CTVUE Application Note

Number:CTVUE-1001, Revision 1, 7/30//2007
Subject: Getting Started

EMERSON. Industrial Automation

Introduction

This application note is a quick getting started guide which covers getting connected, setting up communications, defining tag data types, and working with the user interface.

Starting CTVUE Configurator Software

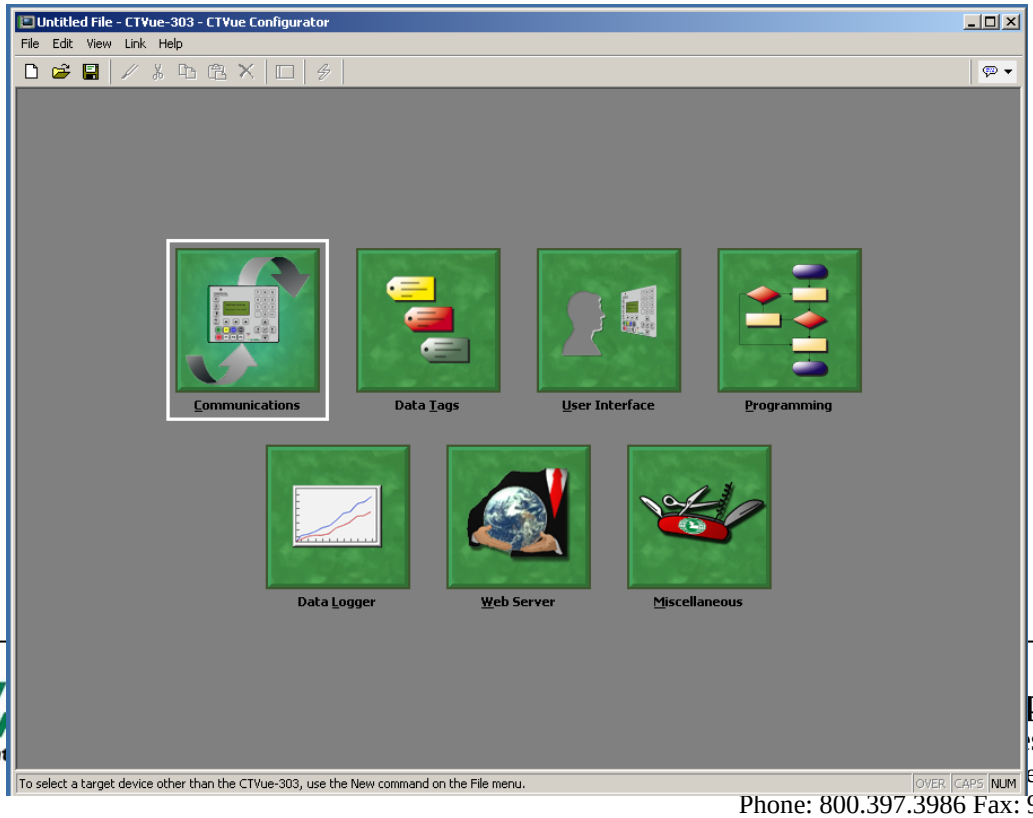
The software is located in the directory C:\program files\control techniques\CTVUE. You can access this via Windows Start menu and then going to programs and then Control Techniques. You will get the below screen when you run CTVUE.

You will need to click file new to begin an application that matches your device. In this example the device is a CTVue-303 as stated at the top.

