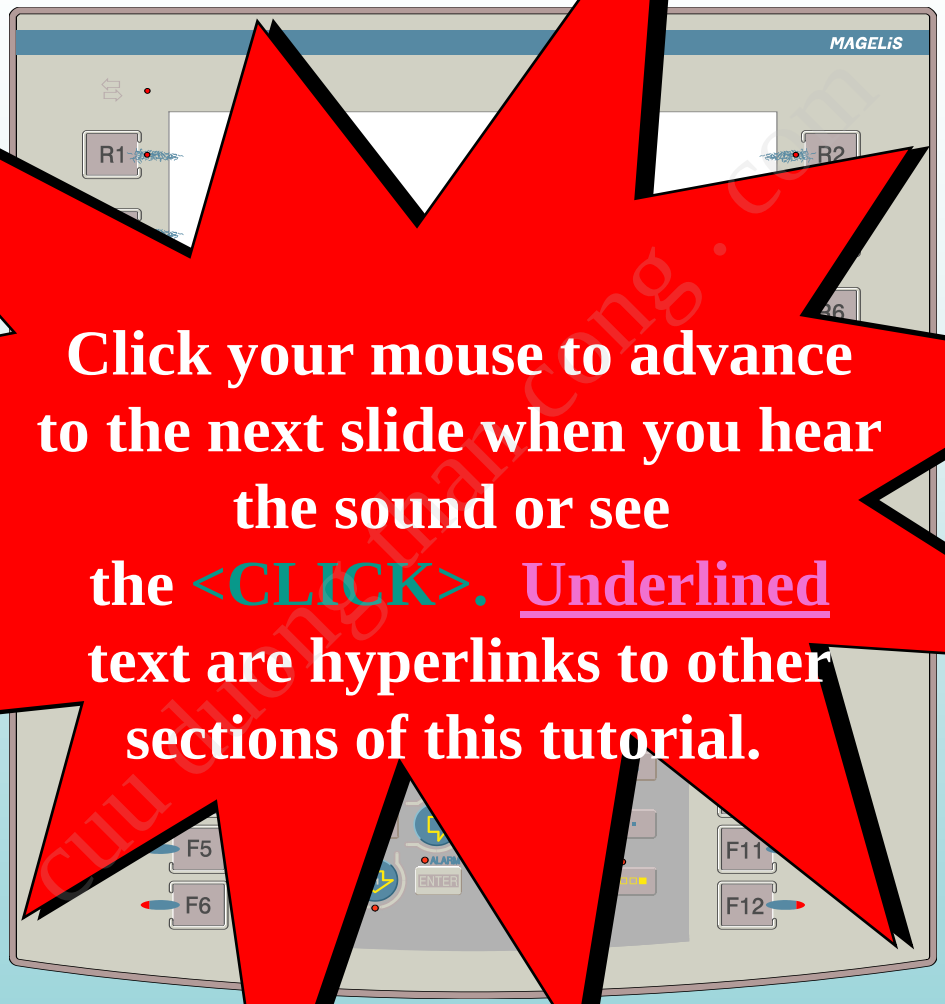
Schneider Automation

Presents

Getting Started with the Graphic Magelis



Click your mouse to advance to the next slide when you hear the sound or see the <CLICK>. Underlined text are hyperlinks to other sections of this tutorial.

<CLICK>

Tutorial Overview

This Page is a list of
Hyperlinks to other parts of this tutorial.
You may go directly to the section you're interested in or proceed with the tutorial by clicking anywhere (except a hyperlink).
The **Home Icon** (lower right) returns you to this page. The **Return Icon** takes you back to the page that you hyperlinked from (in this case, here). The **Back Icon** takes you to the previous slide.

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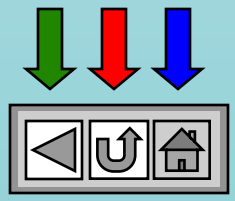

Tutorial Overview

- ☑ Software Installation
- ☑ Software Set-up
- ☑ Hardware Set-up
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- ☑ Editing the First Application Page
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- ☑ Dialogue Table - Introduction
- ☑ Dialogue Table - The Basics
- ☑ Dialogue Table - The Alarm Table
- ☑ Alarm Pages - Introduction
- ☑ Alarm Groups
- ☑ Dialogue Table - Authorization Word
- ☑ Transferring an Application

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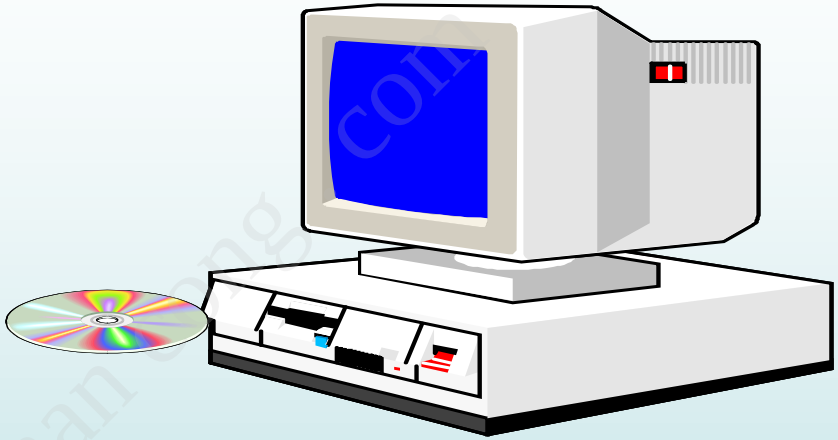
Software Installation



- ☑ Insert the Install CD Rom into the CD Rom Drive
- ☑ Run the SETUP program and answer the questions when prompted

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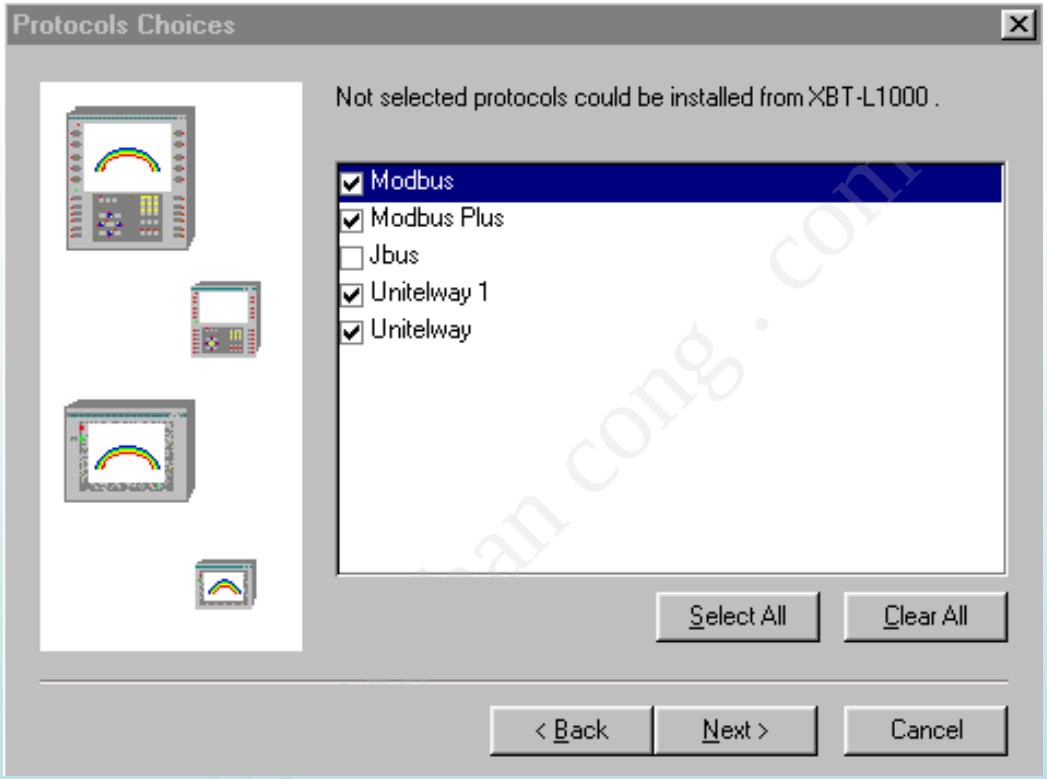
Software Installation



☑ Select the protocol(s) that you intend to use for Magelis to PLC communications.

☑ Unitelway protocol is currently the only option available when transferring (exporting) your application to the Magelis. You do not need to select Unitelway here for program transfer. This Unitelway is for Magelis to PLC communciations.

☑ Additional Protocols may be added later if needed

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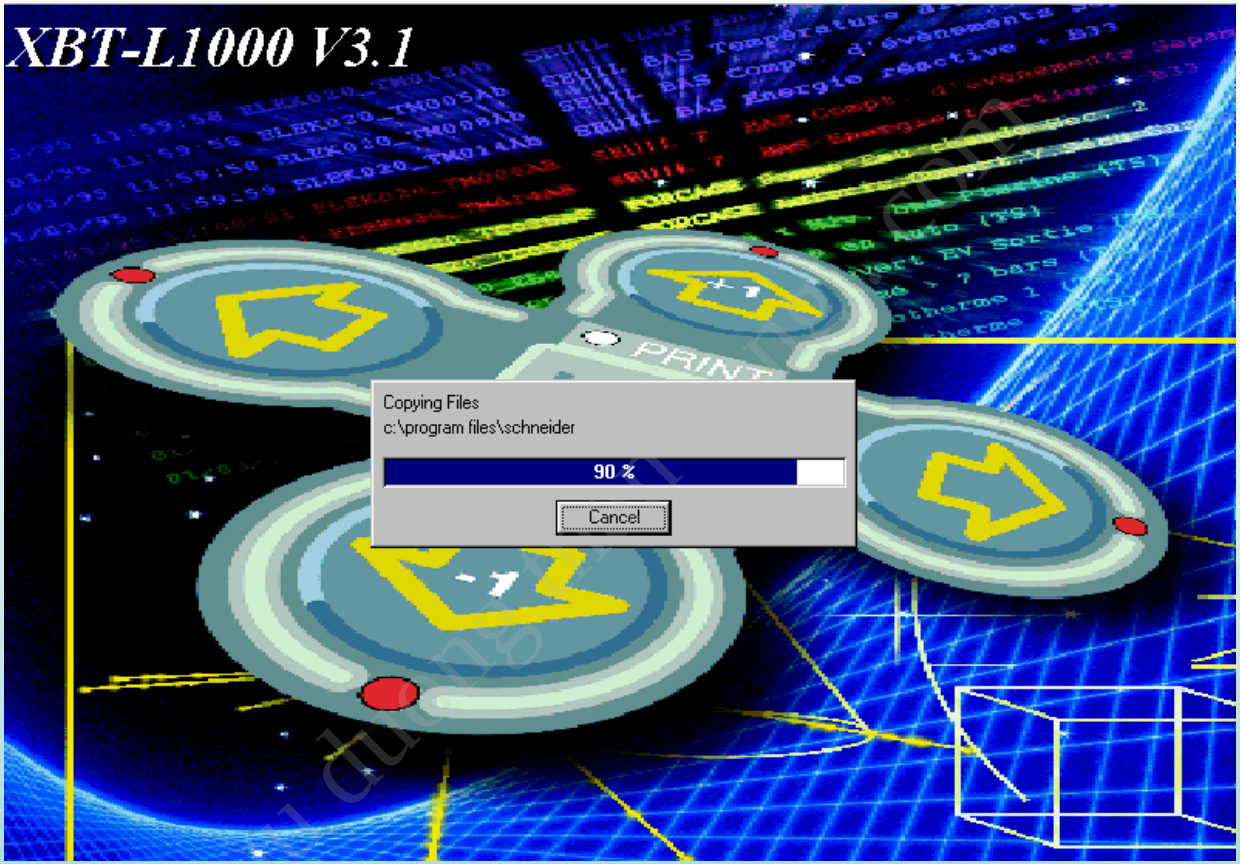
Software Set-up



☑ A typical installation screen

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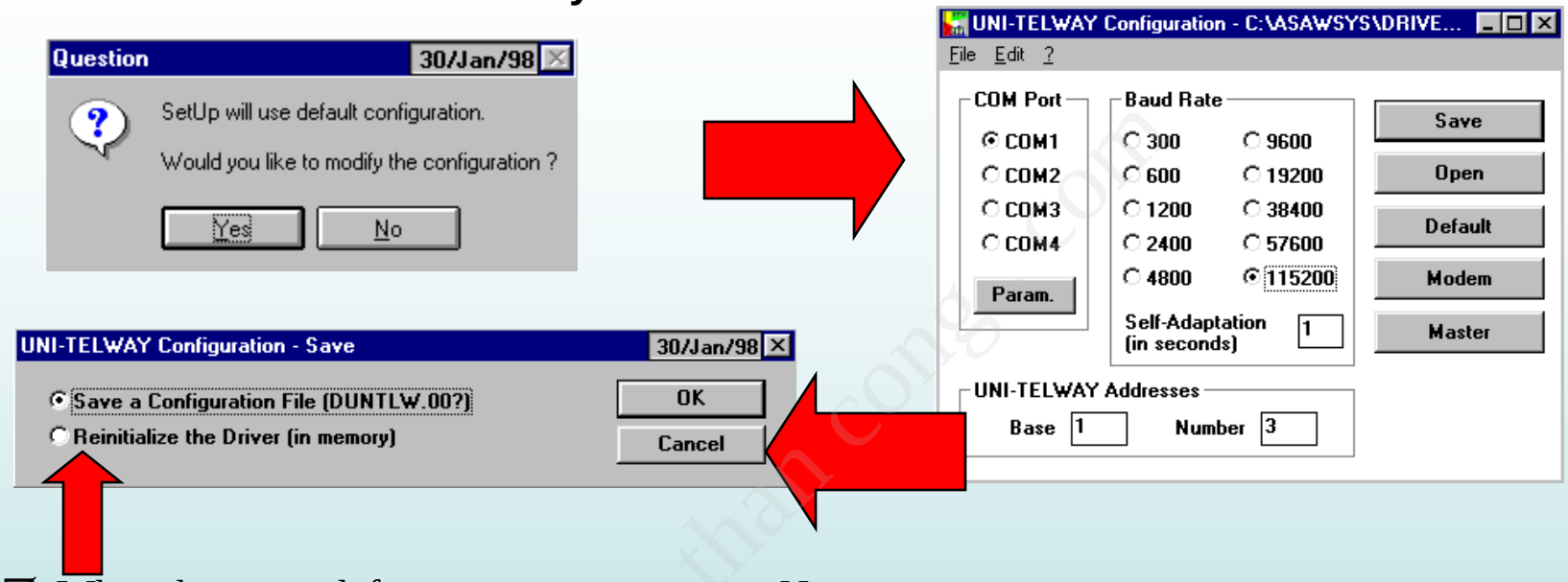
Software Set-up

Unitelway Communication Parameters



☑ When the upper, left screen appears answer No

☑ The Configuration screen shown appears. Select appropriate parameters for your computer. Ignore the Unitelway address fields at the bottom

☑ Select the Save option. The parameters selected are saved to a file named DUNTLW.001. This is run from the Config.sys when you start your computer

☑ After Saving, you can run the *Reinititalize* option to put your settings into effect. This eliminates the need to re-boot your computer at this time.

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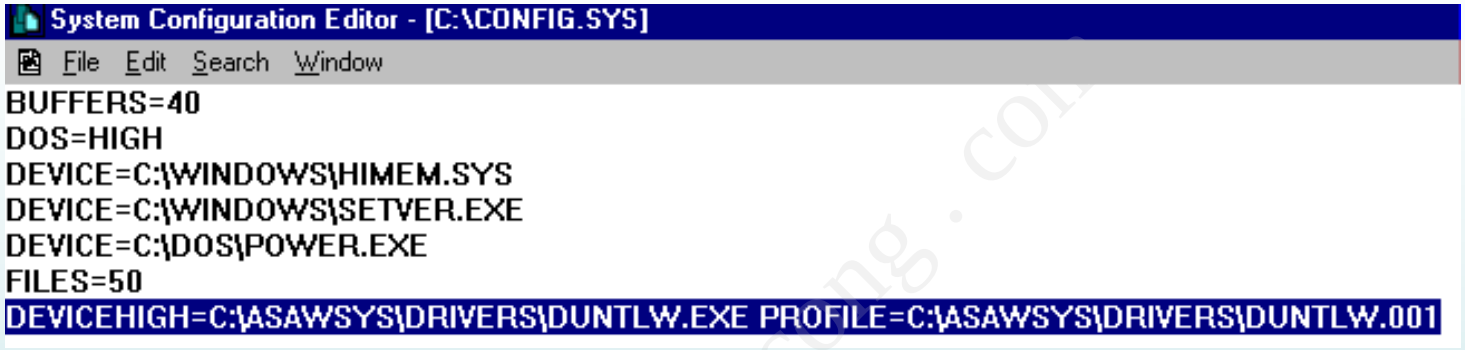
Software Set-up

Changes to the Config.sys



☑ The installation program adds the following line to your Config.sys file. This sets your communication parameters for the PC to Magelis communications. Communications settings are stored in the file DUNTLW.001

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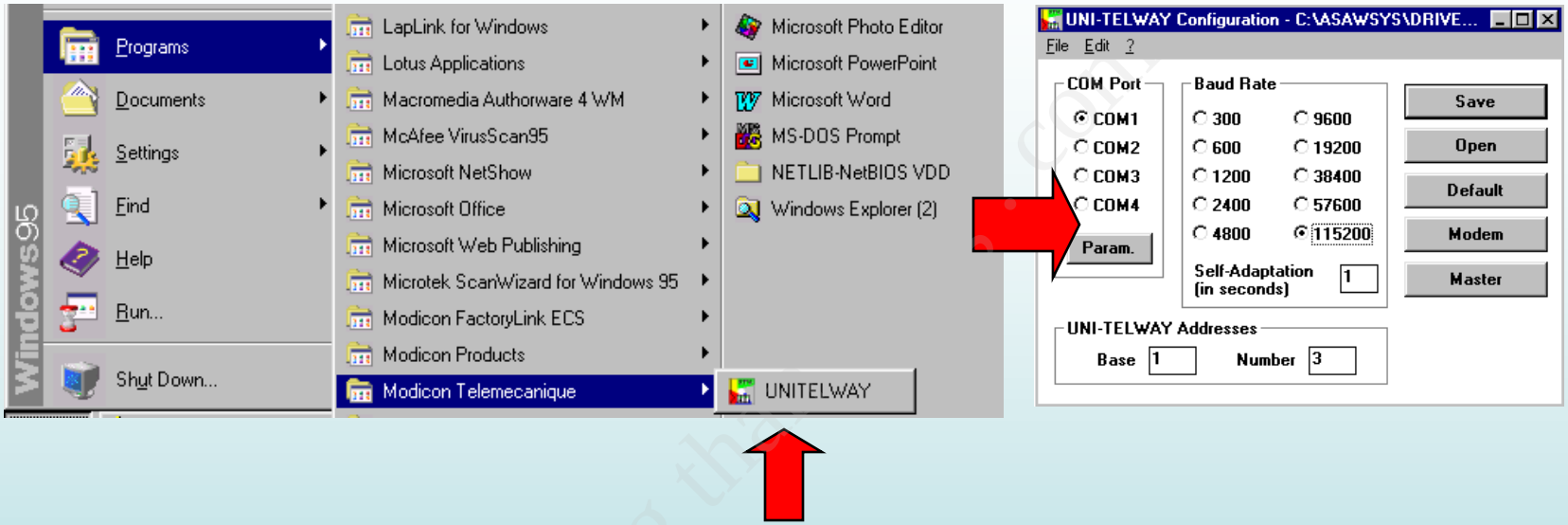
Changing Unitelway Parameters



☑ To change Unitelway parameters - From the Windows 95, Programs section, select the Modicon Telemecanique program. Click on the Unitelway button. This is your access to the utility for changing communications parameters

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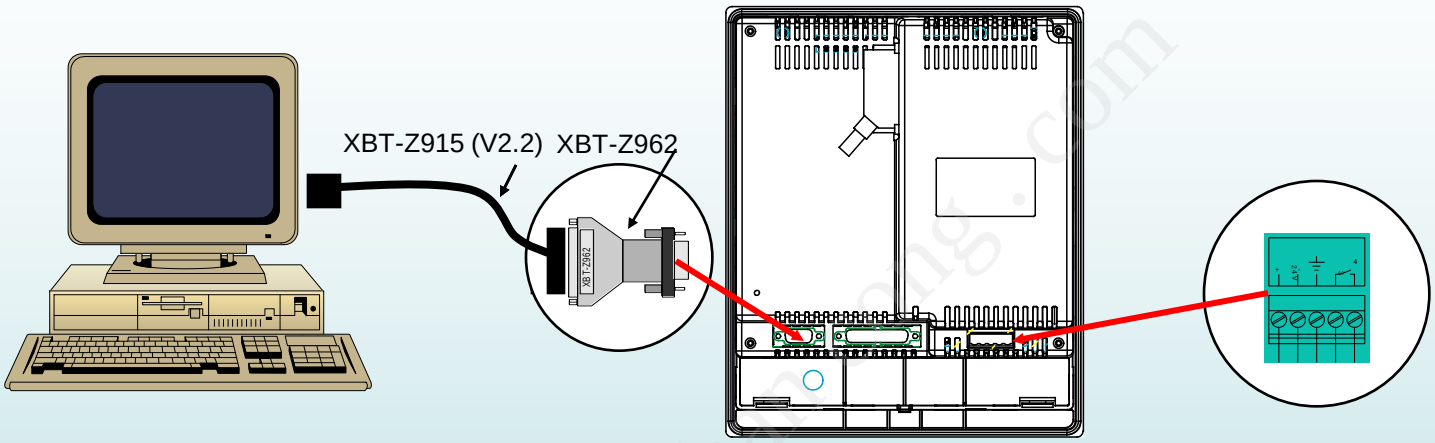
Hardware Set-up

Power Connection and PC to Magelis



☑ With the power OFF, connect 24 VDC from your external power supply to the green connector provided as indicated by the label on the rear of the Magelis. Do not turn ON the power at this time.

☑ Connect the XBT-Z962, 25 to 9 pin adapter to the XBT-Z915 cable. This is NOT a standard 25 to 9 pin port adapter!

☑ Connect the 9 pin side of the cable/adapter to the 9 pin D-sub connector on the rear of the Magelis as shown

☑ Connect the other end of the cable to the serial port of the computer

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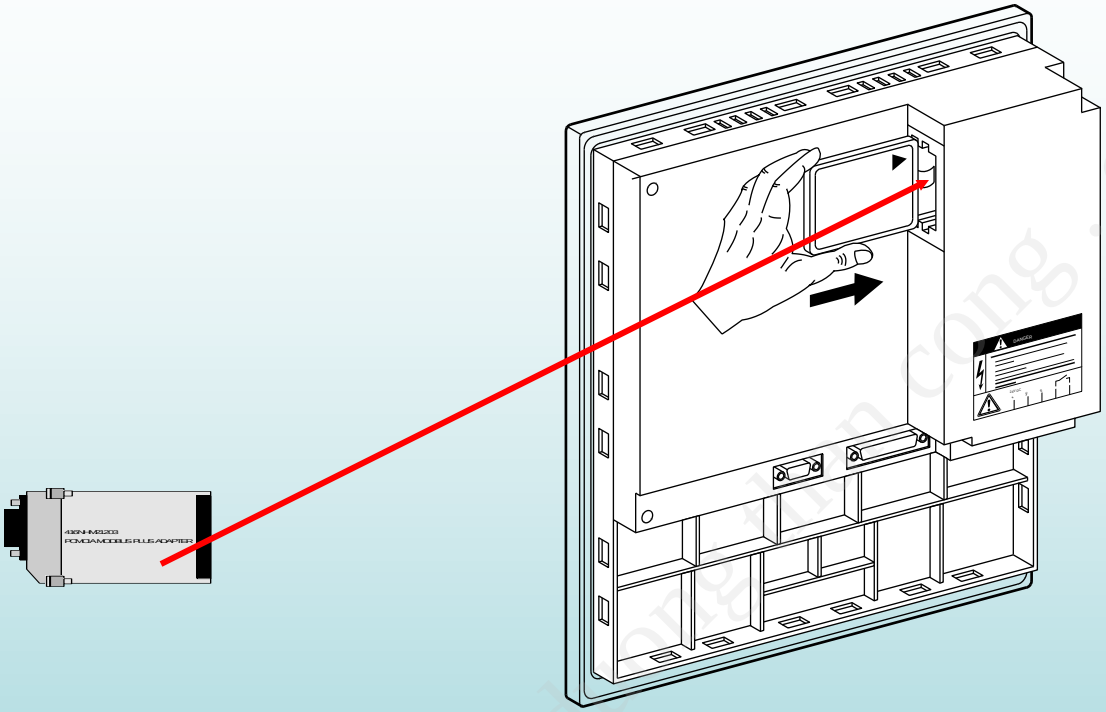
Hardware Set-up

PCMCIA Card(s)



☑ Insert the PCMCIA memory card into the slot closest to the back of the Magelis. It only goes in one way, don't force it!

☑ Insert the Modbus Plus Network adapter (if using) into the other slot and tighten the screws.

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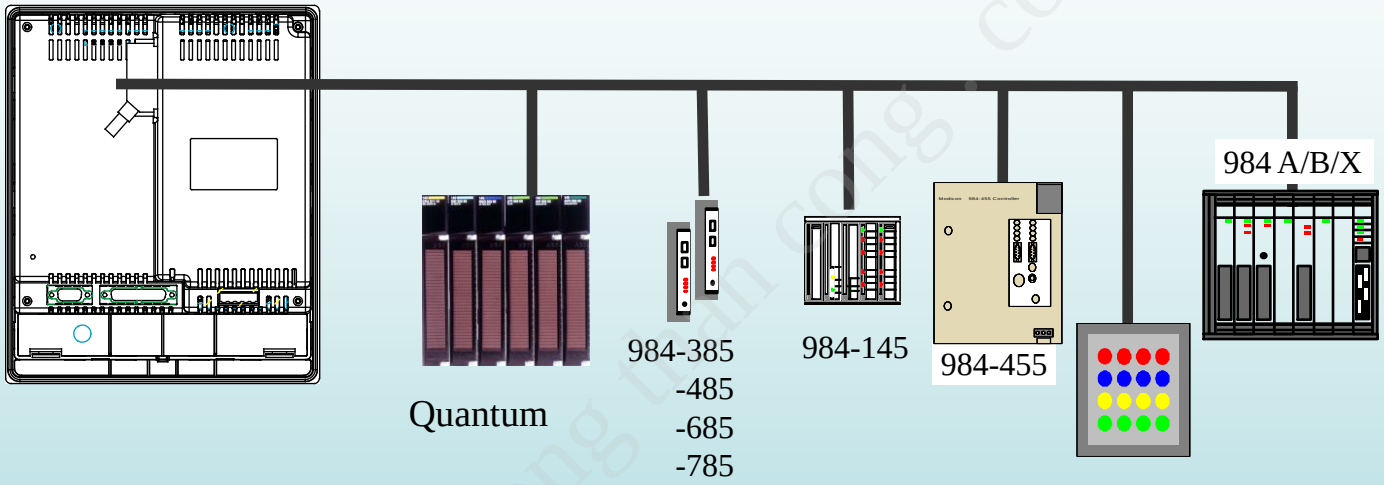
Hardware Set-up

Modbus Plus Network



☑ Connect the 9-Pin Modbus Plus Network connector to the Modbus Plus, PCMCIA card located at the rear of the Magelis

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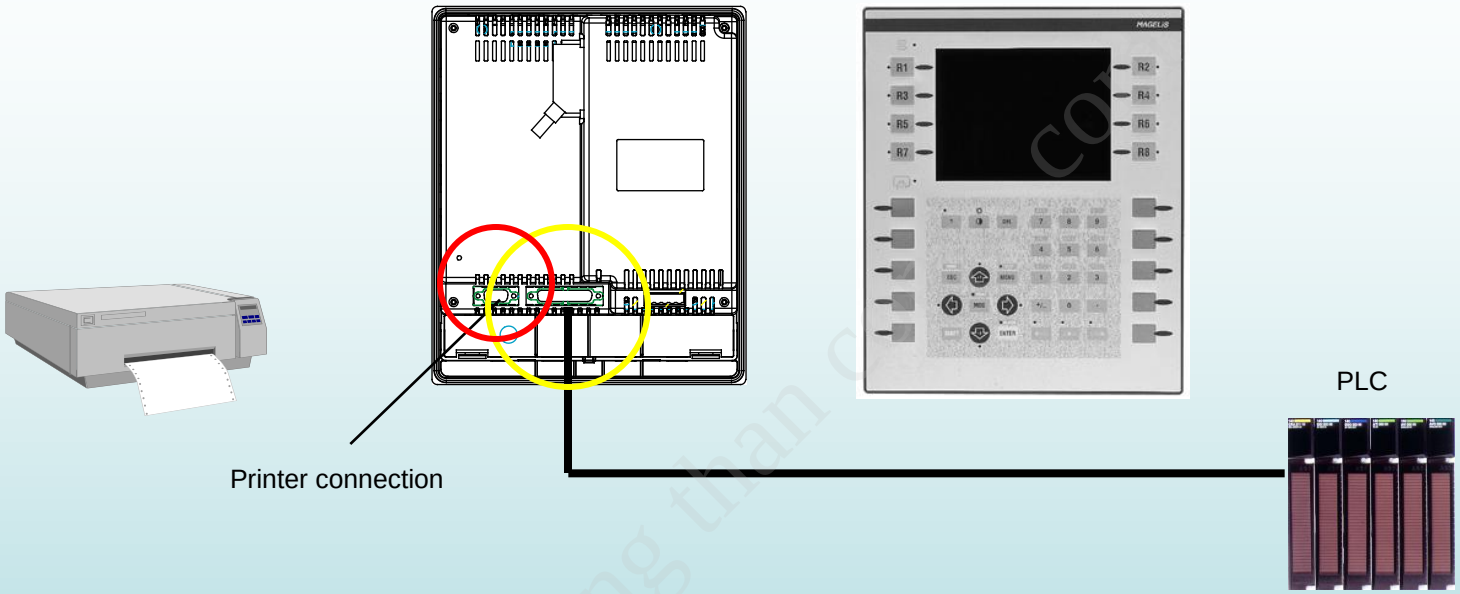
Hardware Set-up

Printer & PLC (Serial) Connections



☑ If Magelis to PLC communications is to be via a serial cable, connect the cable to the 25-pin connector loacted next to the 9-pin Magelis to PC connector, as shown above

☑ If a printer is to be connected, it is attached via the 9-Pin connector as shown. In this case, the printer must be unplugged when an application is being transferred to the Magelis

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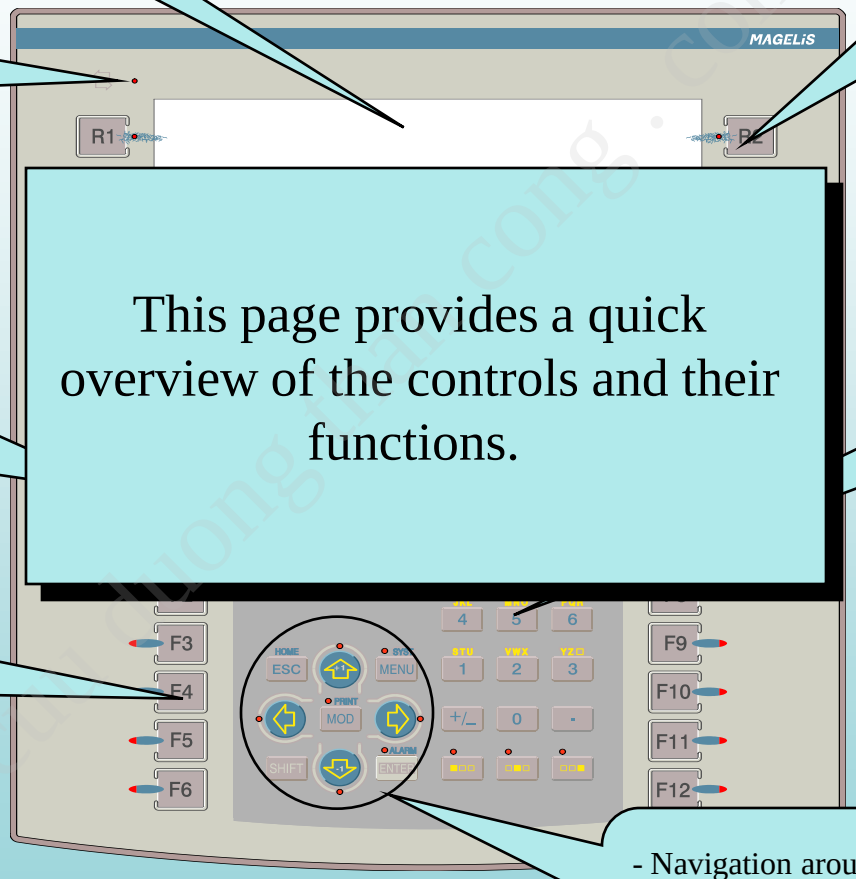
Magelis Controls

Display:
- Displays process status
- Displays alarms, system faults

Dynamic function keys:
- Controlling the process
- Call new pages

Communication Status:
- Blinks when communications is active



This page provides a quick overview of the controls and their functions.

