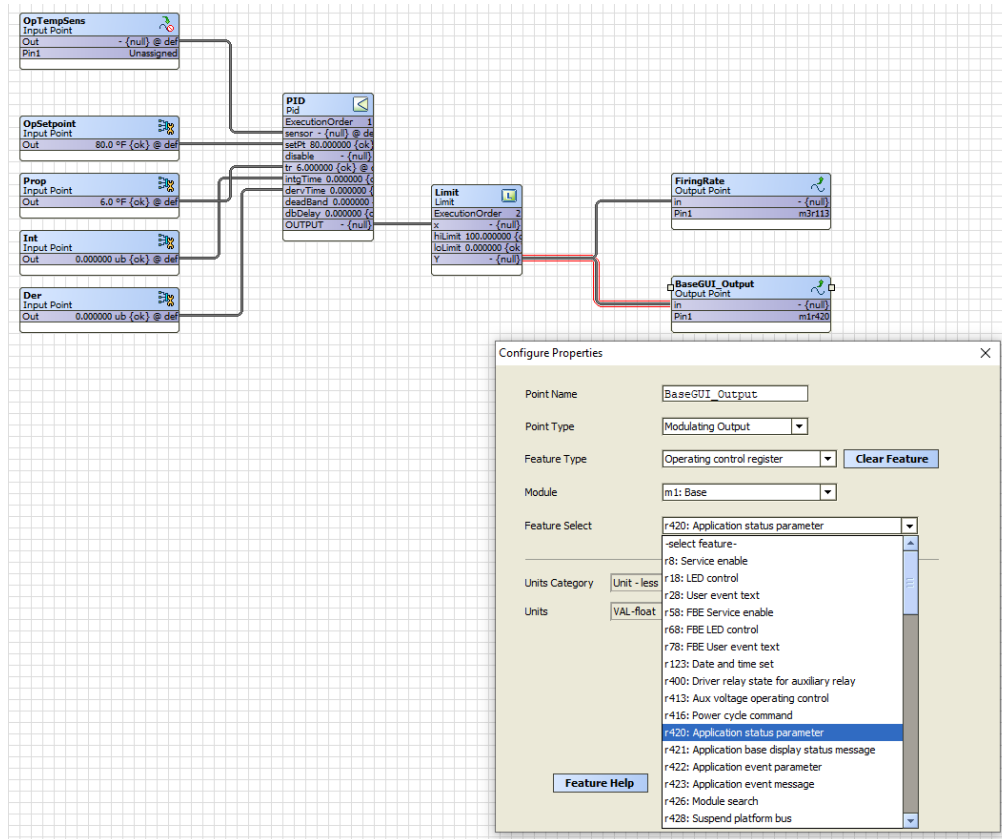
We

configure the ModulatingOutput block named "BaseGUI_Output" to receive the firing rate from the PID block. This will be a numerical value ranging from 0-100.

Register 421 has 32 available rows/texts strings which can be edited either at design time and lock the edits into the kit, or live using the HMI and the generic pages.

In this case where we only want to display the Firing Rate on the Base GUI, we can select any of the rows. In this example which shows editing at design time, we will start with row 2 (row 1 is by default used to show Running/Disabled, so we will leave that as is in case we want to revert back to this text in the Base GUI).

