

CTVUE-1008

TUTORIALS



TABLE OF CONTENTS

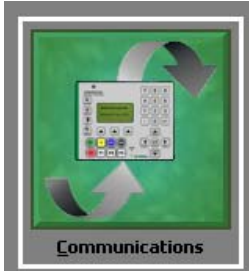
Access Drive Data.....	4
Multi Communication Ports	5
Protocol Converter	6
Hide Object	11
Web Server.....	12
Email/SMS Notification.....	13
Security Manager	17
USB Connection	19
Math and Formulas	20
Recipes and Arrays	21
Built In Compiler	24
Data Logging.....	27
Event Logging.....	29
Security Logging.....	31
CompactFlash Card Access	32
Banner Vision Sensor.....	36

ACCESS DRIVE DATA

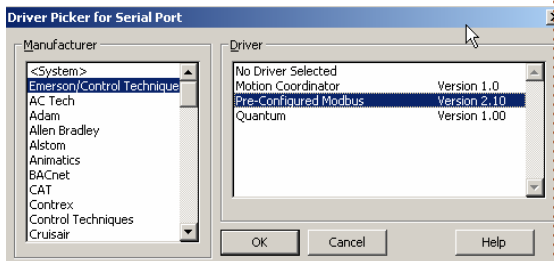
TU0001

ACCESS CONTROL TECHNIQUES DRIVE DATA IN JUST 6 STEPS

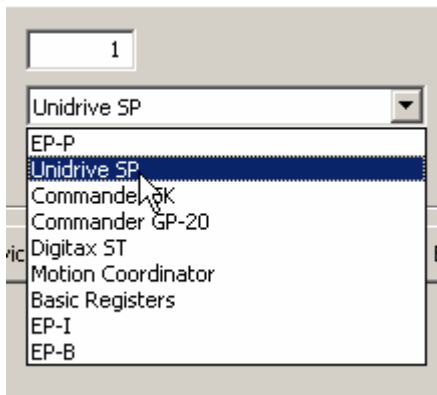
Step 1 Enter the "Communications" module.



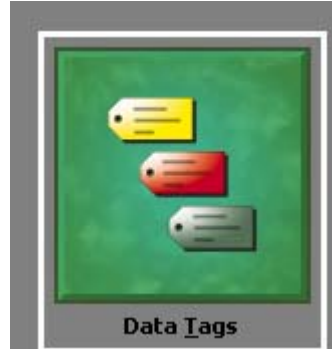
Step 2 Select a serial or Ethernet port and choose Emerson/CT



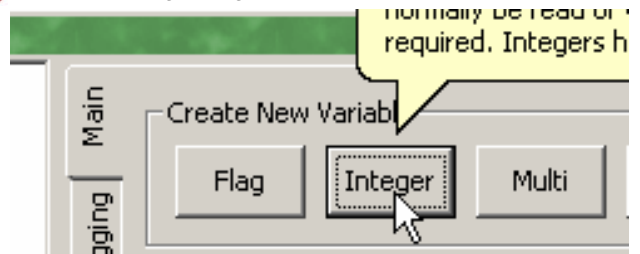
Step 3 Select the Drive you want and enter address



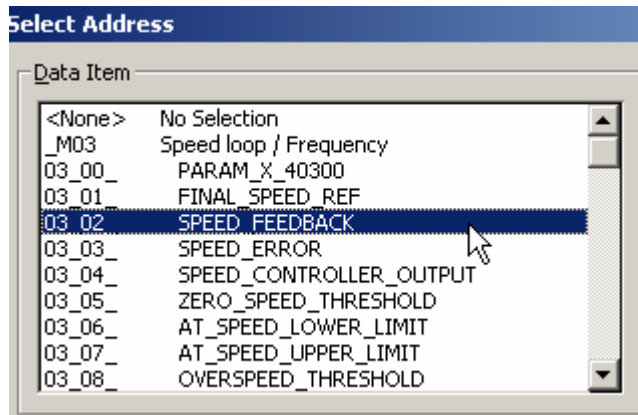
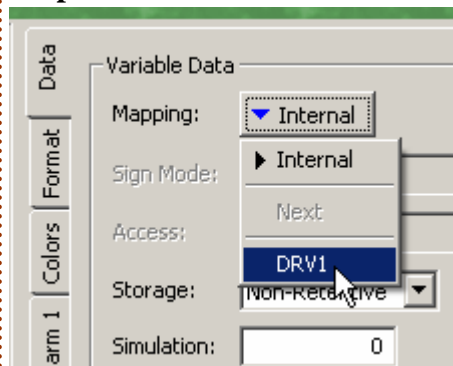
Step 4 Open the "Tag" Module



Step 5 Create an Integer Tag



Step 6 Select the Drive Parameter you want from the drive menu

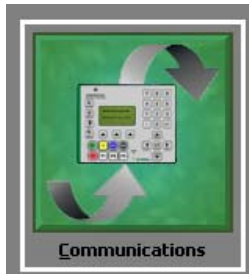


MULTI COMMUNICATION PORTS

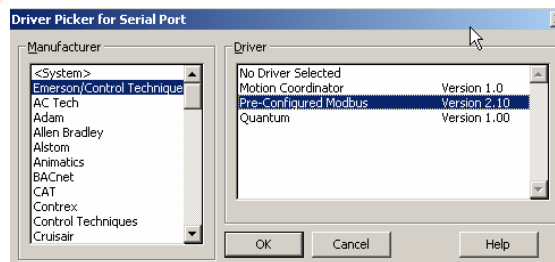
TU0001

CONFIGURING MULTIPLE PROTOCOLS IN JUST 5 STEPS

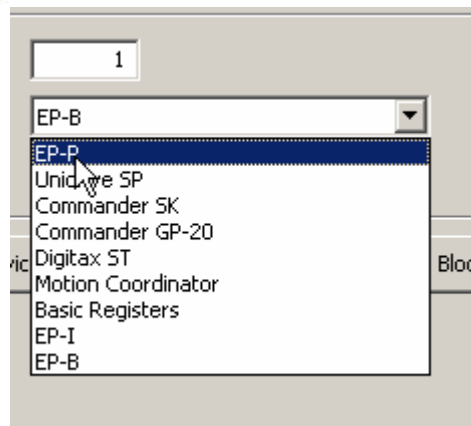
Step 1 Enter the "Communications" module.



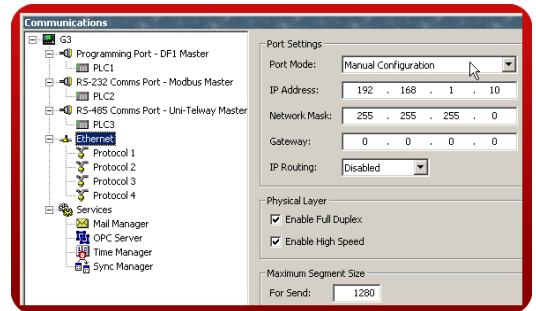
Step 2 Select a serial port and choose Emerson/CT



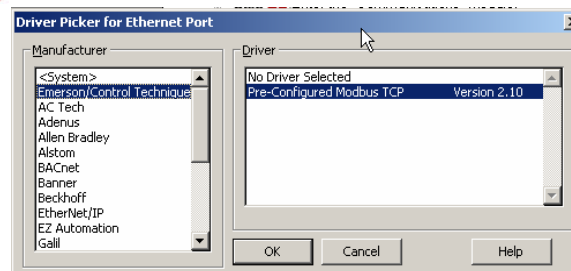
Step 3 Select the Drive you want



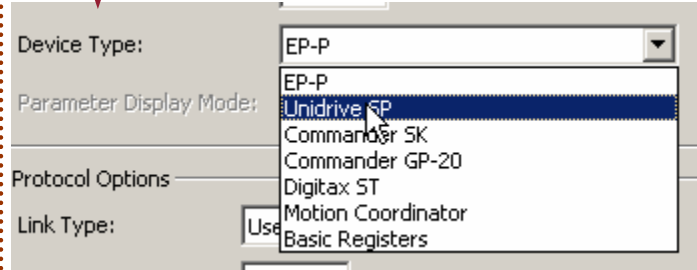
Step 4 Enable the Ethernet port.



Step 5 Select the Emerson/CT Ethernet protocol.



Step 6 Select the Drive you want



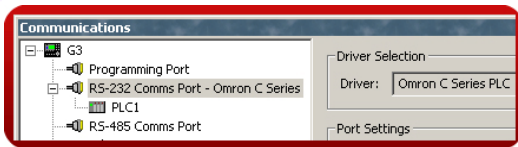
For more information on CTVUE, refer to the manual.

PROTOCOL CONVERTER

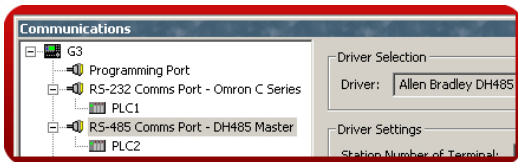
TU0002

PROTOCOL CONVERSION IN JUST 5 STEPS

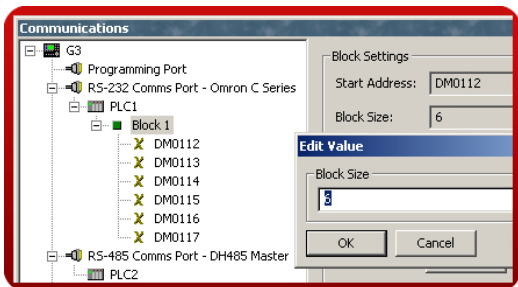
Step 1 Select your first protocol.



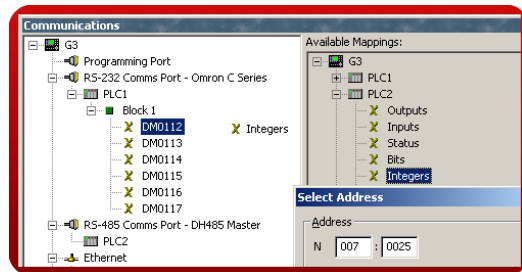
Step 2 Select your second protocol.



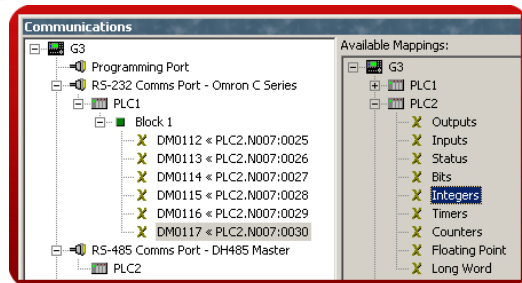
Step 3 Define a block to exchange data.



Step 4 Drag and drop your other device's data.



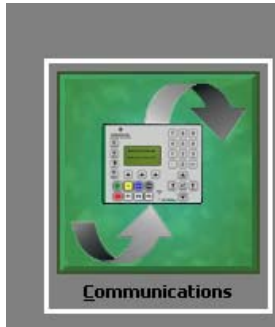
Step 5 Ready to go!



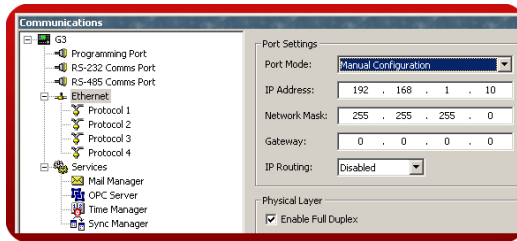
For more information on CTVUE, refer to the manual.

ETHERNET COMMUNICATION IN JUST 4 STEPS

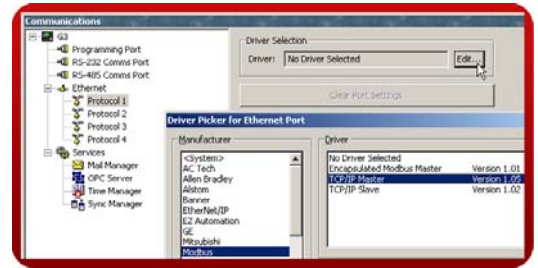
Step 1 Enter the "Communications" module.



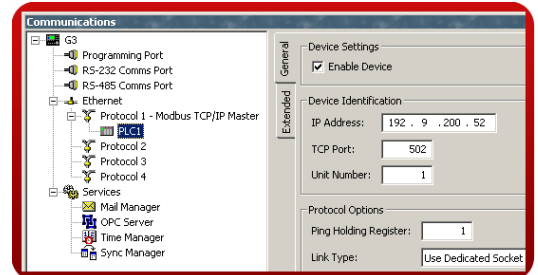
Step 2 Select the Ethernet port and enter the CTVUE's IP address.



Step 3 Select the manufacturer and pick a driver.



Step 4 Enter the target device's IP address.



Ethernet communication setup complete!

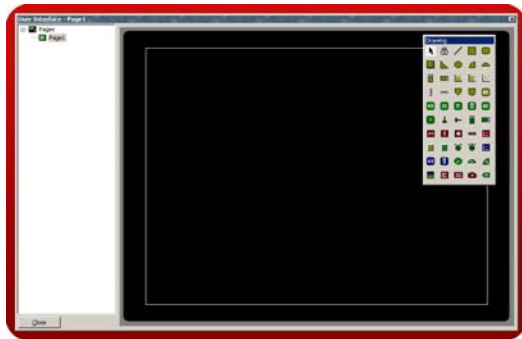
For more information on CTVUE, refer to the manual.

ADD PROFESSIONAL GRAPHICS IN JUST 5 STEPS

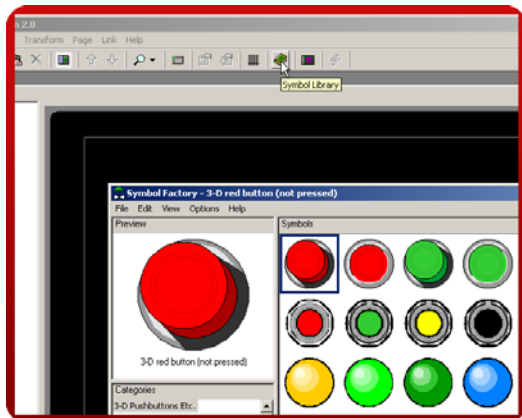
Step 1 Enter the "User Interface" module.



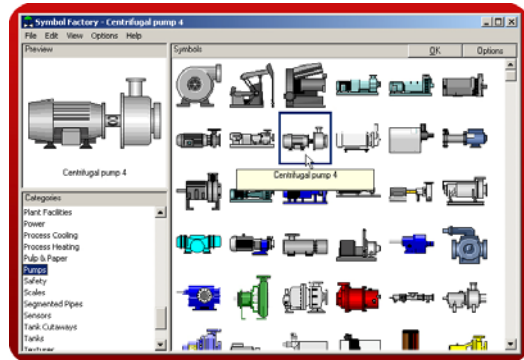
Step 2 Click on the screen to get the drawing dialog box.



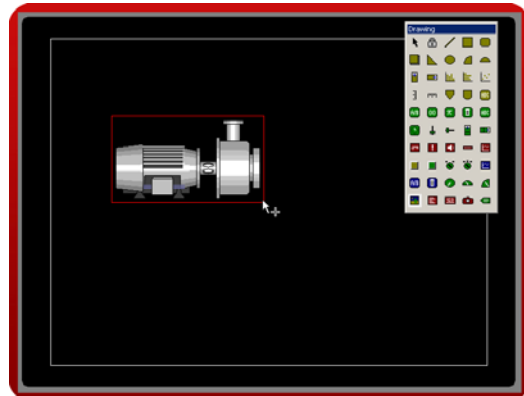
Step 3 Click on the symbol library.



Step 4 Select a symbol and click ok.



Step 5 Click and drag on to the screen to insert the symbol.

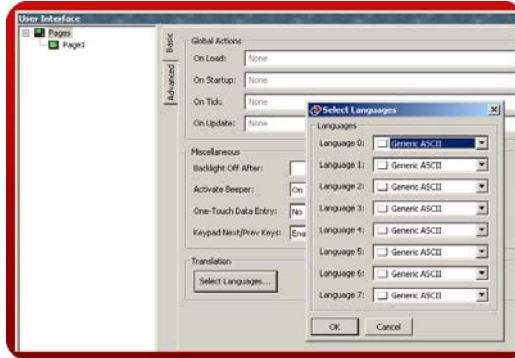


SET UP MULTIPLE LANGUAGES IN JUST 5 STEPS

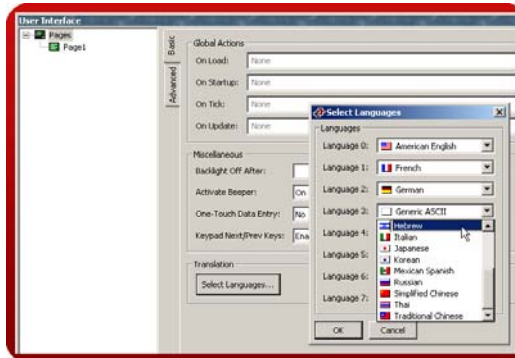
Step 1 Enter the "User Interface" module.



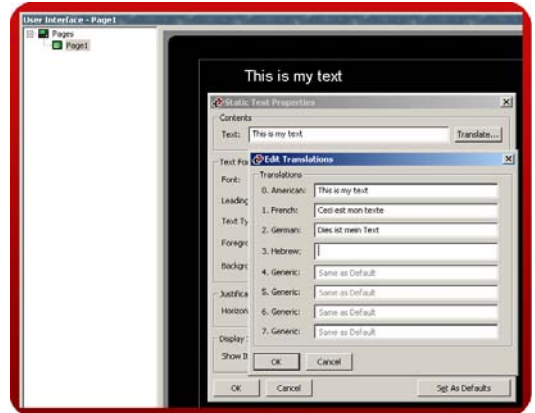
Step 2 On "Pages", click "Select languages".



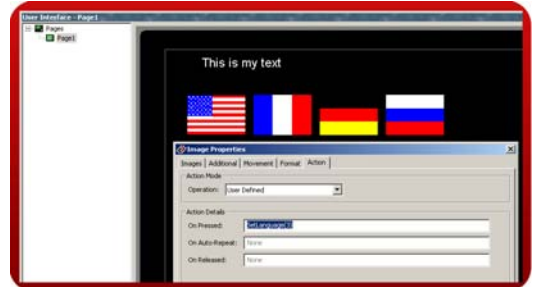
Step 3 Define the languages you want.



Step 4 During programming, just click the translate buttons to enter the right text.



Step 5 Languages can be selected using the `SelectLanguage(int)` function.



Pressing the flags will switch languages!

For more information on CTVUE, refer to the manual.

CREATING ANIMATION IN JUST 5 STEPS

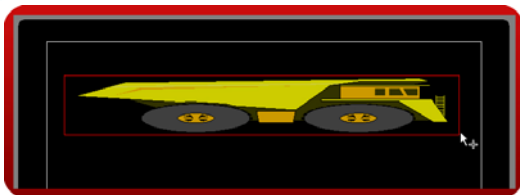
Step 1 Enter the “User Interface” module.



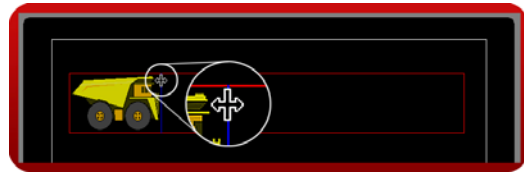
Step 2 Insert an object from the library.



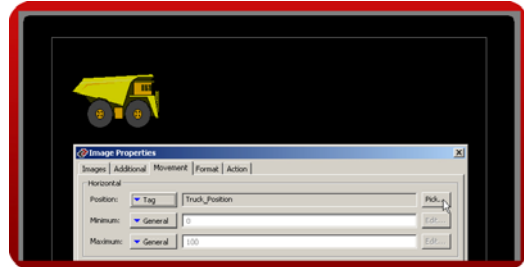
Step 3 Resize the object to define animation area.



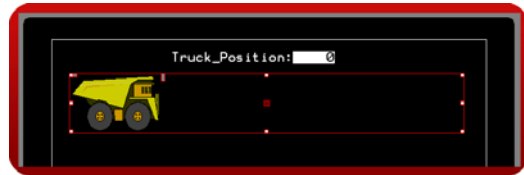
Step 4 Move object handles to define object size.



Step 5 Go to the Movement tab in the object properties. Enter the tag name that will control the object position.



Step 6 When the tag value changes, the object animates.



Object animation complete!

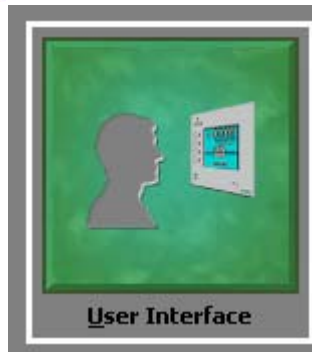
For more information on CTVUE, refer to the manual.

HIDE OBJECT

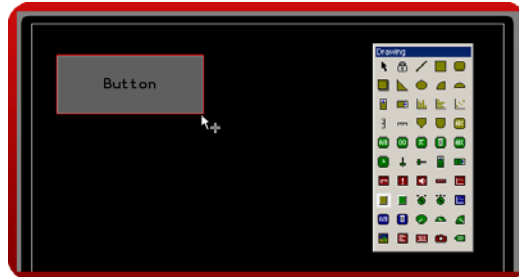
TU0009

HIDING OBJECT IN JUST 5 STEPS

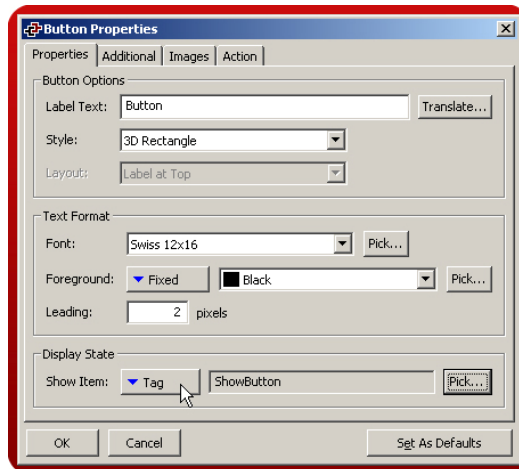
Step 1 Enter the "User Interface" module.



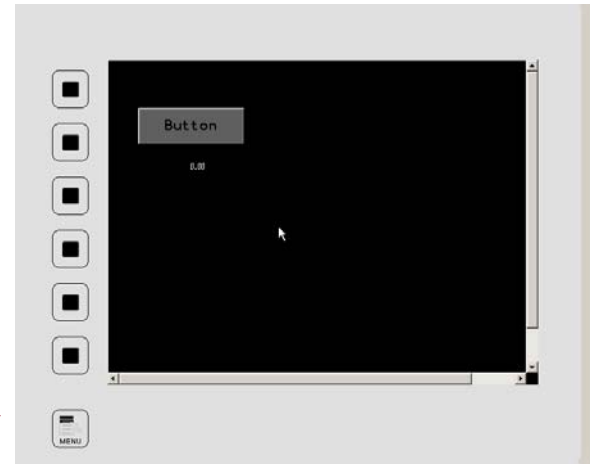
Step 2 Insert an object from the library or any other primitives (buttons, etc.).



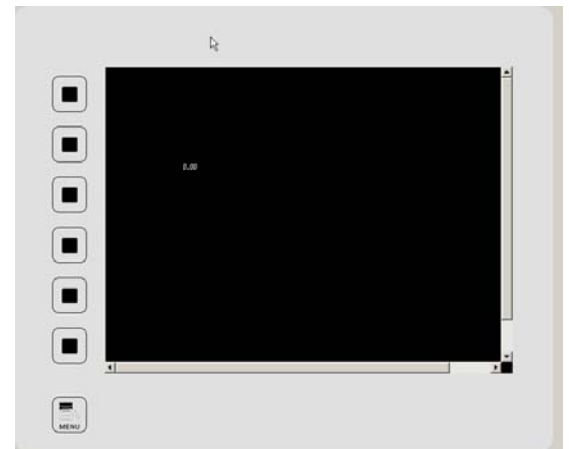
Step 3 Enter object properties and define a tag in the "Show Item" field.



Step 4 If the condition in "Show Item" is true, the object will be visible.



Step 5 If the condition in "Show Item" is false, the object will be invisible.



Hide object is completed!

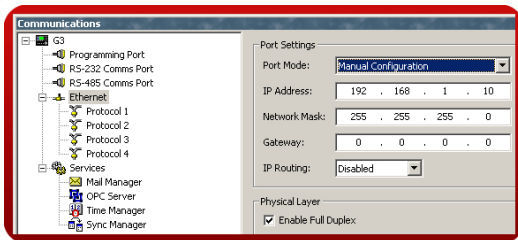
For more information on CTVue, refer to the manual.

ACTIVATING THE WEB SERVER

Step 1 Enter the "Communications" module.



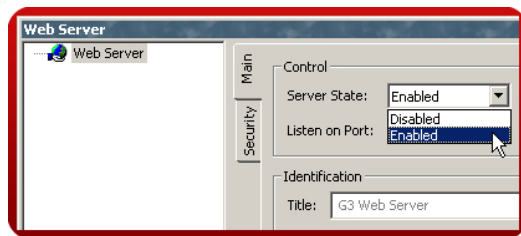
Step 2 Enable the Ethernet port.



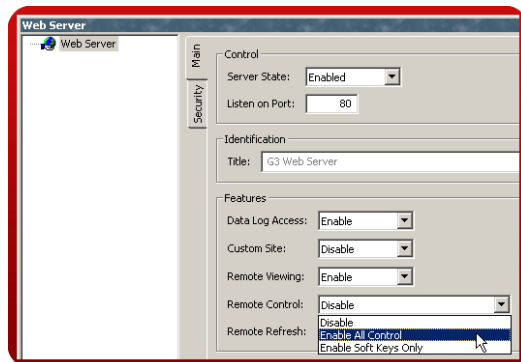
Step 3 Enter the "Web Server" module.



Step 4 Enable the server.



Step 5 Enable the desired level of remote access.



Web Server set up complete!

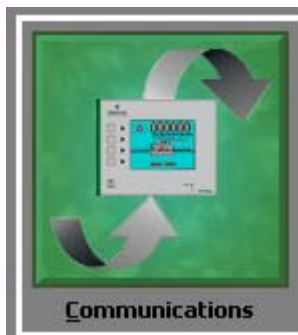
For more information on CTVUE, refer to the manual.

EMAIL/SMS NOTIFICATION

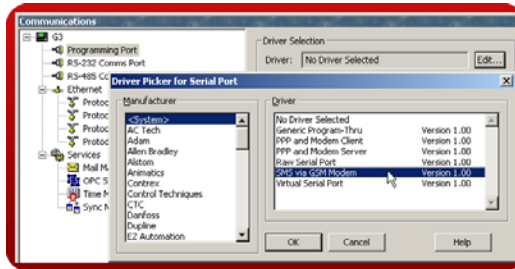
TU0011

TEXT MESSAGING IN 7 STEPS

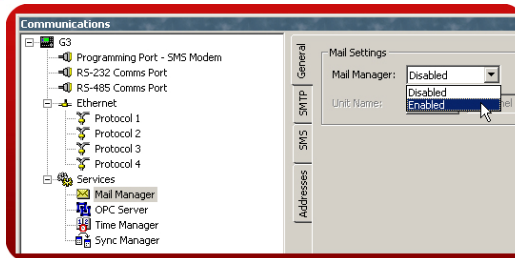
Step 1 Enter the "Communications" module.



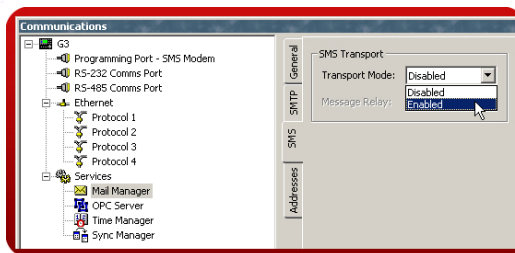
Step 2 Select a serial port and choose the driver SMS via GSM Modem.



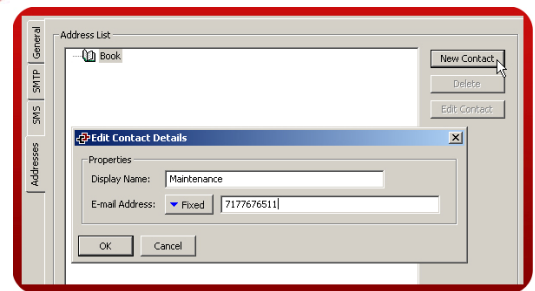
Step 3 Enable the Mail Manager.



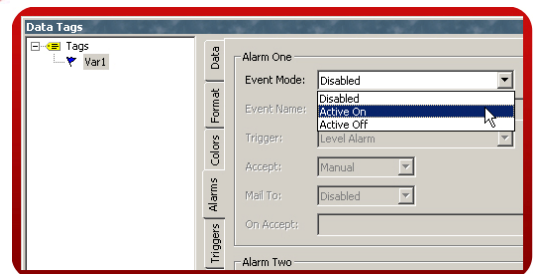
Step 4 Enable SMS Transport Mode.



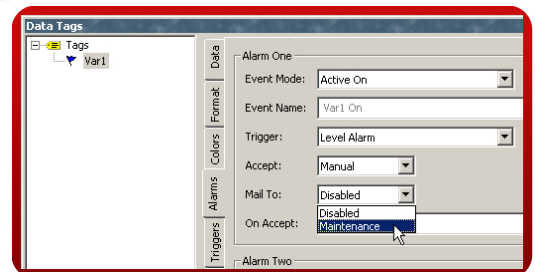
Step 5 Create a contact and insert phone number.



Step 6 Create an alarm on a tag.



Step 7 Define the contact targeted by the alarm.



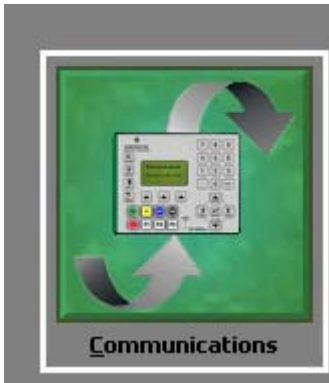
When the alarm is true, a text message will be sent to the defined contact. The message content is the alarm text.

Text messaging complete!

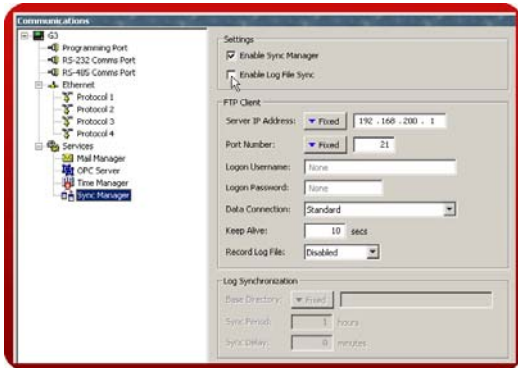
For more information on CTVue, refer to the manual.

FTP SYNCHRONIZATION IN 7 STEPS

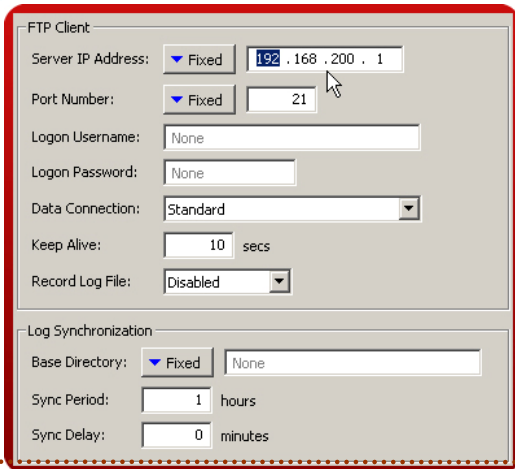
Step 1 Enter the "Communications" module.



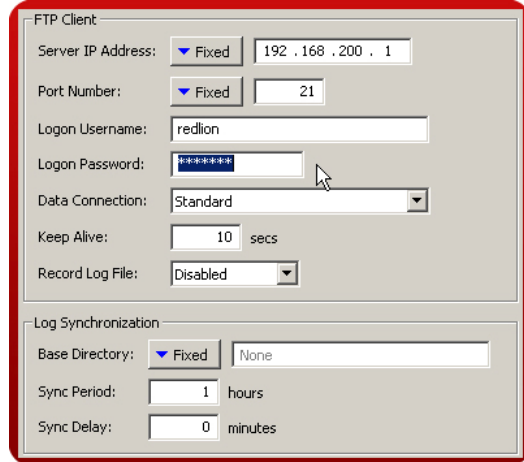
Step 2 Enable Synchronization manager and Log File Sync.



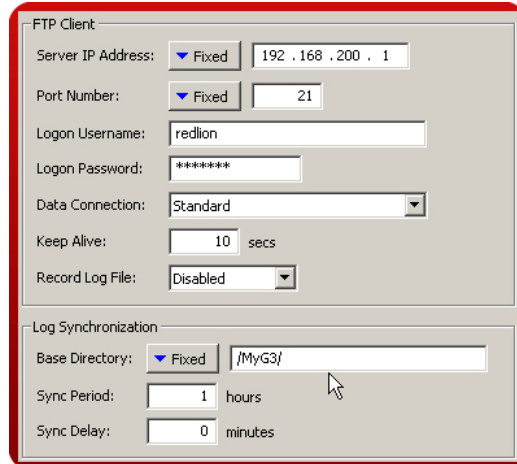
Step 3 Enter the FTP server's IP address.



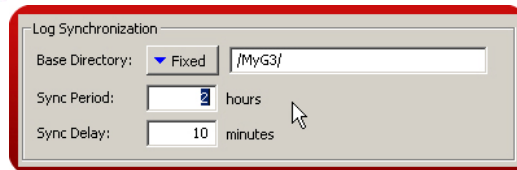
Step 4 Enter User name and Password for the CTVue to log onto the server.



Step 5 Define the PC root directory where the files will be saved.



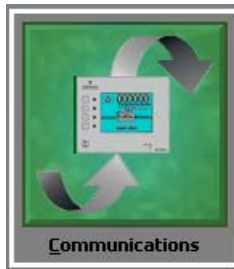
Step 6 Enter the synchronization frequency.



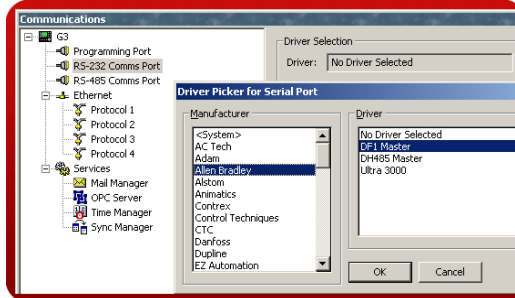
The CTVue will synchronize the content of the Compact Flash card with the FTP server as defined in the Sync period.

PASS-THROUGH PROGRAMMING IN JUST 7 STEPS

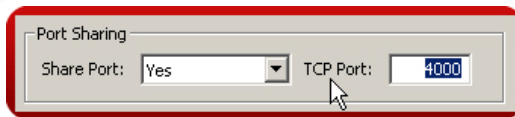
Step 1 Enter the "Communications" module.



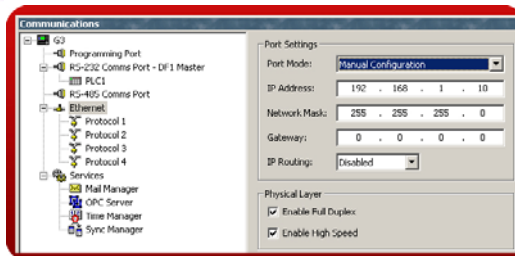
Step 2 Select the driver for your PLC.



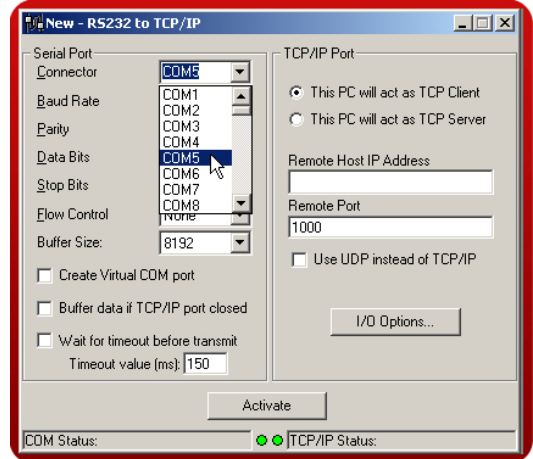
Step 3 Share the port with a TCP socket.



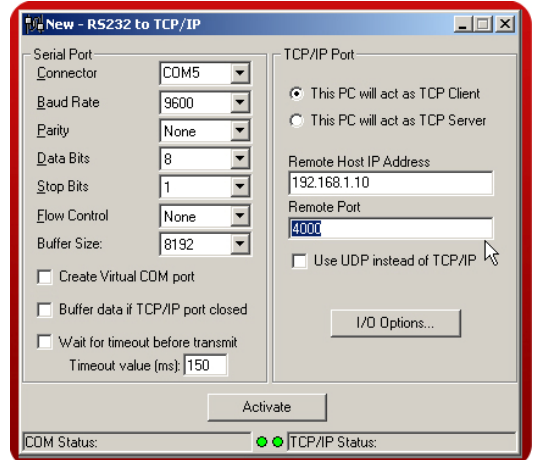
Step 4 Enable the CTVUE's Ethernet port.



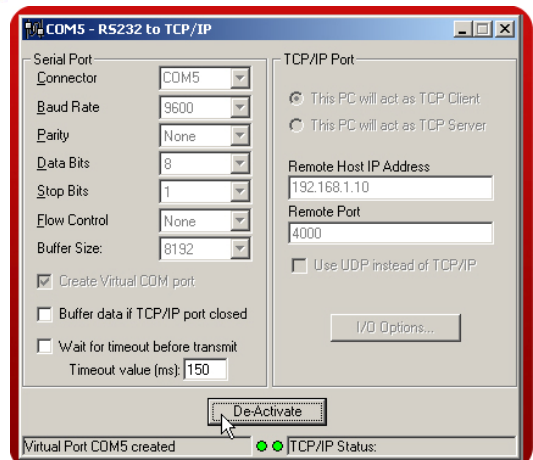
Step 5 Run any VSP Software (Example below is TCP Com) and define the COM port your PLC software will be using.



Step 6 Define the host IP address, which is the CTVUE, and the targeted TCP port.



Step 7 Activate the port.



* Some PLCs do not support this feature. Profibus, CAN Open and Devicenet do not support pass-through.

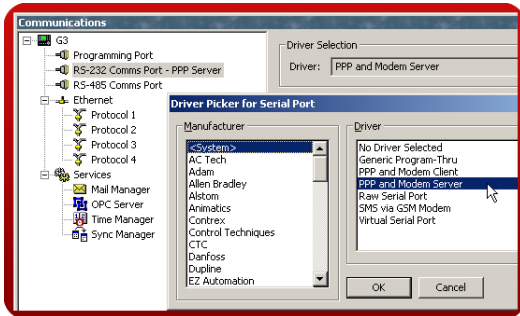
Your PLC software is now ready to use this virtual port as if it was connected directly to the PLC.

CTVUE ACCESS VIA LANDLINE MODEM IN JUST 8 STEPS

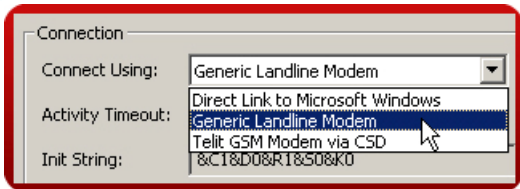
Step 1 Enter the "Communications" module.



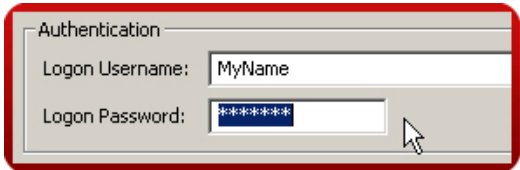
Step 2 Select a serial port and choose the "PPP and Modem Server" driver.



Step 3 Select Generic Landline Modem.



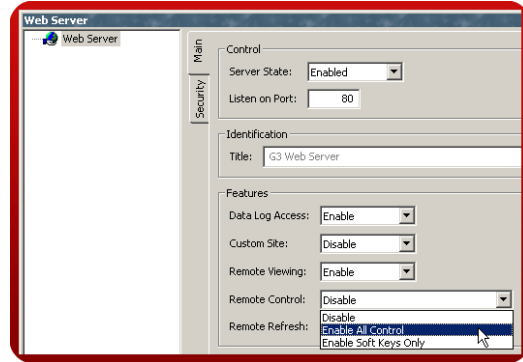
Step 4 Enter a username and password to protect your connection.



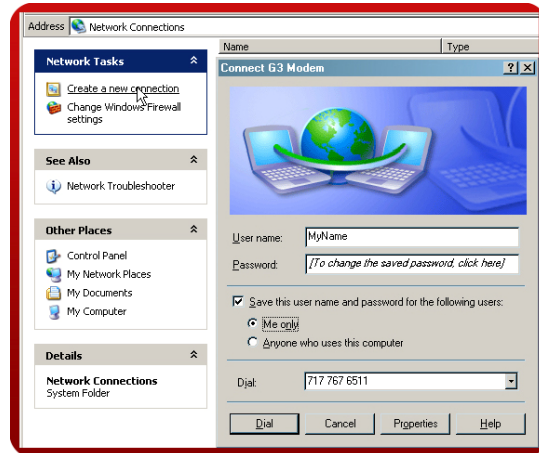
Step 5 Enter the "Web Server" module.



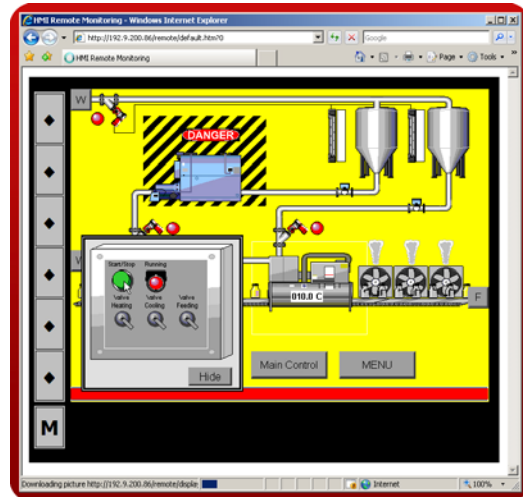
Step 6 Activate the web server and choose options.



Step 7 Create a connection on your PC for CTVUE access.



Step 8 Call the CTVUE and run Internet Explorer to view the web server.



Modem connection complete!

For more information on CTVUE, refer to the manual.

SECURITY MANAGER

TU0016

SECURE PAGE ACCESS IN 8 STEPS

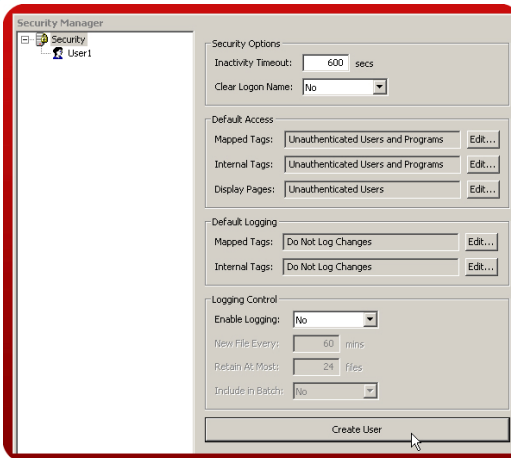
Step 1 Enter the "Security Manager" module.



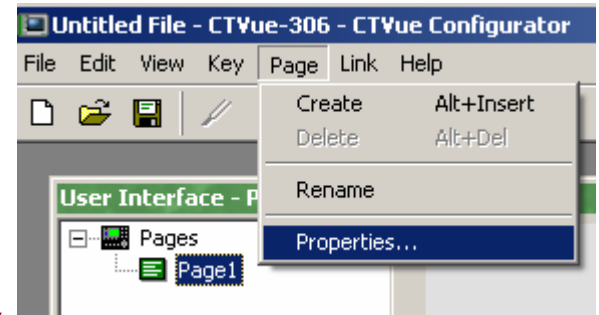
Step 6 Enter the "User Interface" module.



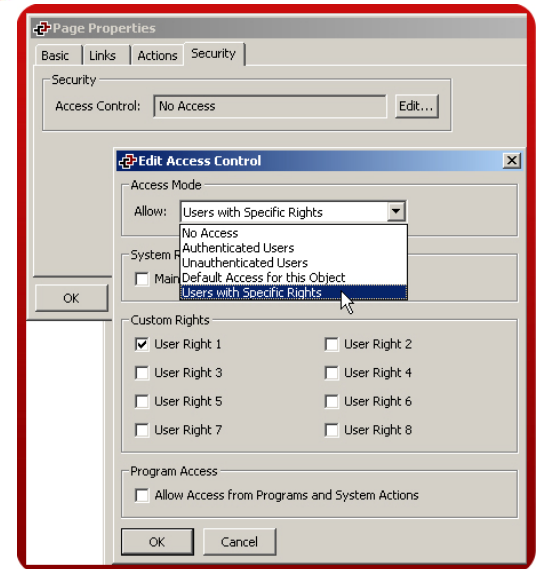
Step 2 Create a new user.



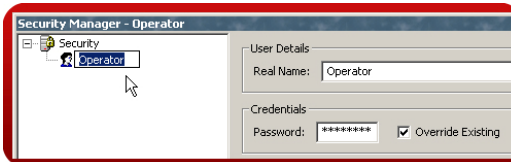
Step 7 Select the page to protect and go to properties.



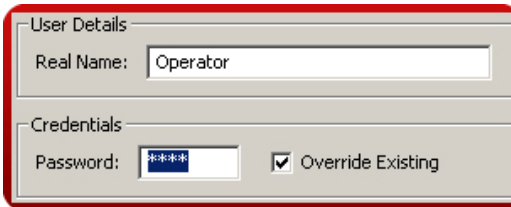
Step 8 On the security tab, edit the access right for this page.



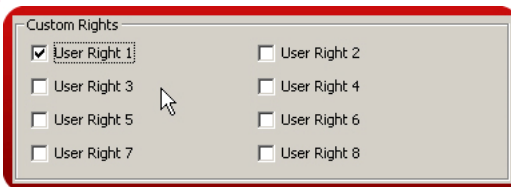
Step 3 Enter a username and real name.



Step 4 Set the password.



Step 5 Assign user rights.

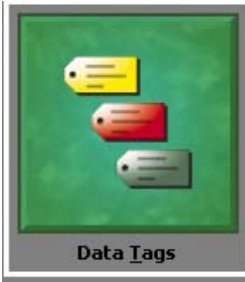


Only users with access right 1 can access the page. Attempts to access this page will result in a login popup window.

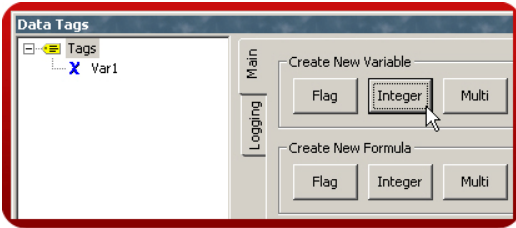
Security Manager setup complete!

RETENTIVE TAGS CONFIGURATION IN 4 STEPS

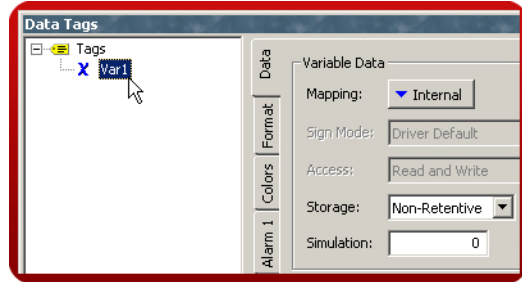
Step 1 Enter the “Data Tags” module.



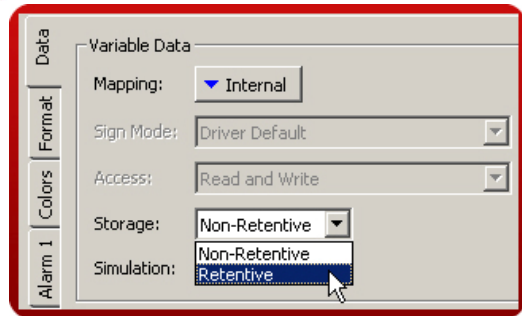
Step 2 Create a variable.



Step 3 Select the variable.



Step 4 In the data tab, set the tag to retentive.



For efficiency, the CTVUE caches several minutes' worth of writes before committing to memory.

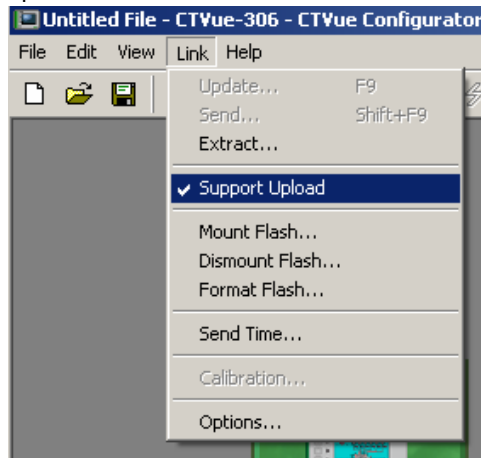
Retentive memory setup complete!

USB CONNECTION

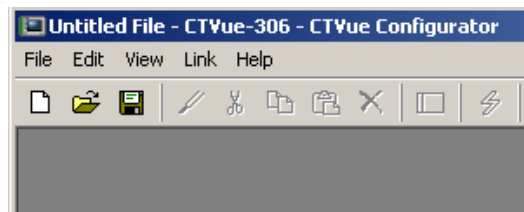
TU0018

DOWNLOAD AND EXTRACT

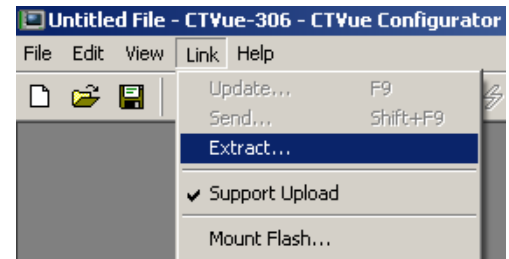
Step 1 Checkmark the Support Upload to allow future upload.



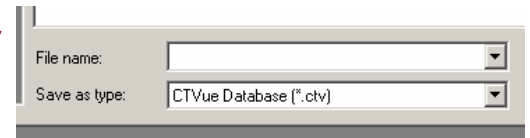
Step 2 Download via the Link menu.



Step 3 To upload a database, select the Extract menu item.



Step 4 Once uploaded, CTVUE will prompt you to save the database.



Download and extraction complete!

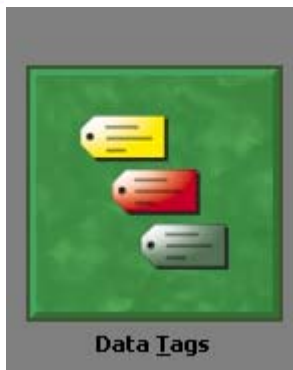
Retentive memory setup complete!

MATH AND FORMULAS

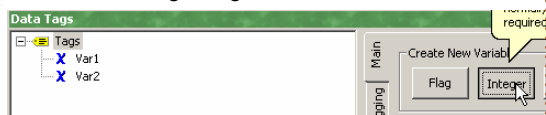
CREATING AND USING FORMULAS

Simple average calculation.

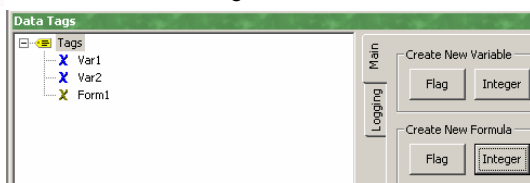
Step 1 Enter "Data Tags" module.



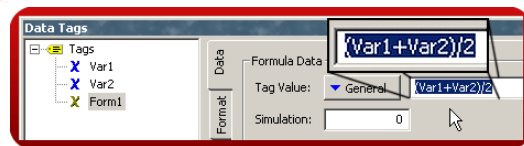
Step 2 Create two integer tags.



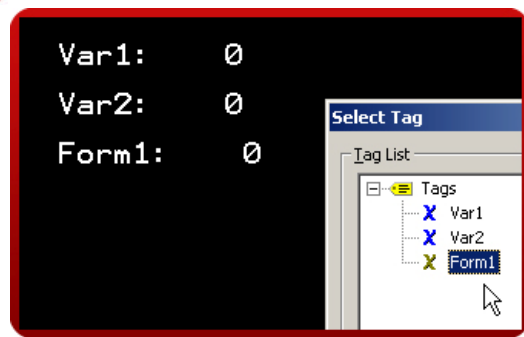
Step 3 Create a formula integer.



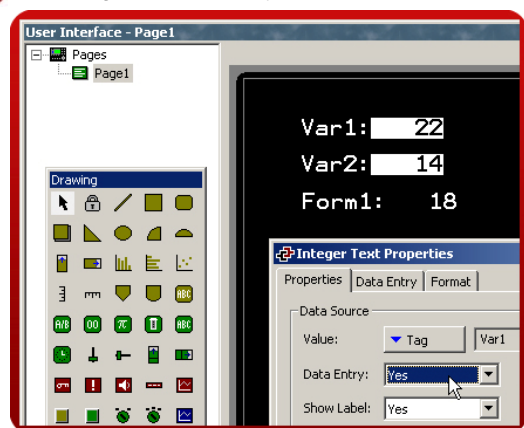
Step 4 Enter the equation.



Step 5 Insert tags and formulas on the user interface.



Step 6 Setup tags as Data Entry.

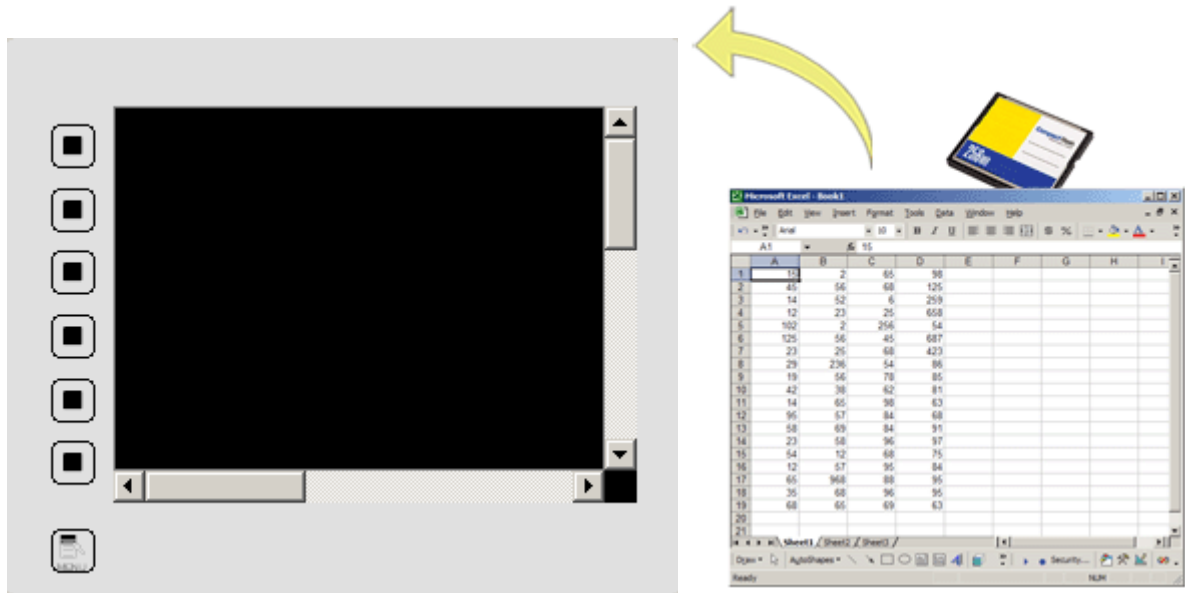


When the tags values change, the formula result follows.

Formula setup complete!

For more information on CTVUE, refer to the manual.

DESCRIPTION



The CTVUE unique data handling capability provides all the necessary tools to manage recipes. You can load or download your process or batch-values to any of the communication devices linked to the HMI.

By storing the recipes to CompactFlash card, you can transfer your production data from one machine to another or from laboratory to production.

User programming is required to achieve recipe transfer with the CompactFlash card.

BENEFITS

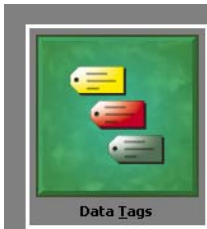
- Handle your different production batches with simplicity by just loading the right recipes.
- No extra PLC memory or complex mapping to handle, everything is saved in the CTVUE.
- Get the recipes straight from the CompactFlash card in the CTVUE memory.

EXAMPLE

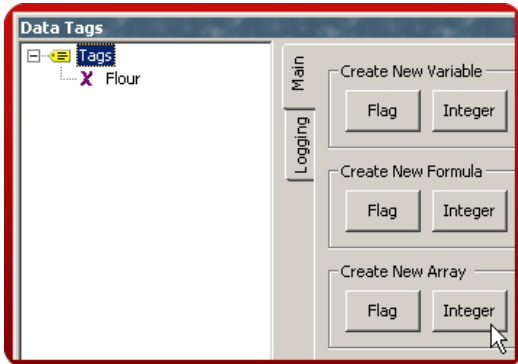
A plant specialized in plastic extrusion handles up to 2000 profiles. Each profile has specifications in colors, shape, density and plastic type. Before each batch, all specs are loaded from the recipes by just typing the part number. If a new plastic is created, the laboratory provides the specs on a CompactFlash card in a CSV file so entering data is not even necessary.

CREATING A SIMPLE RECIPE FUNCTION IN 10 STEPS

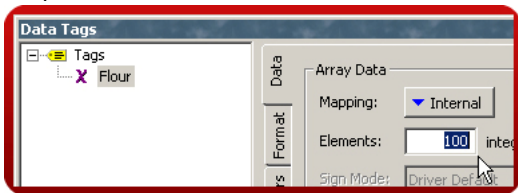
Step 1 Enter the "Data Tags" Module.



Step 2 Create an Integer array. One array will represent one recipe ingredient.



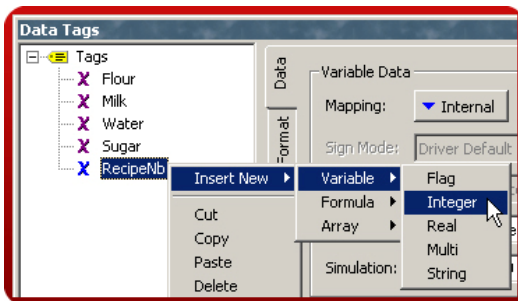
Step 3 Define the array size. This will be the number of recipes.



Step 4 Repeat step 2 and 3 for each ingredient.

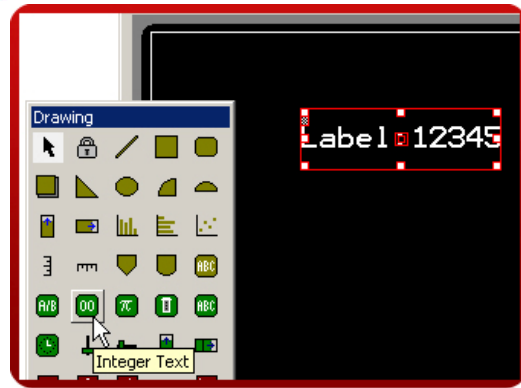


Step 5 Create a variable integer representing the recipe number.



Step 10 Insert the tag RecipeNb so you can choose the recipe to display. Set the field as Data Entry.

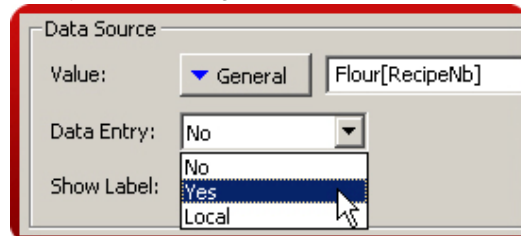
Step 6 In the "User Interface" Module, insert an integer text.



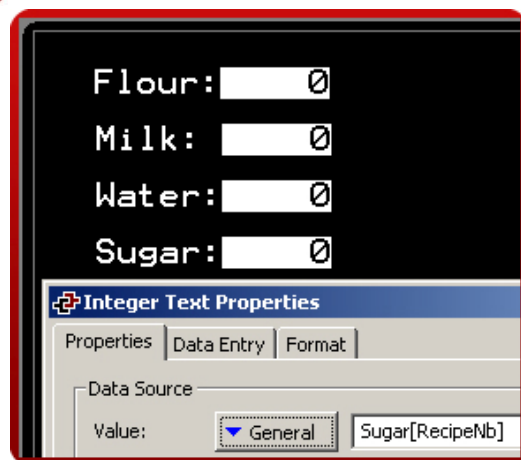
Step 7 In the primitive properties, enter the array name and index variable.



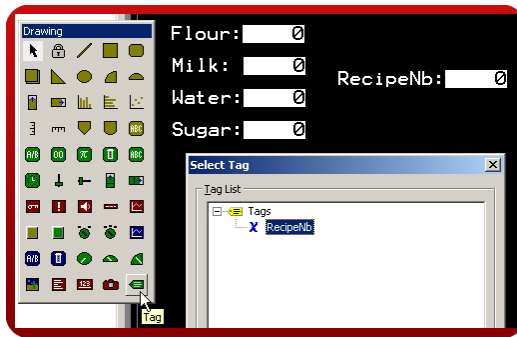
Step 8 Define the field as Data Entry so that you can modify the recipe ingredient value.



Step 9 Repeat step 7 and 8 to display each ingredient.



Step 10 on following page.

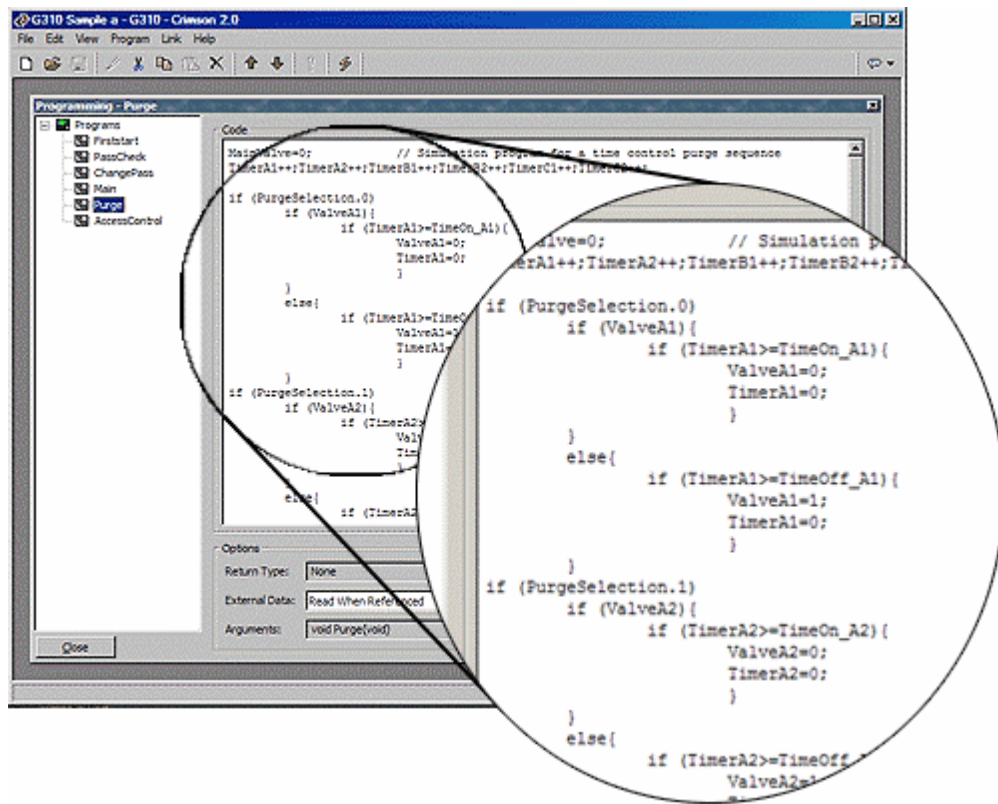


This example is now ready to use. Create recipes by changing values in the ingredients for a defined recipe number. Altering the recipe number will change the recipe being viewed.

Recipe setup complete!

For more information on CTVUE, refer to the manual.

DESCRIPTION



While we do our best to create the most powerful interface on the market, we can't always keep up with our customers' imaginations. We've thus included a powerful programming system to allow you to implement any additional functionality that your application may need. The C-like programming language features blistering performance, advanced math capability, and provides direct access to many of the CTVUE's unique features, like the CompactFlash card and the multiple serial ports. You can even create TCP/IP connections to extract data from websites!

BENEFITS

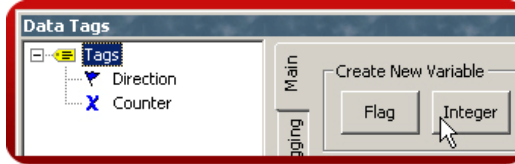
- Create your own function and programs to customize your program and differentiate your system.
- No limitation from the HMI, you can still go further.
- Programming language easy to use, based on C programming syntax and integrating a library of built in functions.

CREATING A SIMPLE PROGRAM IN 10 STEPS

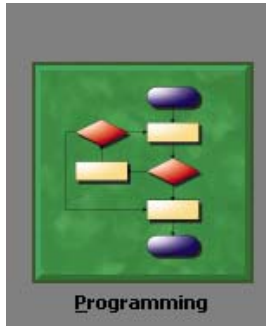
Step 1 Create a flag called "Direction".



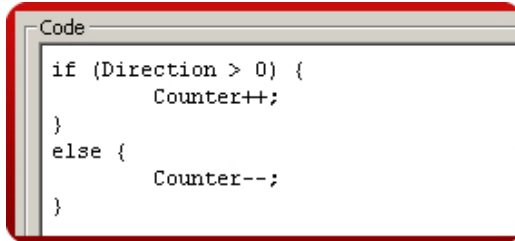
Step 2 Create an integer variable called "Counter".



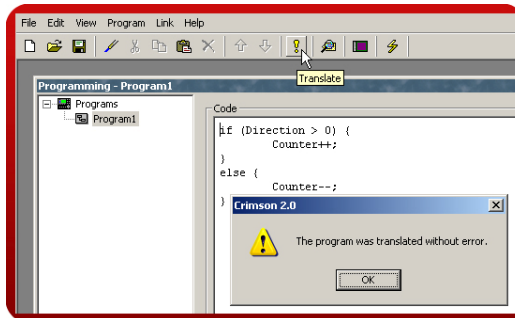
Step 3 Enter the "Programming" module.



Step 4 Insert the following code.



Step 5 Compile the program.



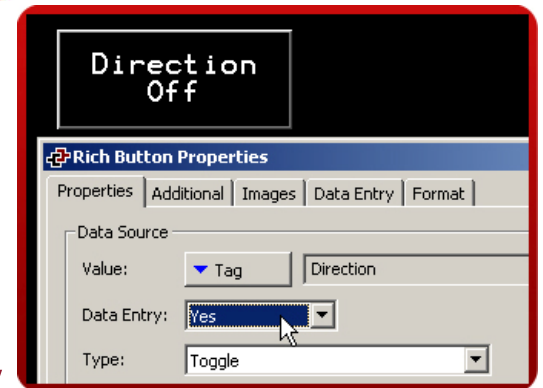
Step 6 In the user interface, insert the counter tag on the display.



Step 7 Then, insert a flag tag button.

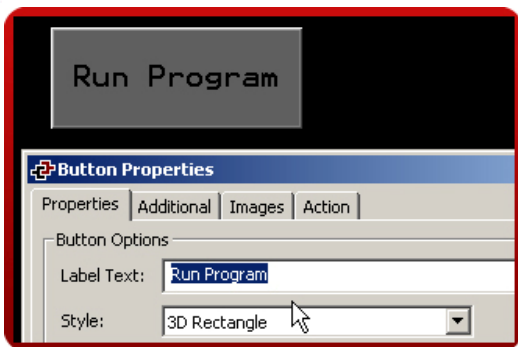


Step 8 Choose the tag "Direction" and select Data Entry.

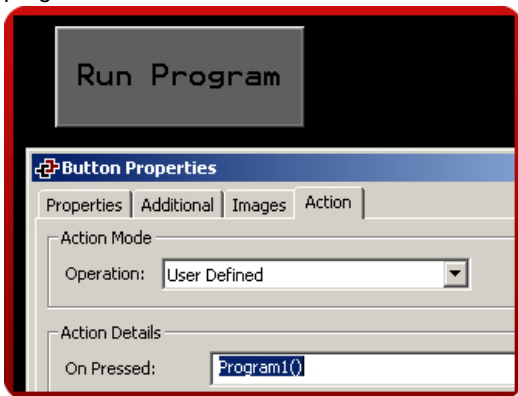


Steps 9 and 10 on following page.

Step 9 Create a button and label it “Run Program”.



Step 10 In action, enter “Program1()”. This will execute the program once.

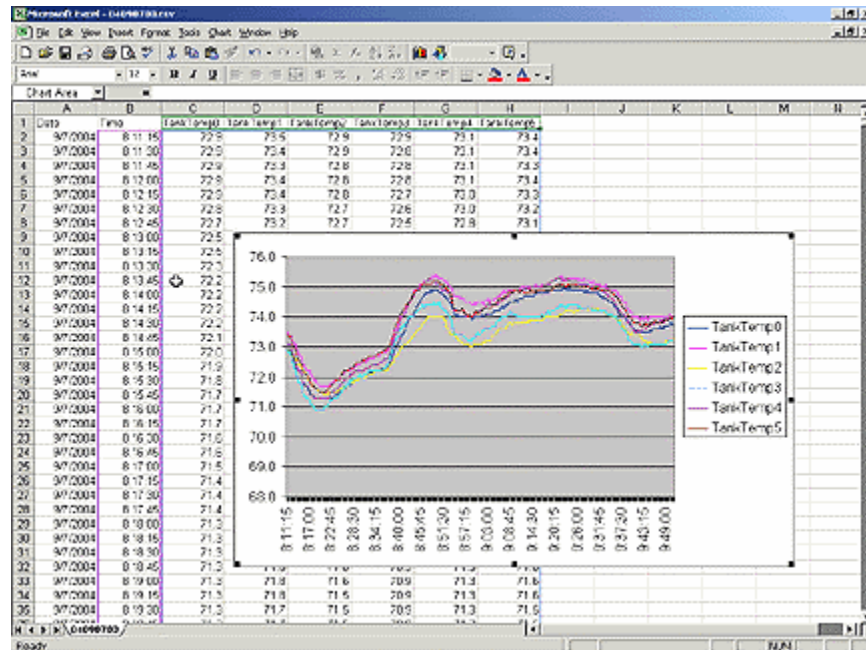


By changing the Direction flag value, the Counter will either increase or decrease when the program is executed.

Programming complete!

For more information on CTVUE, refer to the manual.

DESCRIPTION



The CTVUE will log tags at user-programmable rates, and automatically time/date stamp them. The information is stored in open CSV file format, allowing you to access them with virtually any application, such as Microsoft Excel.

BENEFITS

- Record your system process value for faultfinding or process improvement.
- Facilitate preventive maintenance by monitoring critical area of your system.
- Built in data logger provides ready to use data for review.

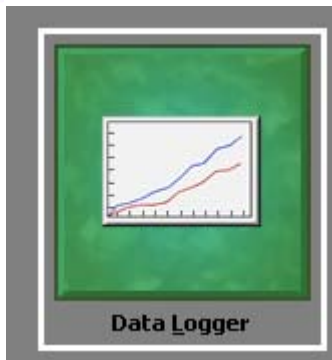
EXAMPLE

A cold storage facility records the multiple fridges temperatures for surveillance purpose and liability. By also monitoring doors' status, reaction time to reach the temperature setpoint gives a good indicator of the compressor health, therefore providing tips to maintenance and avoiding future failures.

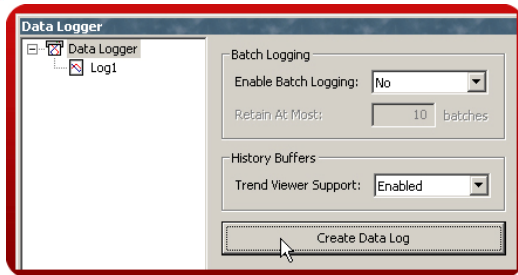


DATA LOGGING IN 6 STEPS

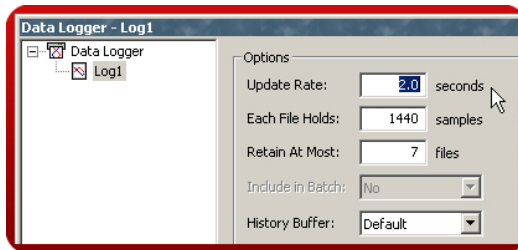
Step 1 Enter the "Data Logger" module.



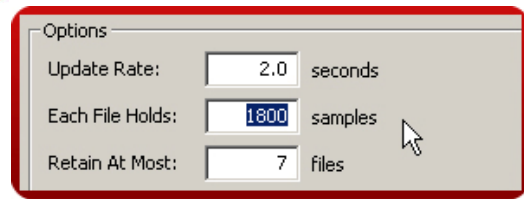
Step 2 Create a data log.



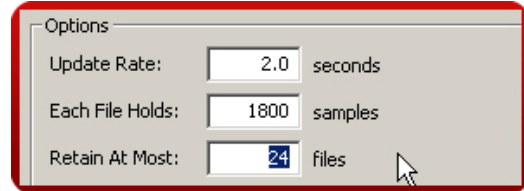
Step 3 Define the data logging sample rate.



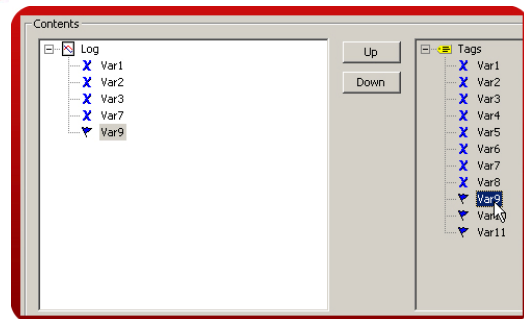
Step 4 Define the number of samples per file.



Step 5 Define the maximum number of files. The CTVUE automatically erases older files as new files are added.



Step 6 Add tags to the log by double-clicking them.



In this example, the CTVUE will log the last 24 hours of data, with each file representing one hour of samples.

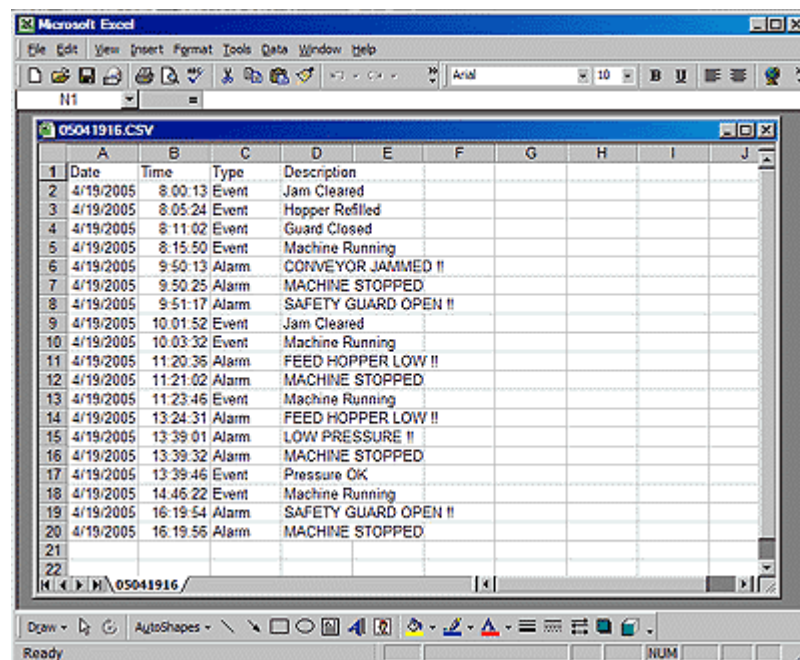
Data Logging complete!

For more information on CTVUE, refer to the manual.

EVENT LOGGING

TU0023

DESCRIPTION



	A	B	C	D	E	F	G	H	I	J
1	Date	Time	Type	Description						
2	4/19/2005	8:00:13	Event	Jam Cleared						
3	4/19/2005	8:05:24	Event	Hopper Refilled						
4	4/19/2005	8:11:02	Event	Guard Closed						
5	4/19/2005	8:15:50	Event	Machine Running						
6	4/19/2005	9:50:13	Alarm	CONVEYOR JAMMED !!						
7	4/19/2005	9:50:25	Alarm	MACHINE STOPPED						
8	4/19/2005	9:51:17	Alarm	SAFETY GUARD OPEN !!						
9	4/19/2005	10:01:52	Event	Jam Cleared						
10	4/19/2005	10:03:32	Event	Machine Running						
11	4/19/2005	11:20:35	Alarm	FEED HOPPER LOW !!						
12	4/19/2005	11:21:02	Alarm	MACHINE STOPPED						
13	4/19/2005	11:23:46	Event	Machine Running						
14	4/19/2005	13:24:31	Alarm	FEED HOPPER LOW !!						
15	4/19/2005	13:39:01	Alarm	LOW PRESSURE !!						
16	4/19/2005	13:39:32	Alarm	MACHINE STOPPED						
17	4/19/2005	13:39:46	Event	Pressure OK						
18	4/19/2005	14:45:22	Event	Machine Running						
19	4/19/2005	16:19:54	Alarm	SAFETY GUARD OPEN !!						
20	4/19/2005	16:19:56	Alarm	MACHINE STOPPED						
21										
22										

The CTVUE's event logger allows you to track machine events, providing critical information for troubleshooting and process improvement.

BENEFITS

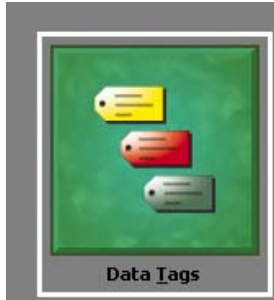
- Provides traceability for your system.
- History of your system helps maintenance to find problems origin.
- Built in event logger provides ready to use data for review.

EXAMPLE

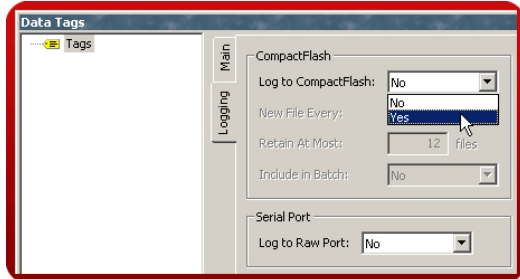
By monitoring events on linear production line, the origin of a break in a process can be found in seconds and fixed as quickly as possible so production can resume.

EVENT LOGGING IN 7 STEPS

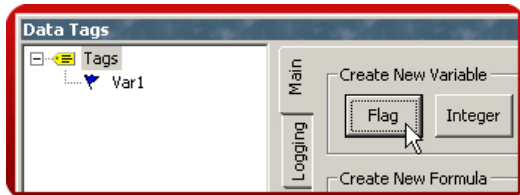
Step 1 Enter the “Data Tags” module.



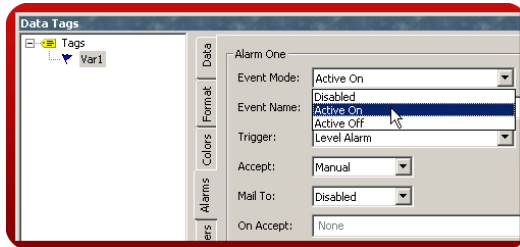
Step 2 In the “Logging” tab, activate Log to CompactFlash.



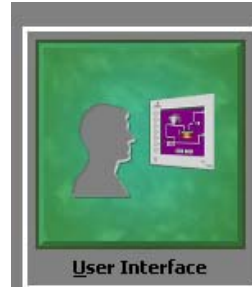
Step 3 Create a flag variable.



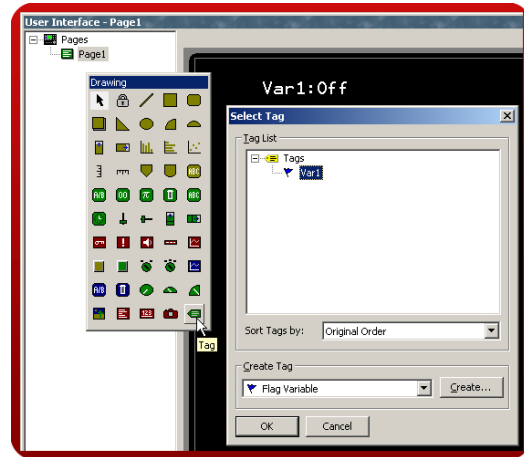
Step 4 Configure an alarm. This alarm will automatically be logged as an event.



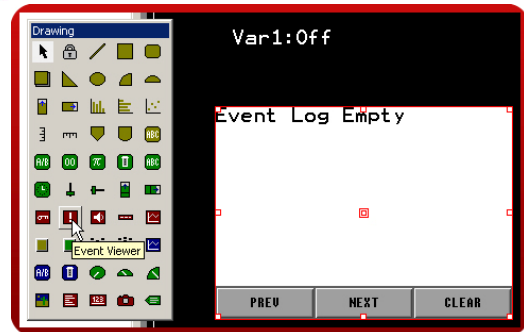
Step 5 Enter the “User Interface” module.



Step 6 Insert the flag on the screen.



Step 7 Insert the event viewer.



When the flag turns on, it will create an alarm, which is recorded in the event log and displayed by the event viewer. The viewer content is saved as a CSV file on the Compact Flash card.

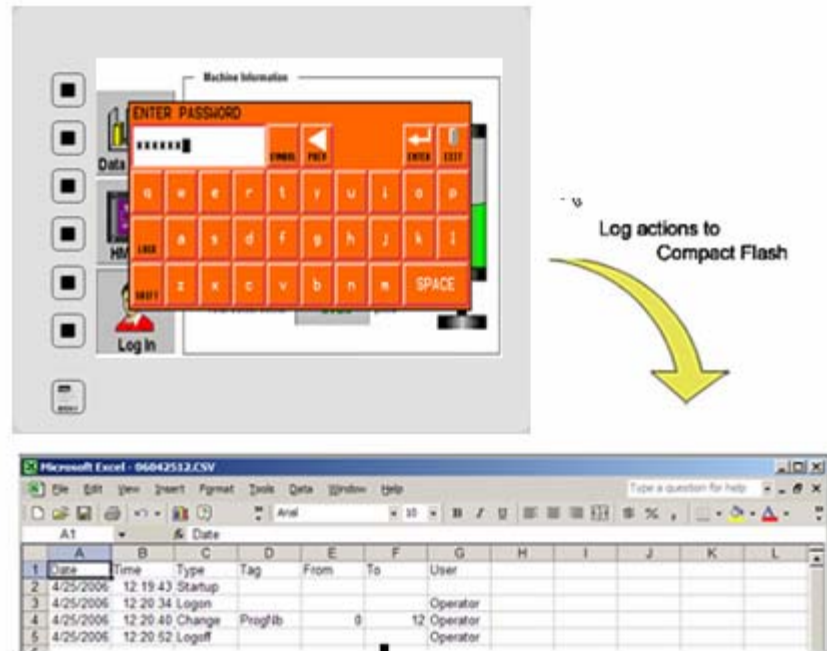
Event Logging complete!

For more information on CTVUE, refer to the manual.

SECURITY LOGGING

TU0024

DESCRIPTION



Security Manager provides multi-user, multilevel password protection. The advanced security logger tracks operator actions as well as any data change for later review.

BENEFITS

- Protect your machine from unauthorized operators and manage users and rights easily.
- Log all user actions for production follow up.
- Get the history of all your parameter modifications for faultfinding and maintenance.

EXAMPLE

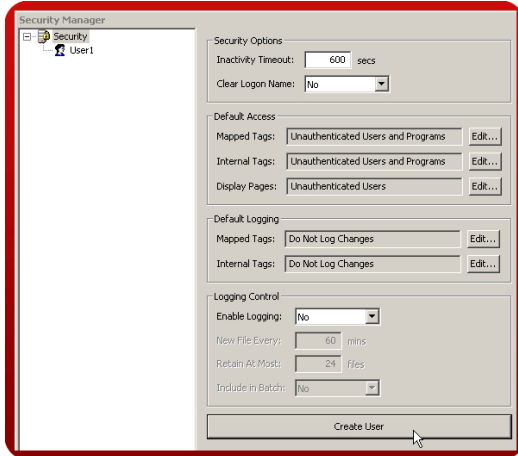
An OEM specialized in sterilization equipment provides his customer with multi-user password protection for his autoclaves system. Production error due to operator failure can be found with the security logger.

SECURE PAGE ACCESS IN 8 STEPS

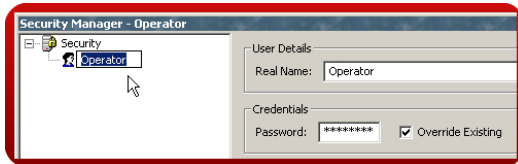
Step 1 Enter the "Security Manager" module.



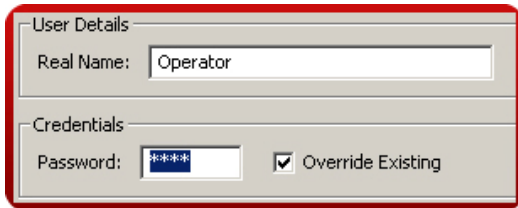
Step 2 Create a new user.



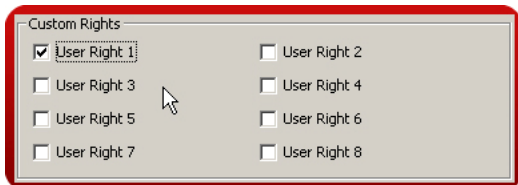
Step 3 Enter a username and real name.



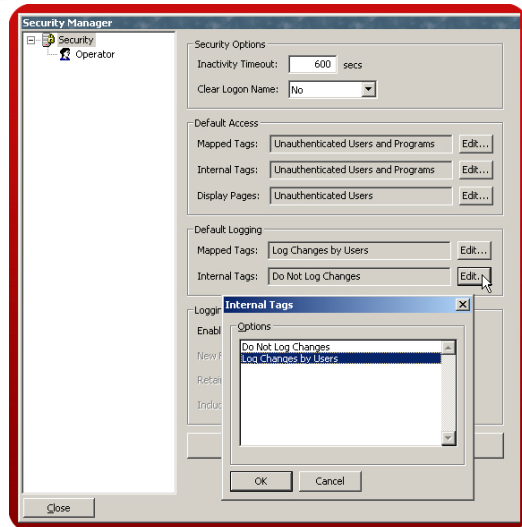
Step 4 Set the password.



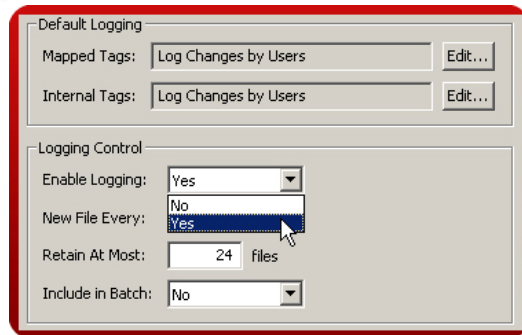
Step 5 Assign user rights.



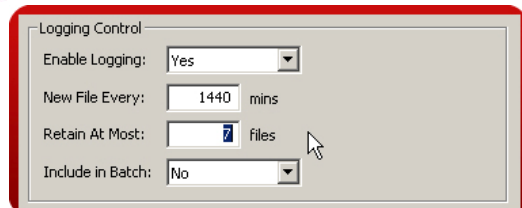
Step 6 Define the data changes to be logged.



Step 7 Enable the logging.



Step 8 Enter the logging parameters.



The security logger will now record users actions and data changes.

Security Logger setup complete!

For more information on CTVUE, refer to the manual

COMPACTFLASH CARD ACCESS

TU0025

DESCRIPTION



Not only does the CompactFlash interface provide expandable storage for data and event logging, it also provides a means to load the panel's database without a PC.

User programming is required to achieve the reports and recipes features.

BENEFITS

- Use the memory card as a drive on your CTVUE and save any process data you want.
- Easily accessible using USB connection or FTP synchronization.
- Provide virtually unlimited memory for your reports, recipes, data, events and security logs.
- Simple program transfer from one CTVUE to another using the CompactFlash to download.

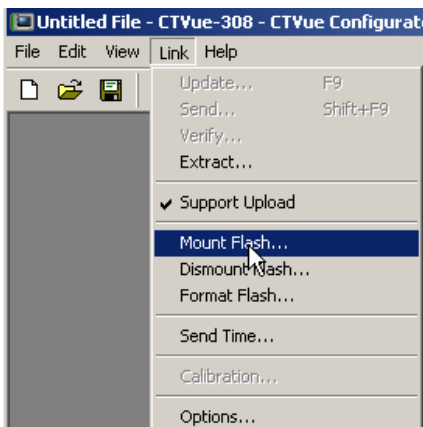
EXAMPLE

A production manager in a bakery can access packaging line summary reports on his server for production numbers and shipping results. The reports are generated by CTVUEs that synchronize with the server on a regular basis.

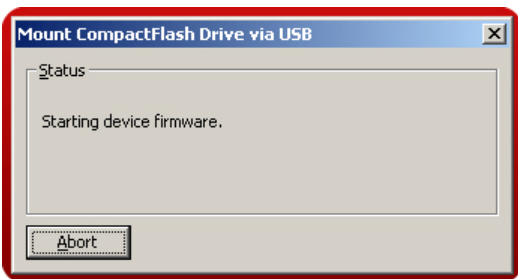
USING C2 COMPACTFLASH TOOLS

Mounting the CompactFlash Card

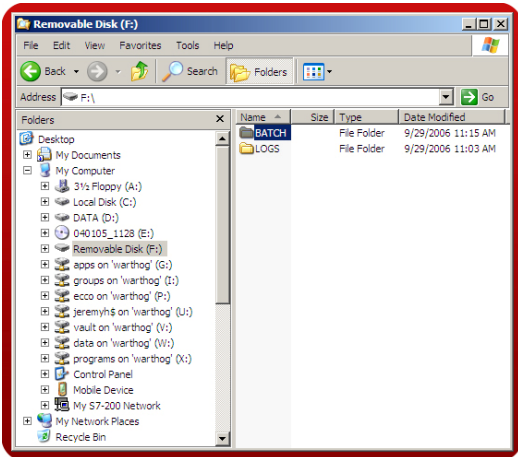
Step 1 Click on Link>Mount Flash



Step 2 The CTVUE will cycle power to mount the card.

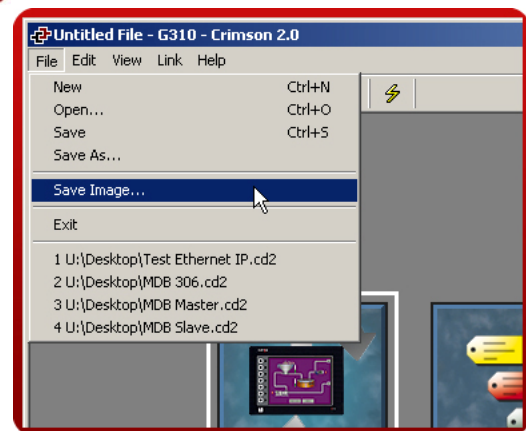


Step 3 The card is then available as a drive under Windows Explorer.

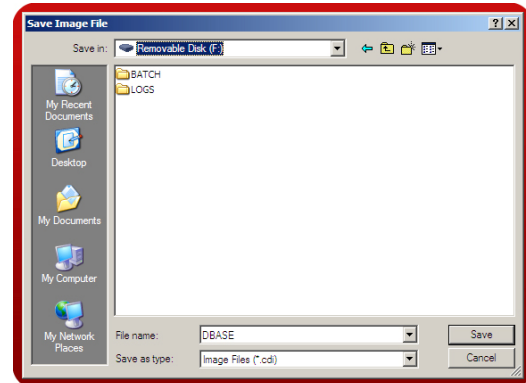


Saving an image on the card

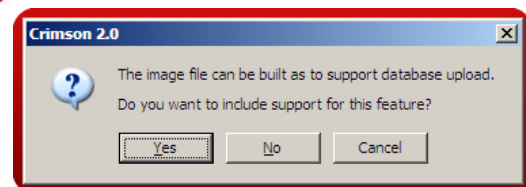
Step 4 Click File>Save Image



Step 5 Select the CompactFlash Card and name the file DBASE.cdi.



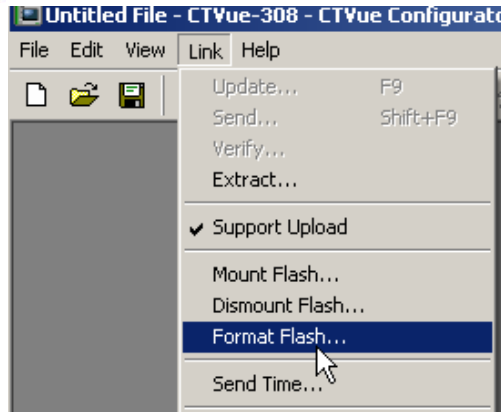
Step 6 Click Yes to support upload.



Tutorials continues next page.

Formatting the CompactFlash Card.

Step 7 Click on Link>Format Flash



Step 8 CTVUE will require confirmation.

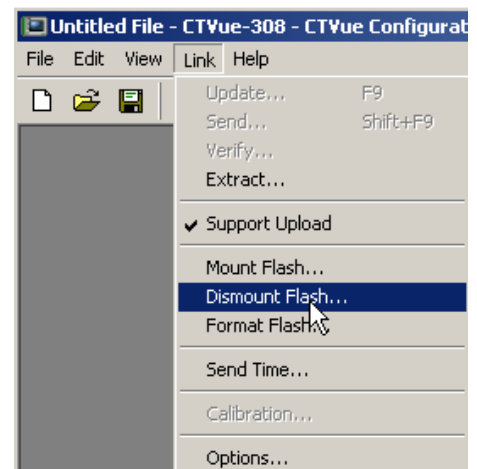


Step 9 The Formatting window will stay until the CompactFlash is formatted.



Dismounting the CompactFlash card.

Step 10 Click Link>Dismount Flash



CompactFlash setup complete!

For more information on CTVUE, refer to the manual.



DESCRIPTION

View the PresencePLUS sensor image directly on the HMI display. Control your products and easily manipulate your production by loading and saving camera inspection files from the CTVUE's CompactFlash card. The driver also allows parameter reading and writing from the camera for status, count and programming.

BENEFITS

- Provides an easy way to set up the vision sensor and change production batch.
- View and control the image directly from the CTVUE display.

EXAMPLE

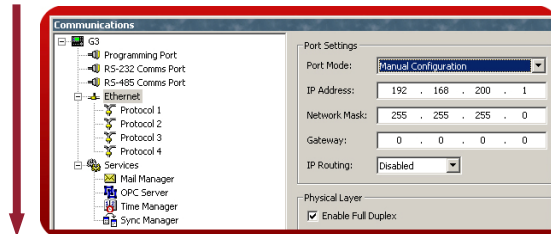
A car equipment manufacturer controls parts quality and validity by reading a 2D barcode present on the side of each part. Changing the production batch is simply done via the touch screen and new barcodes can be added later using the teach functionality.

VISUALIZING THE IMAGE IN JUST 7 STEPS

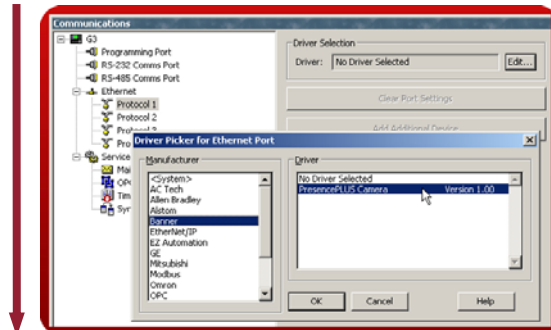
Step 1 Enter the "Communication" module.



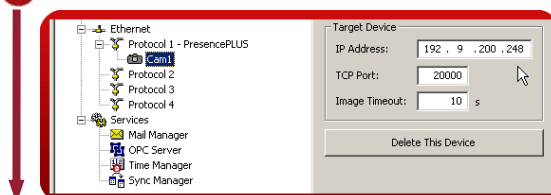
Step 2 Select the Ethernet port and enter the CTVUE's IP address.



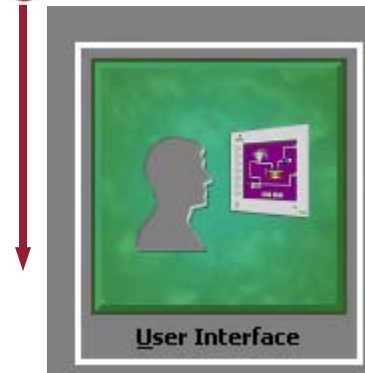
Step 3 Pick the PresencePLUS driver under the manufacturer Banner.



Step 4 Enter the Camera IP address.



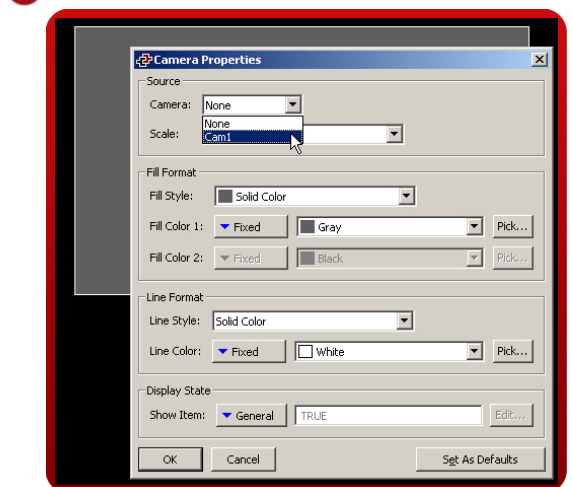
Step 5 Enter the "User Interface" module.



Step 6 Insert the Camera primitive.



Step 7 Select the Camera in the primitive properties.



NOTE: The sensor has to be programmed to output the image constantly.

Vision complete!

For more information on CTVUE, refer to the manual.