Key Acknowledgement:
- Blinks when user presses any key. Full ON when screen saver is active

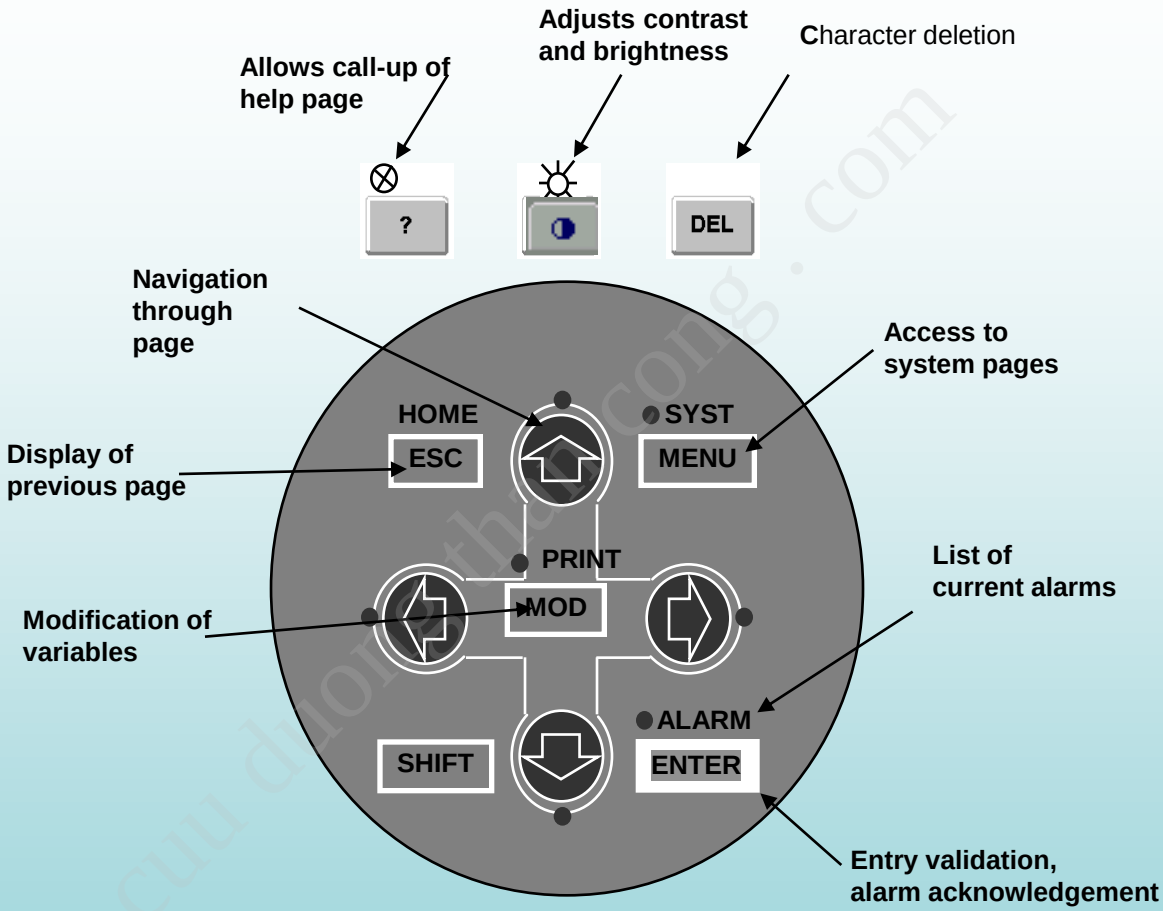
Numeric Keypad:
- Data entry
- Password entry

Static Function Keys:
- User programmable for process control
- Screen calls

- Navigation around page
- Enter data
- Access system pages
- Display alarms

<CLICK>

Magelis Controls



☑ Use the Shift + function to activate dual function keys. Shift + ENTER = List of Current Alarms Page

Starting the XBTL-1000 Software

OR

☑ Start the XBTL-1000 software by either double clicking on the icon on your desktop or by selecting it from the Windows Programs window

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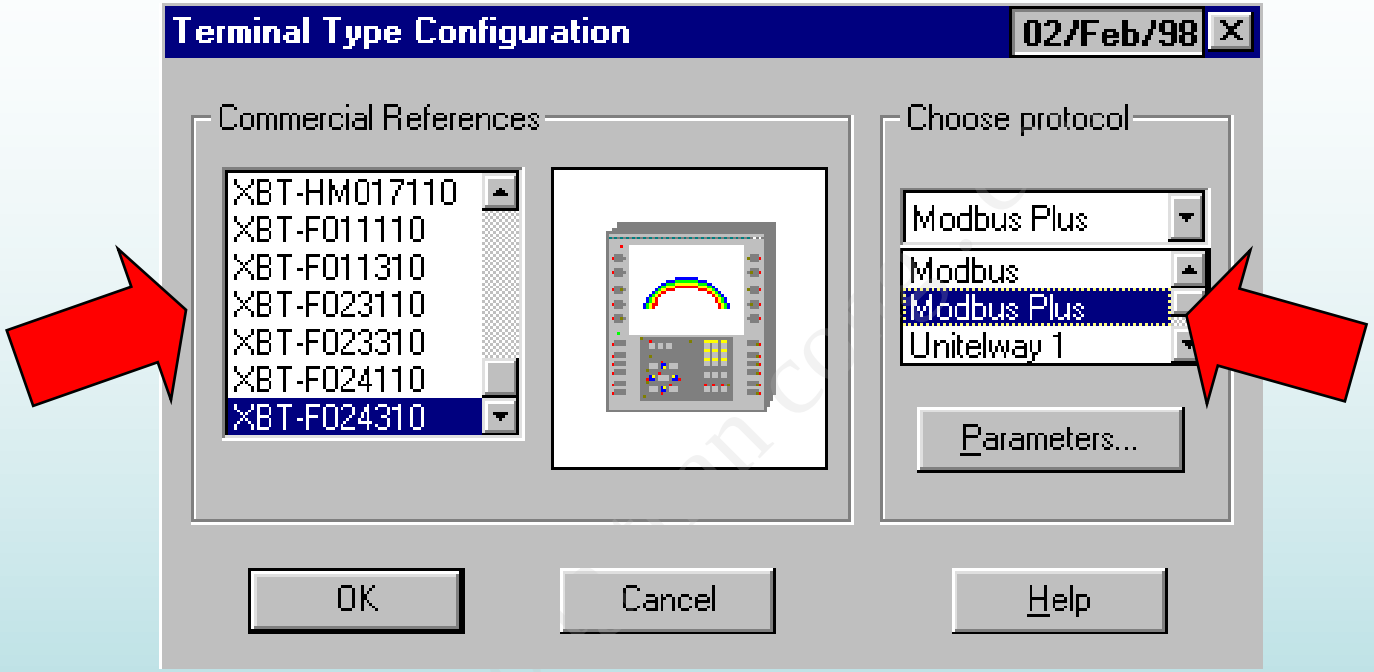
Magelis Model Selection and PLC Communications



- ☑ When starting a new configuration, select the Magelis model to be configured from the list
- ☑ Select the ***Magelis to PLC*** communications protocol from the list on the right
- ☑ The protocols displayed are the ones you selected when you installed the software

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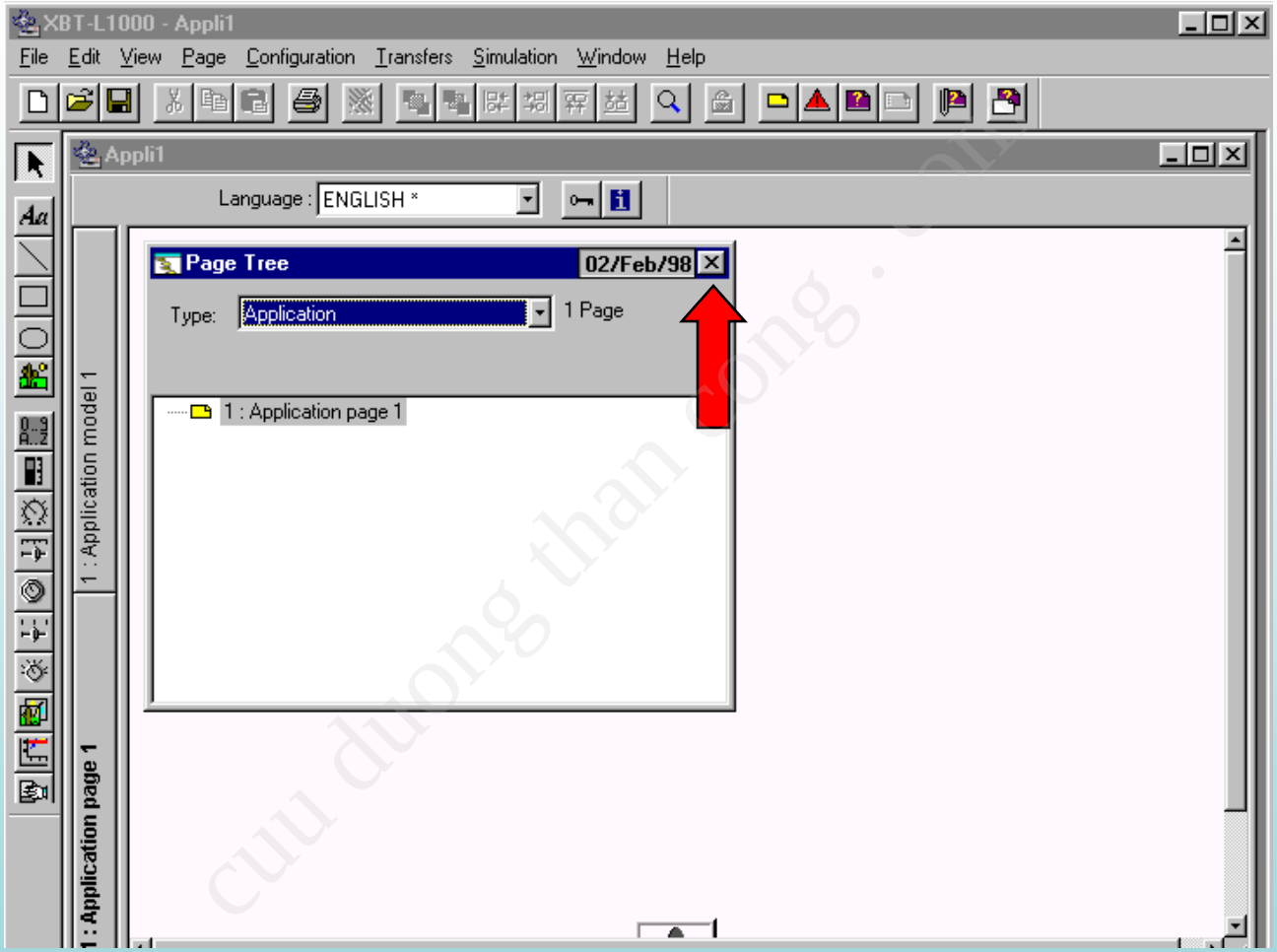
XBT- L1000 Opening Screen



☑ If the Page Tree is visible as shown, close it by clicking on “X “ in the upper right hand corner.

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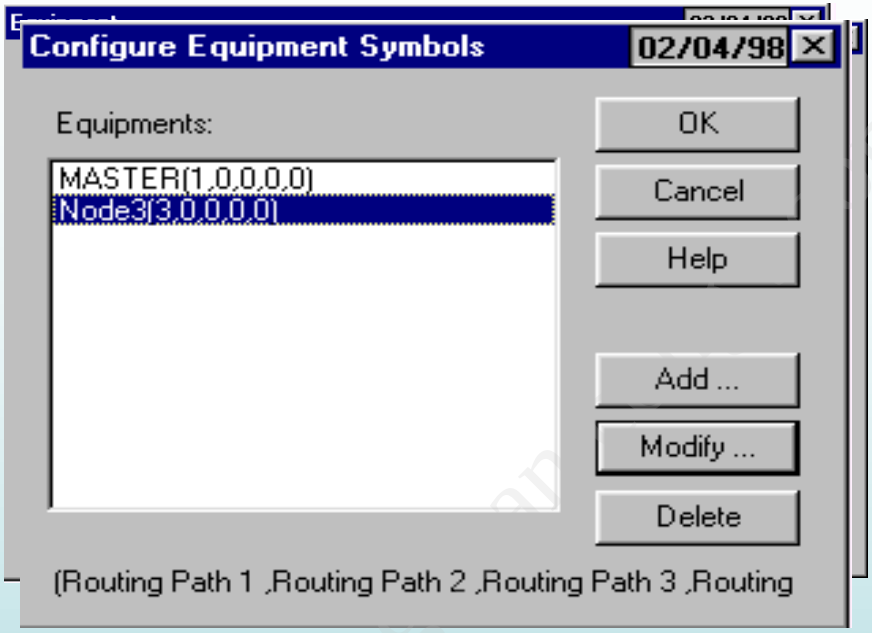
Magelis Basics

Modbus Plus Networks - Adding PLCs



☑ Select “Equipment Symbols” from the Configuration Menu

☑ The symbolic name “MASTER” (may be changed) is provided by the system and should address the PLC that is communicated with the most often. The first PLC in this list will be the only PLC that has the full Dialogue Table available.

☑ Select “Modify” to alter the default PLC name and routing address.

☑ Select “ADD” to add other PLC’s to the list. Create a symbolic name, enter the address

☑ The finished list

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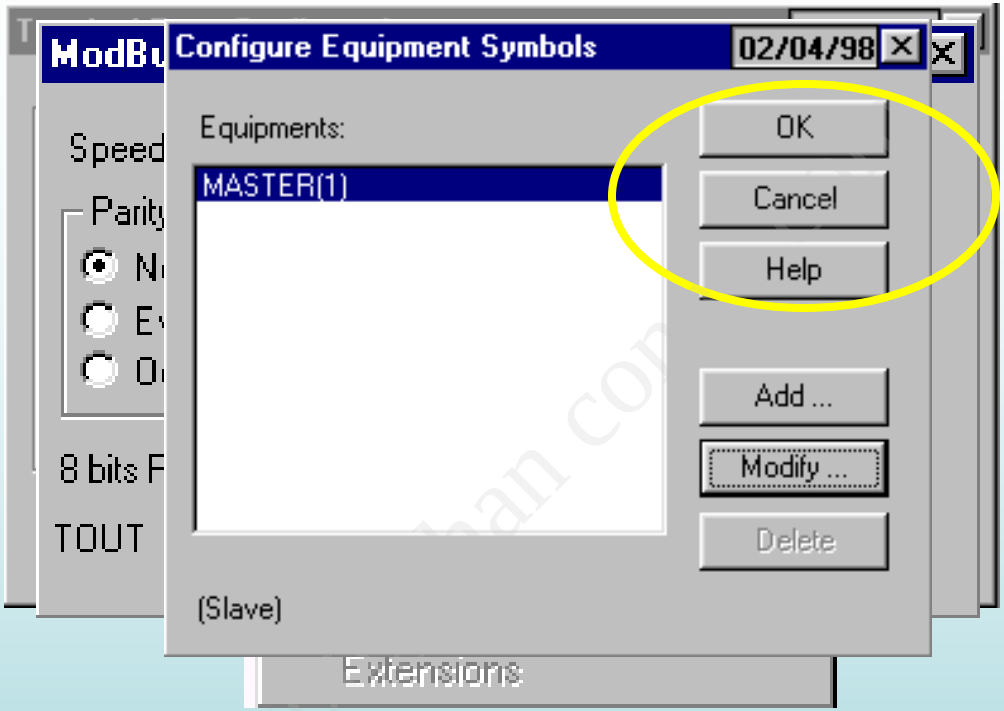
Magelis Basics

Modbus Networks - Configuring the XBT to PLC Communications



☑ Select "Parameters" to alter the Modbus communications parameters. The PLC parameters much match the XBT's parameters. Max PLC baud is 19,200. The PLC default baud is 9600.

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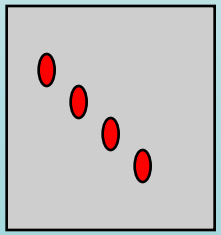
Magelis Pages

Magelis Model Pages

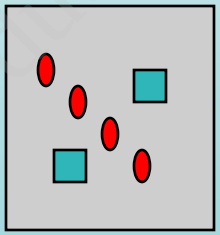
There are five different types of pages that you can create in a Magelis application. They are:

- ☑ ***Model Pages*, *Application Pages*, *Alarm Pages*, *Help Pages* and *System Pages***
- ☑ **Model Pages - Templates that can be applied to other pages. A standard page layout that may contain text and static graphic objects. A starting point for page development. For example, every page that is started by following a given model will have the elements that are present on the model and any specific elements added to the page.**
- ☑ **There are *three* types of model pages - *Application Model Pages, Alarm Model Pages, and Help Page Model Pages***



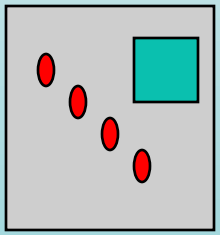
Model Page 1

New Page



Application Page 1 following Model Page 1. Note - Page contains elements from the Model plus unique items specific to the page

New Page



Application Page 2 following Model Page 1. Contains elements from the Model Page plus unique items

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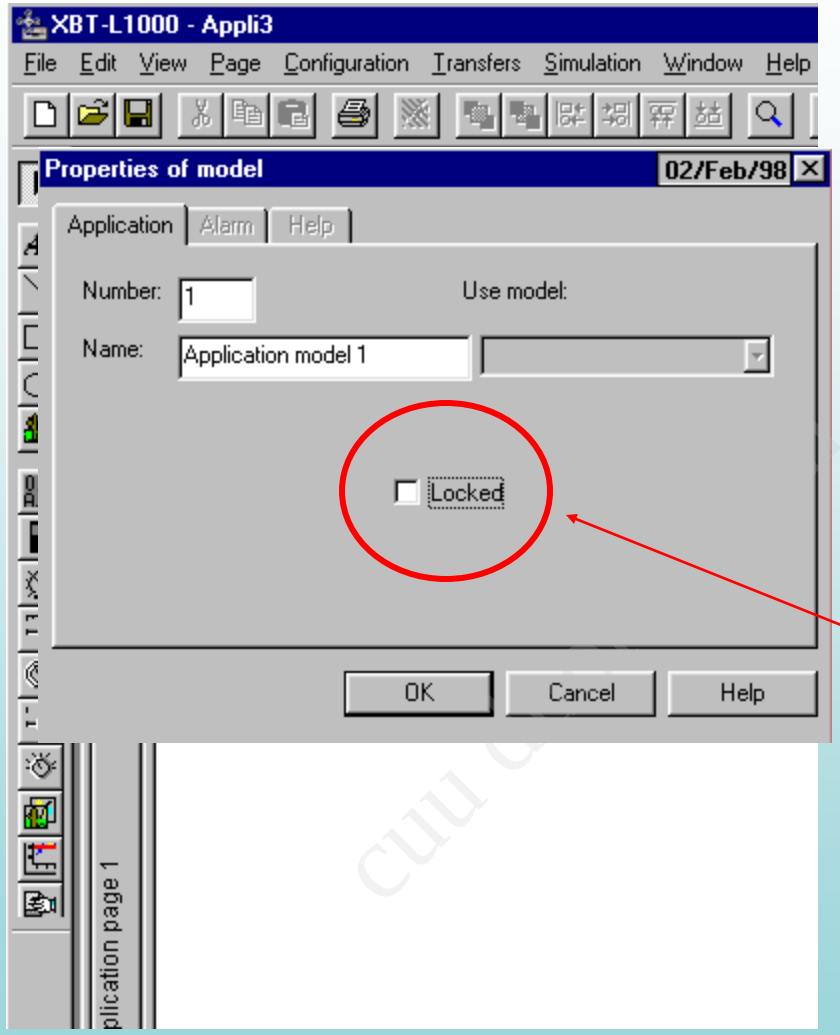
Editing the First Application Model Page



☑ Double-click on the Application Model page button located on the left side of the page as shown

☑ You must remove the check from the locked box (if present) before you can edit a model page. Remove the check and click on OK

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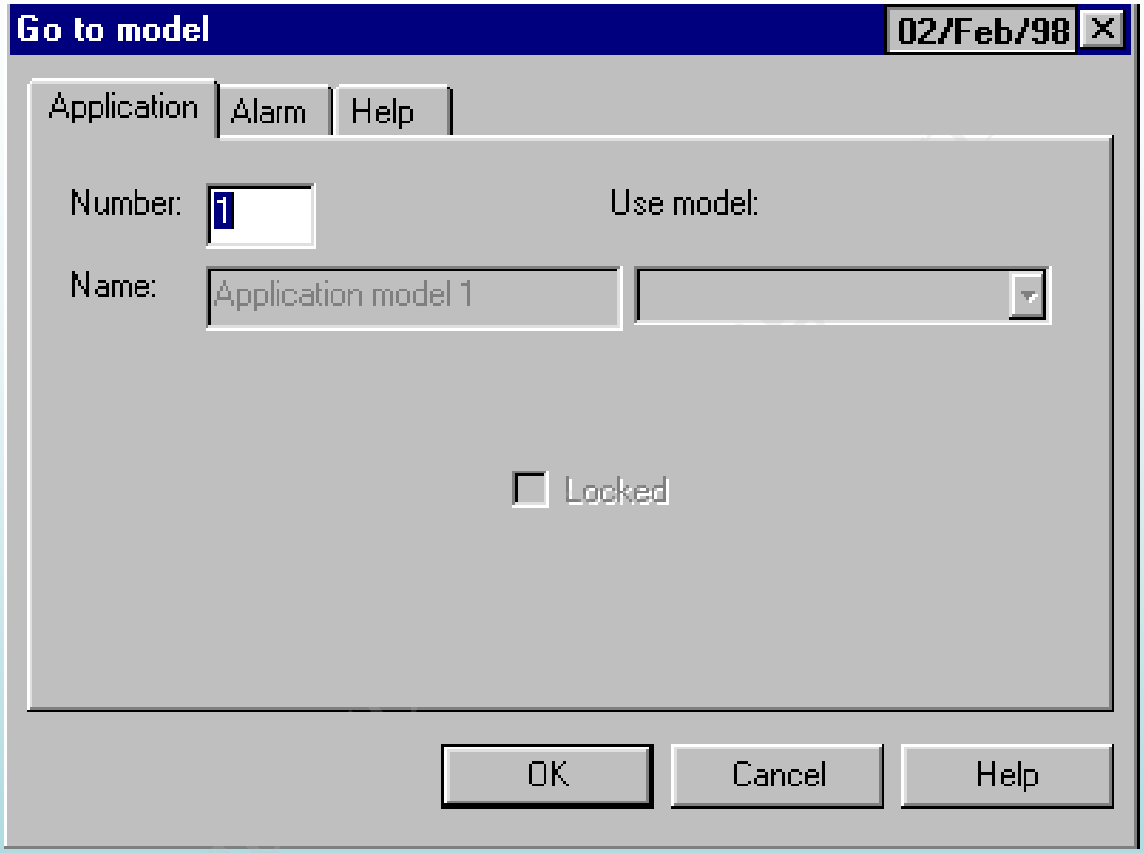
Editing the First Application Model Page



- ☑ From the Page Menu, select Go to Model followed by Application (Model)
- ☑ Select Number 1 and click on OK

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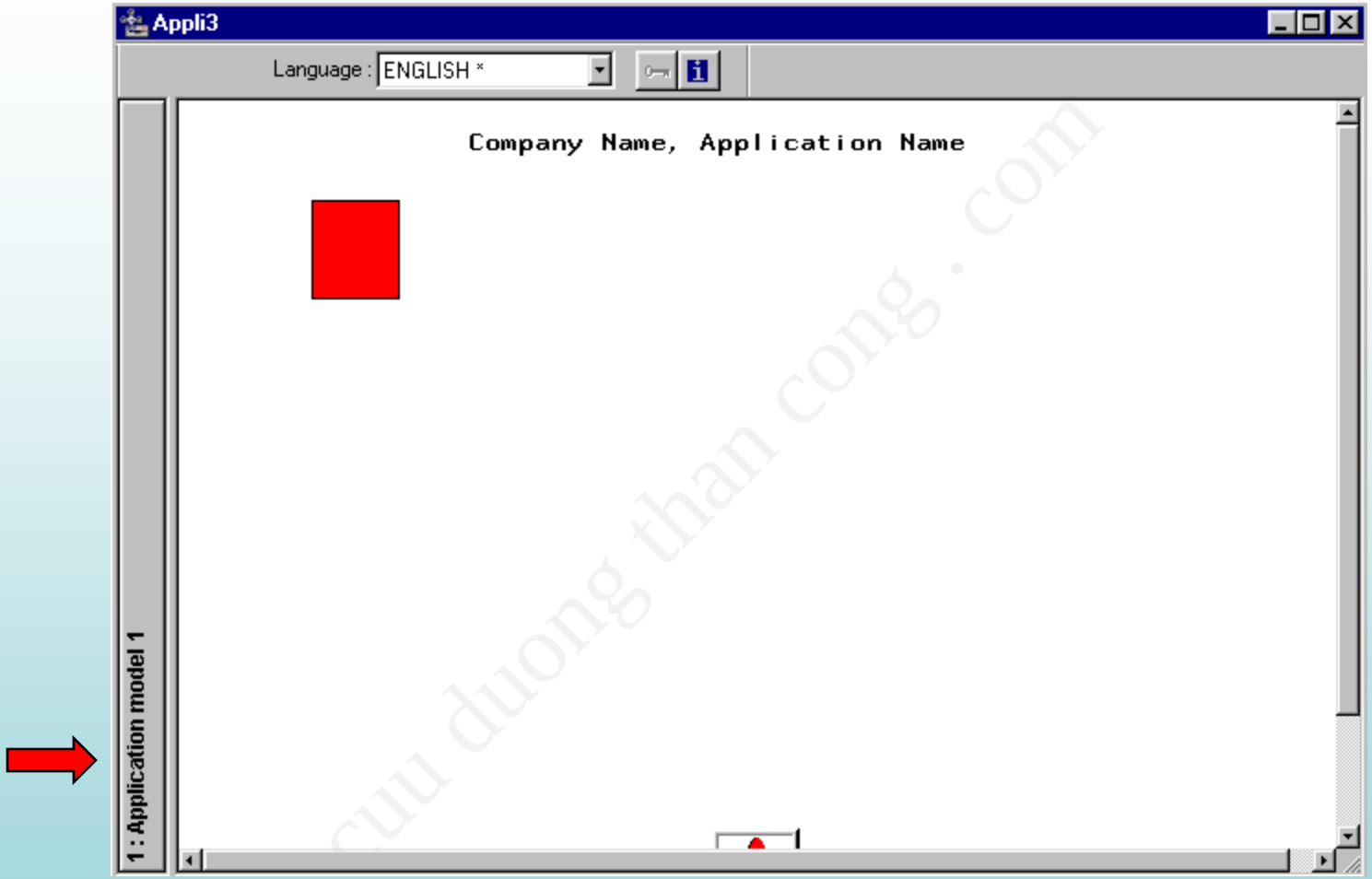
Editing the First Application Model Page



- ☑ Notice the page label
- ☑ Add graphics, text as desired.

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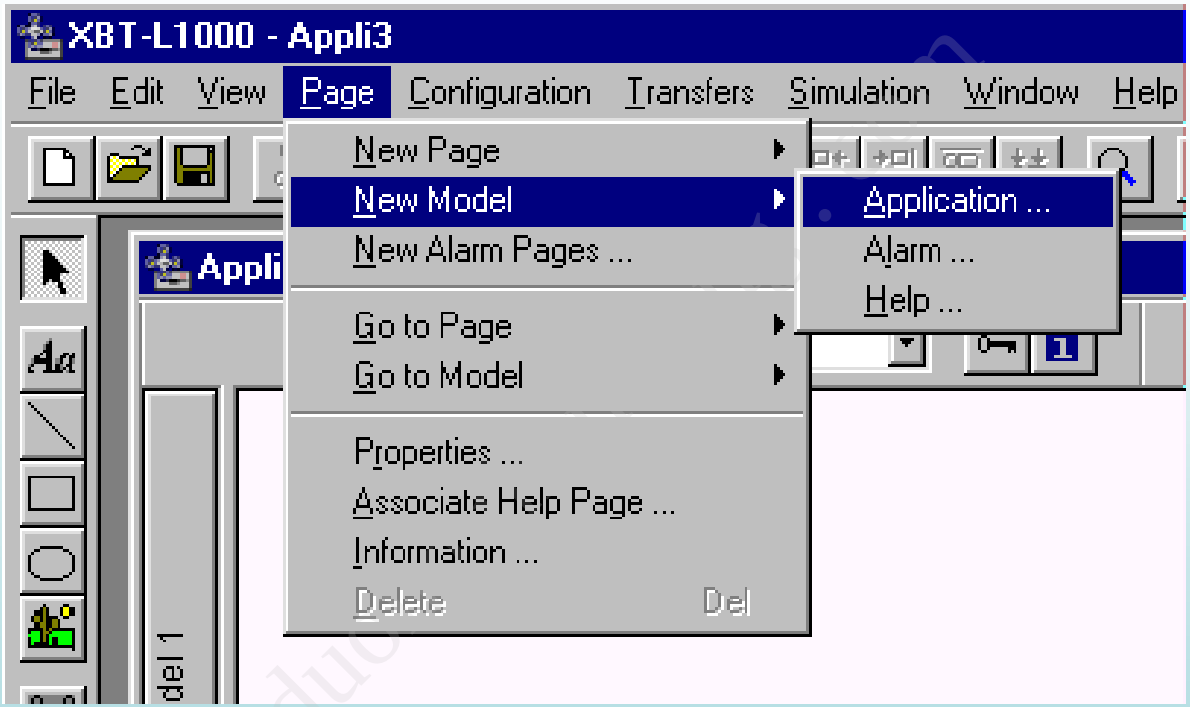
Magelis Pages

Creating a New Model Page



- ☑ Select "New Model" from the Page drop-down menu
- ☑ Select "Application" to start a new Application Model Page
- ☑ You can create as many Application, Model Pages as needed

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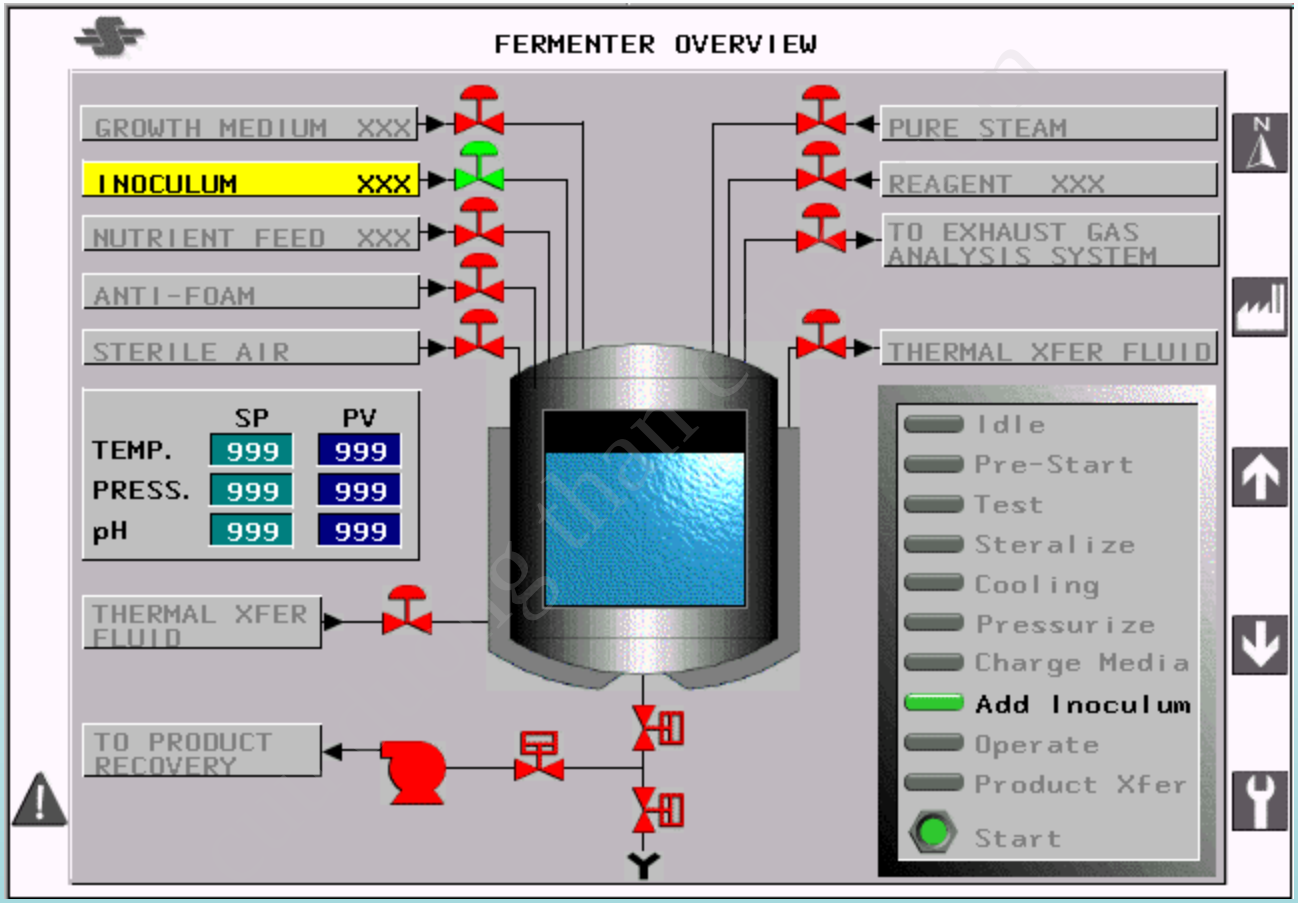
Magelis Pages
Application Pages



☑ A typical application page contains:
Control system display, setpoint modification, system status ……..

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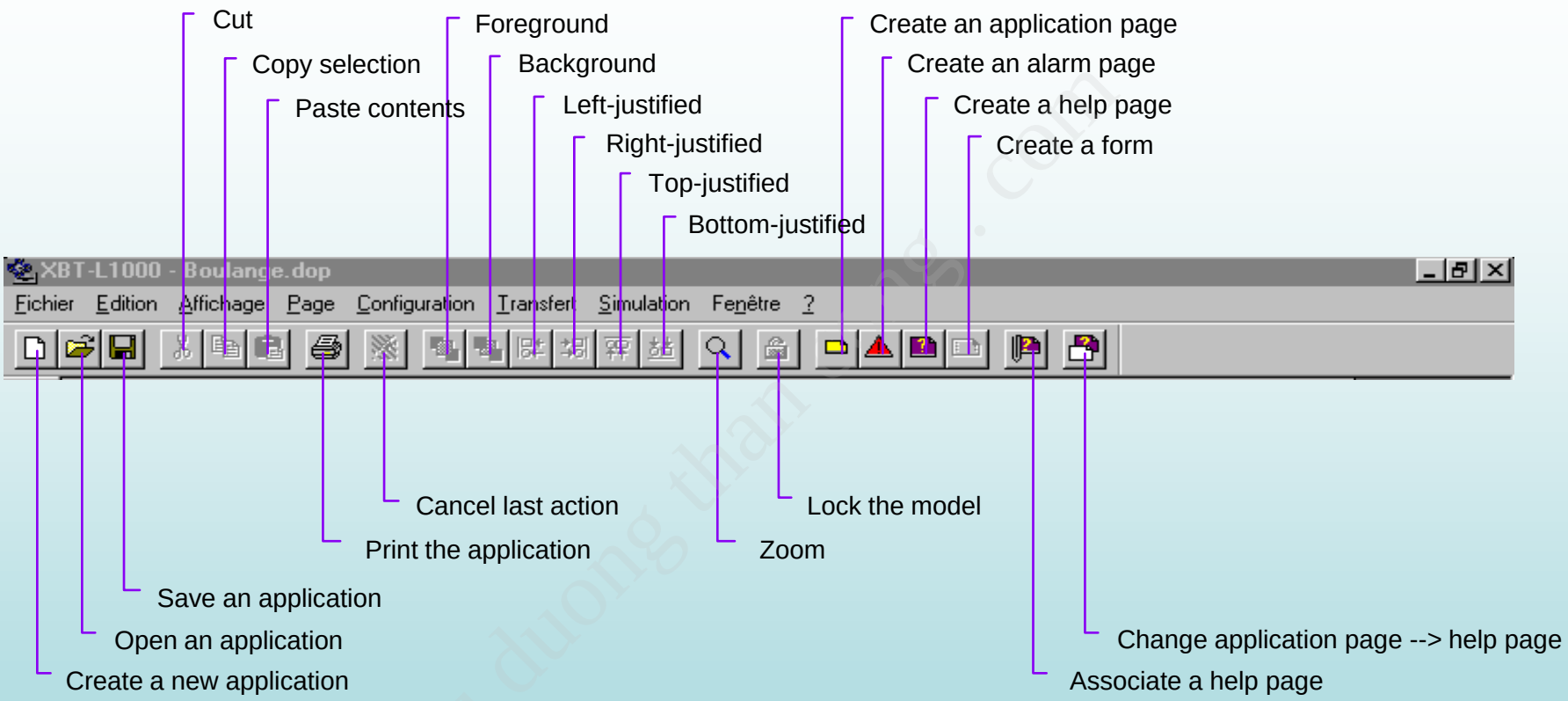
Magelis Pages
The Toolbar



☑ An overview of the Toolbar

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Magelis Pages
The Objects

- Return to selection mode
- Create text
- Create a line
- Create a rectangle
- Create an ellipse
- Create a bitmap
- Create a variable alphanumeric field
- Create a variable bar graph
- Create a variable VU meter
- Create a variable linear potentiometer
- Create a variable rotary potentiometer
- Create a variable linear selector
- Create a variable rotary selector
- Create a variable image box
- Create a variable curve
- Configure a function key

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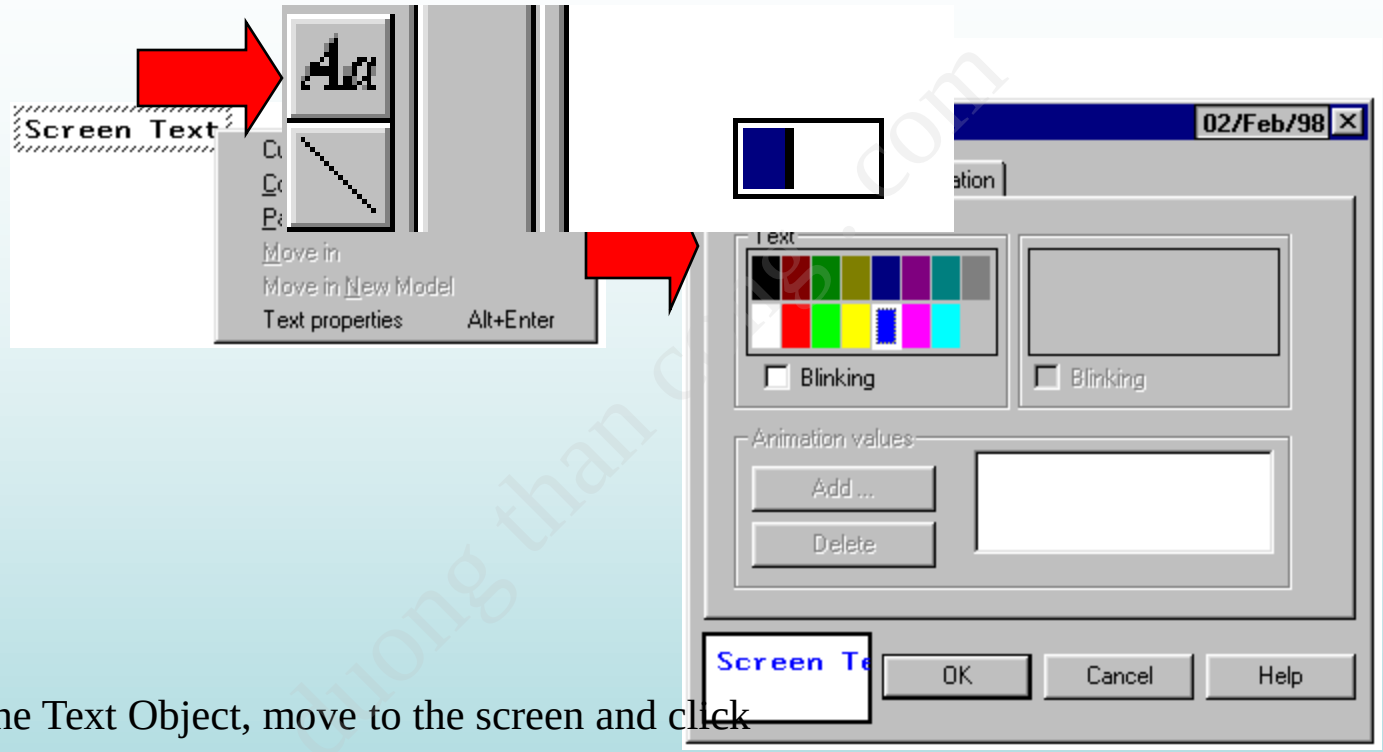
Magelis Pages
Text Objects



- ☑ Select the Text Object, move to the screen and click
- ☑ Type the desired text
- ☑ When finished, click the right mouse button to set the text properties

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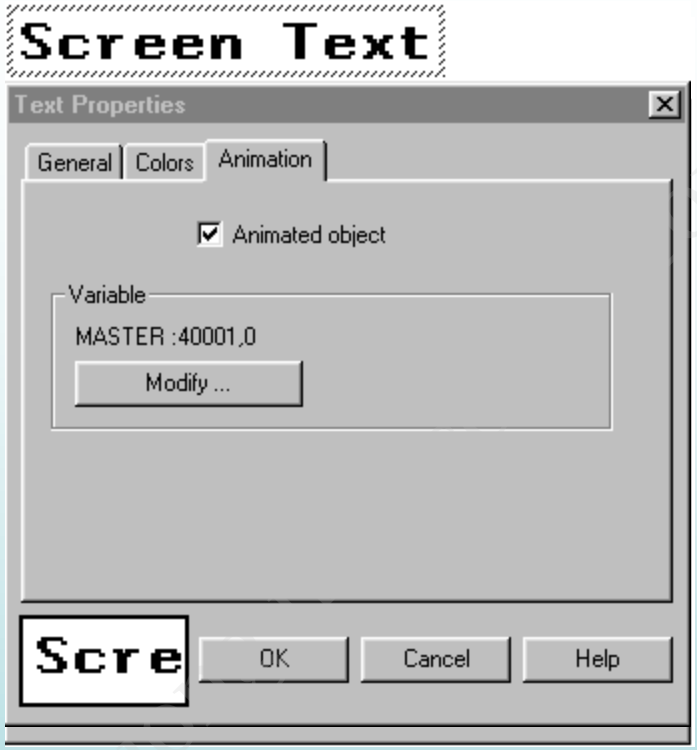
Text Properties



- ☑ Set font size and attributes from the “General Tab. Set colors from “Colors tab”
- ☑ Animation links the text to a bit in a register

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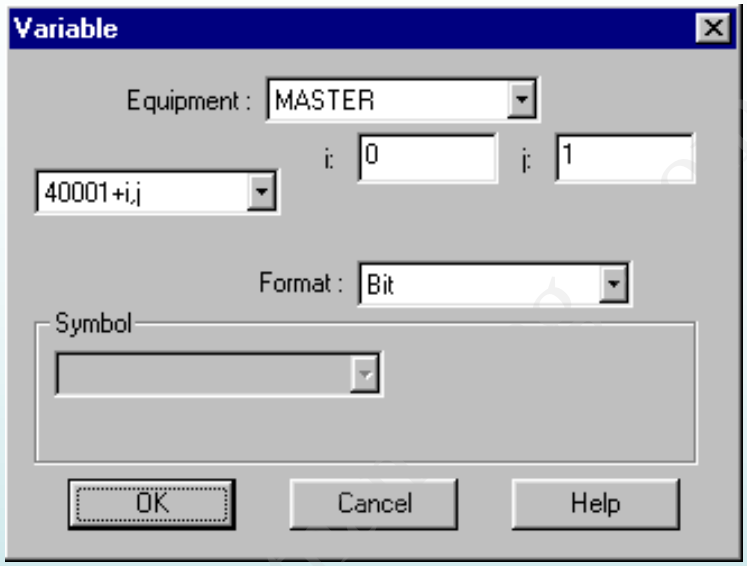
Animating Text



☑ Animation links the screen text to a bit in a register from PLC indicated by the "Equipment" option. Availible PLCs were set-up in the Configuration/Equipment Symbols section.

☑ "i" is an offset from the first possible 4X register (i.e., 40001). The number entered in the "i" field is added to register address 40001 to create the actual address

☑ "j" is the bit number in the indicated register. Bits number 0 - F, in the conventional order

☑ Format indicates the format of the data being monitored (i.e. Bit). Other fields described later allow word data. In those cases, the Format field tells the XBT how to interpret the data contained in the register

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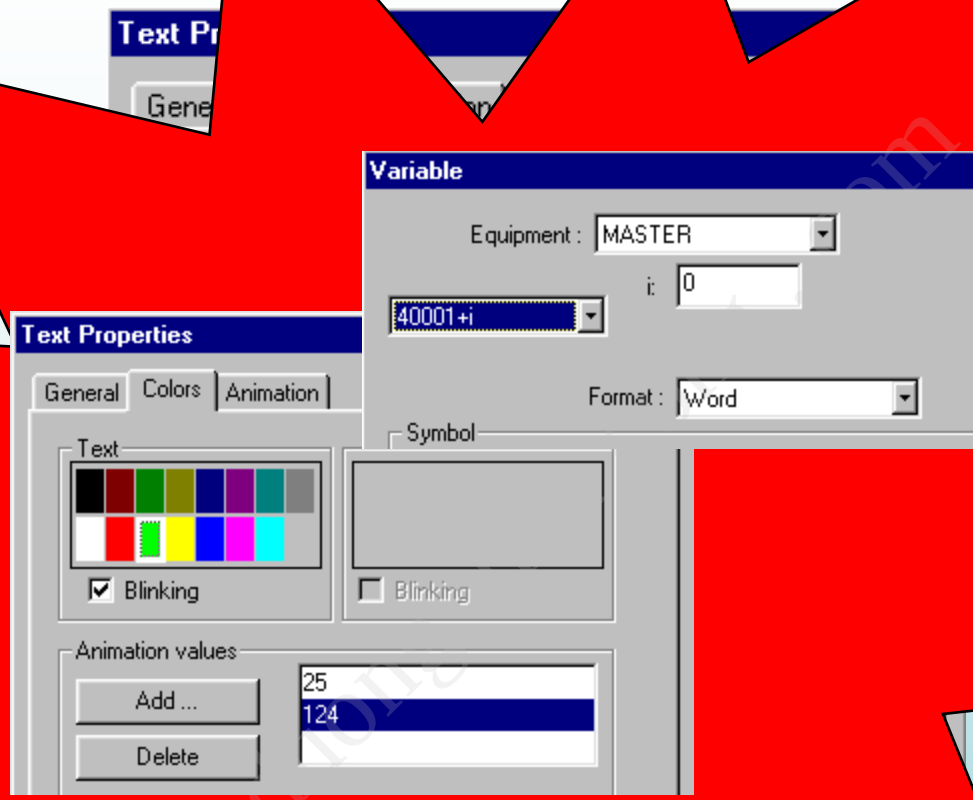
Animating Text



- ☑ Text ... to ... chang... when the ...ked to it is ON or OFF
- ☑ You ...pecify the attributes for the ze... and one cond...ion of the bit
- ☑ If "Word" format was indicated, you specify the text color for different register values

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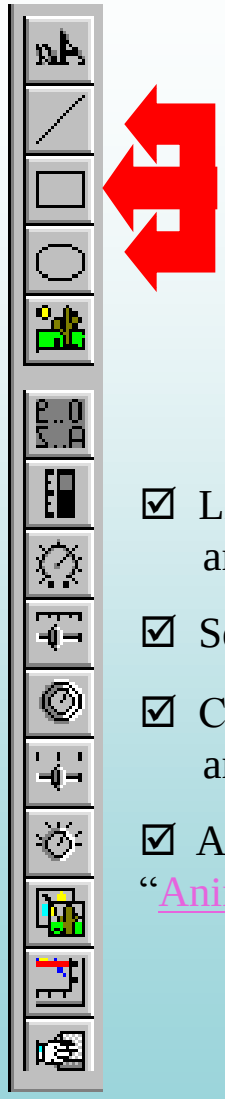
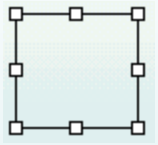
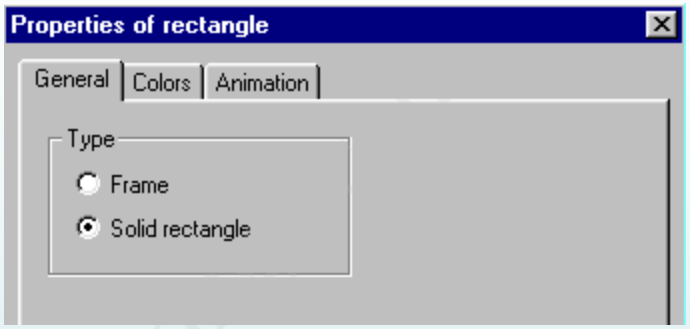
The Line, Rectangle & Ellipse Objects







- ☑ Lines, Rectangles and Ellipses can be used to form static, graphic objects or may be animated
- ☑ Select the object desired, click and drag on your page to size the object
- ☑ Click the right mouse button and select the "Properties"option to set the objects colors and attributes
- ☑ Animation involves linking object colors & attributes to a register bit or word status. See "Animating Text" for more details

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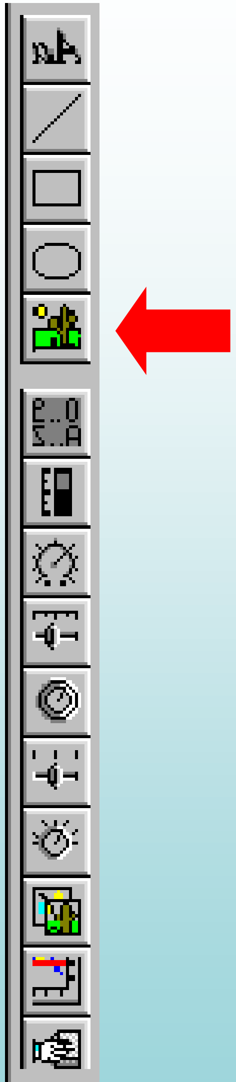
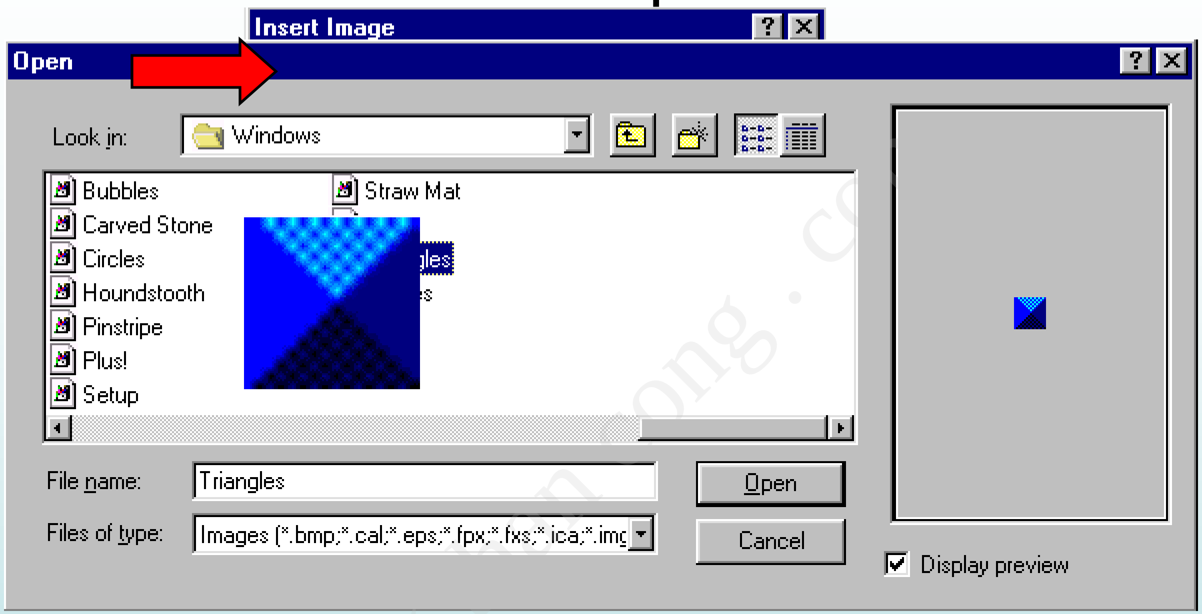
The Bitmap Object

Static Bitmap





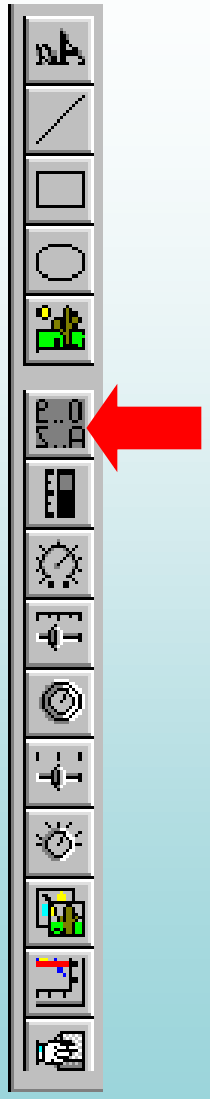
☑ Click the Bitmap Object tool and draw a frame on the current page.

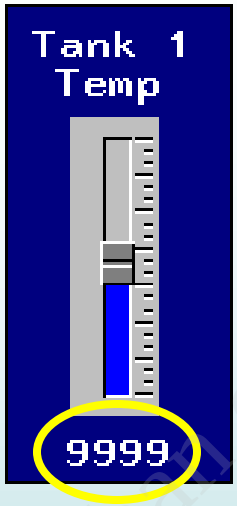
☑ Select either an *Existing* or *New Image*. Existing will allow you to browse your computer for an existing graphic file. New Image will launch one of the programs installed on your computer and allow you to create a new graphic.

can be used represent the process being monitored.

<CLICK>

The Alphanumeric Field Object



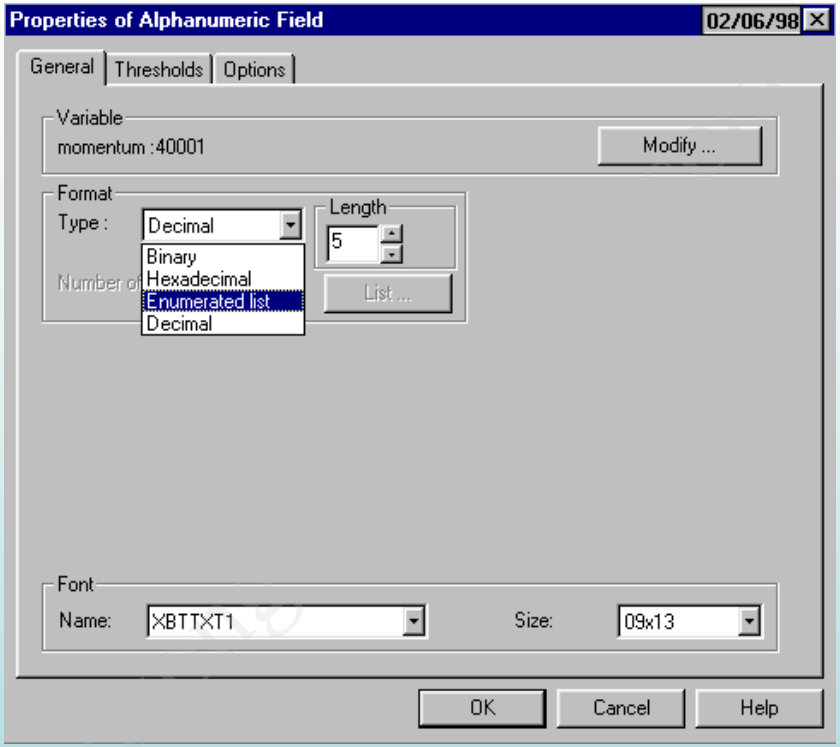


- ***Immediate Write*** - The variable is accessible for entry only. Its value is modified by selecting the object, entering the value and pressing the “ENTER” key.
- ***Immediate Read/Write -*** The variable is accessible for display and entry. Its value is modified by as described above

<CLICK>

The Alphanumeric Field Object

General Tab



☑ Move the cursor to the screen and click to position the Alphanumeric Object. The screen shown above appears.

☑ ***Variable*** - PLC register linked to the field

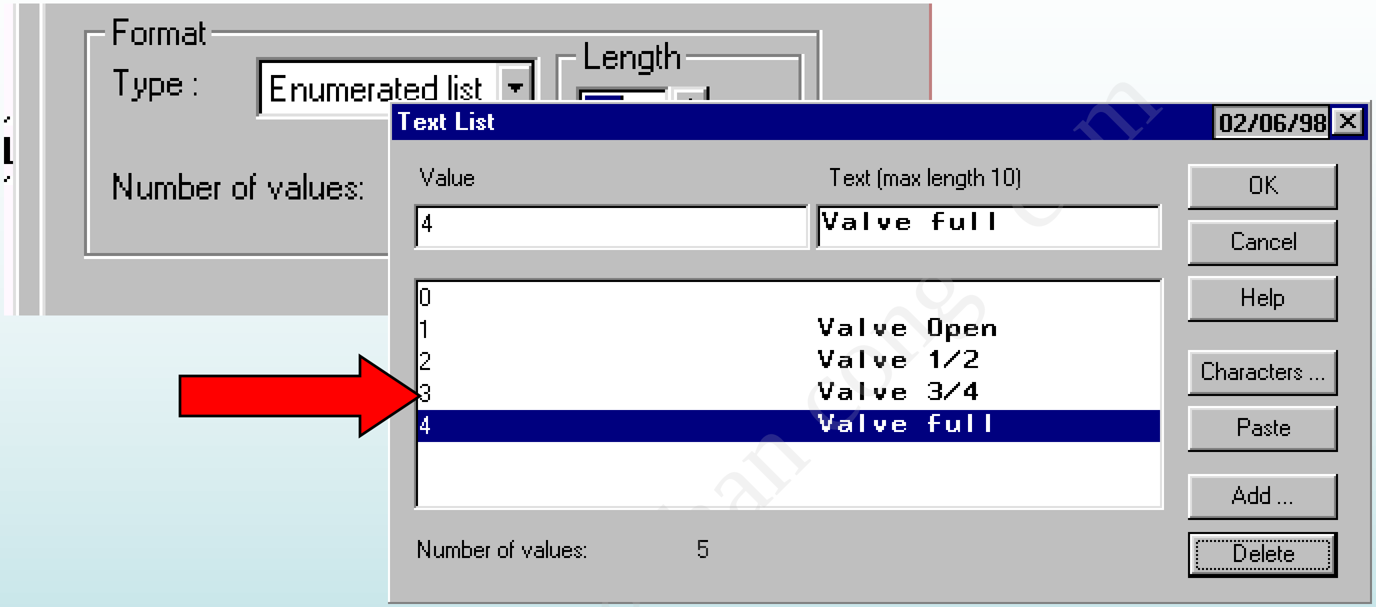
☑ ***Type*** - Data format used to display value in register

☑ Enumerated List allows text to be displayed on the screen based on a number in a PLC register. The next page explains this in more detail.

<CLICK>

The Alphanumeric Field Object

Enumerated List



☑ An Enumerated List is used to place text messages on the screen. Messages are controlled by the value in the linked register.

☑ *Text List* - Value is the linked register contents. Shows the message associated with the value in the register.