Back in the wire sheet we need to select text string 2 for register 421. Use a NetworkSetpoint block and configure a default value of 2. Next, select a ModulatingOutput block to assign the value to register 421.
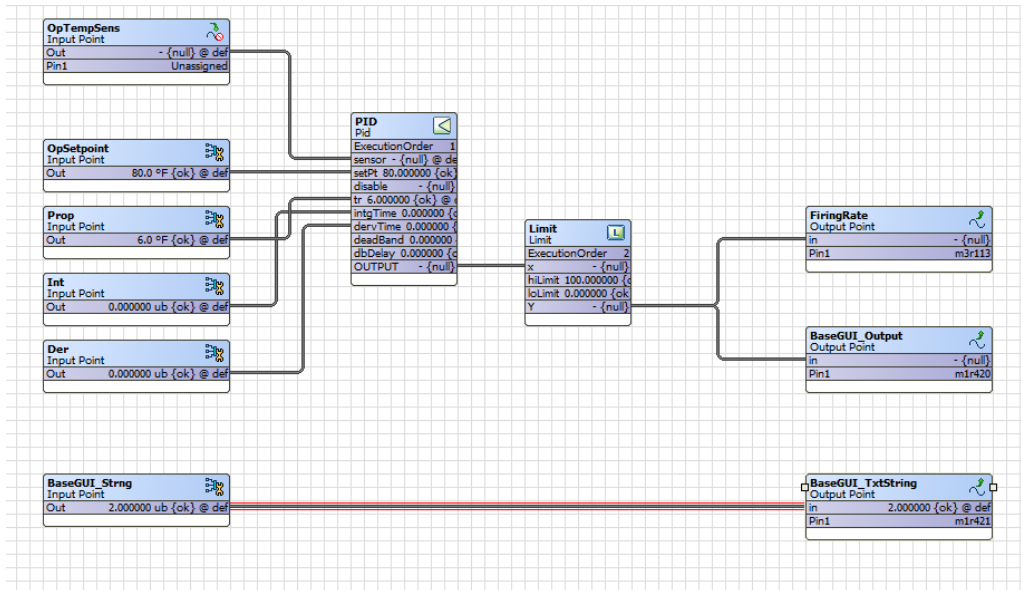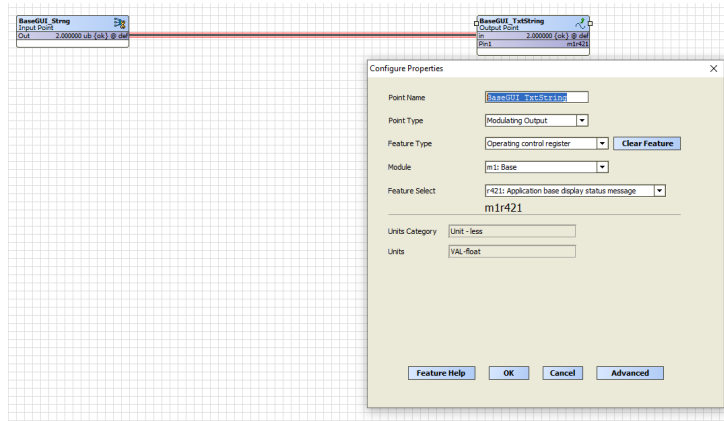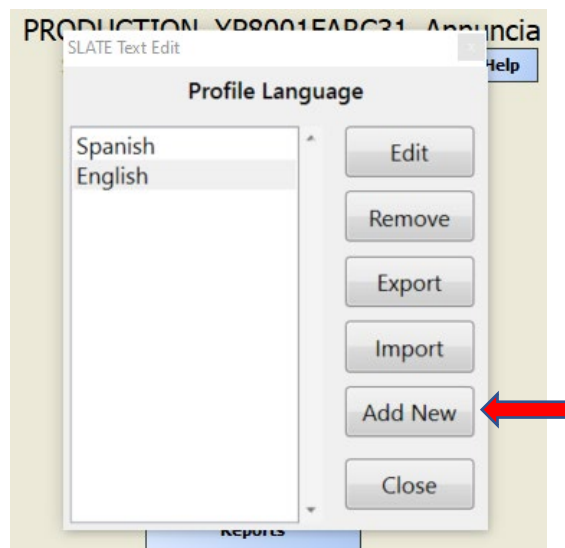