Getting Connected

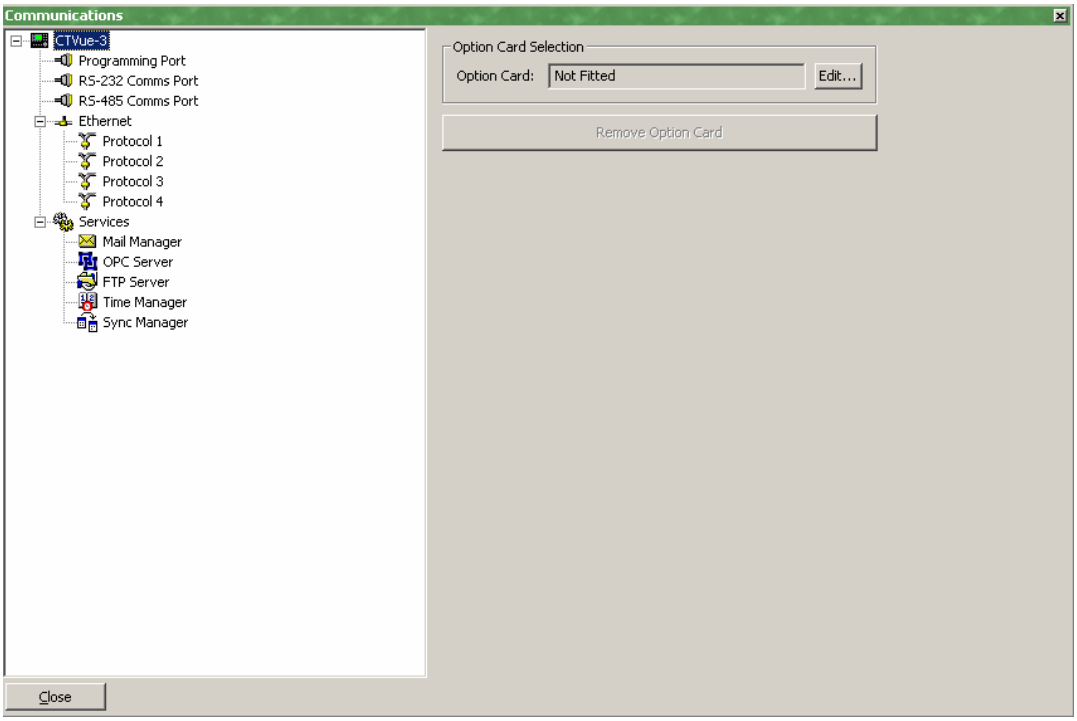
There are several means of connecting to the CTVUE via RS232, USB, or Ethernet. USB is the most common as laptops rarely have RS232 and Ethernet needs to be setup before working. USB requires that Windows have the correct USB driver's installed.

Click on the "link" drop down to setup the communications to your device. If using USB then you will be prompted by windows to setup the USB driver. It is best to manually install the driver and don't let Windows Automatically install the driver. The driver is located in C:\Program Files\Control Techniques\CTVue\Device

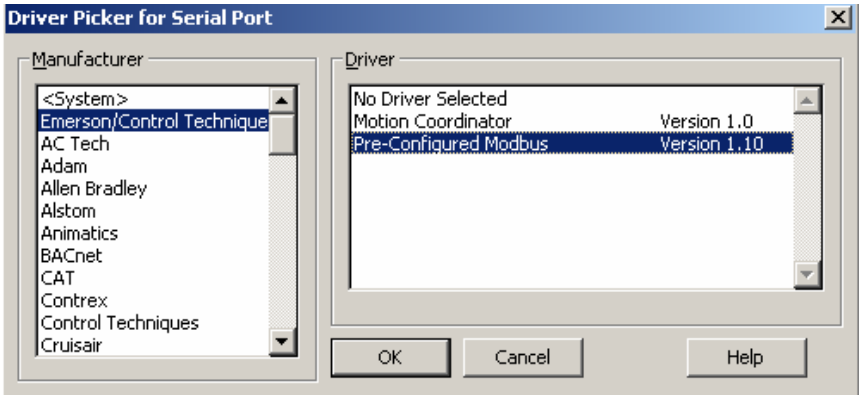


You will see several screens which you can open one at a time but not all at once.