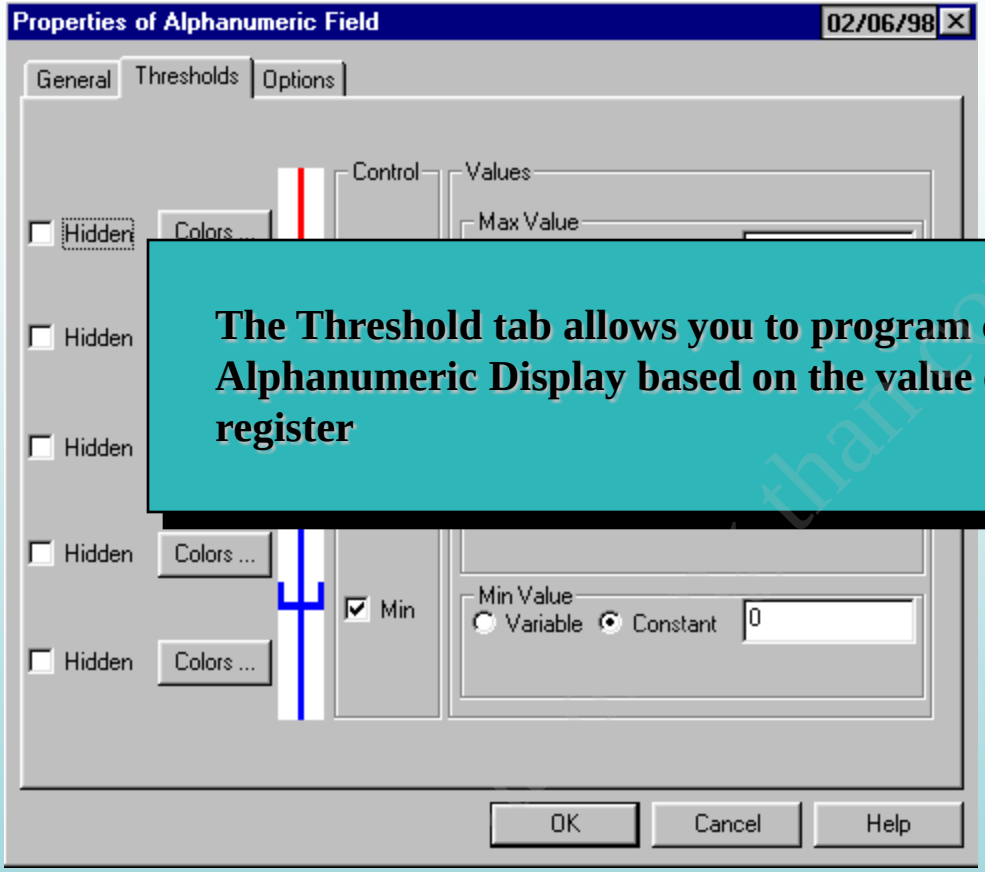
☑ **Length** - field length on screen. Sets maximum message length

☑ In the shown example - When the register equals 3, the screen shows the message "**Valve 3/4 Open**"

<CLICK>

The Alphanumeric Field Object

Threshold Tab



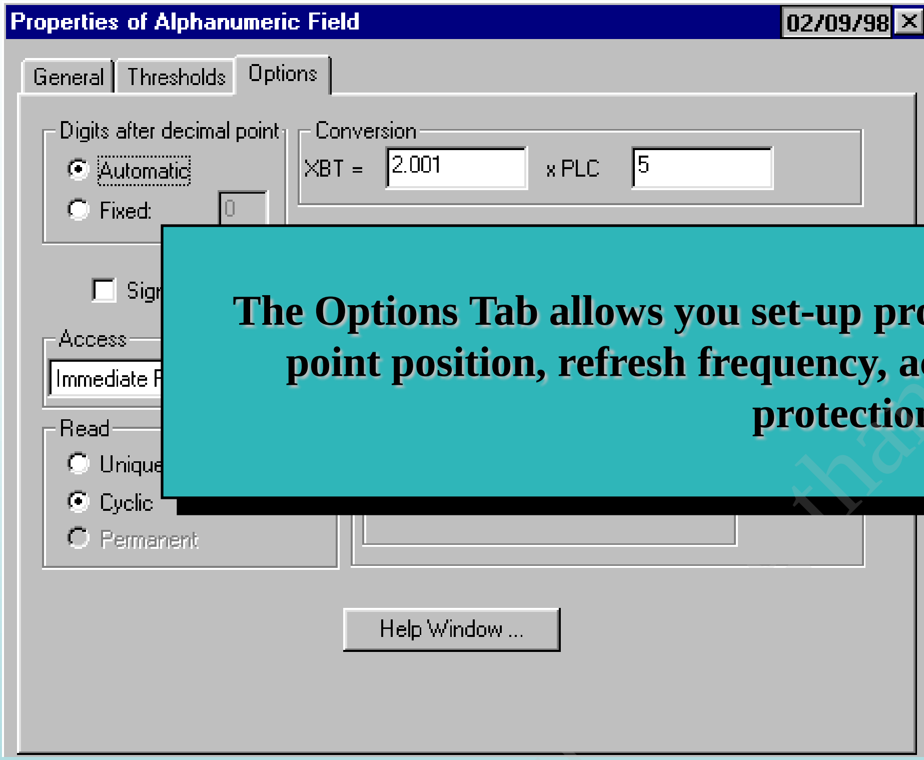
The Threshold tab allows you to program color changes for the Alphanumeric Display based on the value contained in the linked register

- ☑ Values may be constant or variable.
- ☑ Variable values come from PLC registers
- ☑ ***Max Value*** - Largest number that may be entered from XBT. If values in PLC
- ☑ ***Min Value*** - Smallest number that may be entered from the XBT
- ☑ ***Colors Buttons*** - Set the colors for each zone used
- ☑ ***Hidden*** - Screen display is hidden when value in linked register is inside the zone

<CLICK>

The Alphanumeric Field Object

Options



The Options Tab allows you set-up process variable scaling, decimal point position, refresh frequency, access control and password protection.

☑ ***Digits after Decimal Point*** - Sets the number of digits to the right of the decimal point for the display

field: Read, Write, Read/Write, Immediate Write, Immediate Read/Write. The Immediate

options allow XBT increment/decrement keys

☑ ***Field*** ... digits to

... the Enter

... s displayed

... of characters

... y of the

... d when the

screen is displayed. Cyclic - Updates the

screen periodically

☑ ***Conversion*** - Used to define the coefficients a and b of the conversion formula of the type y = ax + b. For example, if the display should be

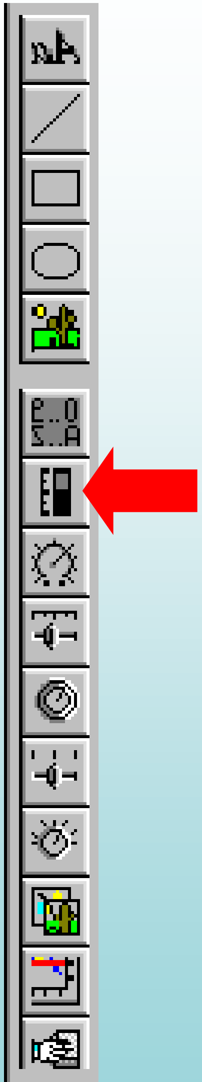
☑ ***Signed*** - Indicates if the field should be displayed with a sign.

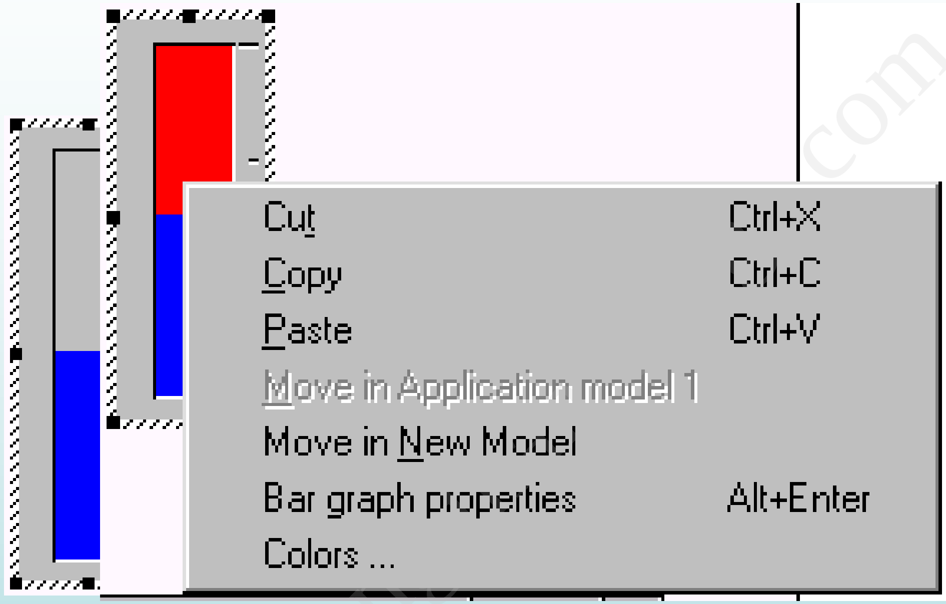
displayed at 50%, the formula will be: **XBT = 0.5 x API + 0**

☑ **Conversion (Write)** - Values entered by the operator are scaled by the XBT. The inverse operation is performed. In the example shown, if 25 were entered, the PLC would receive a value or 10. (25 - 5) / 2

<CLICK>

The Bar Graph Object





☑ The Bar Graph Object is used to graphical display a process value

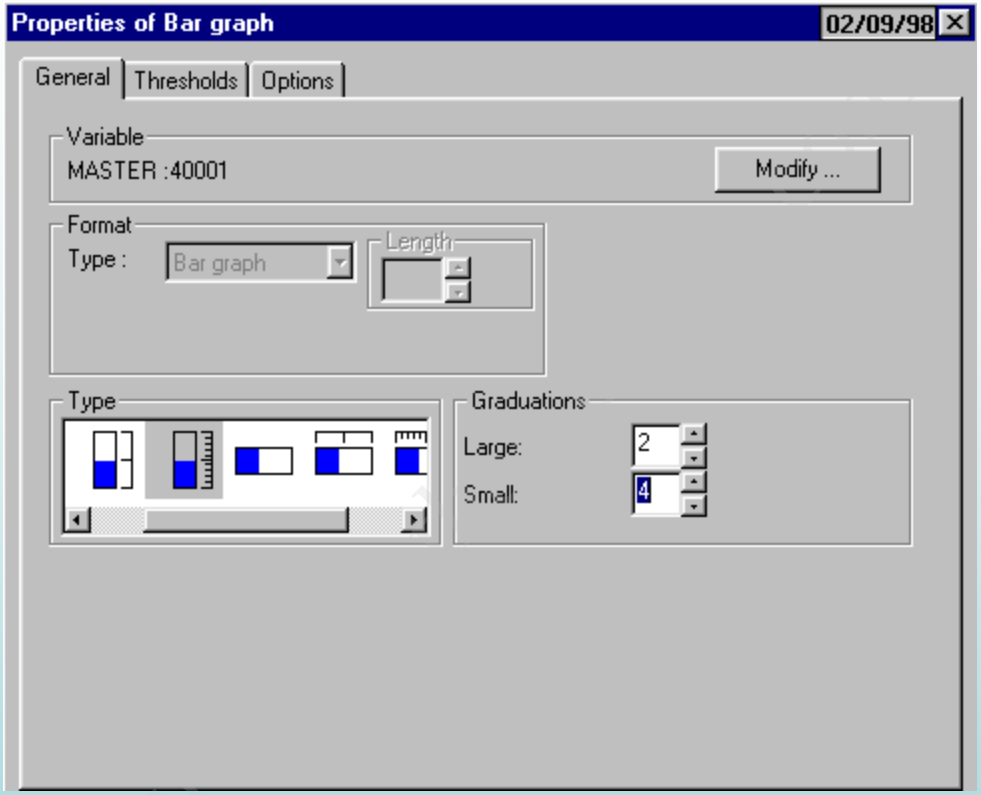
☑ Bar Graphs may be vertical, horizontal and have programmable minimum, maximum values as well as programmable high and low thresholds

☑ Colors can be changed by selecting the Colors choice after right clicking the Bar Graph Objects. The menu above appears when you right click on a Bar Graph Object.

<CLICK>

The Bar Graph Object

General Tab

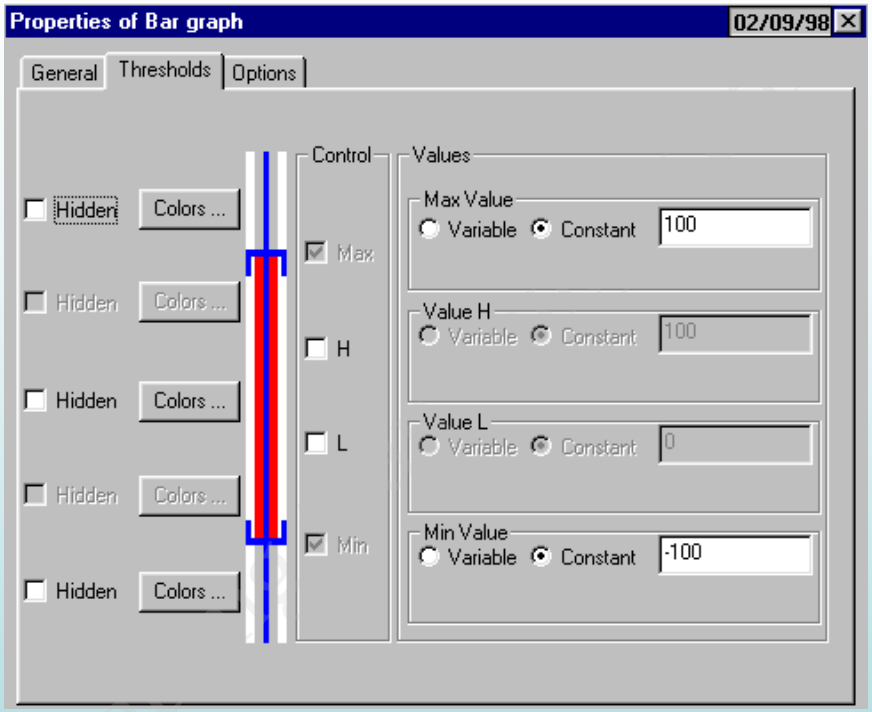


- ☑ ***Type*** - Select either horizontal or vertical versions of the bar. Tick marks may also be selected
- ☑ ***Graduation*** - Indicate how many of each type of tick marks the bar is to have
- ☑ ***Variable*** - Link to PLC and register

<CLICK>

The Bar Graph Object

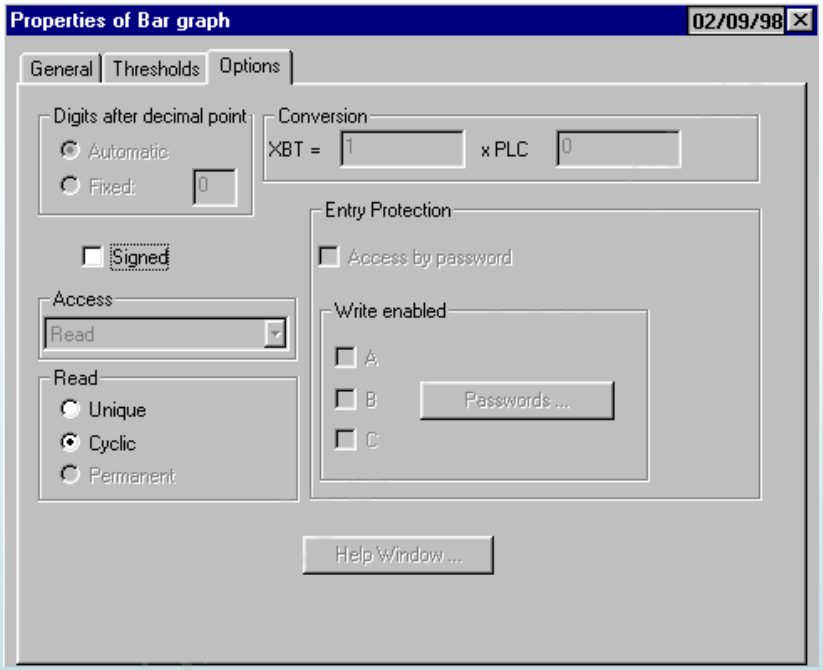
Threshold Tab



- ☑ Bar changes color at different thresholds
- ☑ Thresholds may be a Constant or come from a PLC register (Dynamic)
- ☑ ***Hidden*** - Bar is invisible when in the range with Hidden selected
- ☑ This Threshold screen appears as part of the configuration of most Objects, it always is configured in the same manner

<CLICK>

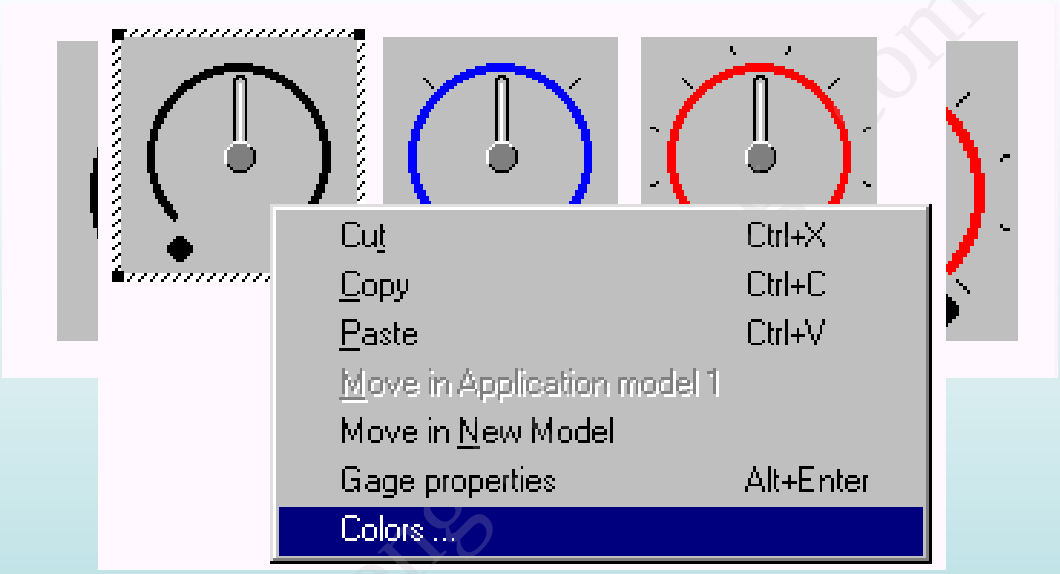
The Bar Graph Object
Options Tab



- ☑ Options that are "grayed" out, are not available for this Object
- ☑ ***Unique*** - Bar is only updated when the page is first called up
- ☑ ***Cyclic*** - Bar is updated periodically by the XBT
- ☑ ***Signed*** - Indicates that the value from the PLC can be negative (note Min value indicated on previous screen
- ☑ The Options screen is the same for all Objects

<CLICK>

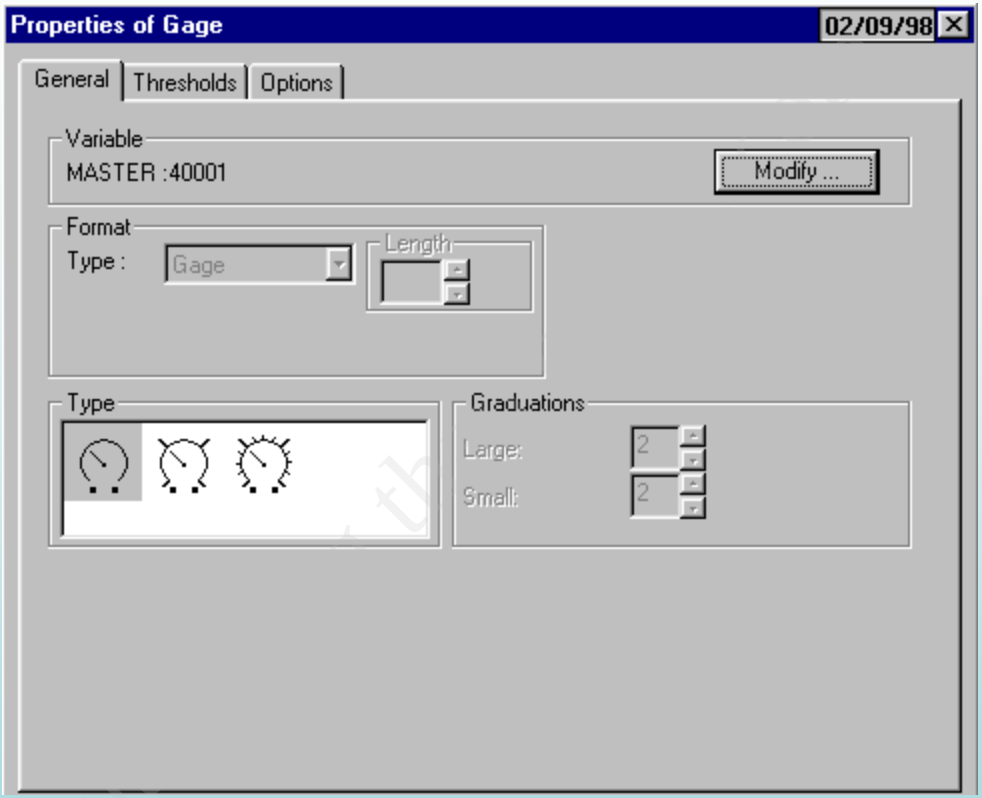
The Gage Object



- ☑ The Gage Object is used to graphically display process variable
- ☑ Typical applications might be flow rates, temperatures, pressures ….
- ☑ Minimum/maximum values, high and low thresholds are programmable

<CLICK>

The Gage Object
General Tab

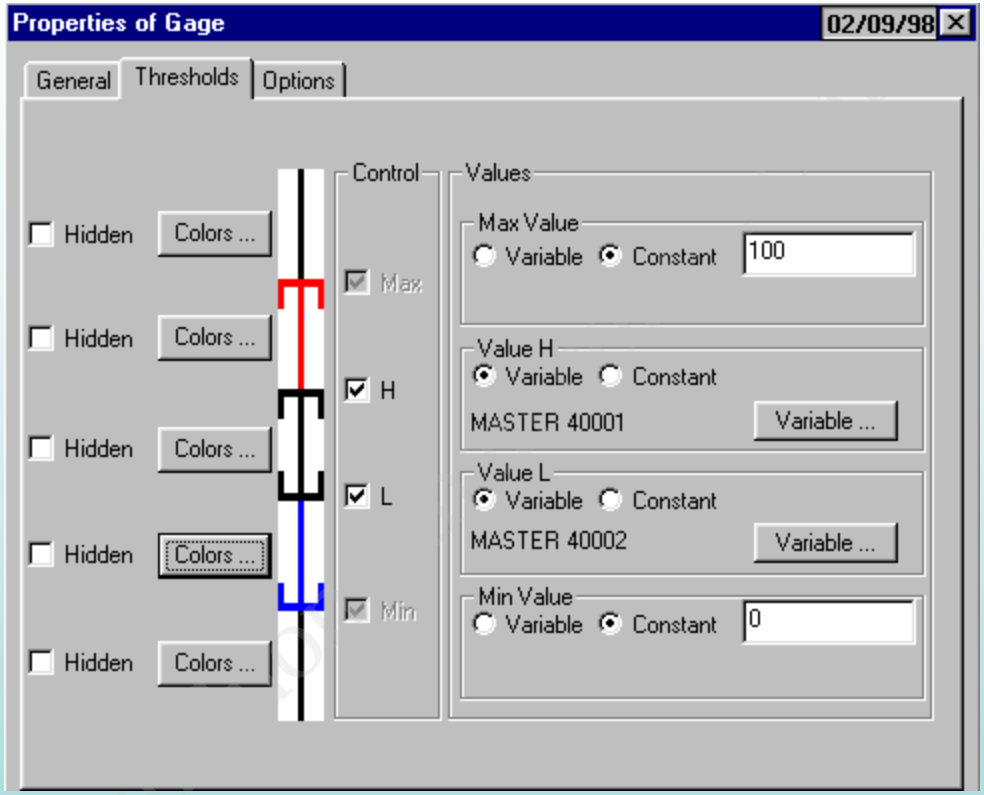


- ☑ ***Type*** - Select the appearance of the Gage from the choices shown
- ☑ ***Variable*** - Link to PLC and register, same as previous examples

<CLICK>

The Gage Variable Object

Thresholds

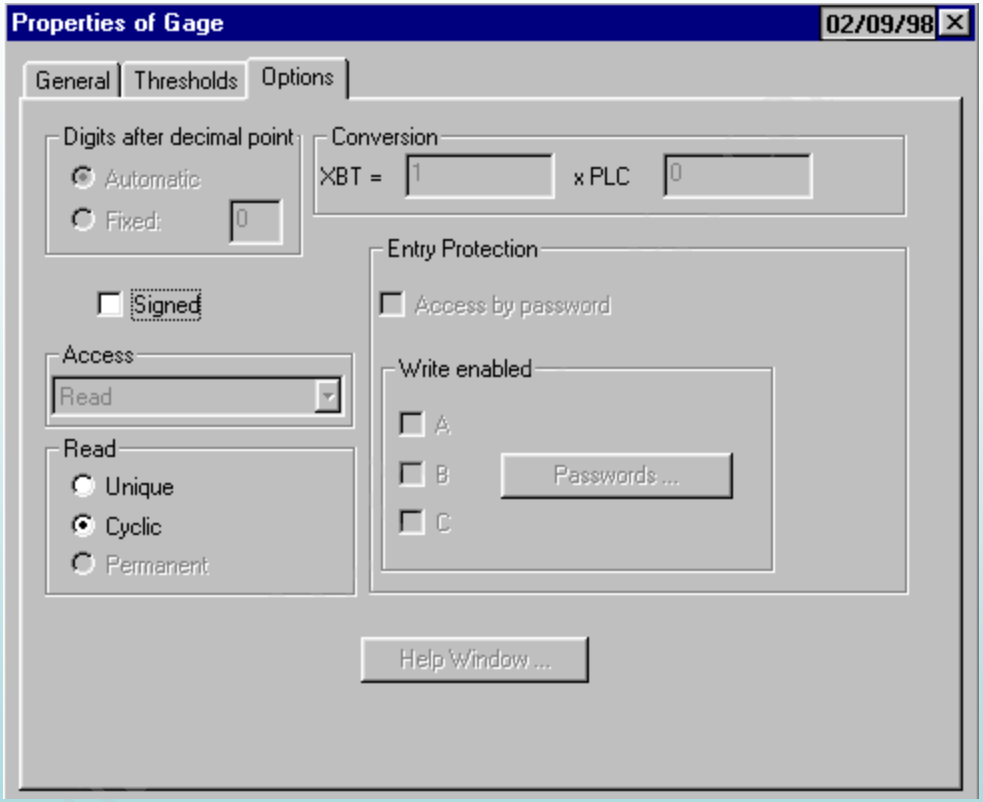


☑ Same as previous examples, see Alphanumeric Field Object for details

☑ Example shows PLC register for High and Low thresholds. Value in register sets the thresholds

<CLICK>

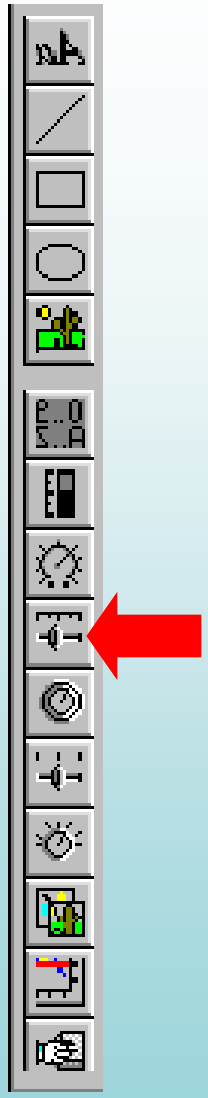
The Gage Variable Object
Options Tab

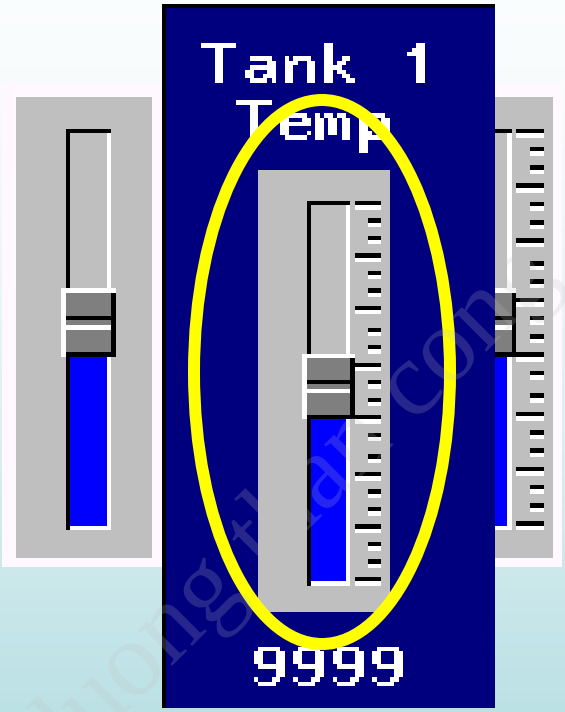


☑ Same as previous examples, see Alphanumeric Field Object for details

<CLICK>

The Slide Potentiomenter Object



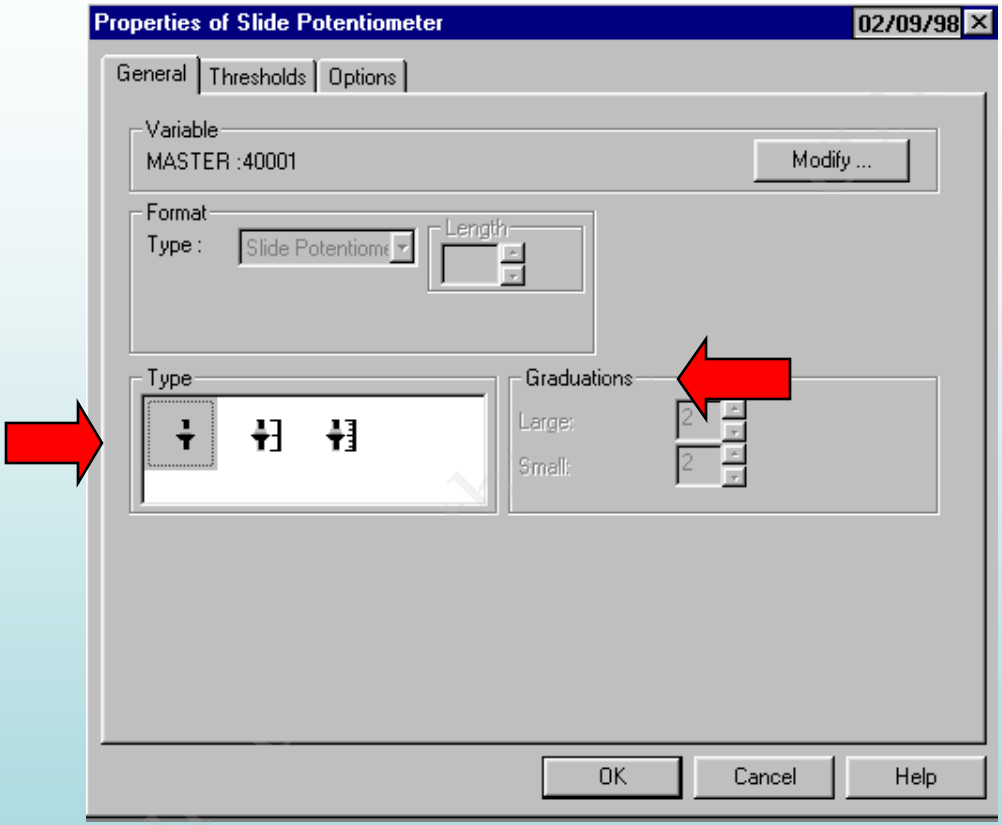


☑ The Slide Potentiometer would be typically used with an Alphanumeric Field Object to create a graphic and digital screen display of process setpoint entry/monitoring

<CLICK>

The Slide Potentiometer

General

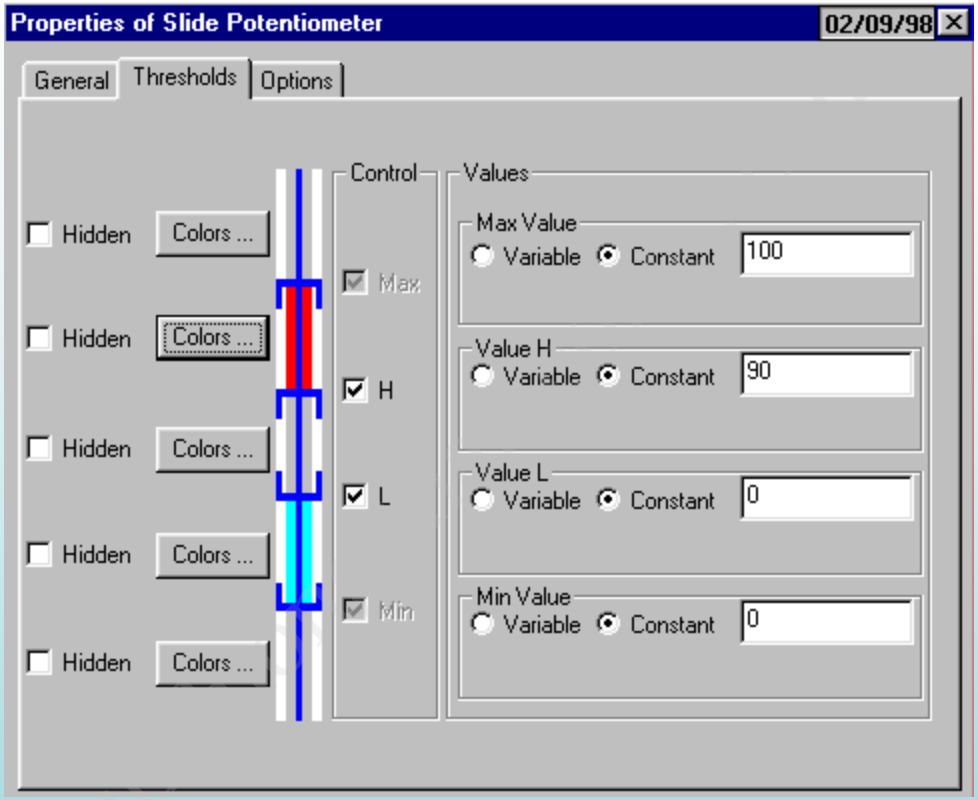


- ☑ ***Type*** - Select the appearance of the Slide Potentiometer form the choices shown
- ☑ ***Graduations*** - Set the number of large and small tick marks