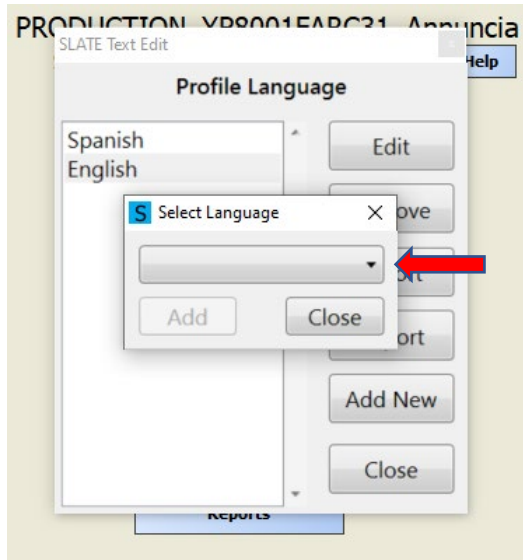Next, leave the wire sheet and return to the project main page and…
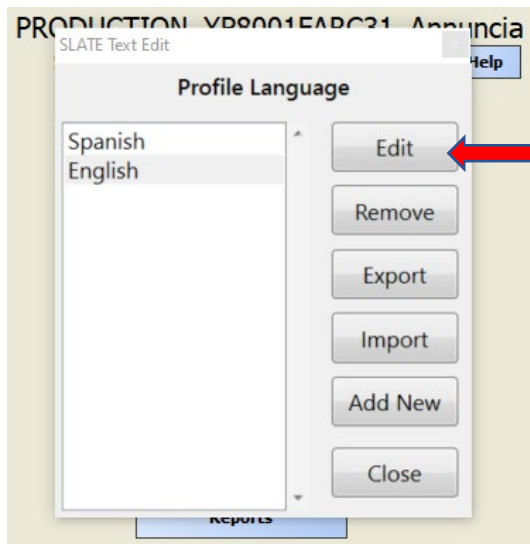
Click the "Text Configuration" button,
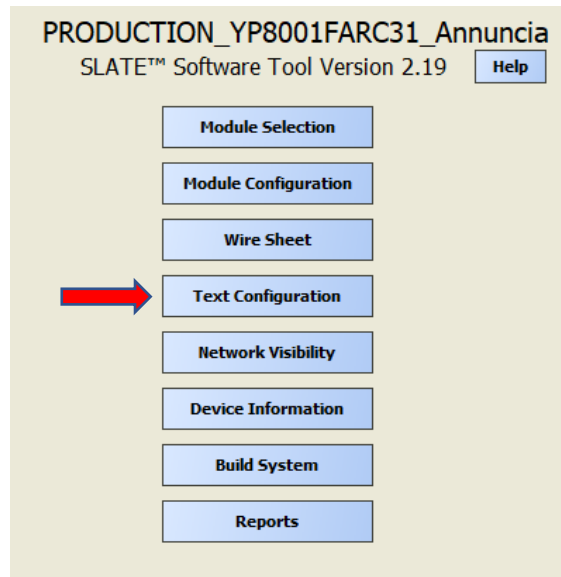
Add a language other than the "Default English" such as "English" by clicking the "Add New" button