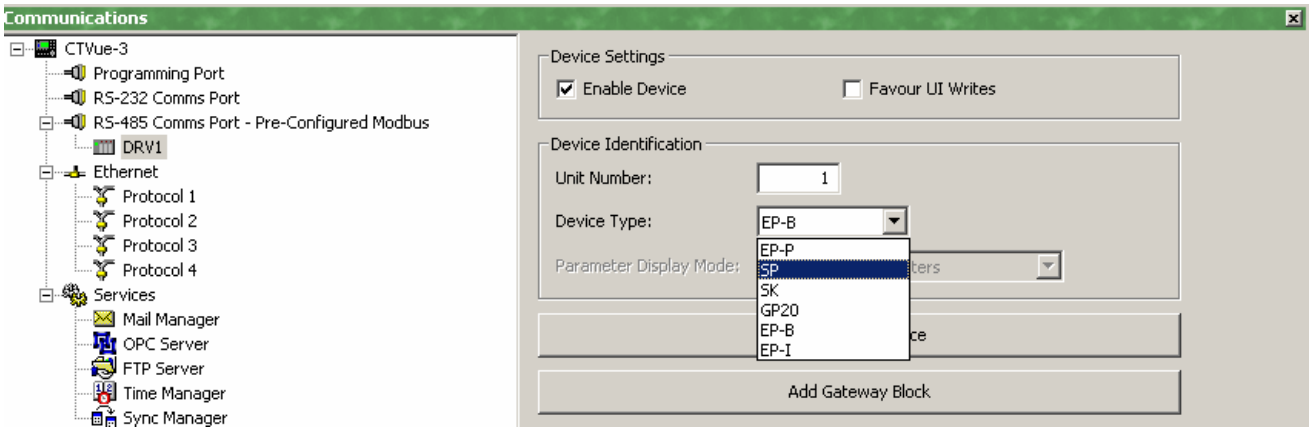
1) Open the Communications Tab to setup communications to the drive. You will get a screen with a navigation tree on the left and a window on the right per the below:



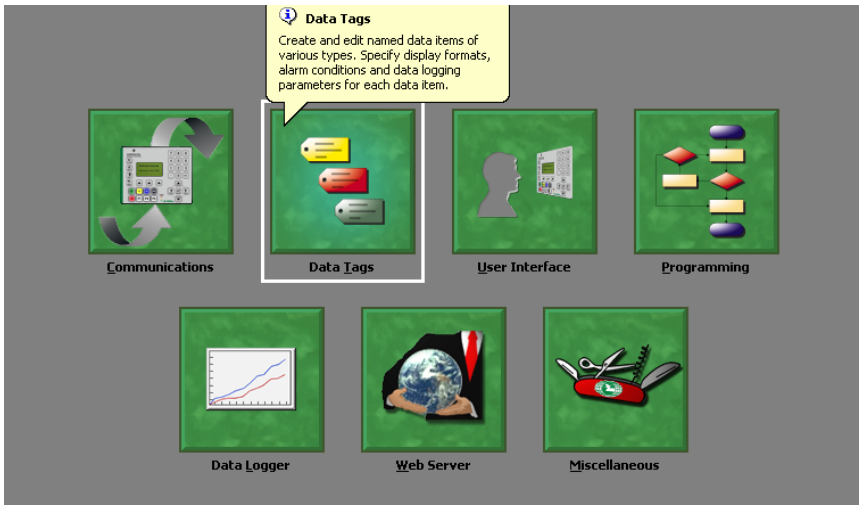
2) Now you have the option of setting up RS485 connection or an Ethernet connection. Select the port you want to configure and then you can click “Edit” in the right window to add the correct driver. After you click “Edit” you will get the below options.



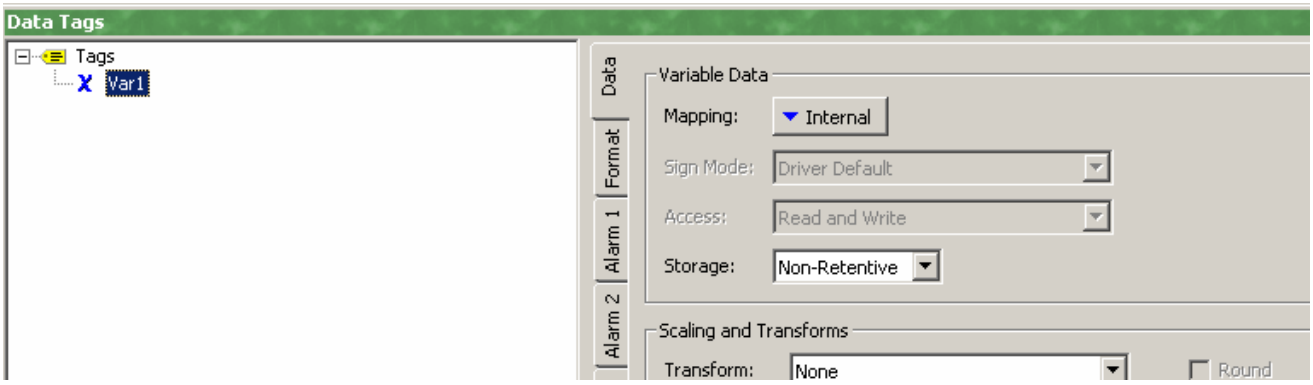
3) Select Emerson/Control Techniques and then you have several options. Motion Coordinator and Mentor are pretty straightfoward. Pre-configured Modbus is for connection to Epsilon EP family, Unidrive SP, Commander SK, and GP20 products.
4) Now you will have a DRV device located under the port in the left hand navigation tree. Click on this device and then select the type of drive you want to connect to. Also, set the modbus address to match the drives address:



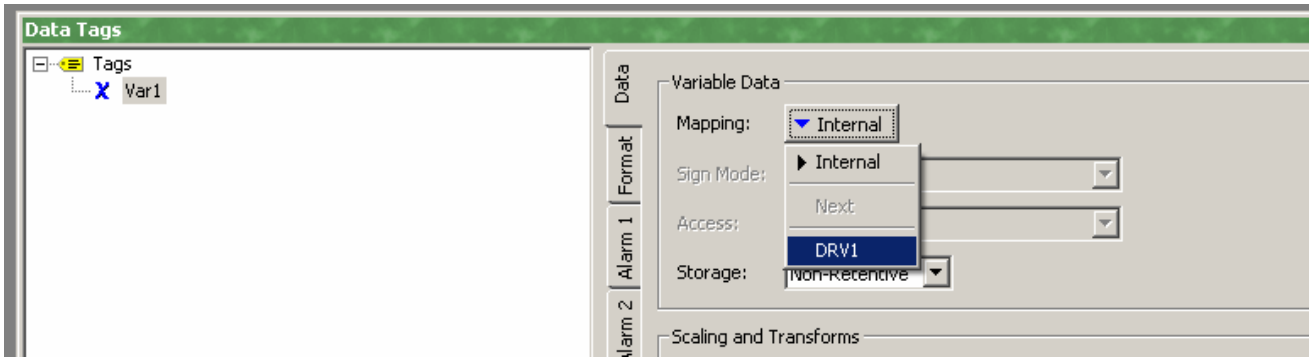
5) Now you can close the Communications window and open the Tags window and setup some variables which are linked to the drive device.



6) One you open the data tags window you will have an empty tags navigation tree on the left and windows on the right. To create a new variable click on the type you want to create with integer being the most used. So make an integer variable and then left click on the Var1 that is created. This will bring up a window where you can define the mapping to the drive.



7) Select the “mapping” and then select the device you want to connect to which in this case is DRV1.



8) You will get different options for datatypes depending on the drive you configured in the communications page of CTVUE. Below is a list of drive datatypes capabilities:

Drive	**Modbus Access**
Unidrive SP/SK/GP20	I/O, Words, 32 bit access
Epsilon EP-I/EP-B	Pre-mapped defined data, modbus registers
Epsilon EP-P	Import feature, modbus registers
MC	VR variables

9) For each Drive there are defined modbus access types to make accessing modbus information easier per the below:

Unidrive SP/SK/GP20

H4	Access 16 bit parameters
L4	Access 32 bit parameters
0xxxx,1xxxx,3xxxx,4xxxx	Access and modbus register

Epsilon EP-P

H4	Access 16 bit (word) data
L4	Access 32 bit (2 word) data
0xxxx,1xxxx,3xxxx,4xxxx	Access and modbus register

Epsilon EP-I

The Epsilon EP-I and EP-B has fixed Modbus mapping setup. When you select one of these drives you will get a list of pre-defined tags within the drive which you can access. There are probably way more available parameters then you would ever need. If there are some not listed then you can access via standard Modbus register access.

The Epsilon EP-I data types are classified into several sections:

Section	Description
Diagnostics Information	Basic read information like drive uptime
Homing Operations	Setting up how the Home will work
I/O Operations	Setting up and reading/writing I/O
Index Operations	Setting up index parameters like index distance
Jog Operations	Setting up jog parameters
Motion Operations	This one is key for executing motion
Pulse Operations	Pulse mode setup parameters
Registration Operations	Registration parameters
Status Information	All sorts of additional drive information like bus voltage
System Operation	Drive setup information such as axis name, baud rate, etc

Epsilon EP-B

The Epsilon EP-B data types uses fixed Modbus mapping setup. When you select this drive you will get a list of pre-defined tags within the drive which you can access. There are probably way more available parameters then you would ever need. If there are some not listed then you can access them via standard Modbus register access.

The Epsilon EP-B data types are classified into various sections:

Section	Description
Diagnostics Information	Basic read information like drive uptime
I/O Operations	Setting up and reading/writing I/O
Status Information	All sorts of additional drive information like bus voltage

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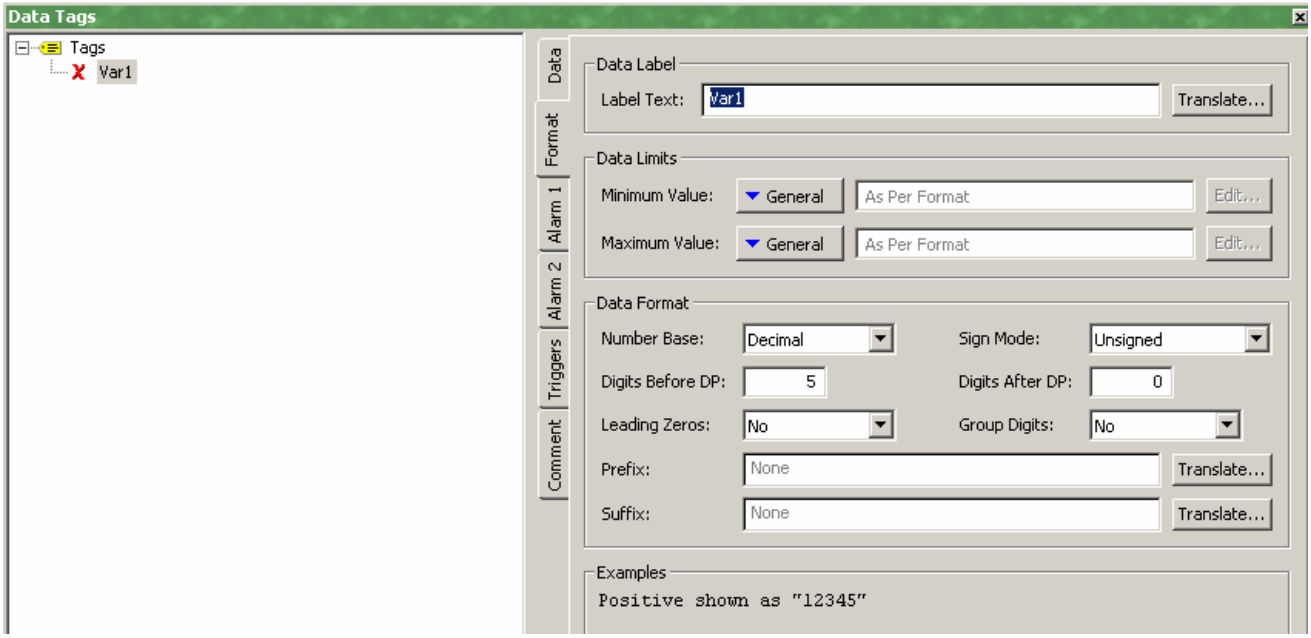
10) Once you have defined the data types select the format tab and set up the “Data Format” to match how the value is used in the drive. The default is 5 digits before the decimal place and 0 after. If you have any decimal places you will need to change the format. You only need to change here once and the format will apply to the tag anytime you use it. An example is shown on the bottom of how the data will be represented.



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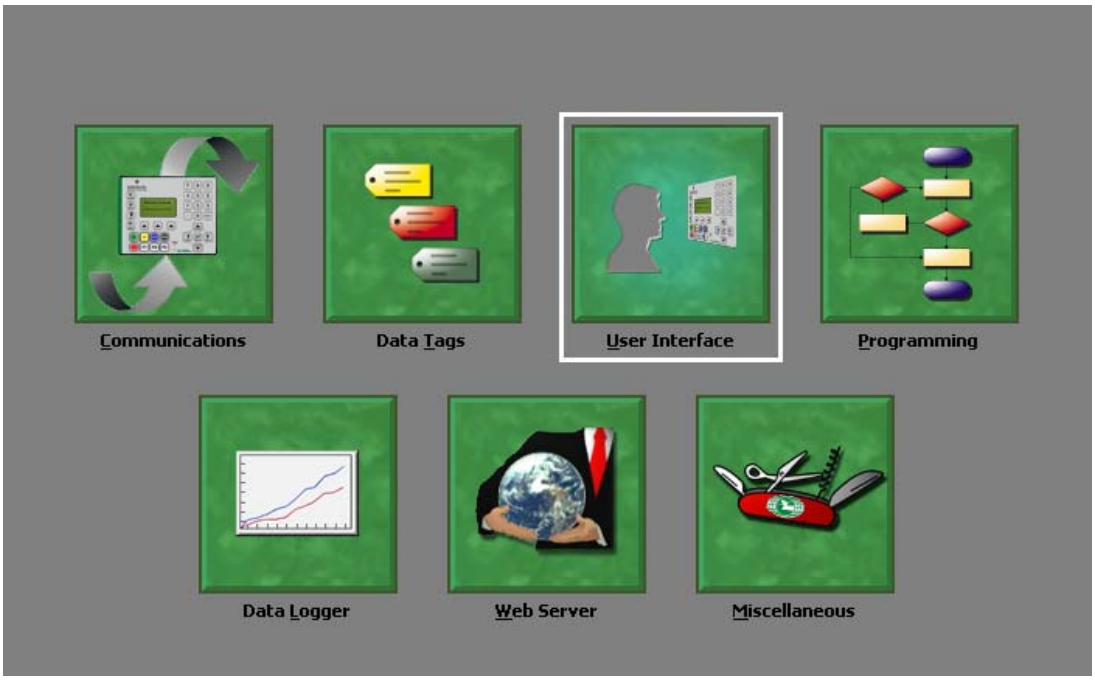
11) One your tags are setup you can close this window and now create screens. Open up the “User Interface” window.



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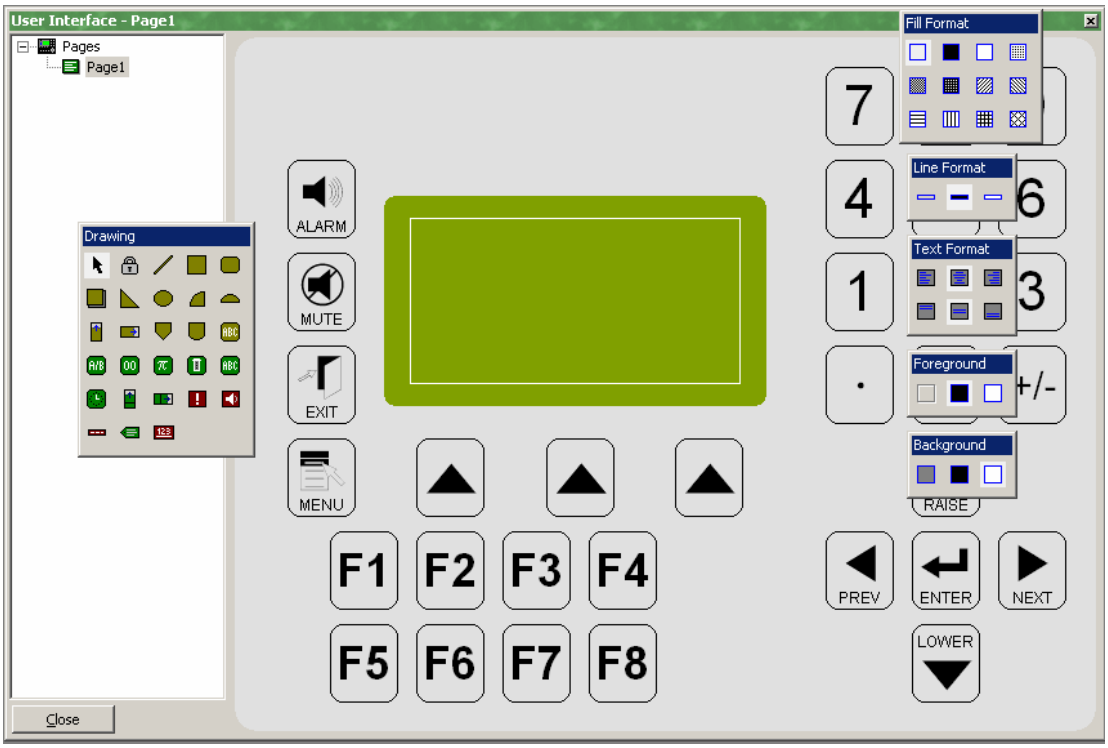
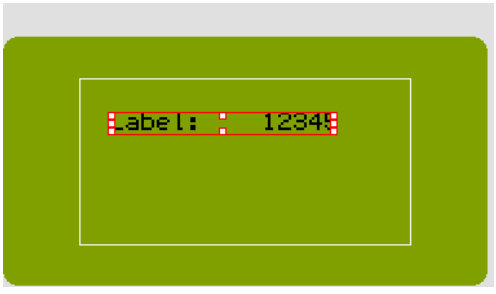
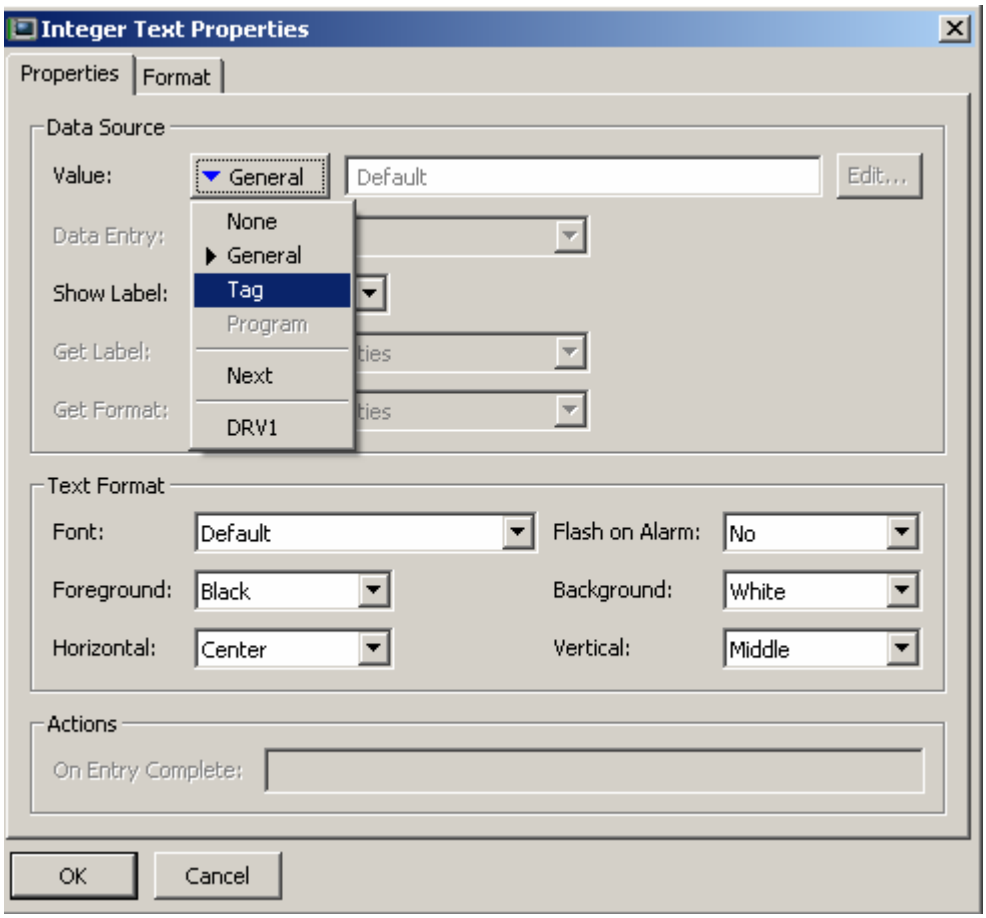
12) You will see a window with a graphic of the display you want to work on. If you click on the screen area it will bring up the toolset of available drawing objects such as data fields or push buttons.



13) In the drawing menu start by clicking on the green ‘00” button to add an integer value to the screen. Now put your mouse over the screen and you will have cross hairs to do a click and drag which will create a data field.



14) Now you can double click on the highlighted object or right click and select properties to point the data field to a tag value.



15) Once the properties window is open you can select a tag to connect to the data. You have now successfully configured a basic object and can download to your device. Download by going to the “link” drop down on the top menu and clicking “update” or “send”. Update for just updating and send for complete download. Update is really fast and for incremental changes.

16) Adding other objects is done in the same manner with different properties. For full details see the CTVUE configurator manual.