<CLICK>

The Slide Potentiometer

Thresholds

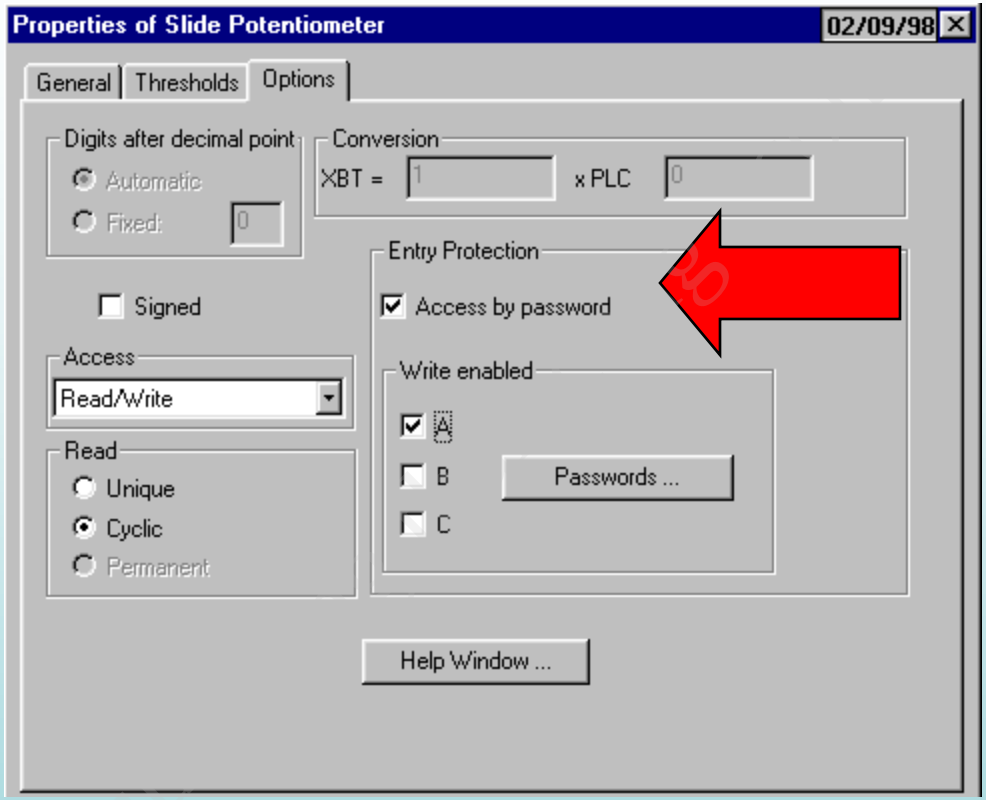


☑ Same as previous examples, see Alphanumeric Text Object for details

<CLICK>

The Slide Potentiometer

Options

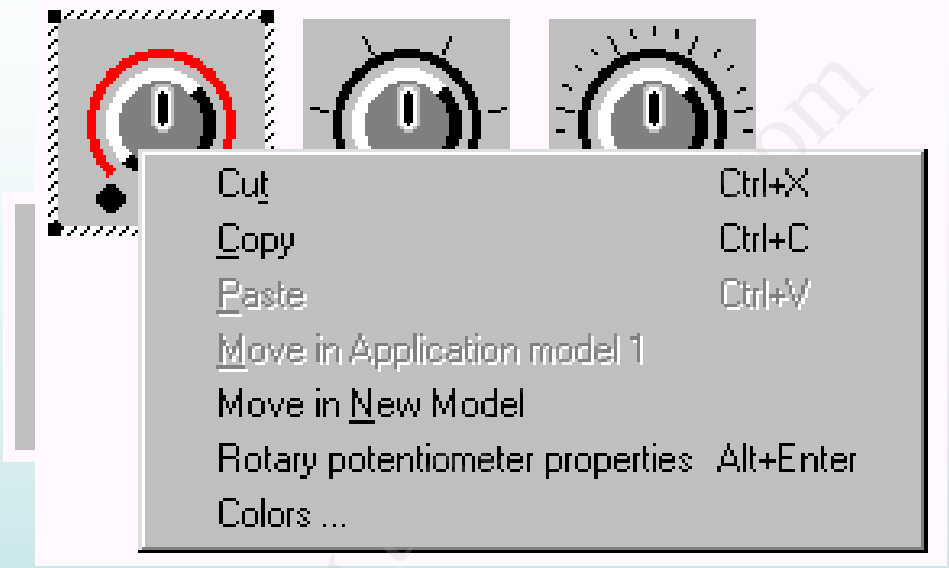


☑ Same as previous examples, see Alphanumeric Field Object for details

☑ ***Entry Protection*** - Password "A" controls access to data entry for this option

<CLICK>

The Rotary Potentiometer



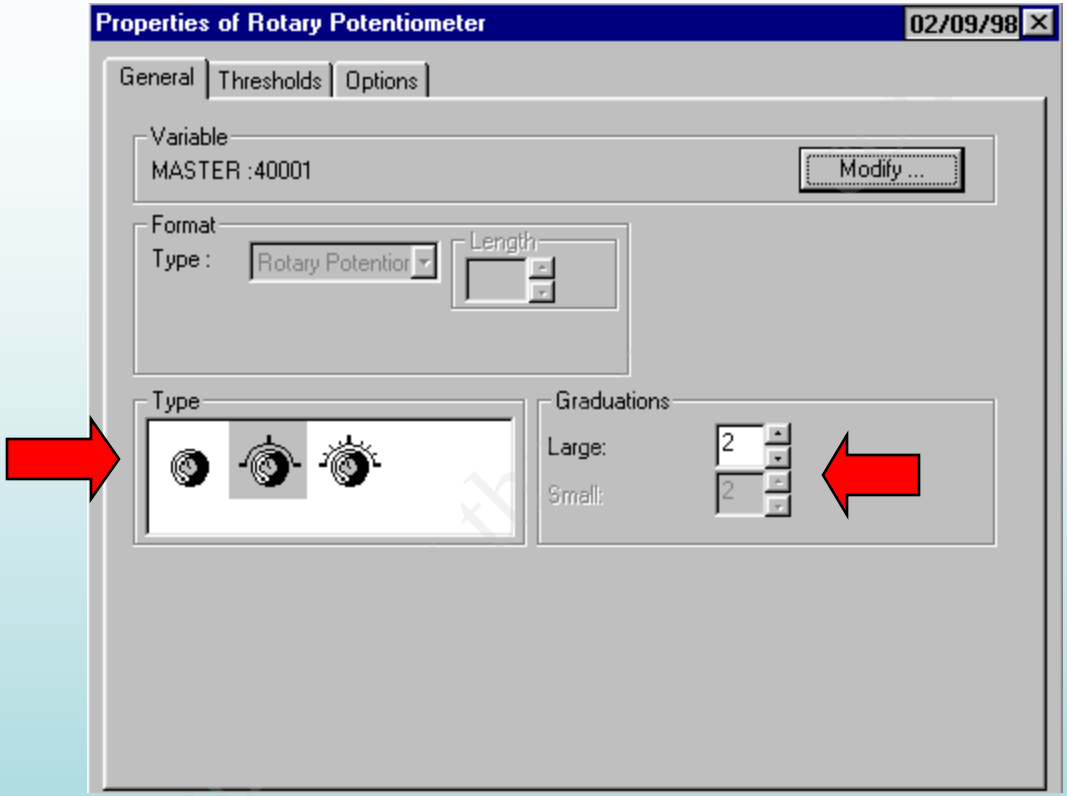
☑ The Rotary Potentiometer is essentially the same as the Slide Potentiometer. It allows you to monitor and alter a process variable (typically process setpoints)

☑ The Color of the Rotary Potentiometer may be changed by right clicking on the Rotary Potentiometer and selecting the Colors option

<CLICK>

The Rotary Potentiometer

General Tab



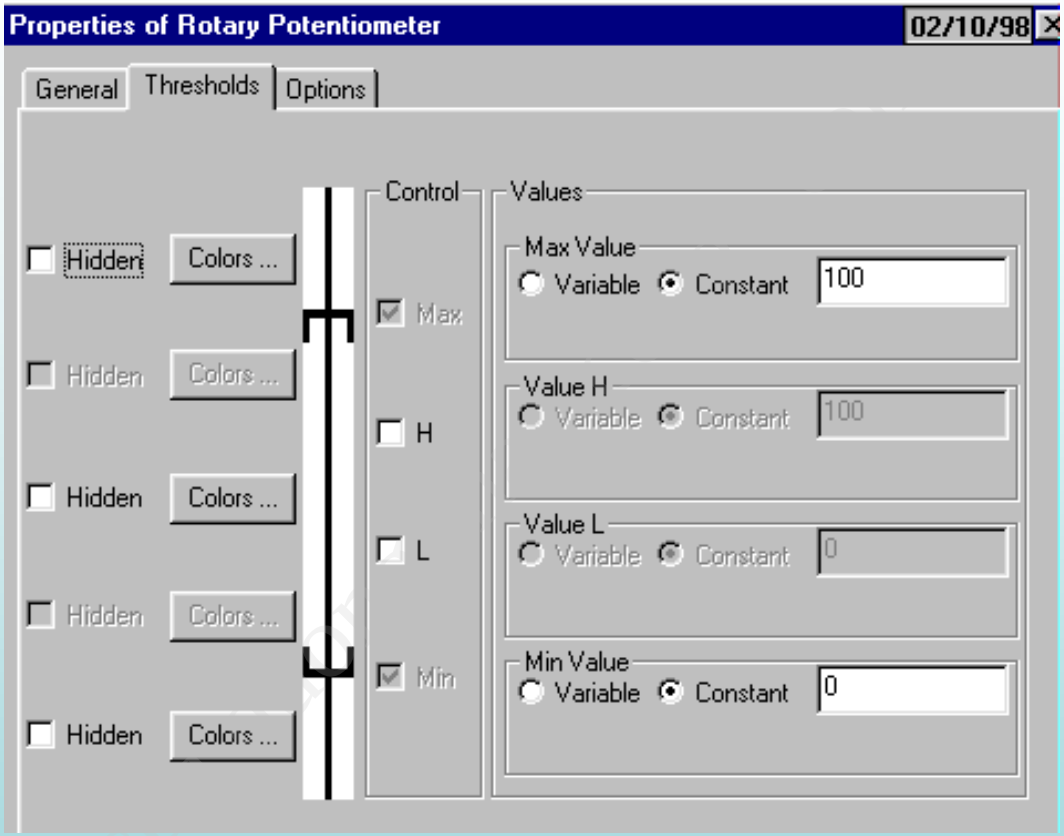
☑ ***Type*** - Select the appearance of the Rotary Potentiometer form the choices shown

☑ ***Graduations*** - Set the number of large and small tick marks

<CLICK>

The Rotary Potentiometer

Thresholds Tab

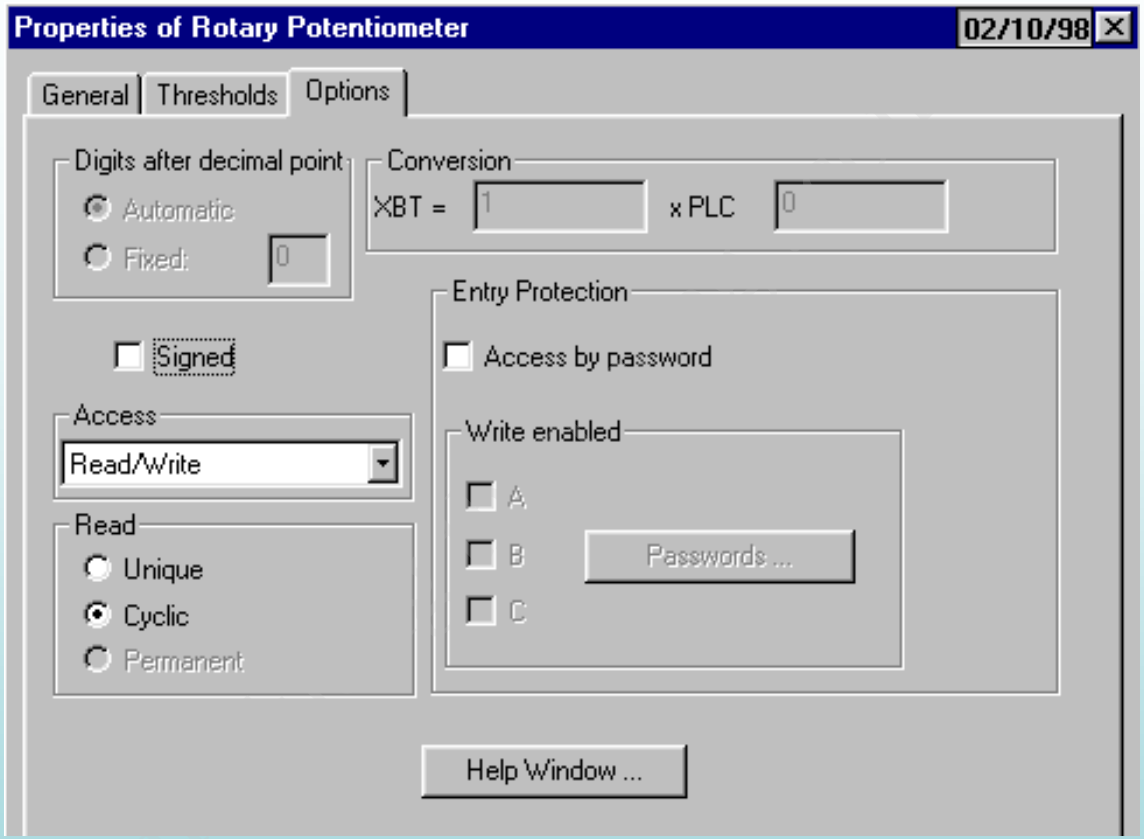


☑ Same as previous examples, see Alphanumeric Text Object for details

<CLICK>

The Rotary Potentiometer

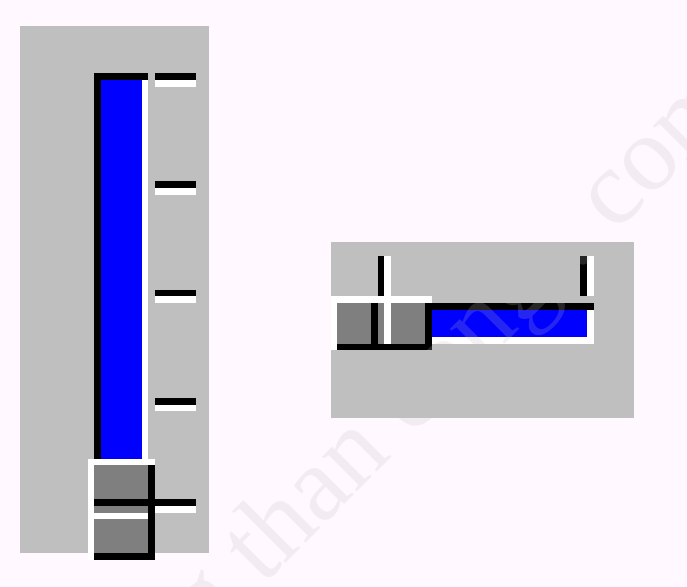
Options Tab



☑ Same as previous examples, see Alphanumeric Text Object for details

<CLICK>

The Slide Switch Object



☑ The Slide Switch Object allows you to enter pre-programmed values into a PLC register and graphically monitor the register value. Each tick (position) may be programmed to send a value to the register of the linked PLC

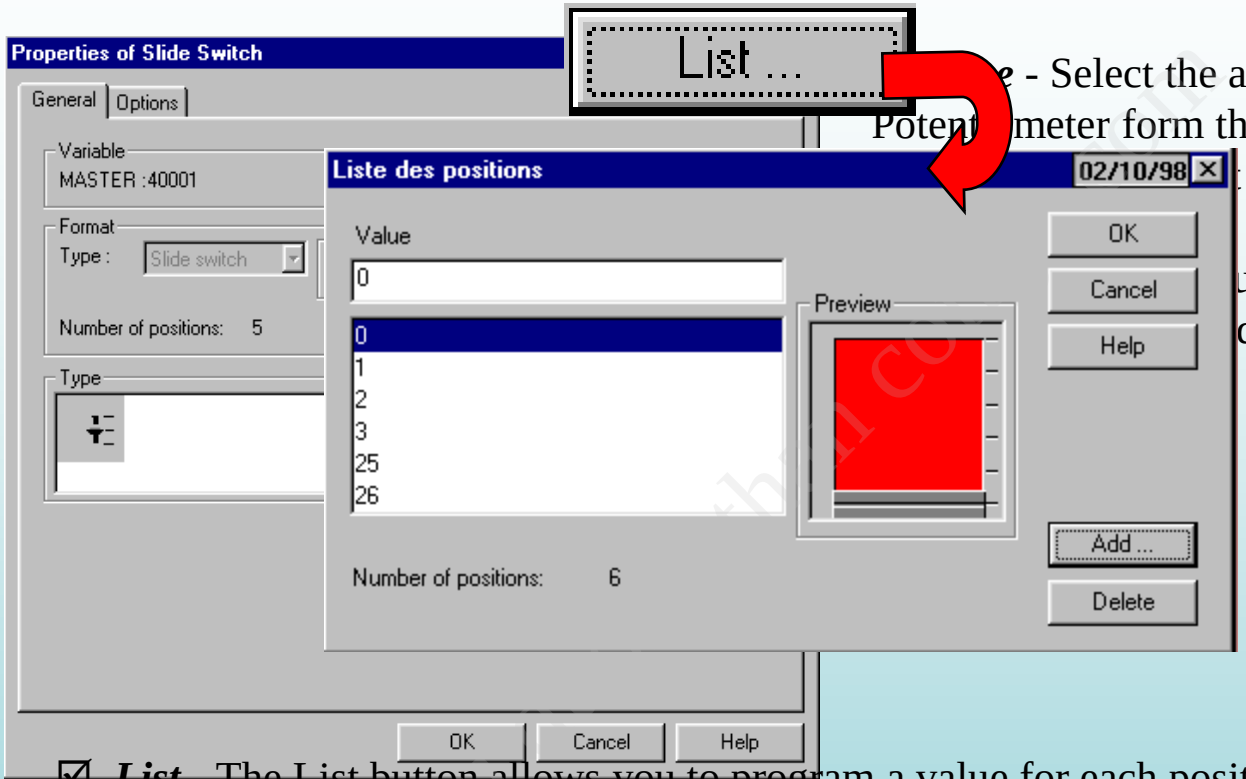
☑ May be used to enter process setpoints. Since there is no numerical display built-in, this object is typically combined with an Alphanumeric Field Object

☑ Vertical and horizontal versions are possible

<CLICK>

The Slide Switch Object

General Tab



...e - Select the appearance of the Slide
Poten...meter form the choices shown
... the number of large

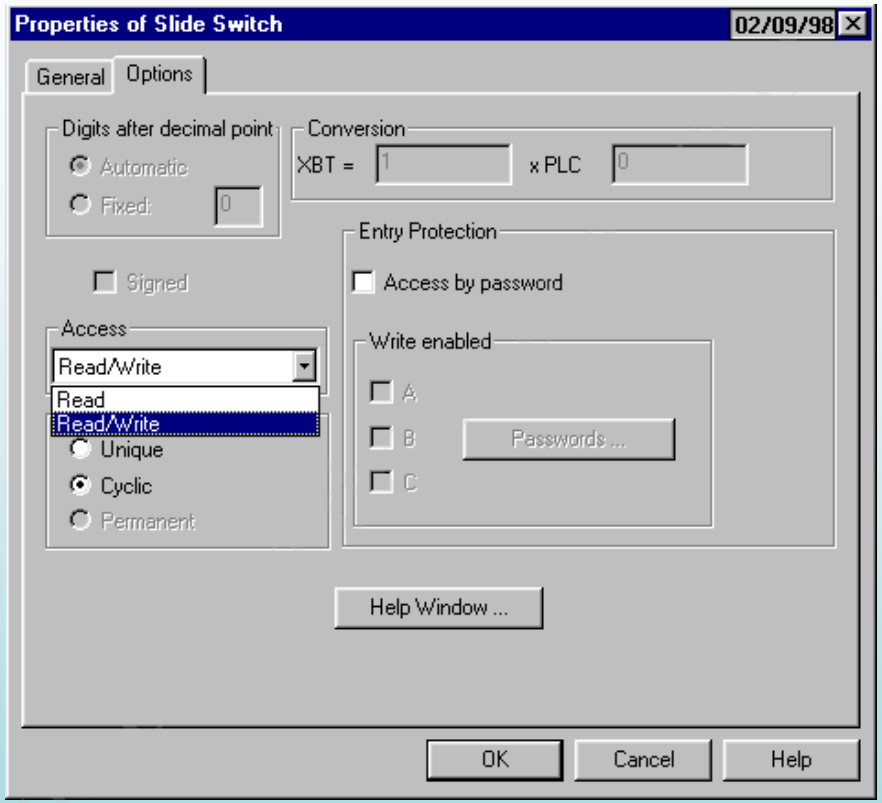
...ure the link to the PLC
...d with this object

☑ ***List*** - The List button allows you to program a value for each position that the switch can move to. The example shown has six different positions. The top screen position (assuming a vertical switch) will send a value of 26 to the plc register. To add more values and increase the number of positions, type the number to be added to the list in the *VALUE* field then press the *ADD* button. The value is inserted into the list

<CLICK>

The Slide Switch Object

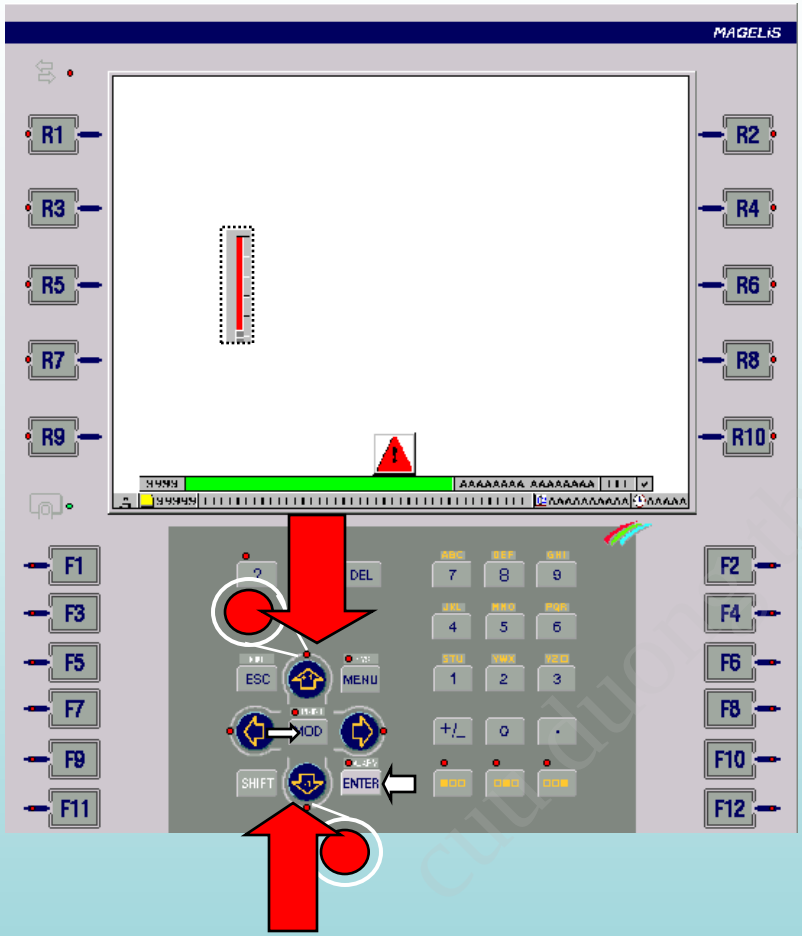
Option Tab



☑ Same as previous examples, see Alphanumeric Text Object for details

<CLICK>

Using the Slide Switch Object



☑ Use the Up/Down navigation keys to select the Slide Switch Object. The object selected is surrounded by a dashed line

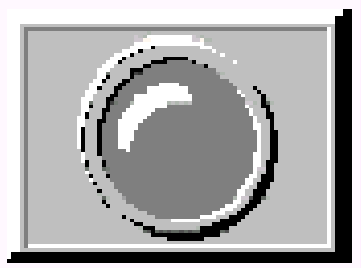
☑ Press the MOD (Modify) button. The left and right LEDs next to the navigation buttons turn OFF, the Up/Down LEDs remain ON and start to blink

☑ The graphic representation of the Slider moves. When it's in the correct position, press the ***Enter*** button. The value is sent to the PLC when the Enter button is pressed

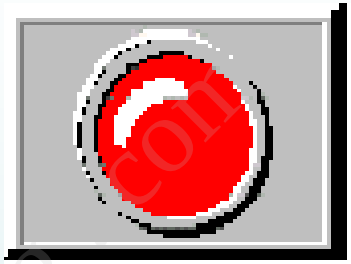
☑ If the Slide Switch is configured for Immediate Read/Write, the value assigned to each position is sent each time you move the Slide Switch. You do not need to press the ***Enter*** to send the values

<CLICK>

The Image Box Object



400100 = 0



400100 = 1

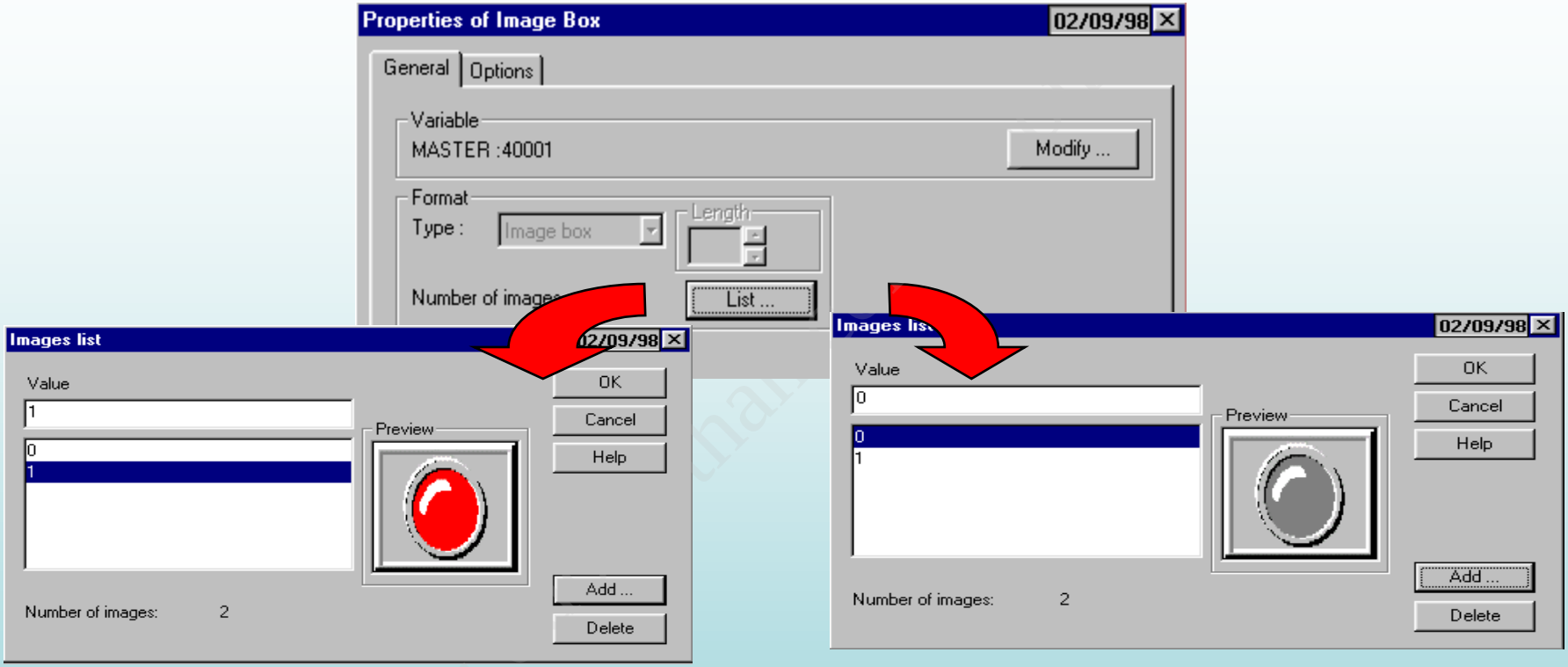
☑ The Image Box Object allows you add a bitmap(s) to the current page. Different versions of the same graphic (i.e., colors, shapes) can be called to the screen based on a numerical value in a linked register

☑ In the example above, the gray version of an indicator light is displayed when register 400100 contains a zero and a red version when the register contains a one

<CLICK>

The Image Box Object

General Tab



☑ ***Variable*** – Select the PDC and register that holds the graphic

☑ Enter numeric value in *Value* field that controls the graphic to be displayed.

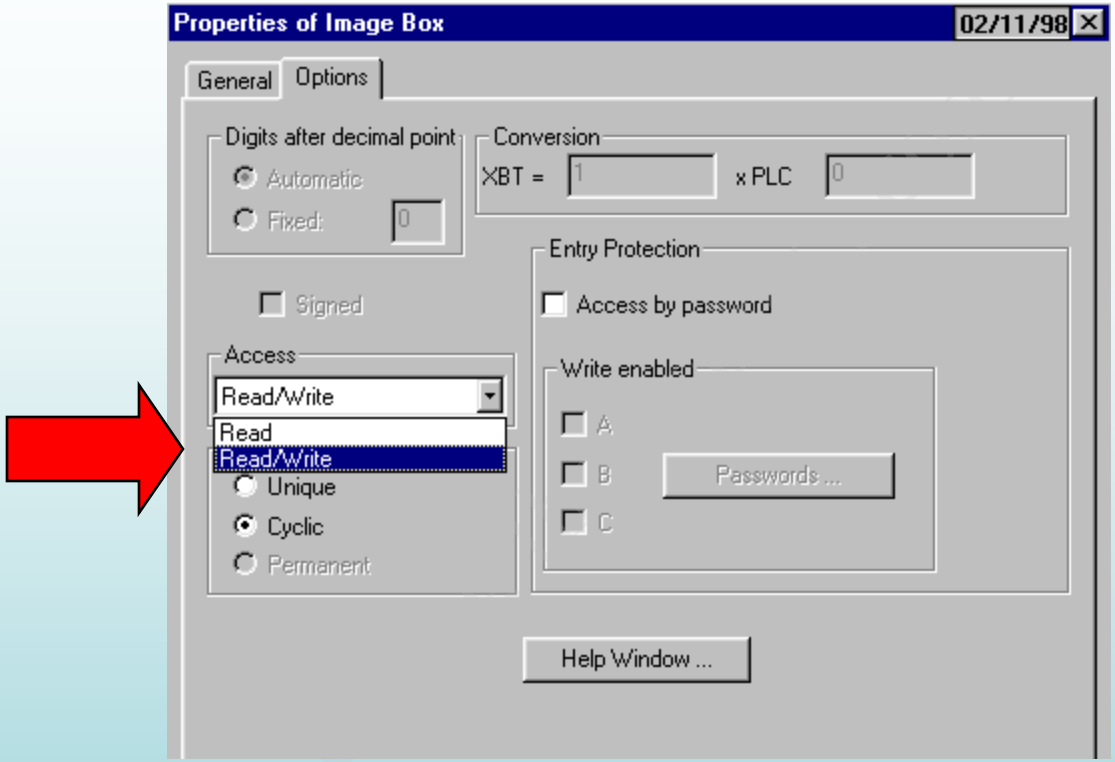
☑ ***List*** – Assigns the graphic to the register value

☑ Click on the Add button to browse/select the graphic to be displayed

<CLICK>

The Image Box Object

Options Tab

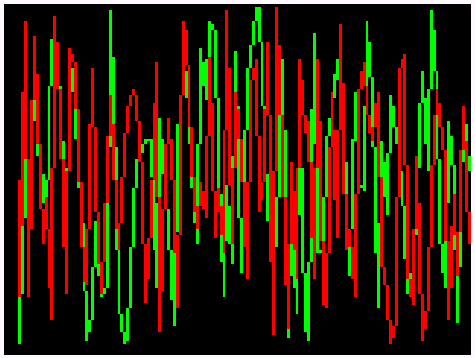


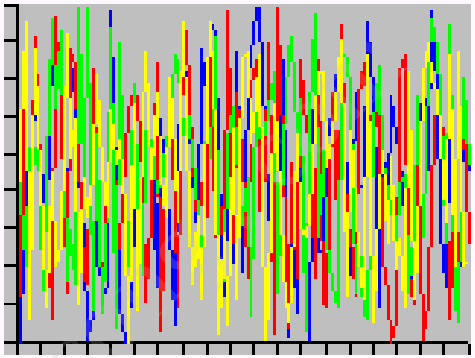
☑ ***Access*** - *Read* - XBT simply reads the linked register and displays the graphic that corresponds to the register value

☑ ***Read/Write*** - When object is selected, Up/Down navigation keys write value in List Table to the linked register and the associated graphic is displayed

<CLICK>

The Curve Variable Object



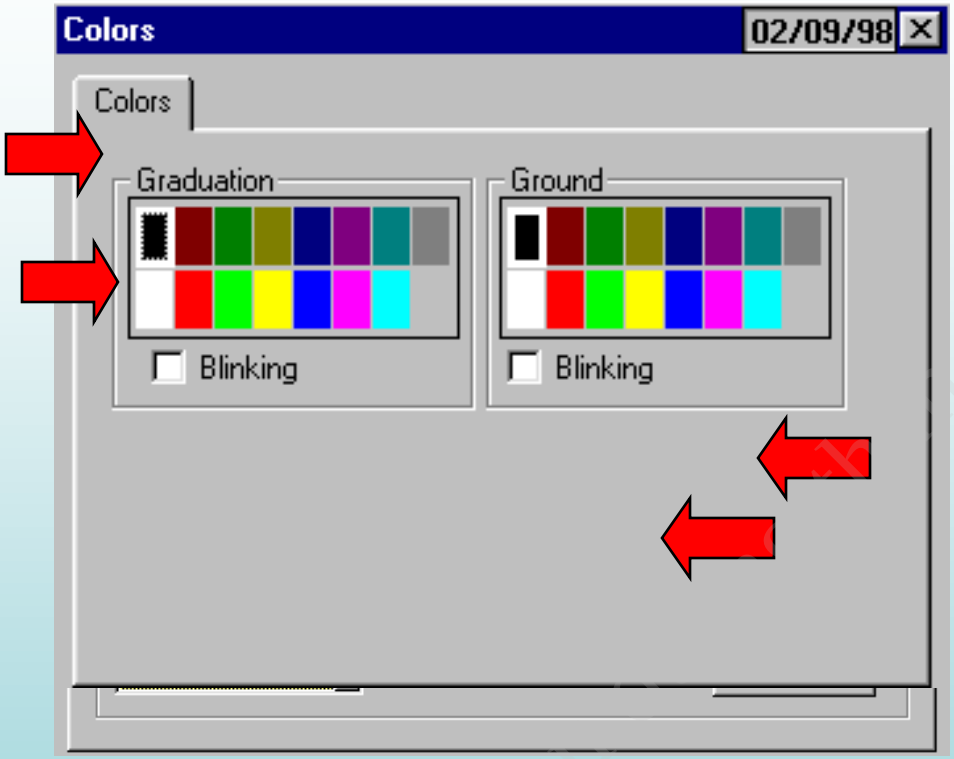


- ☑ The Curve Variable Object is used to monitor how a process variable(s) changes in real-time. A maximum of 4 pens are possible. Each pen may have its own Min/Max values and color
- ☑ Chart triggering can be either time based or on the 0 to 1 transition of a Dialogue Table bit in the MASTER PLC
- ☑ Number of data points is programmable form 2 to 320 points
- ☑ Tick marks or no tick marks are programmable

<CLICK>

The Curve Variable Object

General Tab



☑ ***Variable*** - Define the PLC and first register for the Stylus(s). If more than one Styluses are configured, the XBT monitors consecutive registers

☑ ***Type*** - Select appearance of chart. Select tick marks or no tick marks. Define the number of horizontal and vertical tick marks

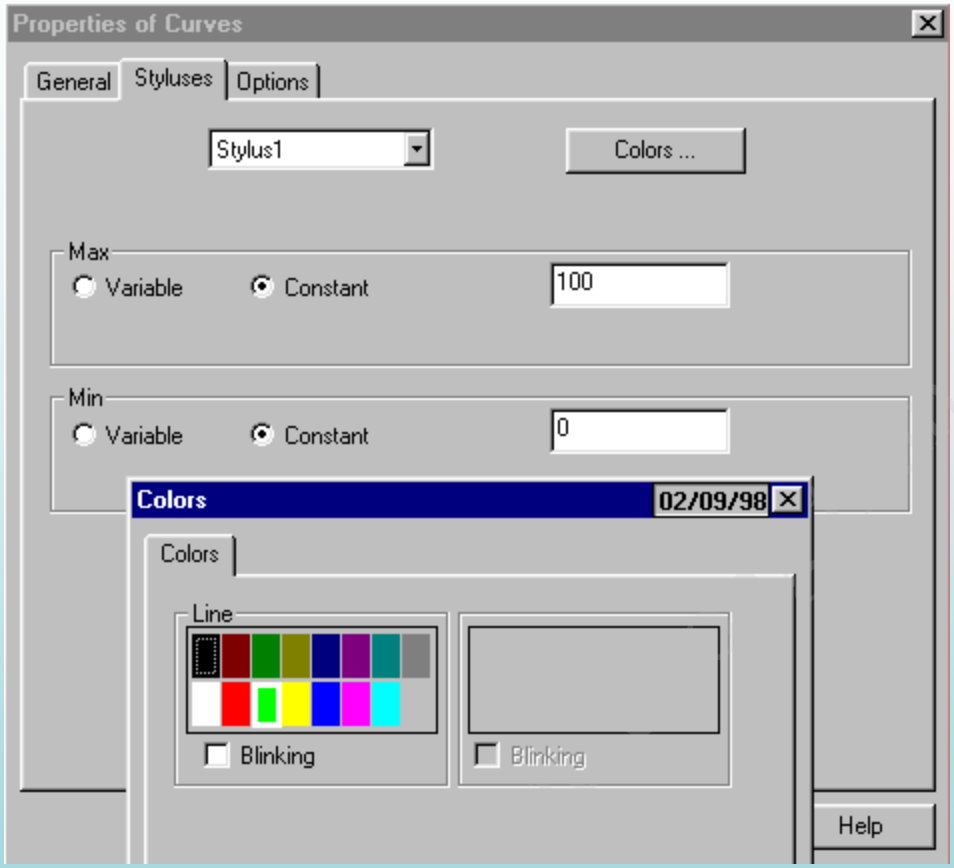
☑ ***Characteristics*** - Set the number of Styluses and the number data points contained by the chart

☑ ***Colors*** - Sets the colors of the chart background colors and tick marks

<CLICK>

The Curve Variable Object

Styluses



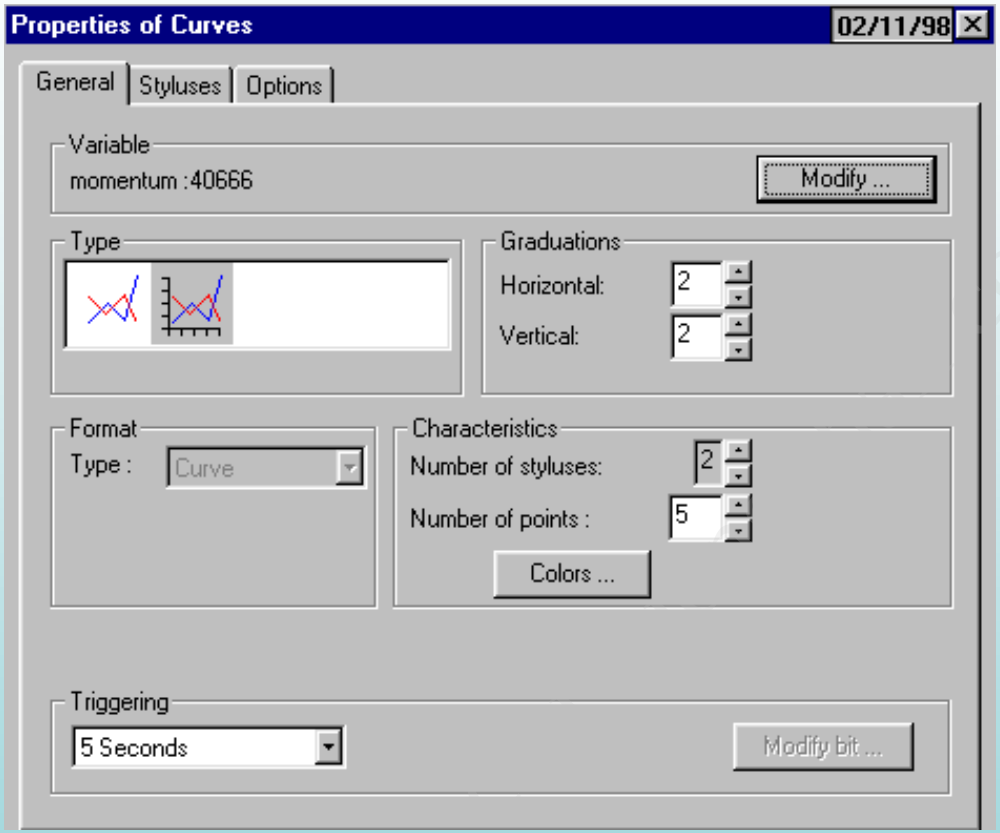
☑ ***Stylus1*** (window) - Set the color and Min/Max values for the stylus

☑ If more than one stylus was configured on the General tab, follow the same procedure to configure each stylus

<CLICK>

The Curve Variable Object

Time Based Triggering



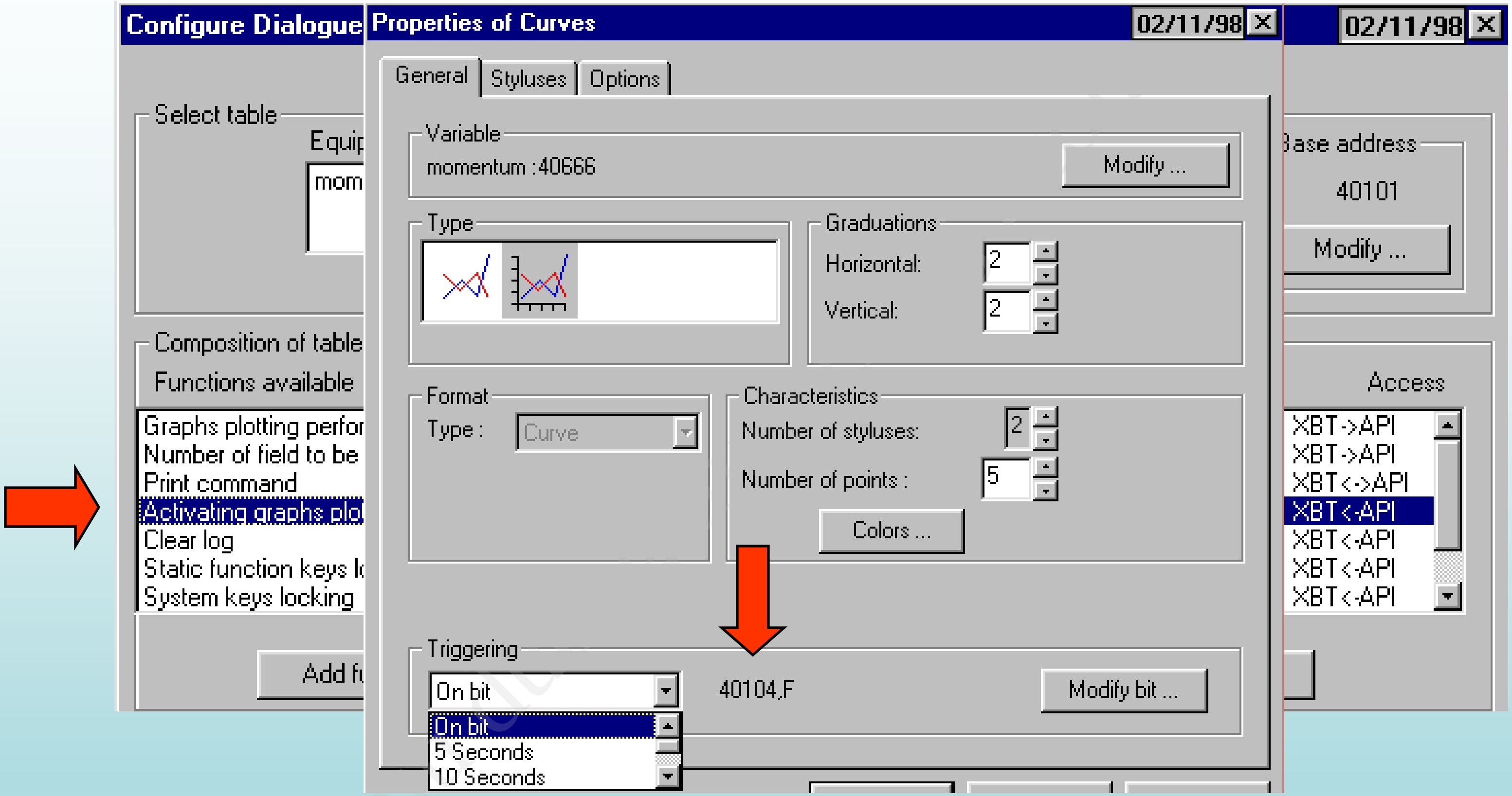
☑ ***Triggering*** (time based) - Select the trigger interval from the choices in the Triggering table. The entire chart scrolls when the time interval has expired. Trigger times available range from 5 seconds to 10 minutes.

☑ *(Number of points * Trigger Interval) = amount of process time covered by the chart*

<CLICK>

The Curve Variable Object

On Bit Triggering

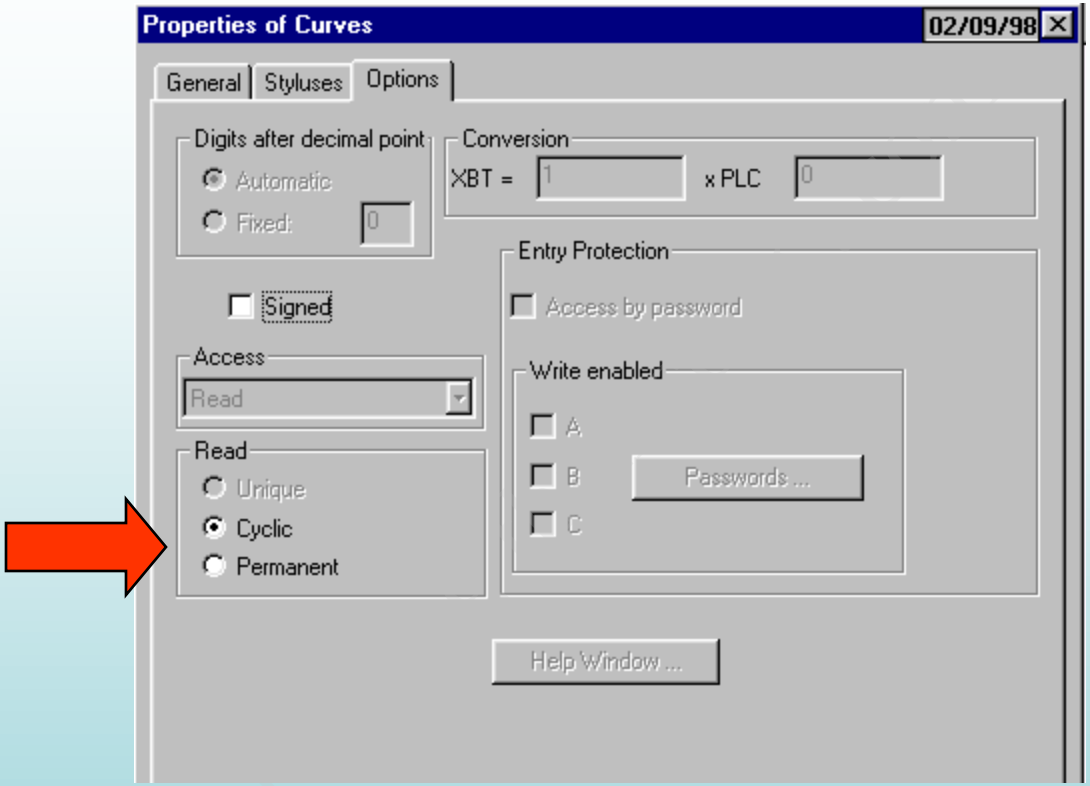


☑ ***Triggering*** (On bit) - The register must be programmed in the Dialogue Table before this option can be selected. With the ***Activating Graphic Plotting*** display highlighted, click on the Add Function button. The Authorization Word changes and the new must be modified in the Master PLC.

<CLICK>

The Curve Variable Object

Options



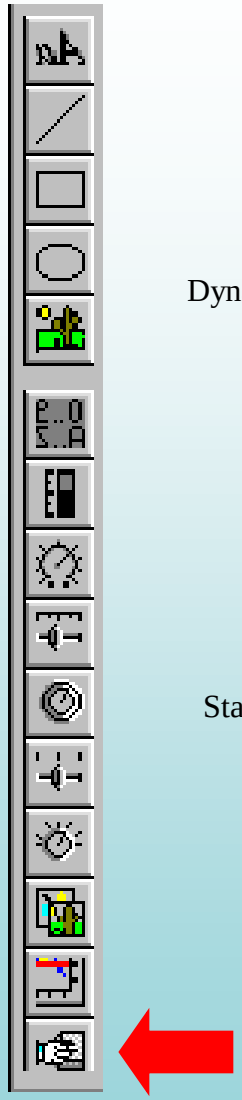
☑ Indicate if the data is signed or not

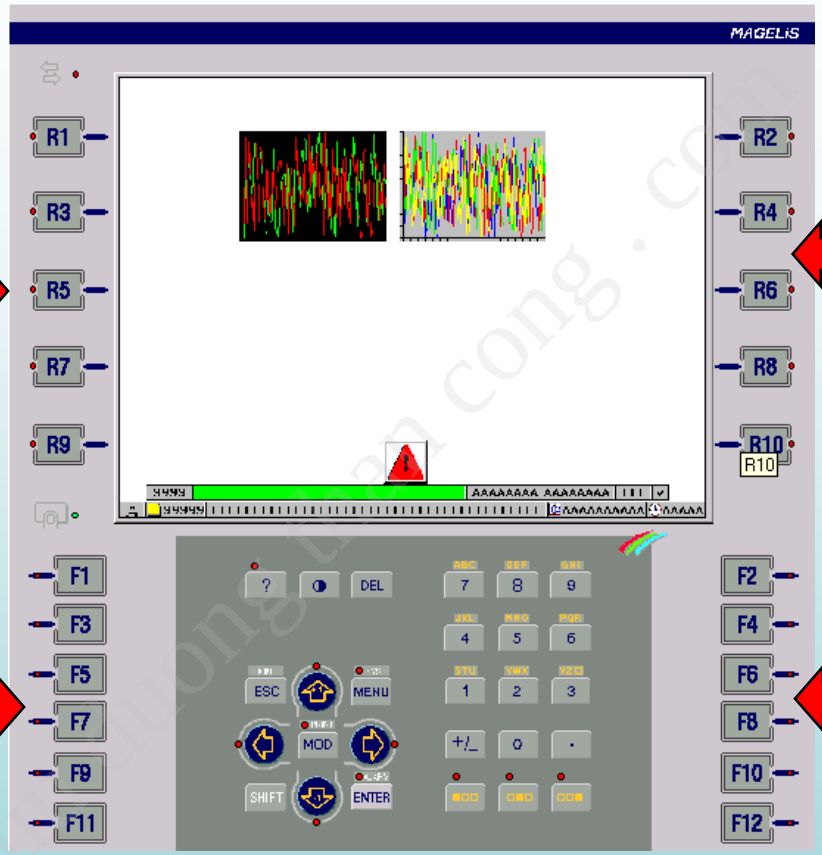
☑ ***Cyclic*** - Chart only updates when the page containing the chart is visible

☑ ***Permanent*** - Chart data is kept, even if the page containing the chart is not visible.

<CLICK>

Configuring Function Keys





Dynamic Function Keys

Dynamic Function Keys

Static Function Keys

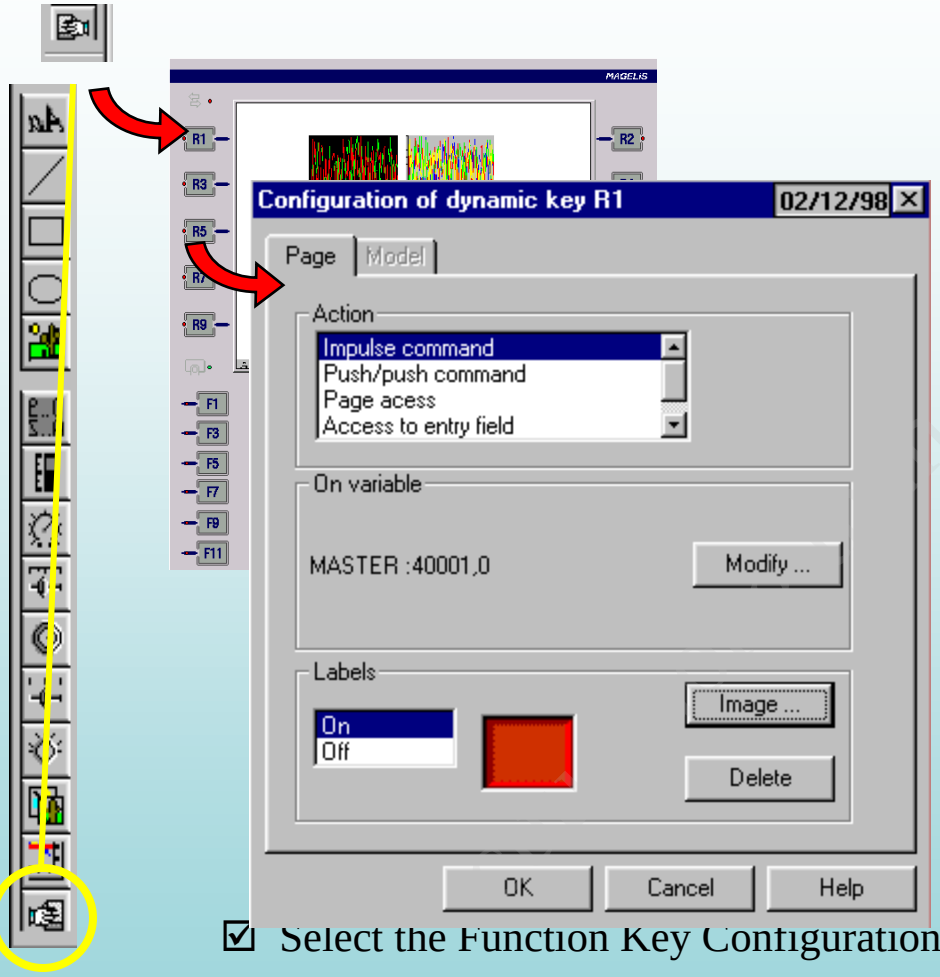
Static Function Keys

☑ ***Select*** - Retains programming, screen displayed does not affect Static Function Key programming

☑ ***Dynamic*** - Programming linked to page displayed

<CLICK>

Configuring Dynamic Function Keys



☑ ***Impulse*** - Bit in linked register is only ON while function key is activated

☑ ***Push/push*** - Bit in linked register toggles with each activation of the function key

☑ ***Page Access*** - Activates page linked to the key when pressed. Current page is closed

☑ ***Access to entry field*** - Causes the screen item linked to the key to become selected

☑ ***Labels*** - Allows you to attach a graphic to the function keys status. A picture linked to the ON state is shown when the bit associated with the key is ON.

☑ ***Dynamic Function keys may communicate with any PLC***

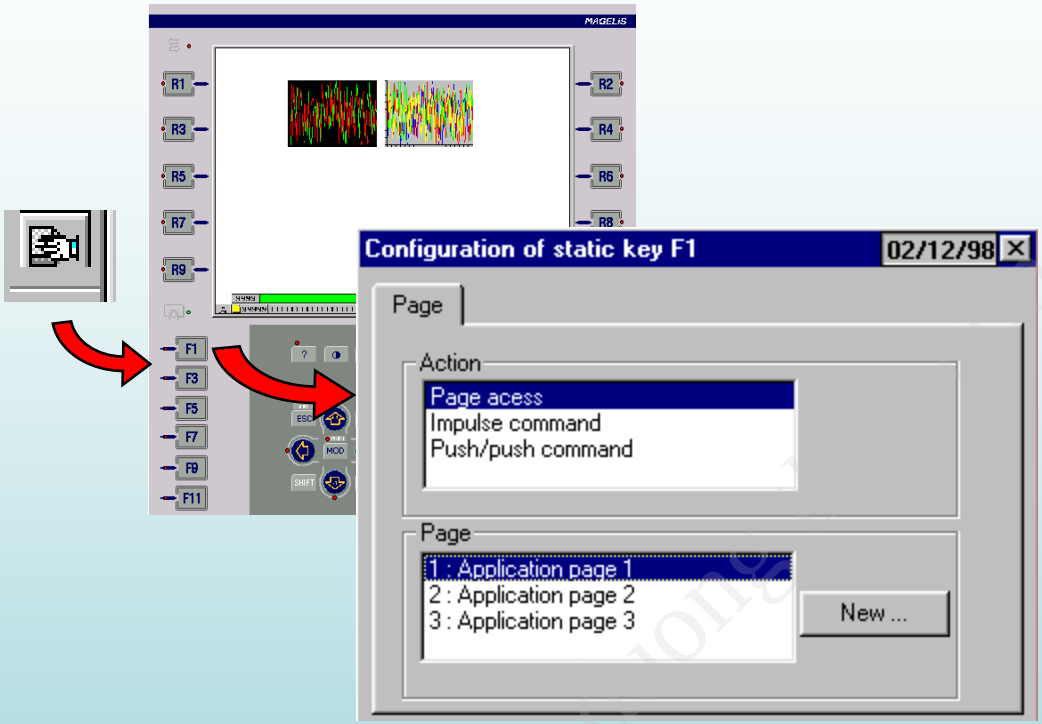
☑ Select the Function Key Configuration button

☑ Select the Dynamic Function Key to be configured (R1 in this case) by clicking on it

☑ Select the Action desired

<CLICK>

Configuring Static Function Keys



☑ Static Function keys have less Actions then the Dynamic Function Keys. Actions include Page Access, Impulse, Push/Push

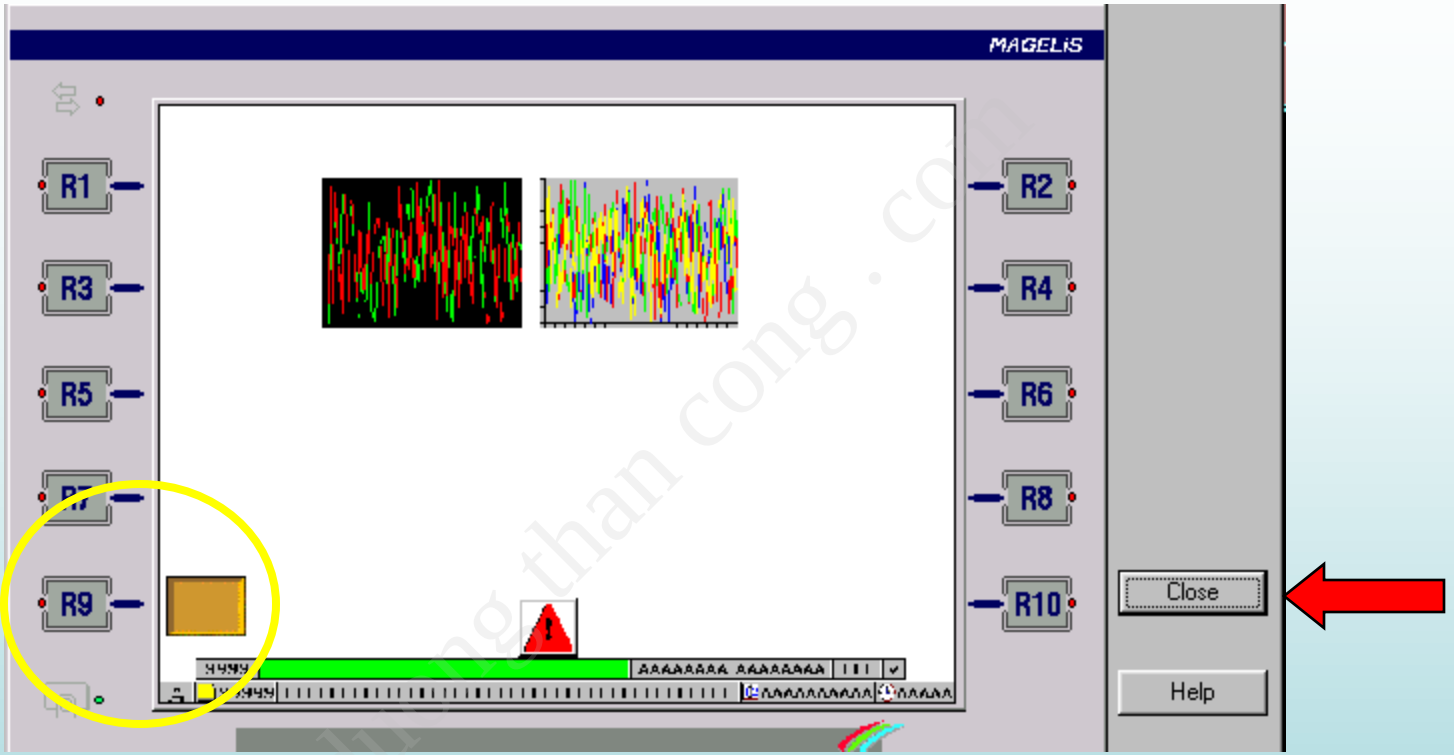
☑ May only communicate with the Master PLC and bit allocation is predefined

☑ Actions programmed are common to all pages

☑ Select the Function Key Configuration button
☑ Select the Static Function Key to be configured
☑ Select the Action desired

<CLICK>

Finishing the Function Key Configuration

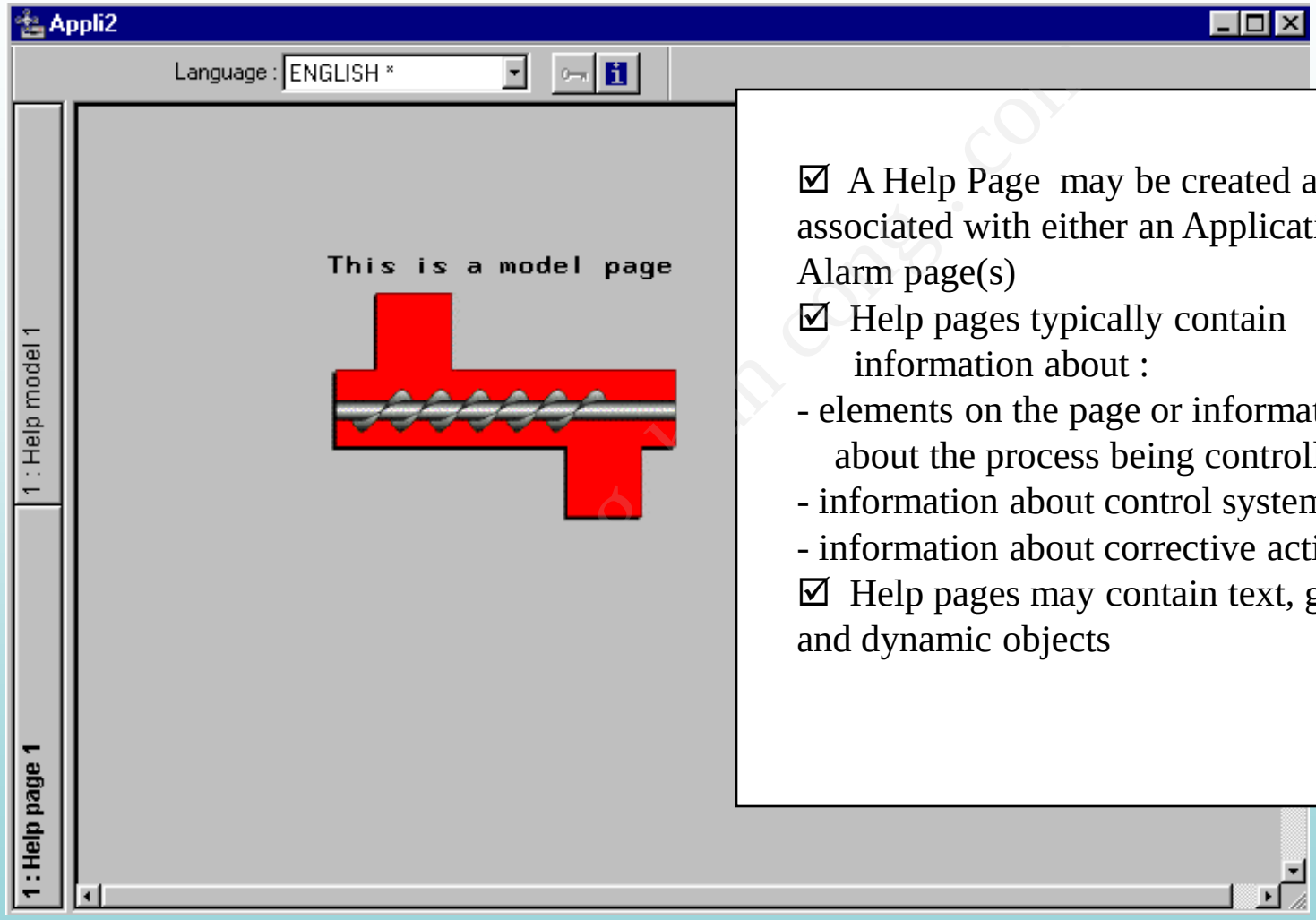


☑ When you have finished configuring the Function Keys, click on the Close button

☑ Notice the graphic associated with the the R9 Function Key. The graphic may be resized and positioned as required. The new size/position will affect both graphics (ON/OFF versions) in the same manner

<CLICK>

Magelis Pages
Help Pages



☑ A Help Page may be created and associated with either an Application or Alarm page(s)

☑ Help pages typically contain information about :

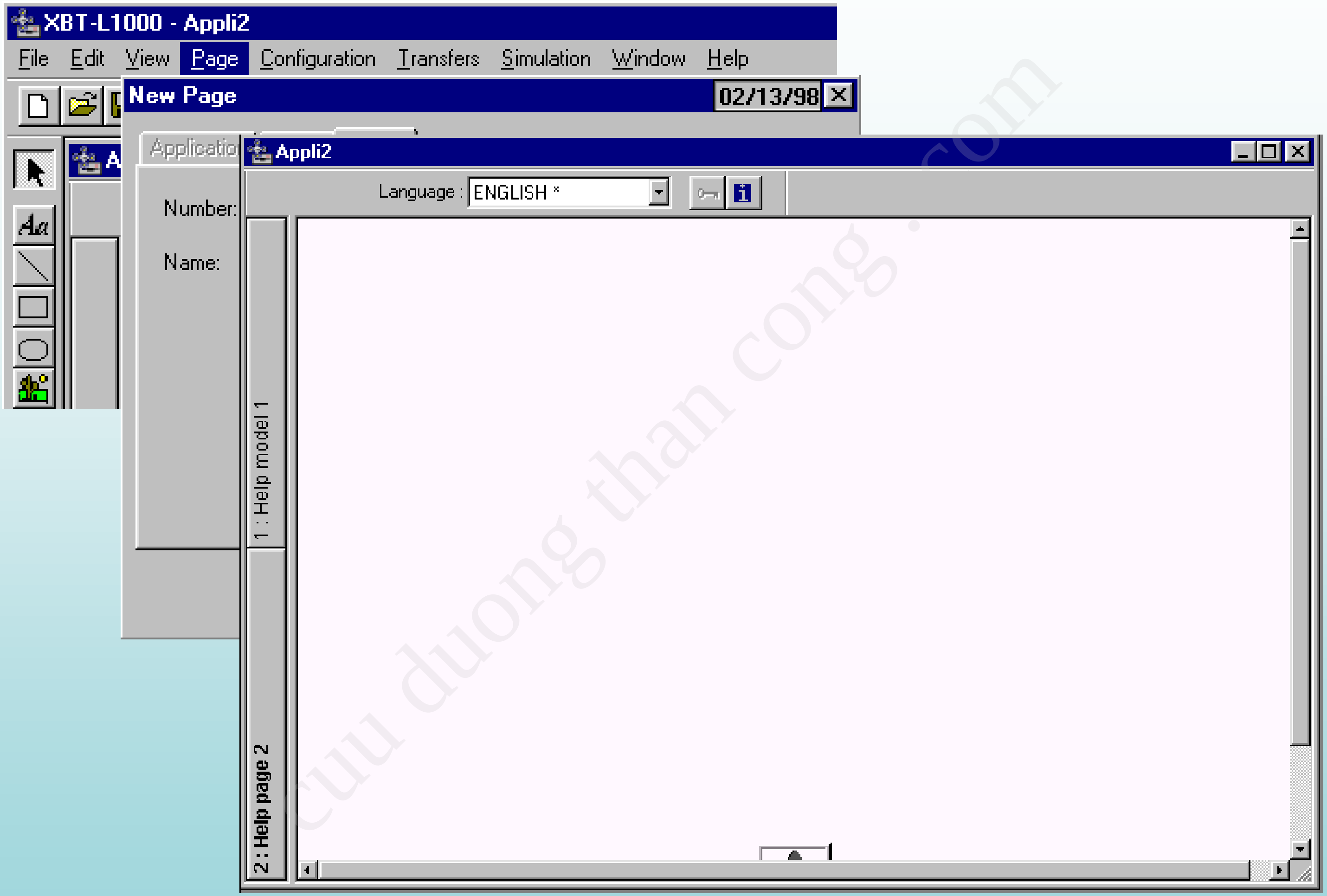
- elements on the page or information about the process being controlled
- information about control system faults
- information about corrective actions

☑ Help pages may contain text, graphics and dynamic objects

<CLICK>

Magelis Pages

Creating a Help Page

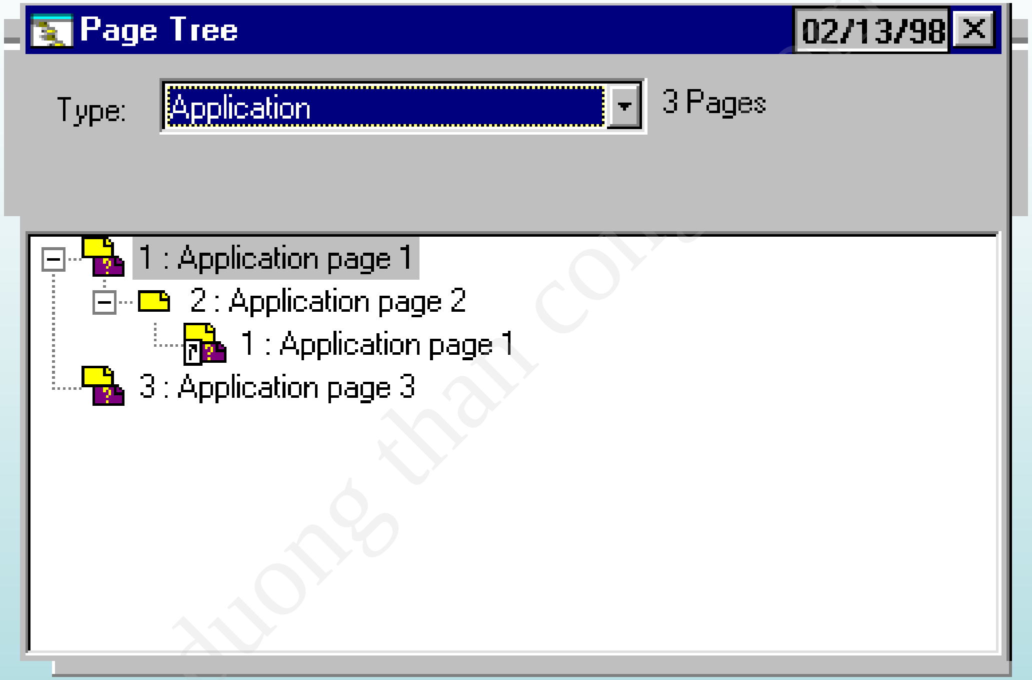


☑ Select the Page Menu, select New Page/Help page

<CLICK>

Magelis Pages

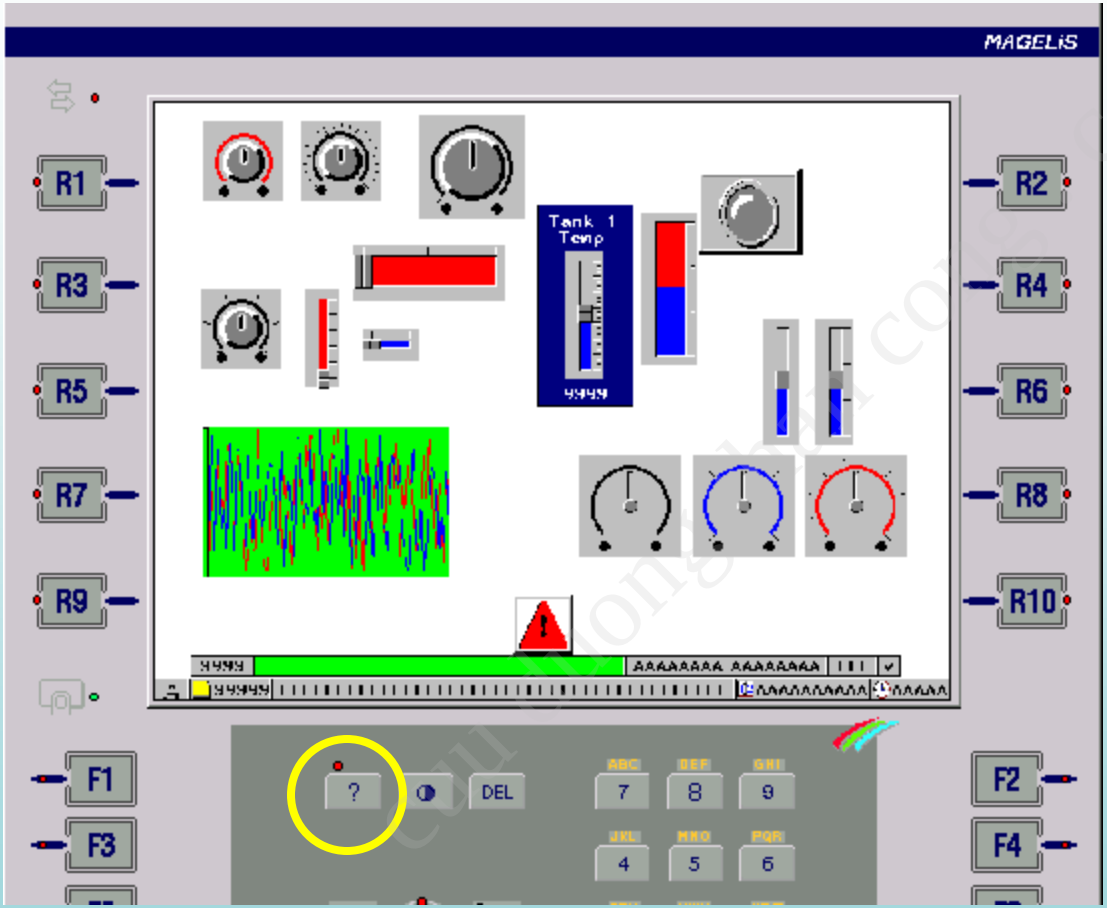
Associating a Help Page



- ☑ The Page Tree Window shows all pages that have Help Pages associated with them
- ☑ Select the Help Page you wish to associate with the current page from the list or click on New to create a new Help Page

<CLICK>

Magelis Pages
Calling up a Help Page



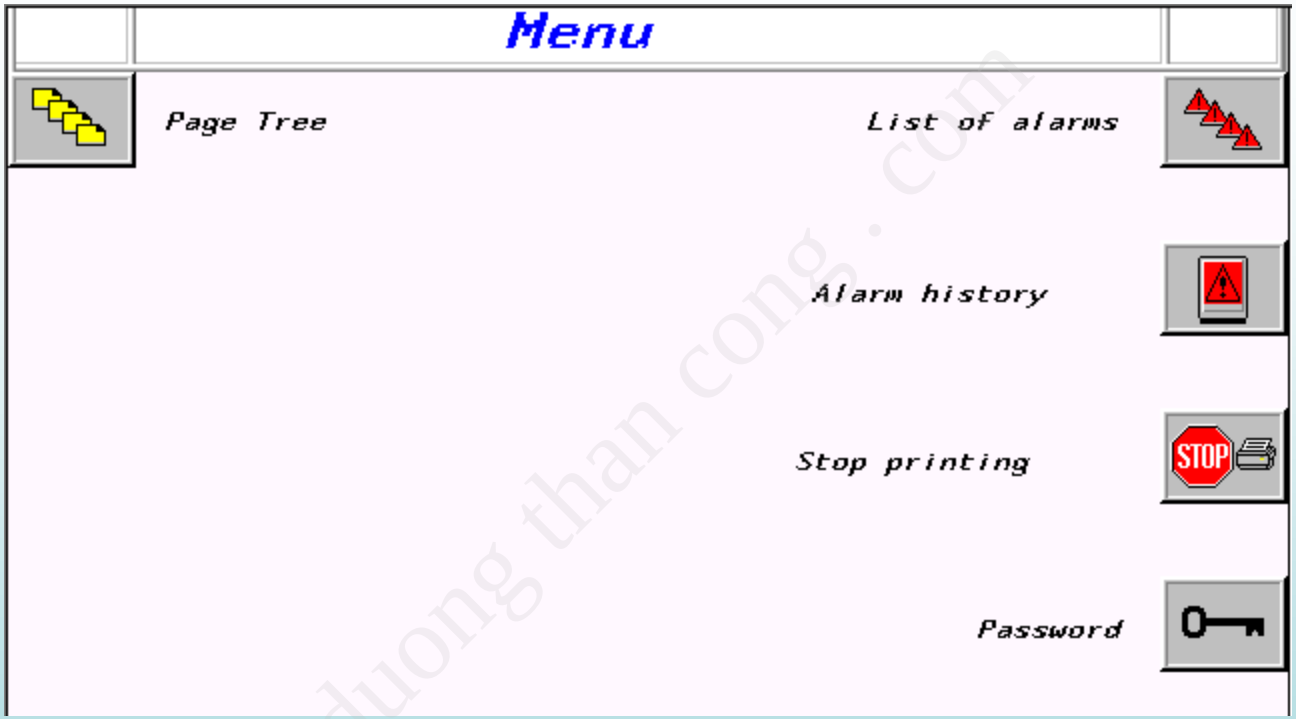
☑ If there is a Help page associated with Application Page shown, the red LED next to the Help Button will be lit.

☑ Press the "Help" button (i.e.," ?") to view the Help Page

☑ Press the Help button again to return to the Application Page

<CLICK>

Magelis Pages
System Pages



☑ System Pages are automatically created by the XBT-L1000 software and include a Menu Page (shown), Page Tree Page, List of Alarms Page, Alarm History Page, Stop Printing Button, and a Password Page . Only the text provided may be edited

☑ In the figure above, the default text "***List of Pages***" to "***Page Tree***"

<CLICK>

Magelis Pages
Editing System Pages

☑ The System page requested appears. Only the text may be edited

<CLICK>

The Dialogue Table
Introduction

- ☑ **Data exchanged between the XBT and the PLC falls into three main categories**

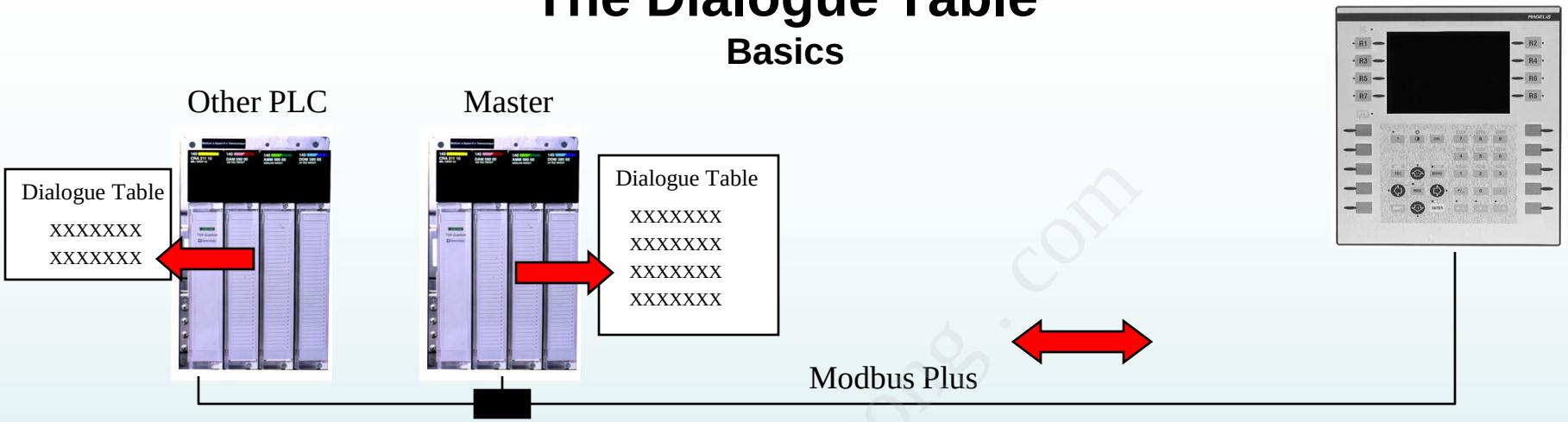
- ☑ **1) Data associated with fields**
  - Read, Write, Read/Write
- ☑ **2) Command data sent by the PLC to the XBT**
  - Display an Application Page, Display an Alarm Page, Lock keys, Request Data, Print Command, Command of interior lights associated with function keys, Clear log command, Set time-stamp command, Trigger graph plotting
- ☑ **3) Status data sent by the XBT to the PLC**
  - **Terminal Status** - Confidential Mode, Terminal Configuration Mode, Confirmation of entries by pressing the ENTER Key, abandon entry by pressing ESC Key, abandon entry after a time-out, print fault
  - Number of the displayed page
  - Number of the last field entered
  - Image of the keypad keys
  - Time-stamp status (date and time)
  - Log occupancy rate as a percentage
  - Communication monitoring
  - Number of last alarm acknowledged
- ☑ **The Dialogue Table controls numbers two and three (above)**

<CLICK>

<CLICK>

The Dialogue Table

Basics

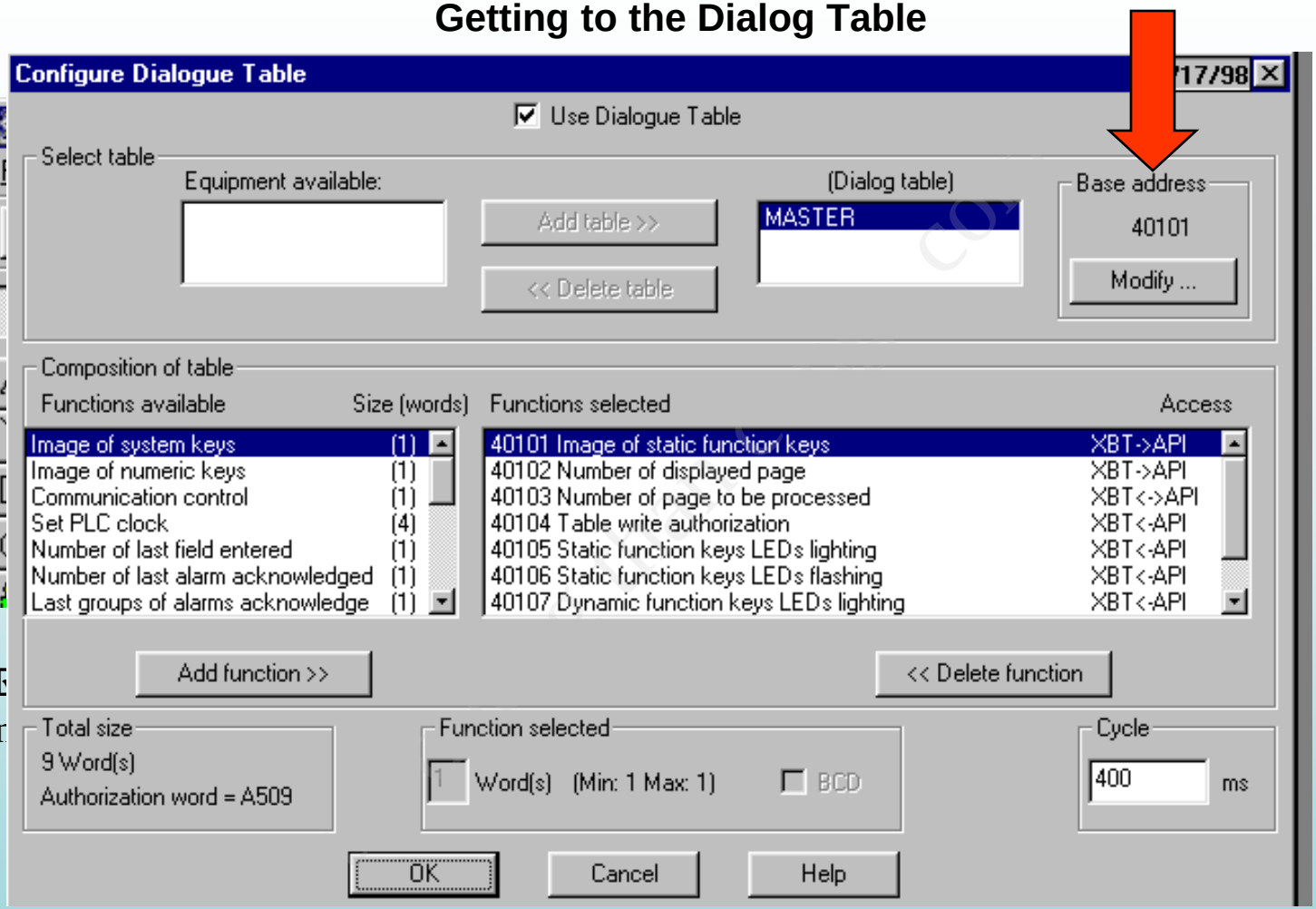


- ☑ The Dialogue Table consists of a table of consecutive PLC registers that are automatically processed (read/write) by the XBT.
  - The MASTER PLC has the most extensive Dialog Table
  - Other PLCs on network may only process alarm information
- ☑ The XBT controls the information vs table position
  - i.e., Dialog Table word 0 = Image of the Static Function keys … always!
  - Certain "core" information is automatically added to the table
  - You may add or delete information to/from the table
- ☑ You determine the first register of the Dialogue Table in the PLC
  - The XBT takes consecutive registers to form the table
  - You must not use these registers with other PLC programming

<CLICK>

The Dialogue Table

Getting to the Dialog Table

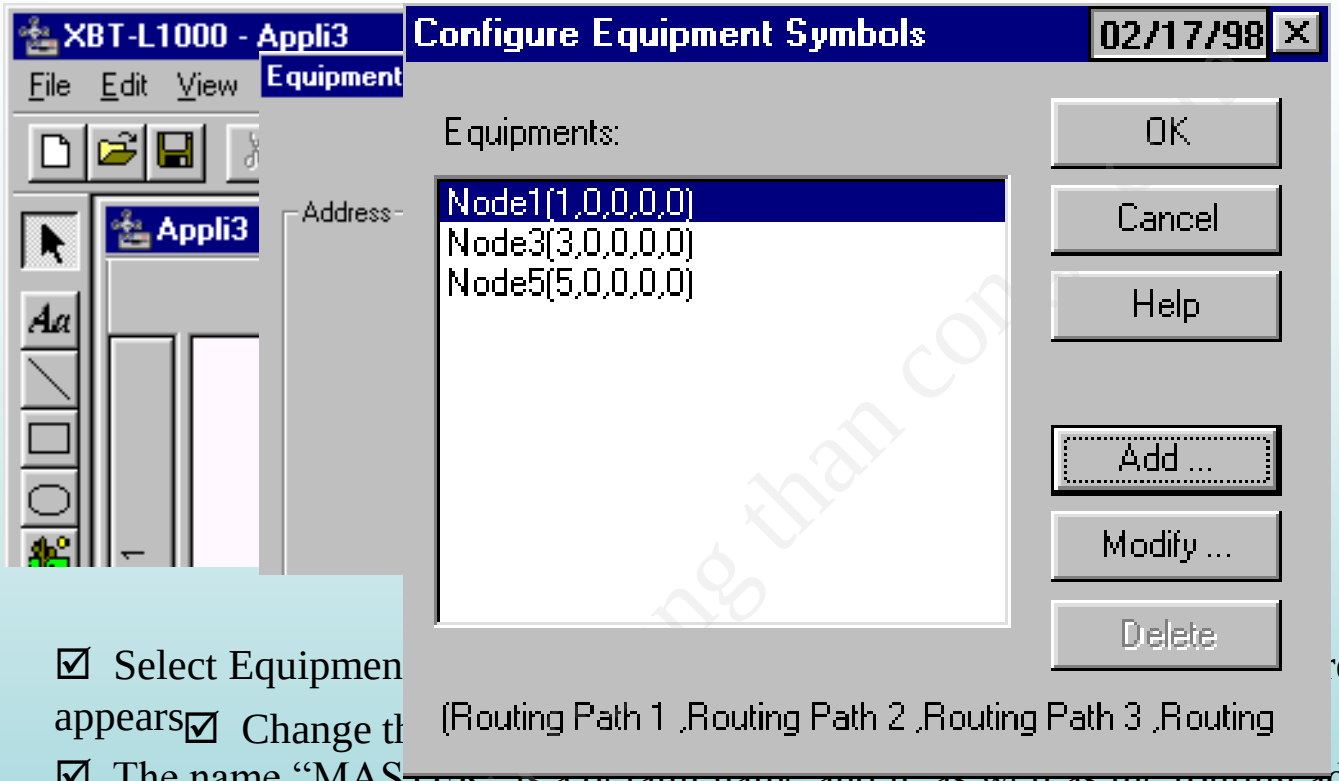


- ☑ The default Dialogue Table for the Master PLC
- ☑ Dialogue Table starts at address 40101. This can be changed
- ☑ Additional functions may be added from the list on the left

<CLICK>

The Dialogue Table

Defining the PLCs



☑ Select Equipmen reen appears☑ Change th

☑ The name "MAS address, may be changed as necessary. To change, select Modify. The next screen appears.

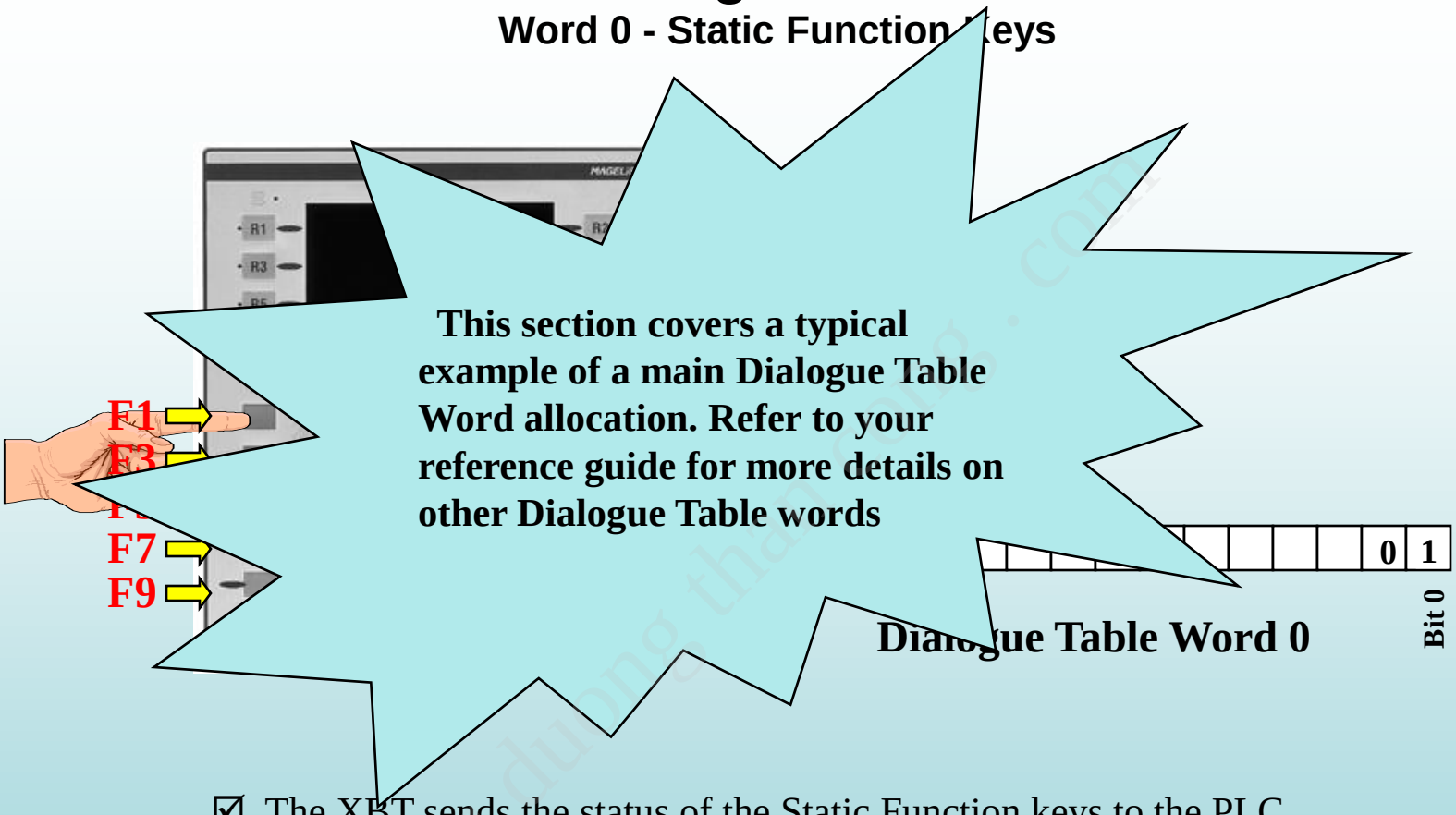
☑ Select the ADD Button and add any other PLCs necessary to the list

☑ ***Note - the first PLC in the LIST Will contain the full Dialogue Table. Arrange the list with this in mind***

<CLICK>

Dialogue Table

Word 0 - Static Function Keys



This section covers a typical example of a main Dialogue Table Word allocation. Refer to your reference guide for more details on other Dialogue Table words

☑ The XBT sends the status of the Static Function keys to the PLC.

☑ When a key is pressed, a "1" is written to the bit associated with the Static Function key. Key F1 is linked to Bit 0 of Dialogue Table Word 0. Key F2 is linked to Bit 1.

The Function keys are numbered as shown.

<CLICK>

Dialogue Table

Status of System and Numeric Keys

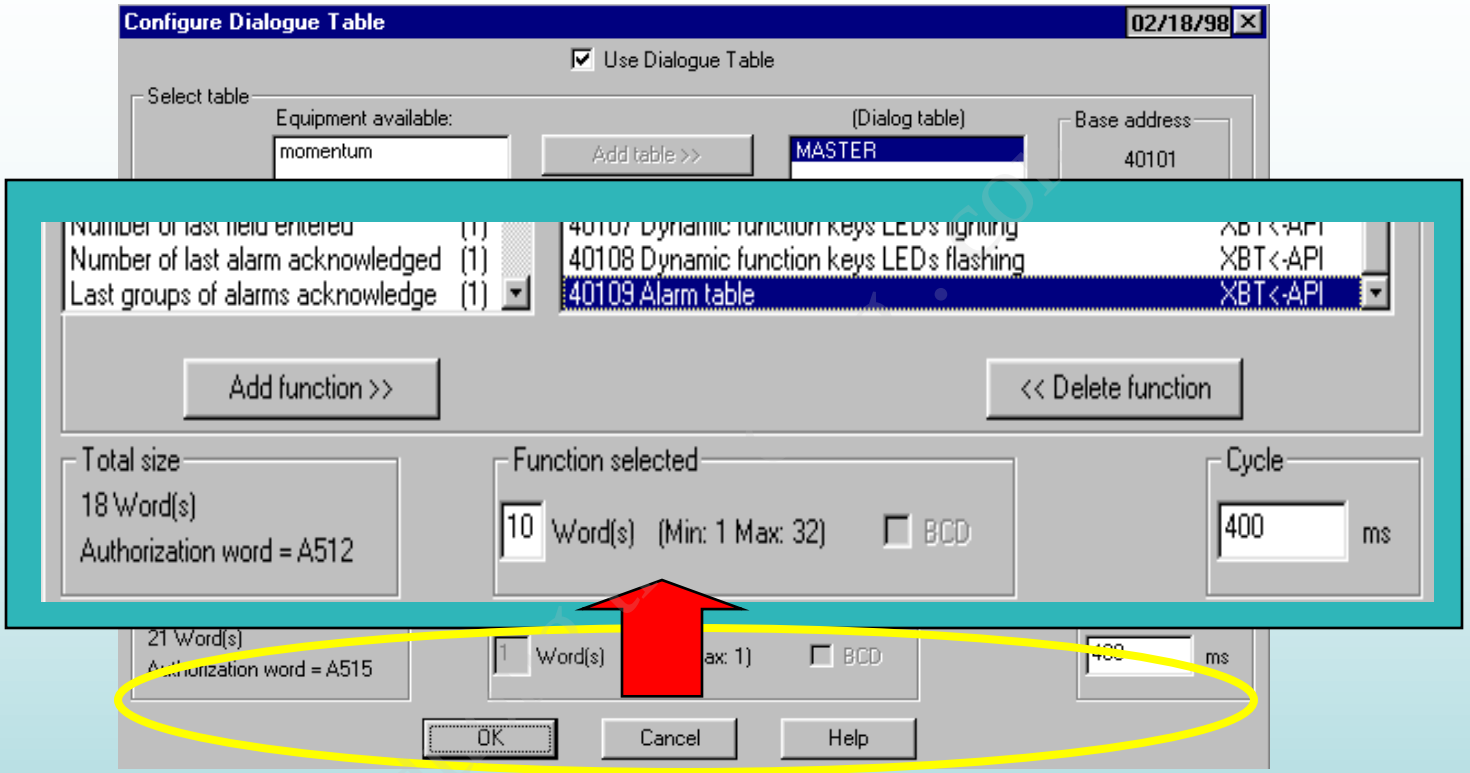
☑ The status of the System Keys and Numeric Keys are sent to the PLC in the same manner as described for the Static Function Keys. This information is located in Dialogue Table Words 1 & 2. The bit allocation is as follows:

System Keys (Word 1)	Numeric Keys (Word 2)
Bit 0: Up Arrow	Bit 0: 0
Bit 1: Down Arrow	Bit 1: 1
Bit 2: Right Arrow	Bit 2: 2
Bit 3: Left Arrow	Bit 3: 3
Bit 4: MOD	Bit 4: 4
Bit 5: Print	Bit 5: 5
Bit 6: Menu	Bit 6: 6
Bit 7: SYST	Bit 7: 7
Bit 8: ALARM	Bit 8: 8
Bit 9: ESC	Bit 9: 9
Bit 10: HOME	Bit 10: .
Bit 11: +1	Bit 11: +/-
Bit 12: -1	Bit 12: DEL
Bit 13: ENTER	Bit 13: ?
Bit 14: Contrast	Bit 14: CTRL
Bit 15: Brightness	Bit 15: ALT

<CLICK>

Dialogue Table

Alarm Table - Main PLC



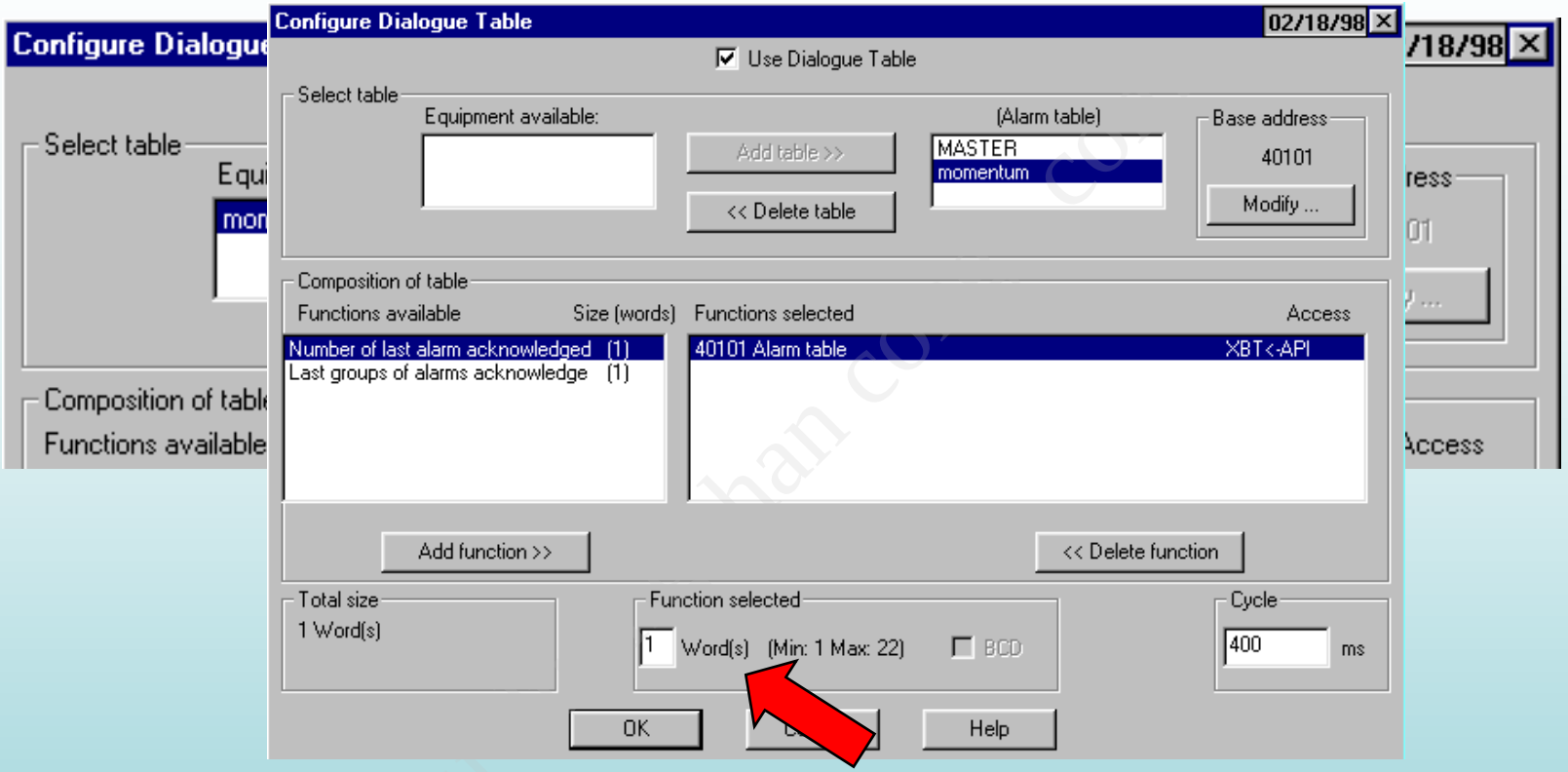
☑ The Alarm Pages and the Alarm Table in the Dialogue Table are linked and work together.

☑ ***Dialogue Table*** - Allocate as many alarm bits as the application requires. This example allocates 160 alarms (16 bits x 10 words)

<CLICK>

Dialogue Table

Alarm Table - Other PLC(s)



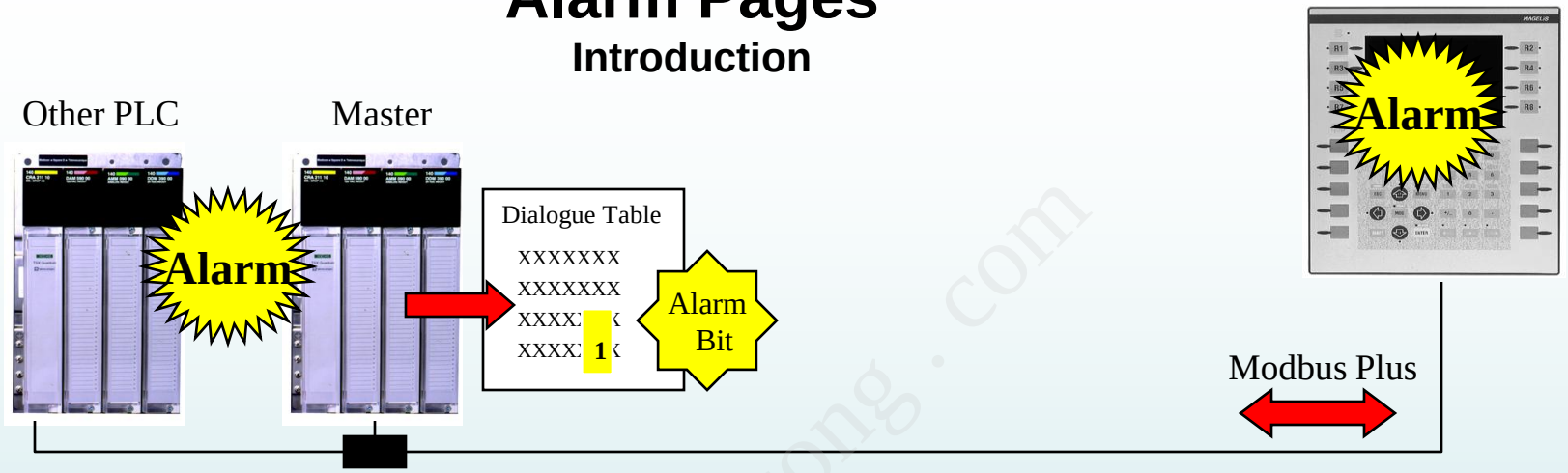
☑ Select the PLC from the Equipment available list, click the Add Table button. The next screen appears

☑ Allocate as many alarm table words as the application requires. Max of 22 words. (16 bits x 22 words = 352 alarms)

<CLICK>

Alarm Pages

Introduction

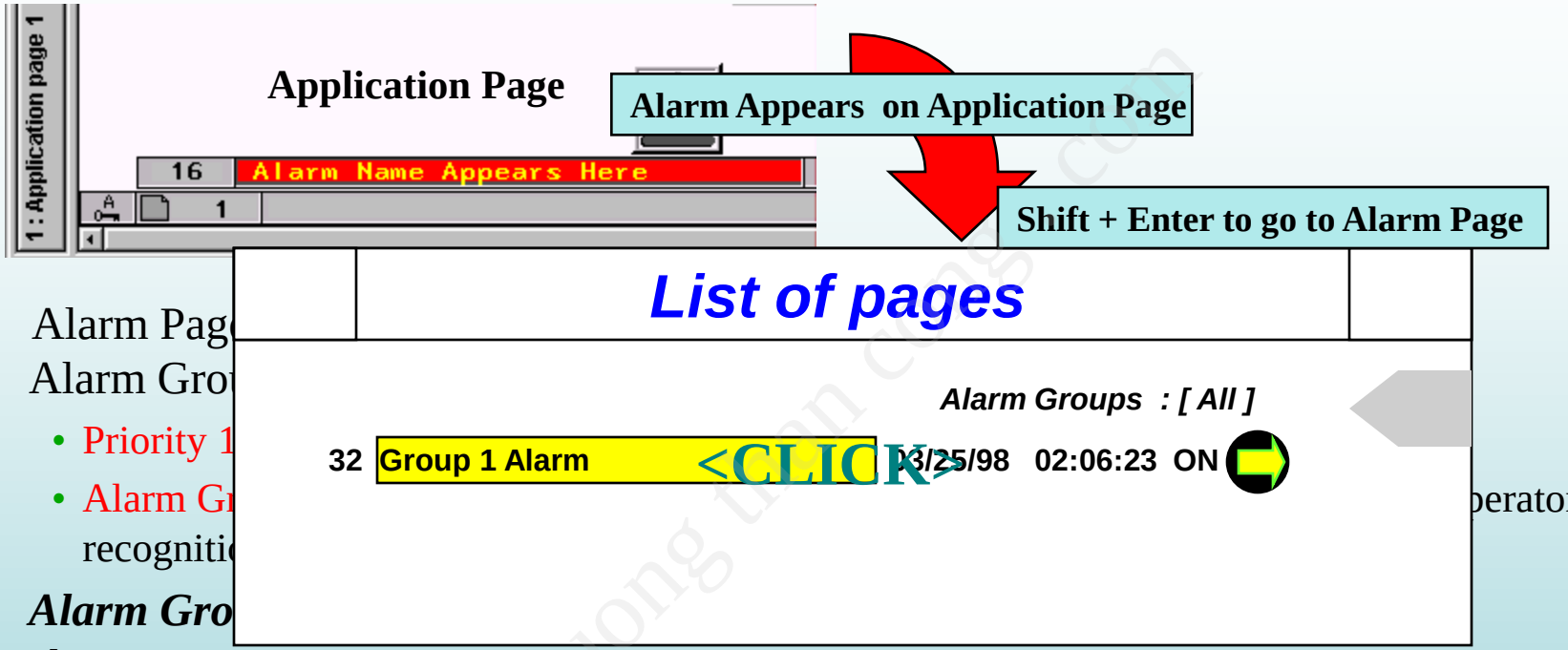


- ☑ The Magelis has extensive alarm handling capabilities
- ☑ You may create as many Alarm Pages as you want (until you run out of memory)
- ☑ Each Alarm page has a unique page name and may have text, graphics, dynamic fields, bar graphs …. *Anything you like* !
- ☑ Alarm Pages are controlled by an alarm bit from the Dialogue table.
  - The primary PLC may have a maximum of 512 (32 x 16) different alarms
  - Other PLCs may have a maximum of 352 (22 x 16) different alarms
- ☑ Alarm pages are linked to an alarm bit(s)

<CLICK>

<CLICK>

Alarm Pages
Introduction



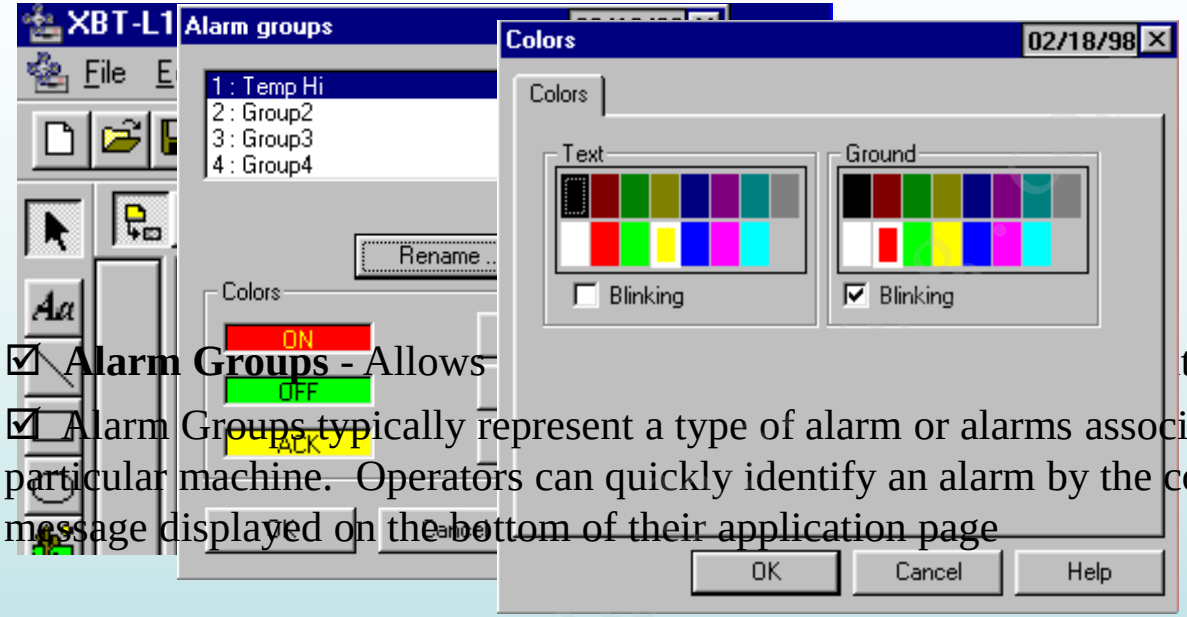
- ☑ Alarm Pag
  Alarm Gro
  - Priority 1
  - Alarm Gr
    recognitio
- ☑ ***Alarm Gro***
  alarm
- ☑ When an alarm bit(s) goes high, the XBT:
  - Indicates that an alarm exists (current application page)
  - Alarm appears on List of Alarms page
    - highest priority alarms are higher in the list (default)
    - alarms may be displayed by group name (option)

perator

<CLICK>

Alarm Pages

Alarm Groups



☑ **Alarm Groups** - Allows t Alarm Groups

☑ Alarm Groups typically represent a type of alarm or alarms associated with a particular machine. Operators can quickly identify an alarm by the color of the alarm message displayed on the bottom of their application page

☑ To define an Alarm Group - Select Alarm Groups from the Configuration Menu as shown.

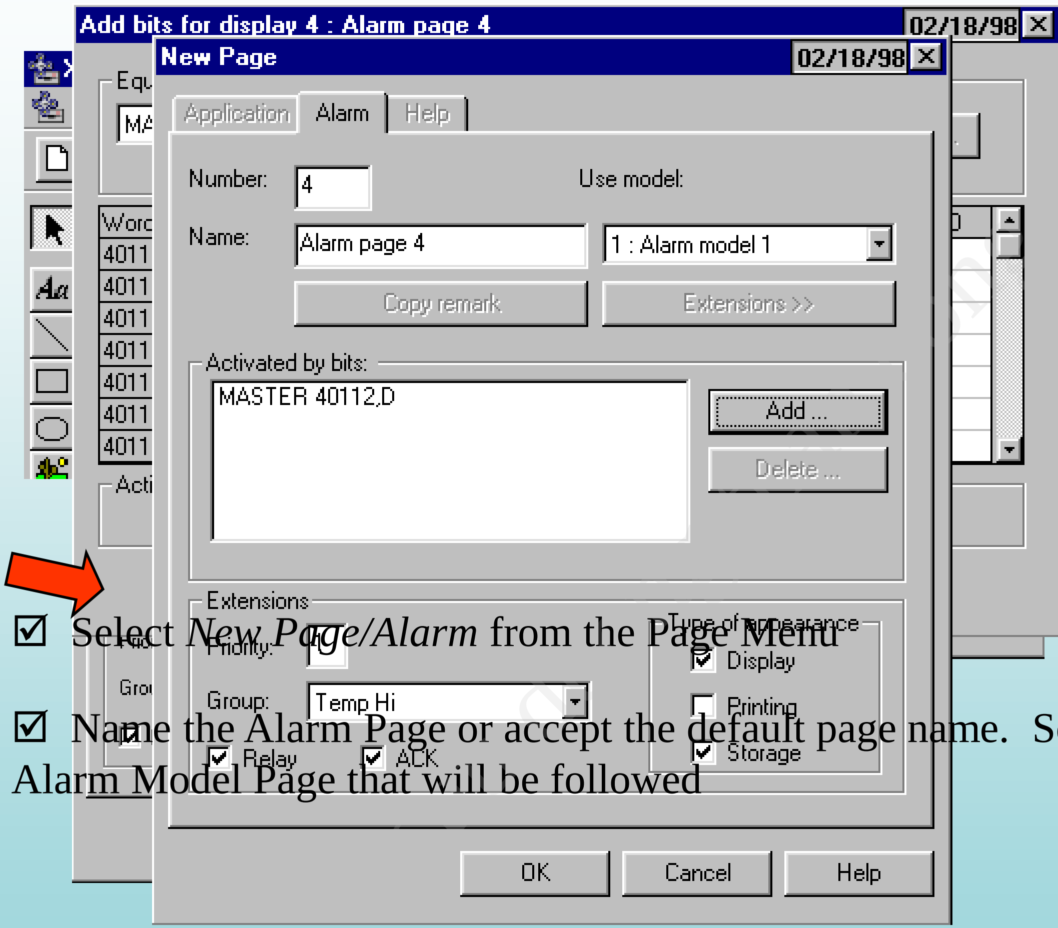
☑ Select the group to modify from the default group names. Both the name and color attributes may be changed. Different colors for active alarms, alarm cleared and alarm acknowledged conditions may be set.

☑ The colors window appears when you click on modify button

<CLICK>

Alarm Pages

Assigning an Alarm Group/Priority to a New Alarm Page



☑ [illegible] page. The next screen appears.

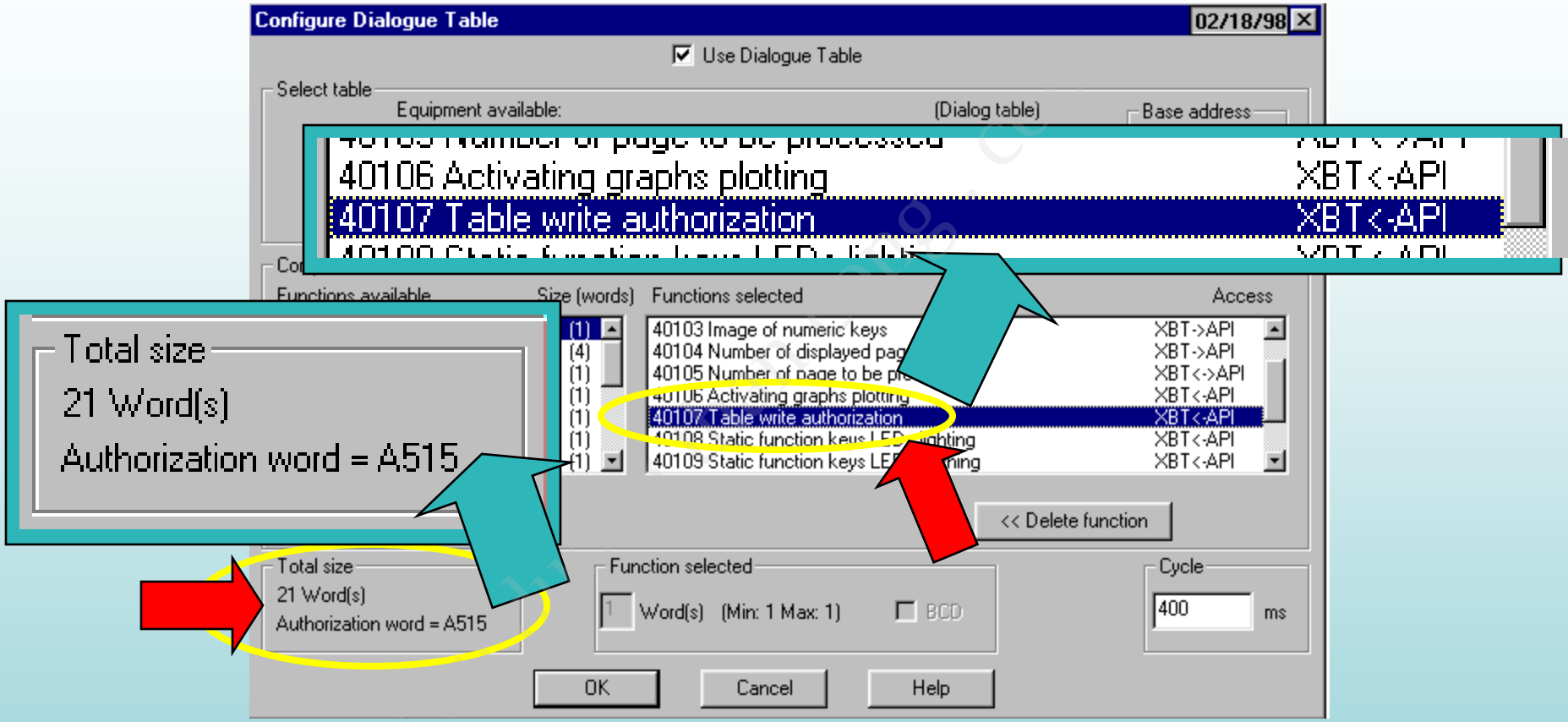
☑ Select *New Page/Alarm* from the Page Menu

☑ Name the Alarm Page or accept the default page name. Select the Alarm Model Page that will be followed

<CLICK>

Dialogue Table

Authorization Word

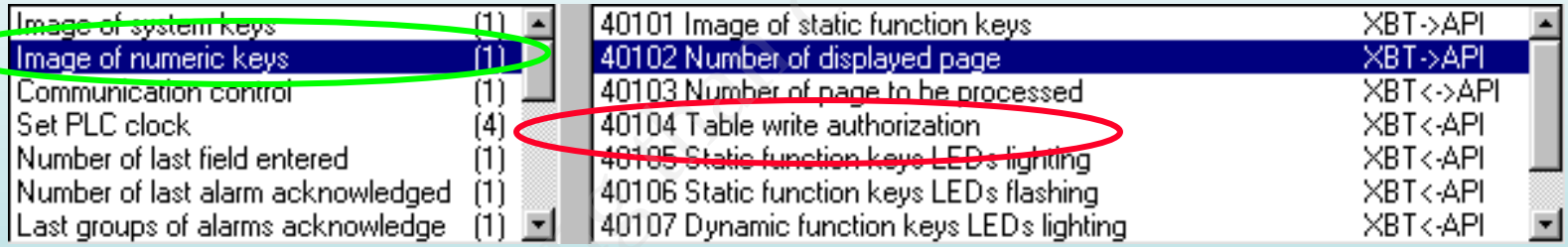


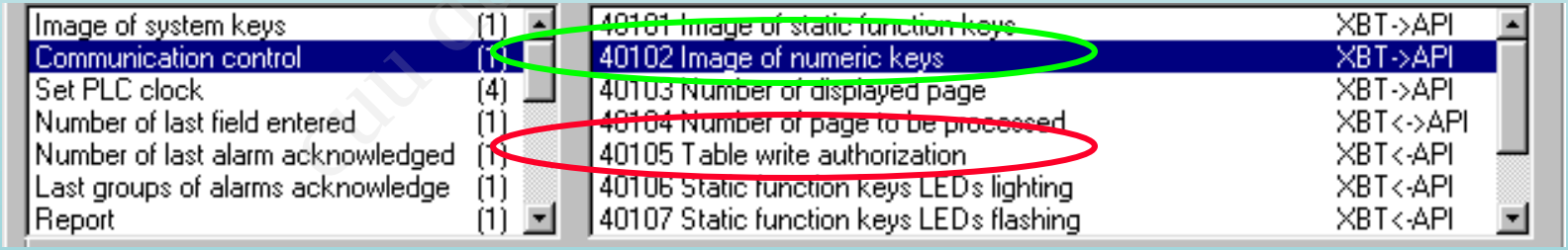
☑ You must enter the Authorization Word (the value) into the PLC register indicated. The XBT reads this number from the PLC to insure that the Dialogue Table configuration and the XBT configuration match

<CLICK>

Dialogue Table
Table Position

- ☑ Be careful if you add functions to the Dialogue Table after the PLC program has been created
- ☑ Table position of registers shifts
- ☑ Notice the Authorization Word Position in the two examples shown when the Image of Numeric Keys function was added

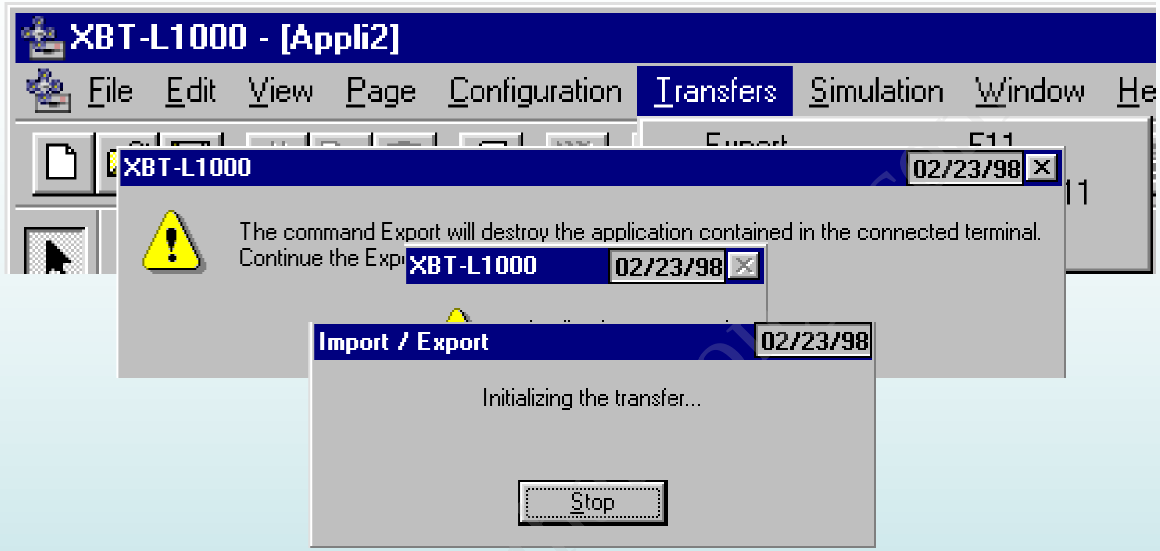




<CLICK>

Transferring an Application

Exporting



☑ Applications are "Exported" to the Module. Select *Export* from the Transfer Menu as shown above.

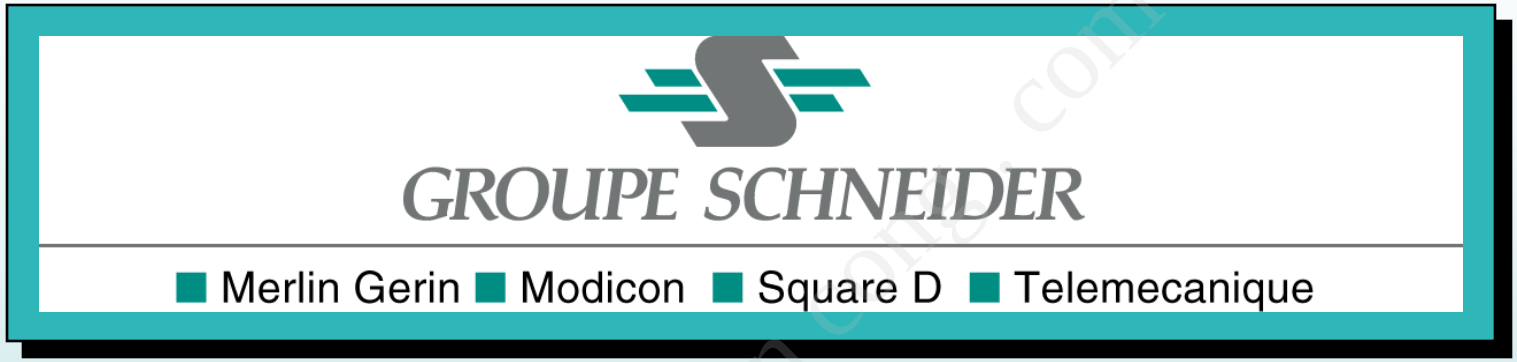
☑ The software warns the user the application will be destroyed

☑ The software prompts you to save the current application. You must save the application before you can Export it

☑ The software now starts the transfer.

☑ The software informs you when the Transfer is complete

<CLICK>



This completes the Graphic Magelis Tutorial,
Good Luck !