Then Selecting "English" from the drop down menu…

Next, select English and click the "Edit" button…

At this point we are going to dig into the Base module (1) to find the Operating Control Register category (2) and find r421 "Application base display status message" (3) and we will select the Enum Texts tab (4) to find the editable fields. In our example, we chose to edit the second row "Application Status 2 field" (5).
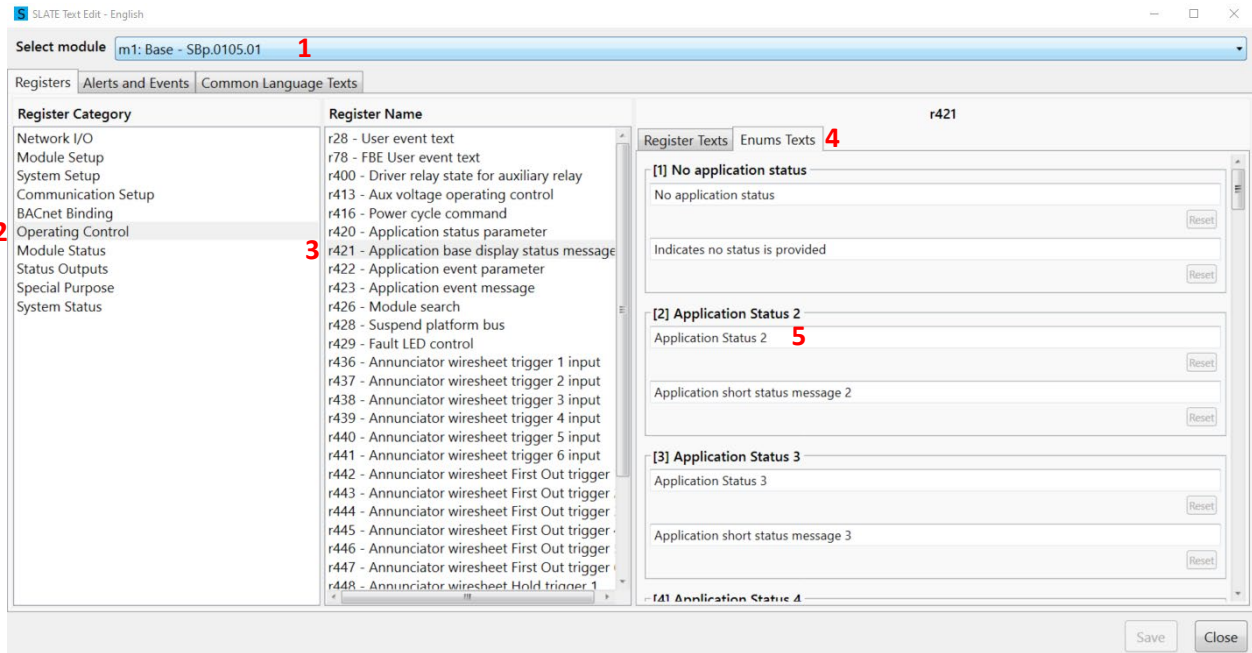
Edit the text. Use %f format to access r420 value.

You can use "---->" as part of the text to insure the message fits on one row for easier visibility. "Application Status2" becomes "--------> Firing Rate %.0f%%" and will be displayed on the Base GUI as:
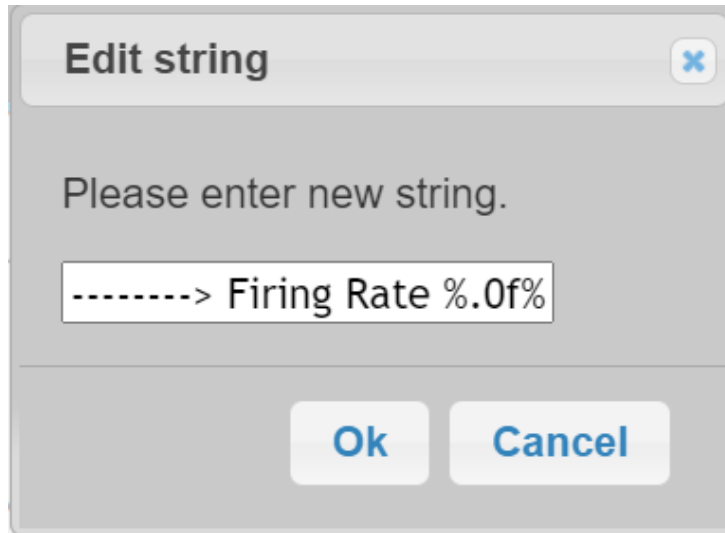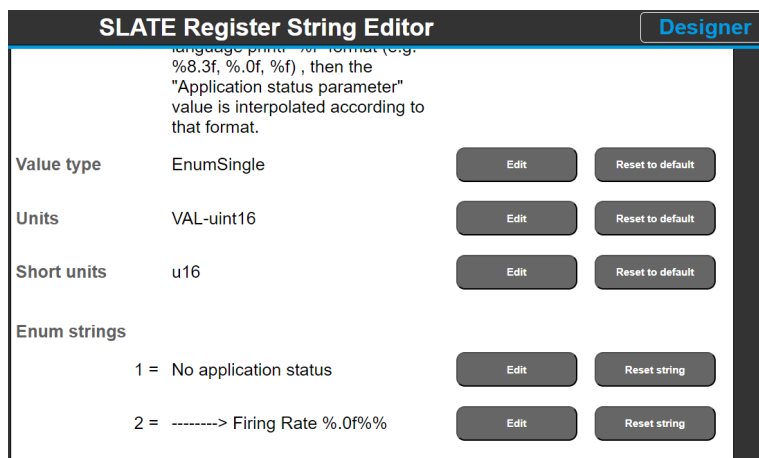
Application---------->

Firing Rate XX%

Another way to edit register 421 text strings is live, using the generic pages. Proceed to the generic pages "ipaddress/generic" or double tap the HMI and type in the IP address of the SLATE Base/generic (i.e. 192.168.92.10/generic).

Click the "Language" button (1), Select the language from the drop down menu in Language Setting (2). The "English" language must have already been selected as shown in the previous example. Next, click the "String Editor" button (3).
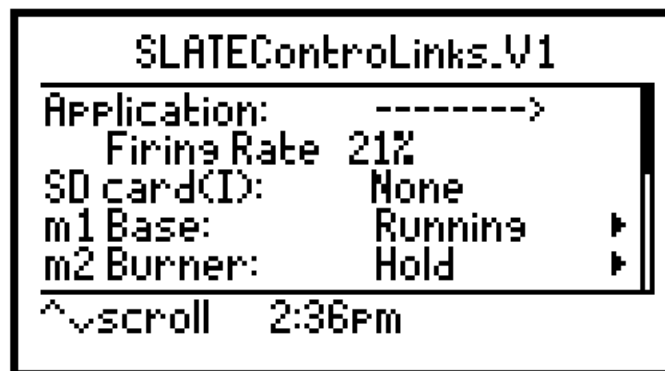

Select the Base/Operating Control, scroll down to register 421 and click on the "Edit Detail" button. Log in as "Designer" or "Installer". Edit the string "--------> Firing Rate %.0f%%" and click "Ok".

The new text string is now displayed in row 2.

Result:

In the previous example we saw how we can use Base registers 240 and 241 to put information on the Base GUI. We replaced the Base Application Status message with the Firing Rate message. What if we want to keep the Base Application Status message as well as Firing Rate as well as a few additional messages on the Base GUI?

Only the Application section of the Base GUI is editable so if we want to show more than one message such as Application Status, Burner Demand, Analog Signal 1, Analog Signal 2, Firing Rate, and Potentiometer reading while the burner is in Run and we want to show Application Status, Lockout Firing Rate, Last Actuator Position 1, Last Actuator Position 2, Last Actuator Position 3 and Last Actuator Position 4 when the burner is in lockout, then we will have to create a scrolling mechanism for both registers 420 and 421 in the wire sheet.

Below is an example of such a scrolling mechanism. It was added to the Honeywell SLATE ControLinks wire sheet. Each 3 seconds, the algorithm increases the counter. The 3 seconds will be the speed at which the Base scrolls through the information for Base registers 420 and 421. The text strings for Base register 421 will be the following for our example:

Register 421:

1	No application status (shows Application Disabled/Running-this is the current text string shown in the Base GUI for Application.
2	---------->Burner demand %.0f
3	---------->Analog Sig 1 %.0f mA
4	---------->Analog Sig 2 %.0f mA
5	---------->Firing Rate %.0f%%
6	---------->Pot %.0f Ohms
7	---------->Lockout Firing Rate %.0f%%
8	---------->Actuator1 Lckt pos %.0f %%
9	---------->Actuator2 Lckt pos %.0f %%
10	---------->Actuator3 Lckt pos %.0f %%
11	---------->Actuator4 Lckt pos %.0f %%

The rest of the rows are left as is.

Wire sheet Scrolling Example: