

*i*³ ...Display, Control, Communicate



*i*³ Tutorial

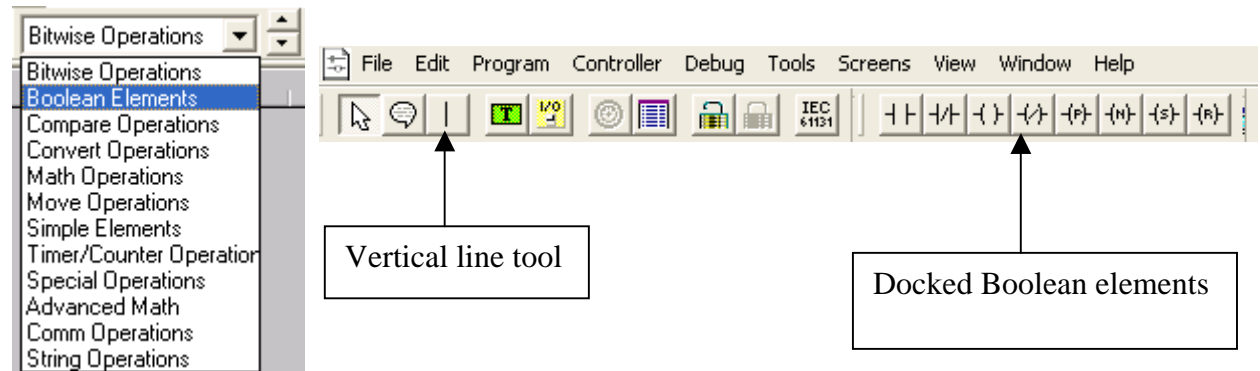
Basic Operation

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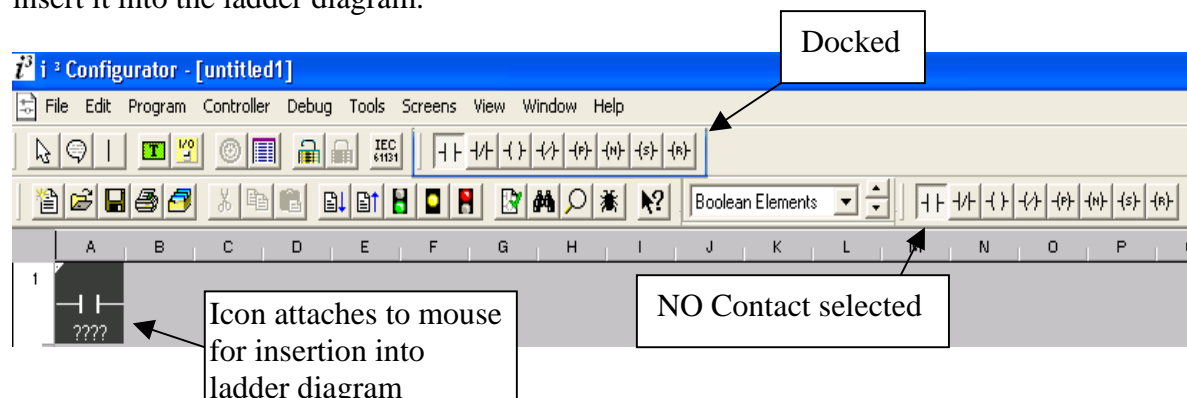
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Basic Ladder Elements

All the Functions, contacts and coils for the ladder programming are contained in a drop down menu to select what range of functions you want to insert. It is also possible to scroll through the sub-sections using the up and down arrow keys. These sub sections can also be docked on to the main programming interface.

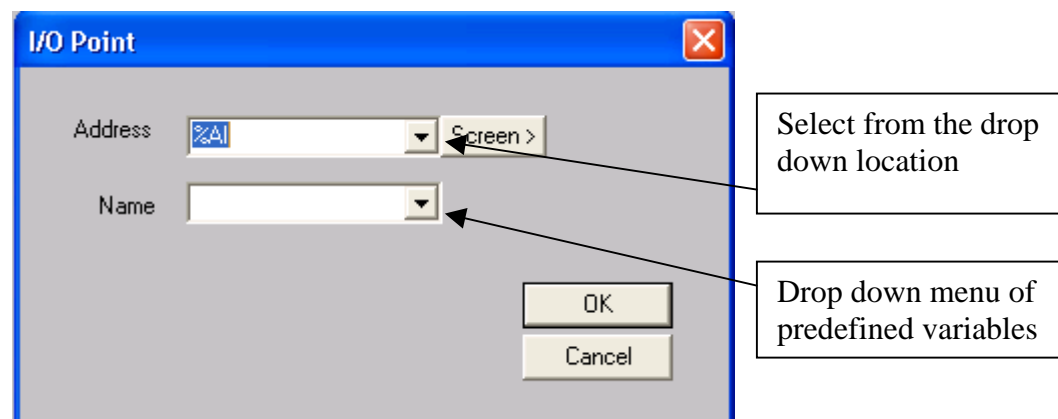


Once you have selected your sub section it is now possible to click on the icon to insert it into the ladder diagram.



Enter the contact / coil / function into the diagram by clicking it into the Ladder diagram.

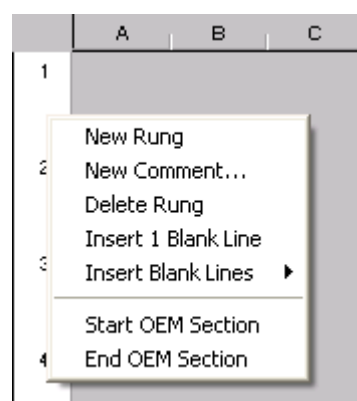
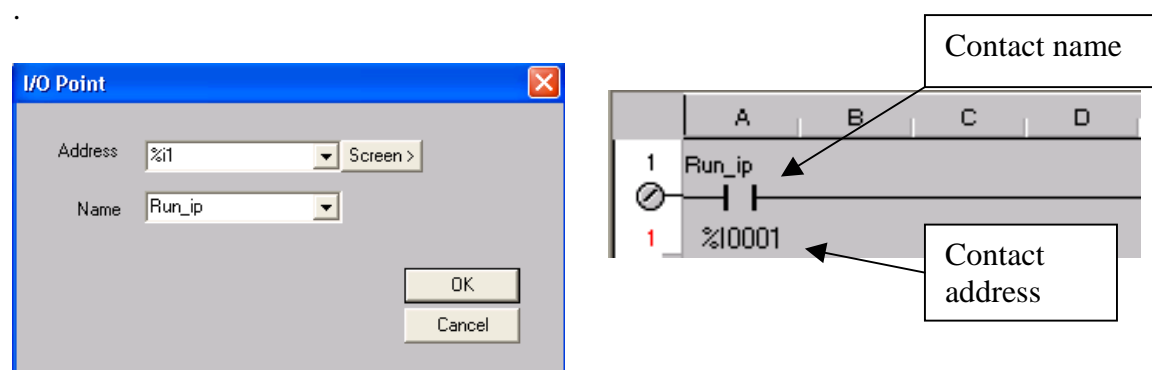
When inserting a Contact or a Coil you will need to assign the variable to a location and giving it a name is a good idea for documentation.



*i*³ Memory Locations

| Type | Description and example of what might use the type | Format |
|------|---|--------|
| %I | Discrete Inputs from the field; proximity sensors, panel buttons, etc | BOOL |
| %Q | Discrete Outputs to the field; relays, indicator lamps, etc. | BOOL |
| %AI | Analogue Inputs from the field; Thermocouples, 4-20mA inputs | WORD |
| %AQ | Analogue Outputs to the field; 0-10VDC or 4-20mA outputs | WORD |
| %IG | Global Discrete Inputs from the CAN smart i/o; | BOOL |
| %QG | Global Discrete Outputs to the CAN smart i/o; | BOOL |
| %AIG | Global Analogue Inputs from the CAN smart i/o; | WORD |
| %AQG | Global Analogue Outputs to the CAN smart i/o; | WORD |
| %T | Internal Temporary bits, use for contacts and coils | BOOL |
| %M | Internal Temporary bits, use for contacts and coils | BOOL |
| %R | Internal Registers, use for timers, counters & other data | WORD |
| %K | Keypad bits, reflect Function Key status | BOOL |
| %D | Display bits, control screens or indicate screen on/off | BOOL |
| %S | Internal System Bits (See System Registers) | BOOL |
| %SR | Internal System Registers (See System Registers) | WORD |

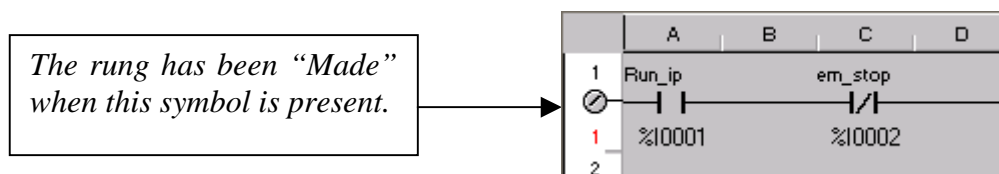
Note: The allocation of I/O starts from 1 the first input is %01 and **not** %00



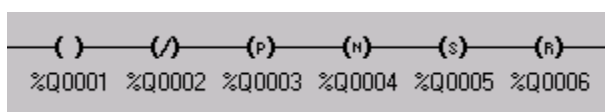
By right clicking the mouse in the left margin we can have some more options. We have the options to add or remove rungs, insert documentation and start OEM sections.

Input / Output Types

The i^3 has 2 types of inputs: Normally Open (N/O) and Normally Closed (N/C).



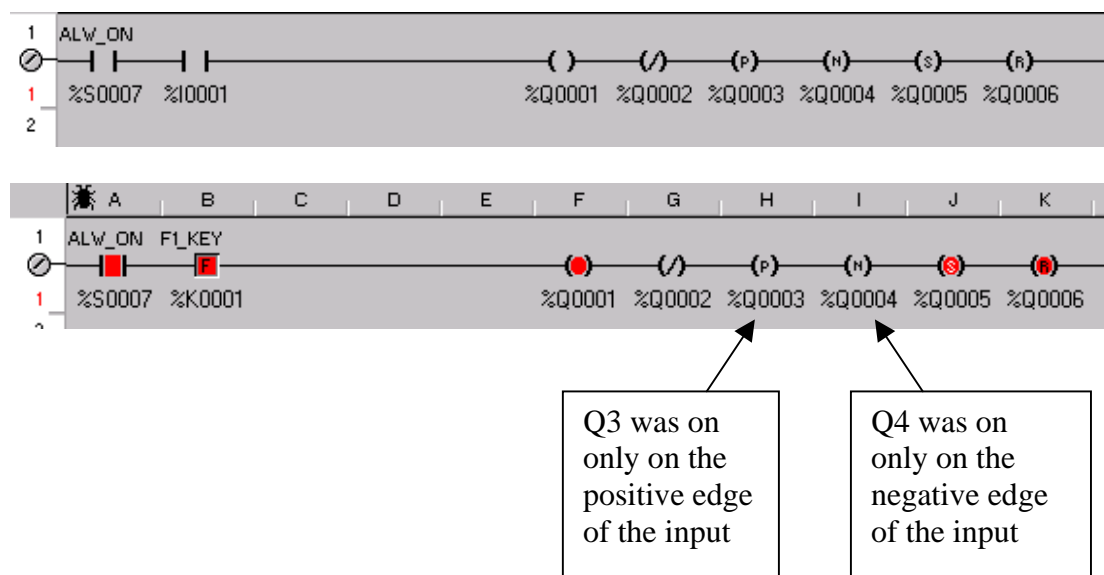
The i^3 has 6 types of outputs: N/O, N/C, Positive Edge, Negative Edge, Set and Reset.



More than one output can be put on a single rung. This performs the same function as OR'ing the outputs. When the input condition is met all of the outputs on the rung will be activated.

Example 1:

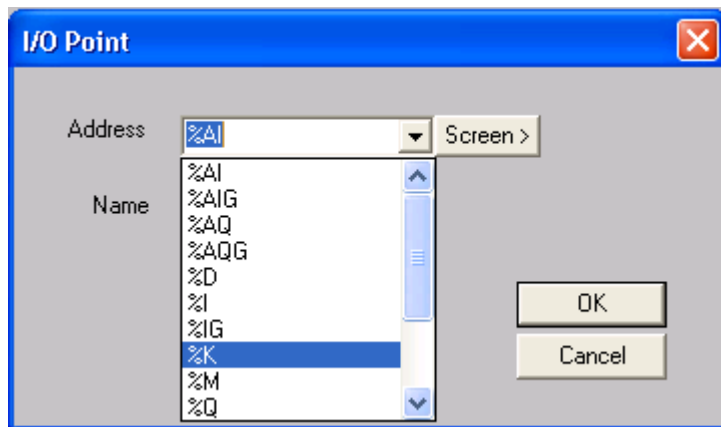
When %I0001 is enabled, %Q0001 switches state, as does %Q0002. Whereas %Q0003 switches on the positive edge of %I0001 and %Q0004 will switch on the negative edge of %I0001. %Q0006 will reset from it's current state.



Assigning Function Keys and Screens

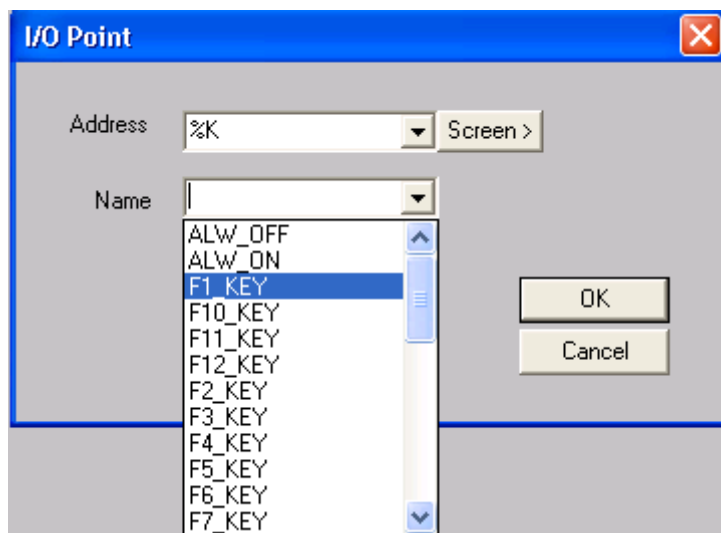
The *i*³ has 11 function keys that can be programmed into the ladder diagrams. It also has four buttons that can be programmed through the screen editor which are discussed later in this document.

Assigning Function Keys in the ladder diagram is very simple. Select an input contact and address it to the **Keys**!

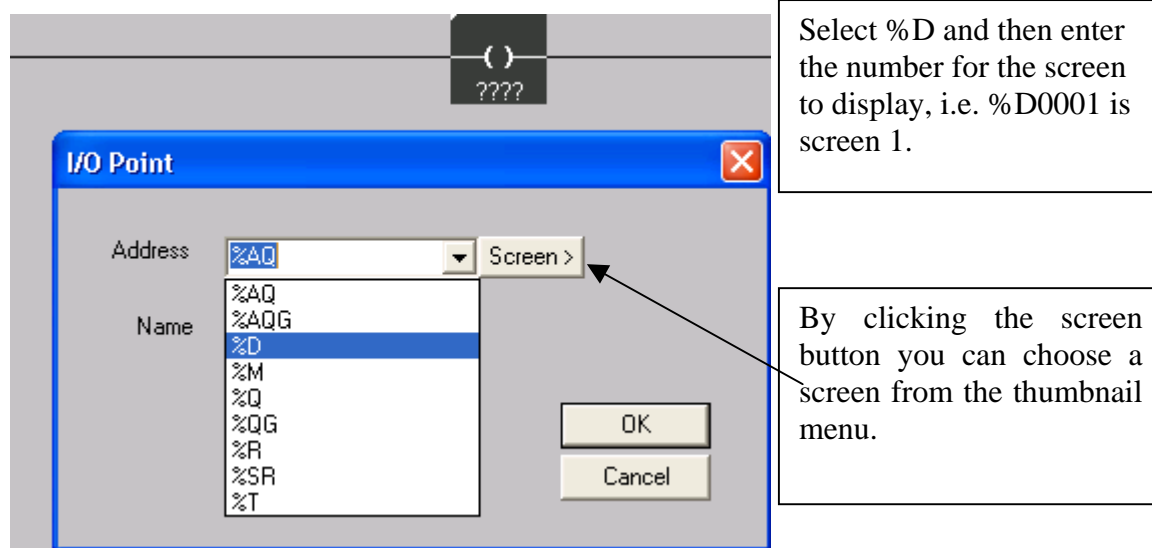


Select %K and then assign the address for the key, 1-12

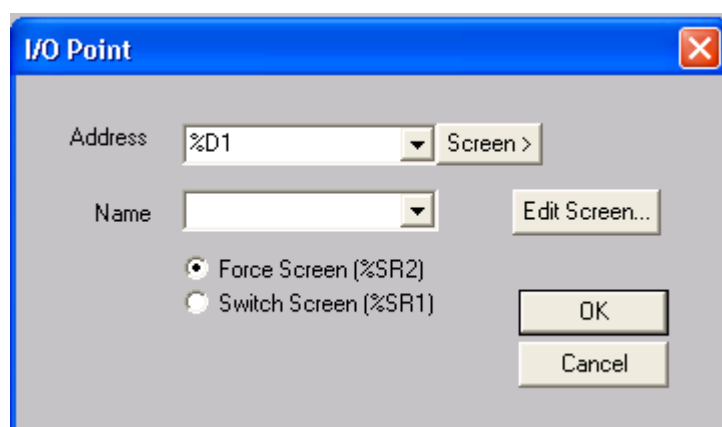
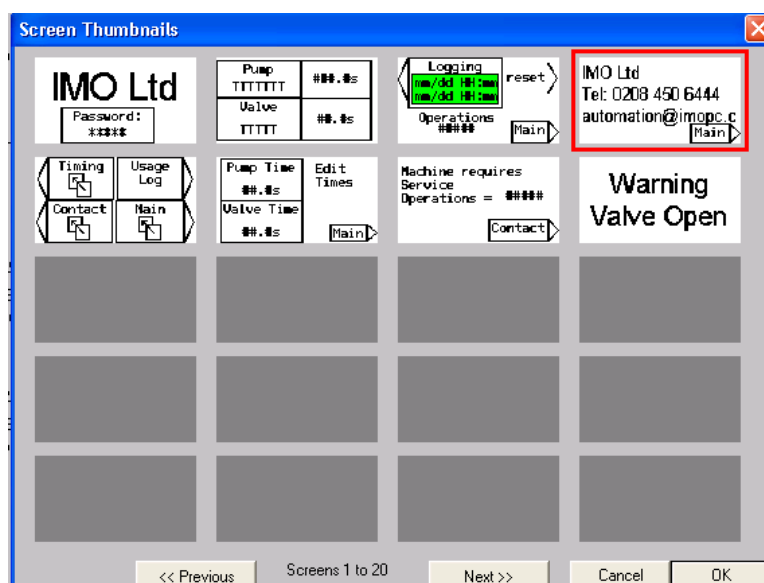
Or, select it by its predefined name.



To insert a screen into the ladder logic, select an output coil and click it into the ladder diagram.



The screens shown were set up previously. If no screen has been set up then it will be shown as a blank grey box.



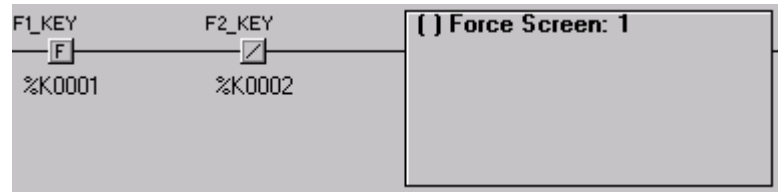
We can open the screen editor from this menu which is covered later in this document.

There are now two options to choose from which control the way an individual screen is presented.

Force Screen:

Displays the screen whilst the conditions to make the contact are met. When the condition is not met anymore the screen will go back to the previously set screen.

Example 2: Warning Message when a valve is open.

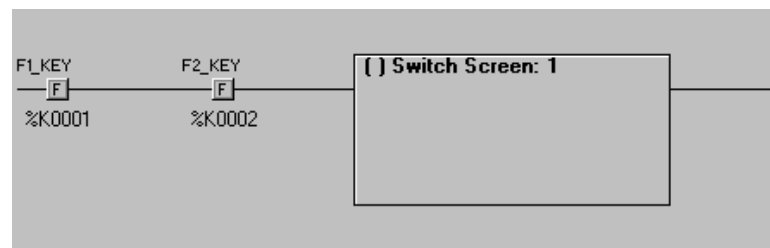


When F1_KEY *AND NOT* F2_KEY are pressed the *i*³ will display screen 1. When F1 has been released the *i*³ will display the previously set screen.

Switch Screen:

Changes the display to the desired screen when the condition is met. When the logical condition is no longer true the selected screen remains on display.

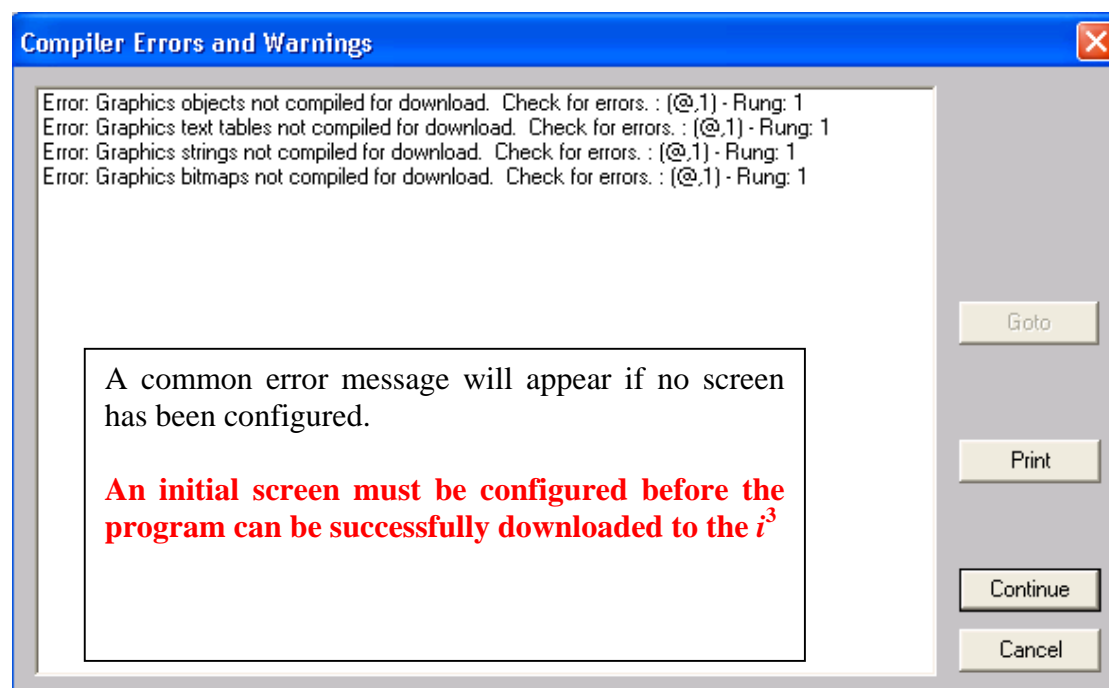
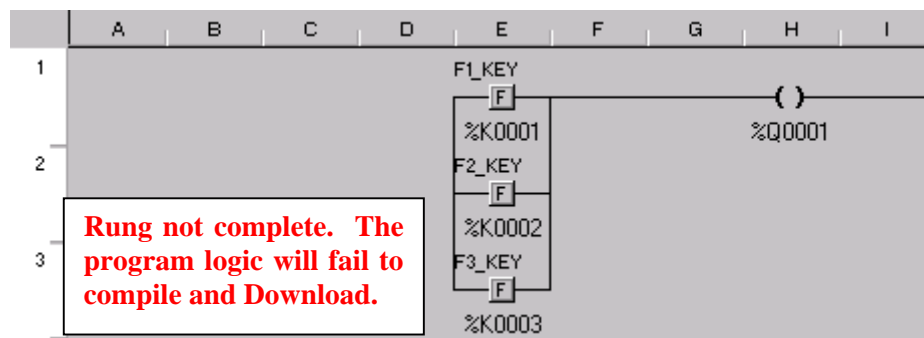
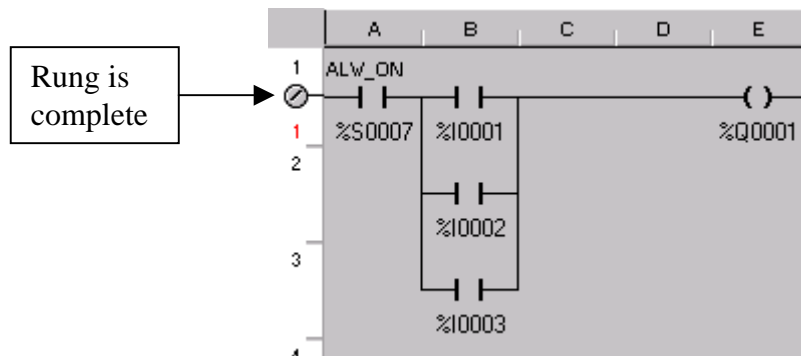
Example 3: Changing screens on a menu selection.



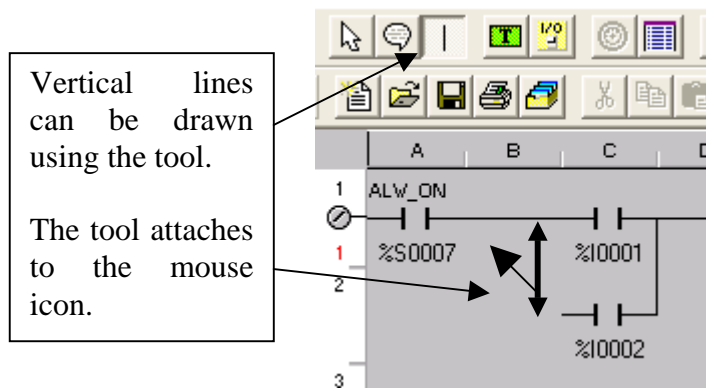
When F1_KEY *AND* F2_KEY are pressed the *i*³ will display screen 1. When F1 has been released the *i*³ Screen 1 will remain on the display until the next Screen is called.

Basic Ladder Logic

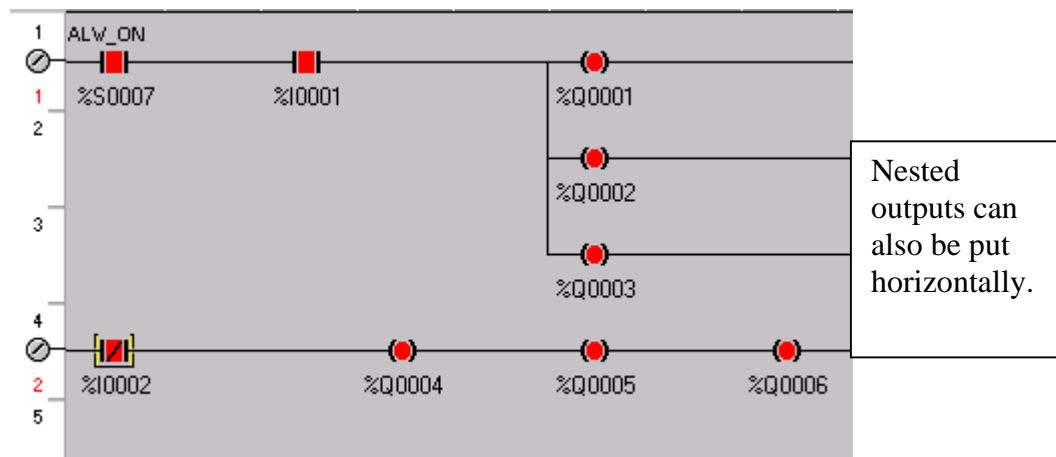
Using Ladder logic it is necessary to insert a contact in the first column. A good practice is to insert an ALWAYS ON (ALW_ON) contact at the beginning then add your logic after.



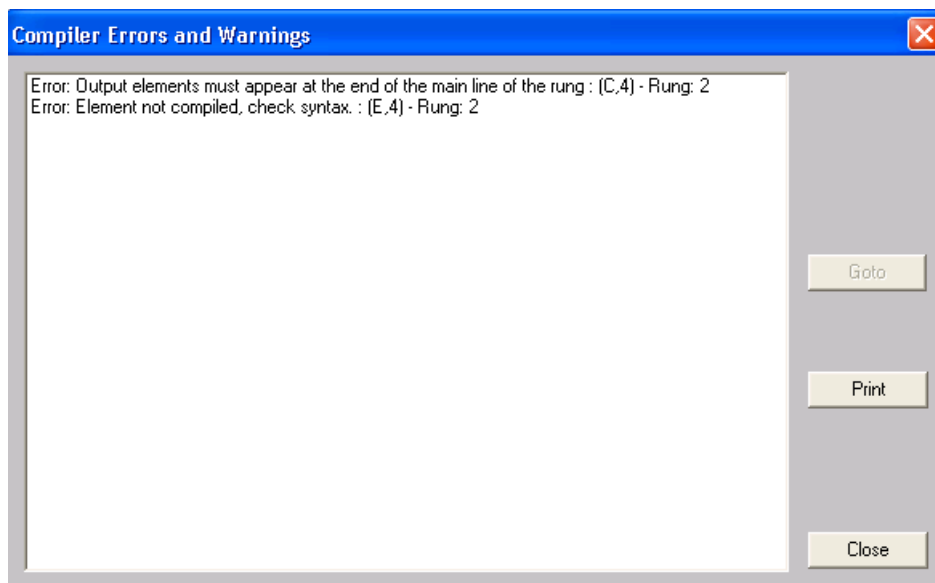
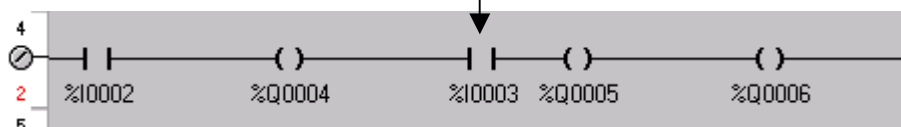
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Each rung can have multiple outputs but they must be at the end of the line.

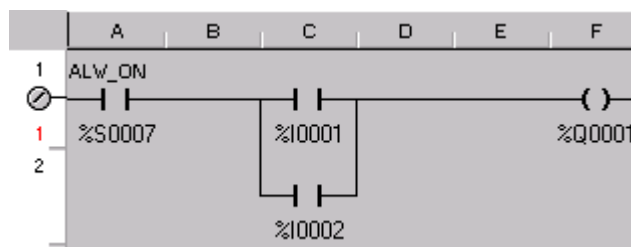


An input in this position will cause an error



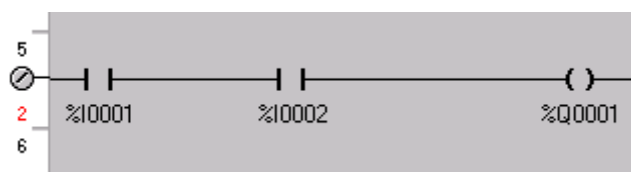
Or Gate

When any one of two or more inputs will switch on the output: In this example either %I0001 or %I0002 will switch ON %Q001.



And Gate

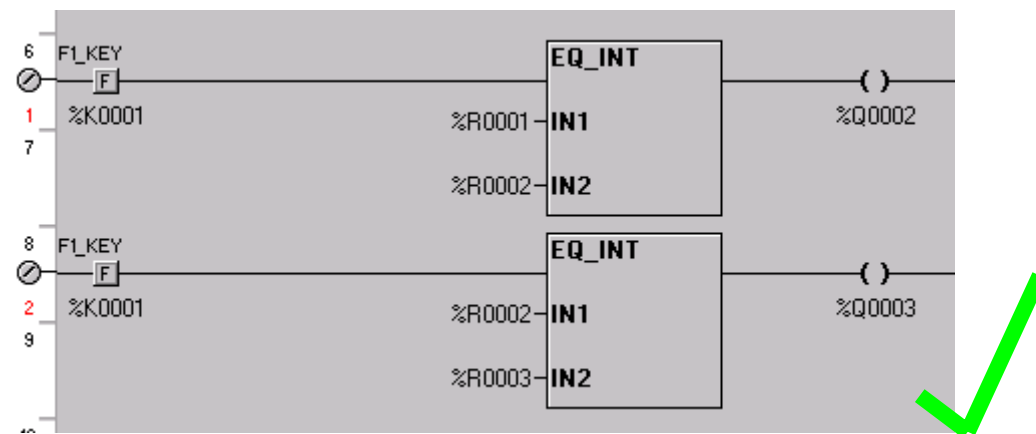
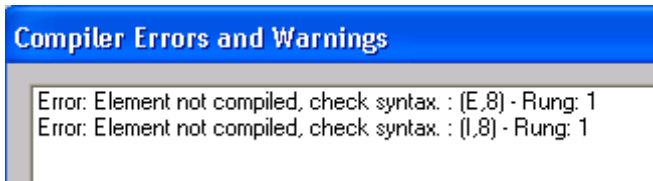
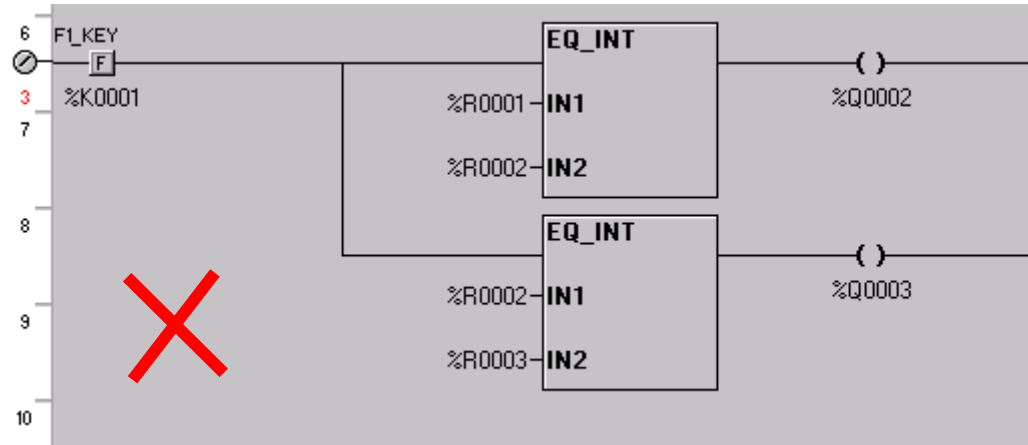
When all input conditions on a single rung are met the output will switch ON. In this example both %I0001 AND %I0002 must be on for the output %Q0001 to be energised.



Function Blocks

All function blocks have an enable input and a Boolean output. Other I/O parameters are dependent on the individual function block and are required to be set up when inserting the block.

Nesting function blocks will create an error.



Timers and Counters

Timers and counters require two consecutive registers to store their data in memory. The first register contains the current value and the second contains the status bits of the counter or timer.

Register 1 = Accumulated value

Register 2 .15 = Function Enabled

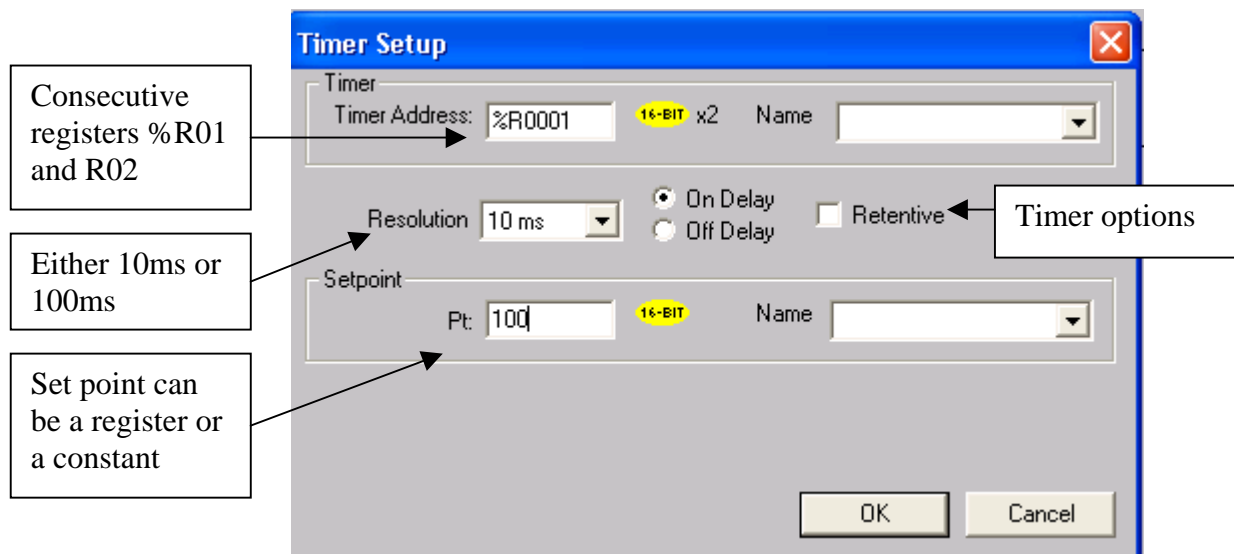
Register 2 .16 = Function Completed i.e. timing elapsed, preset value met.

Timer Set up

There are two types of timer, on delay and off delay. The On delay timers can be retentive.

On Delay

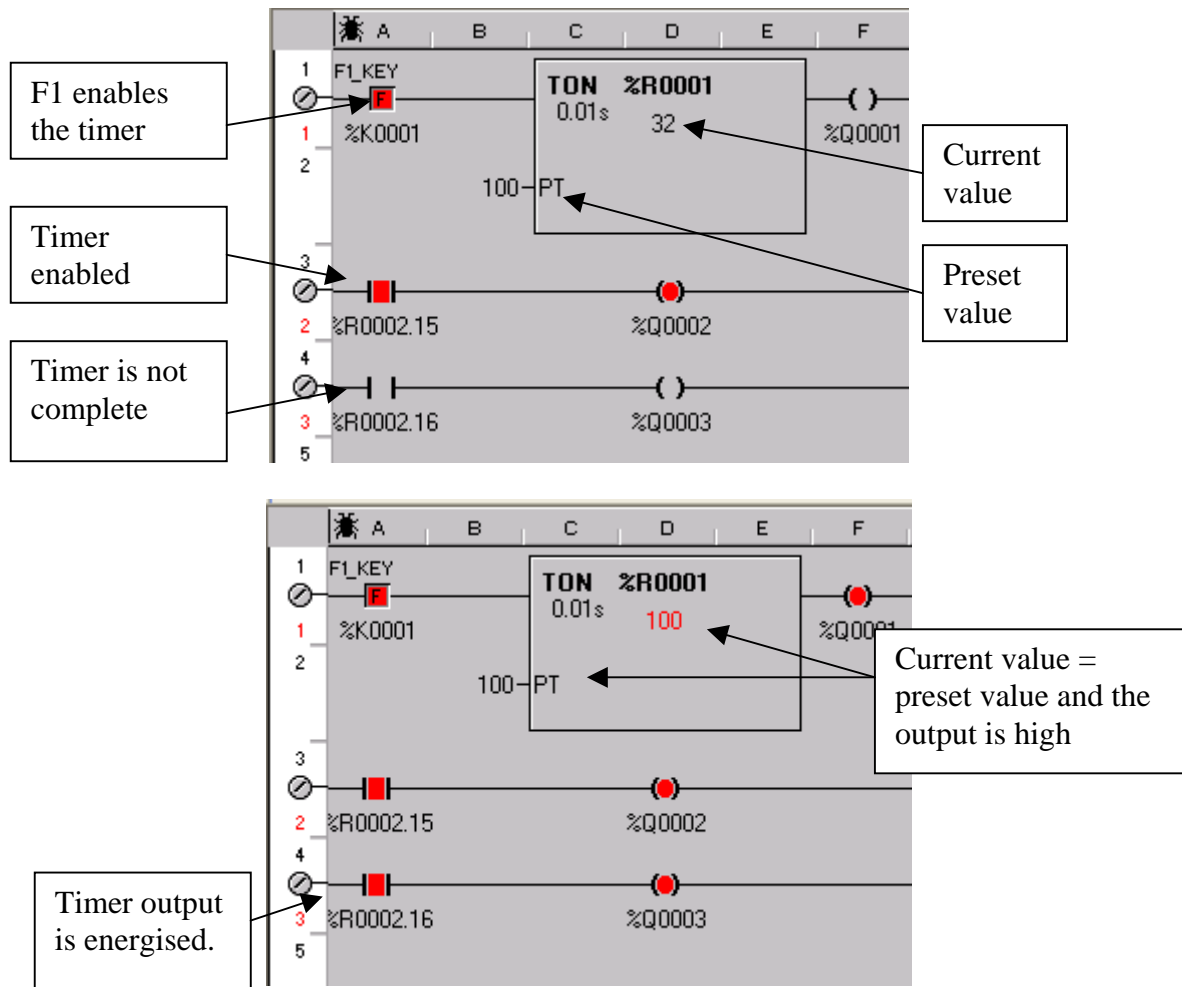
Delays before the output goes high. On being enabled the timer starts. When elapsed time reaches the Preset the output will energise. The output will remain energised until the input to the timer has been removed.



Basic Operation

Example 4:

This is an example of a 1s On delay timer.

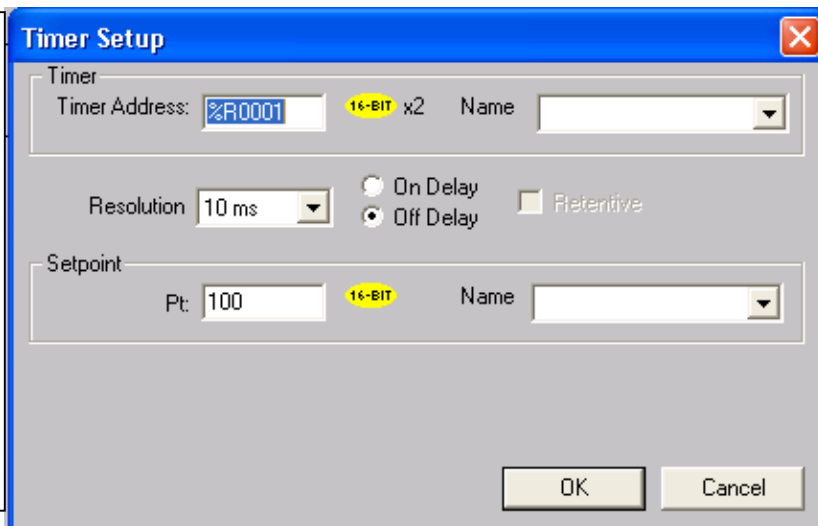


Off Delay

The Off delay timer provides a delay before switching the output off when the input is enabled. When the input is removed the timing will begin, when the elapsed time equals the preset the output will reset.

The setup window is the same as the previous example but the “Off Delay” button is checked.

Notice that the Retentive button is no longer available

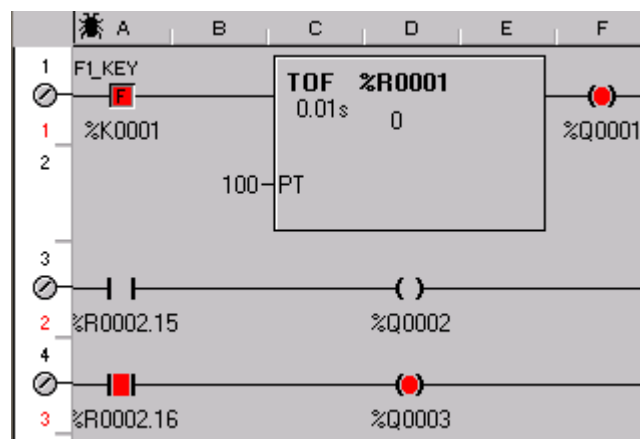


Example 5:

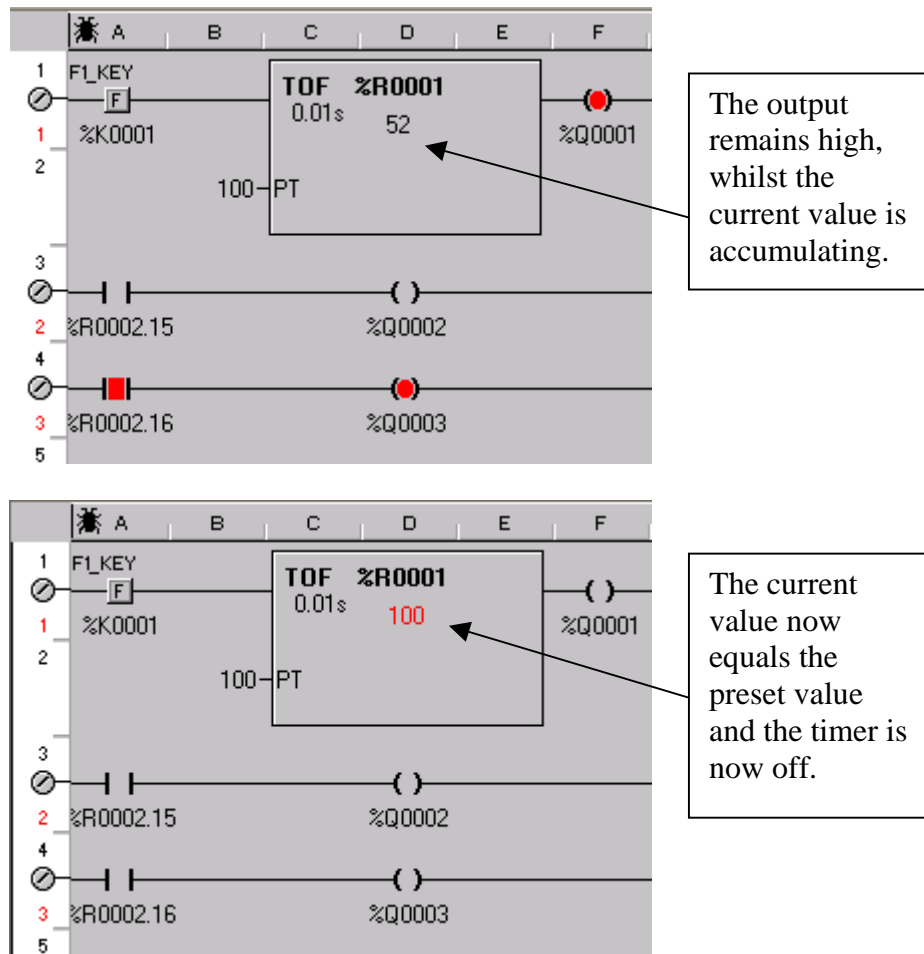
This is a 1 second Off-delay Timer. The output (%R0002.16) is energised when the input (%K0001) is made and will remain energised for 1 second after the input is removed.

The input to the timer has been enabled and the output is high.

When the input is removed the timing begins.



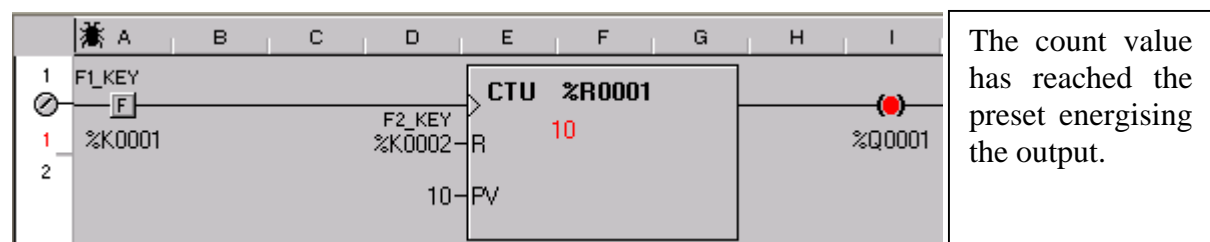
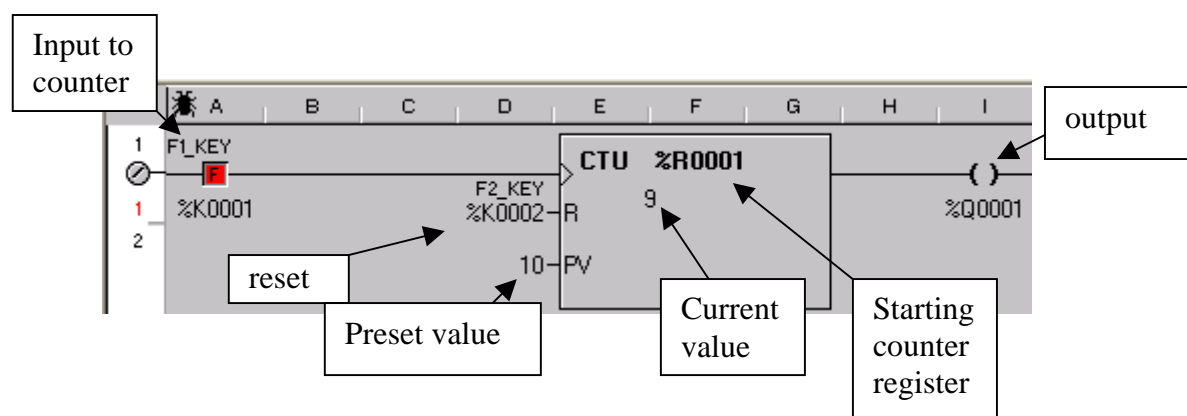
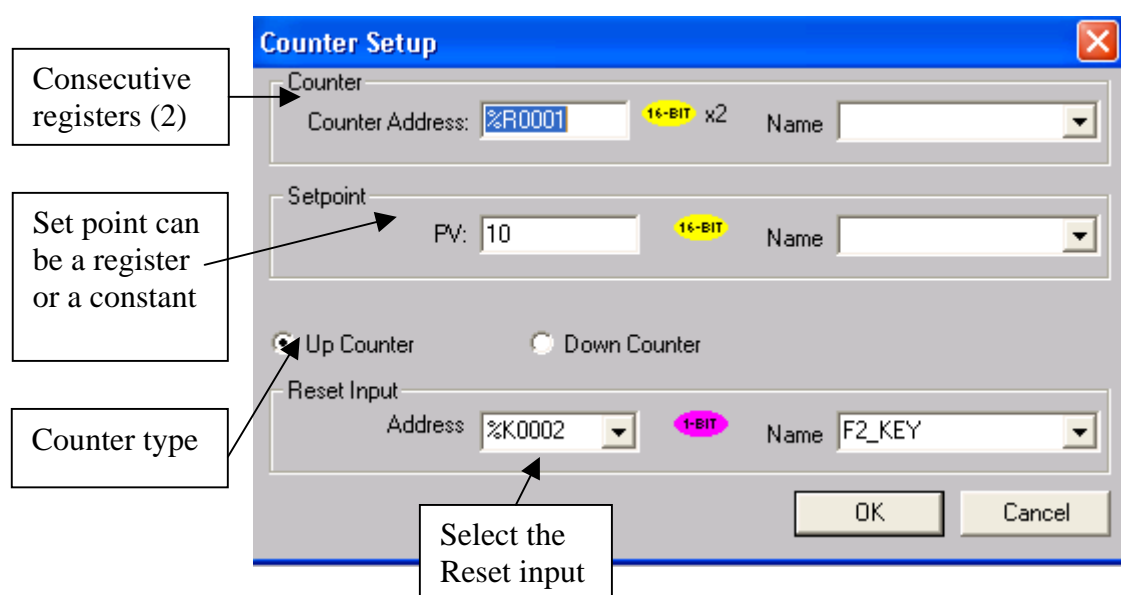
Basic Operation



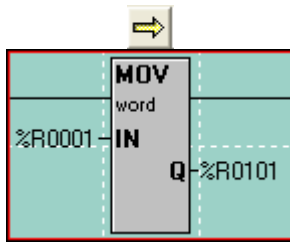
Counter Set up

There can be two types of counters, Up Count and Down Count. All the counters increment / decrement the current value on the positive edge of a defined input and require a Reset input.

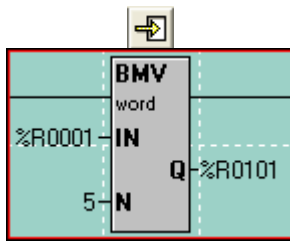
An up counter will increment its current value from 0 to the preset value at which point the output is energised. A down counter will decrement its current value (starting at a value equal to the Preset) until the current value reaches 0 at which point the output is energised. Both counters will overtake the preset if input pulses continue to be applied to the counter after the output is energised.



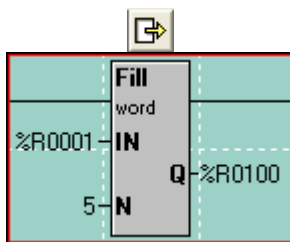
Move Functions



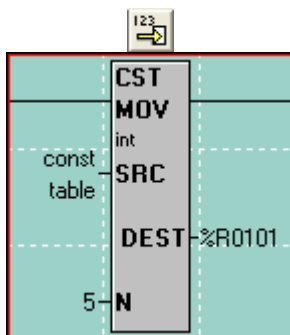
The first type of Move is the ‘Move Word’, or ‘MOV’. It is used to copy a single byte, word or double-word from one location to another. The count is locked at 1. In the case of the example to the left, the value in %R1 is copied into %R101. This only happens when the ladder rung receives power. The value in %R101 is NOT taken back out when power is lost to the rung. The IN can be either a register or a constant value.



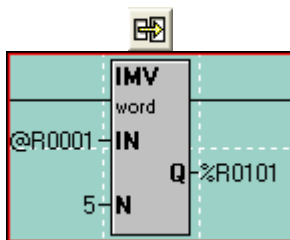
The next type of Move is the ‘Move Data Block’, or ‘BMV’. It is used to copy a group of bytes, words or double-words to another location. The count (N) determines how many registers are to be copied. In the example to the left, %R1-%R5 are copied into %R101-%R105. Again, this only happens when the ladder rung receives power. The IN must be a register reference and constant values are not allowed.



The next type of Move is the “Fill WORD”, or “Fill”. It is used to copy the contents of a single register or value into multiple other registers, thus filling that one value into a group of registers. The count (N) determines how many registers to fill that single value into. In the example to the left, the value in %R1 is copied into %R101-%R105 so that %R101-%R105 all will have the same value in them. This can be used to zero-out a group of registers. The IN can be either a register or a constant value.

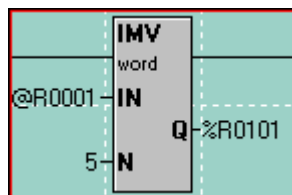


The ‘Constant Move’, or ‘CST MOV’, it is used to move a group of constant values into a group of consecutive registers. If, for example, you want to move the values 1, 2, 3, 4 and 5 into %R101, %R102, %R103, %R104 and %R105, respectively, then you can use the Constant Move function. The count (N) is automatically determined by how many constant values you enter into the configuration for this function. The source data can ONLY be constant data and cannot be register references.

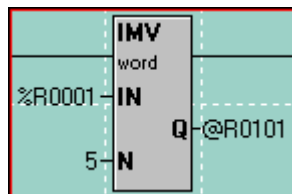


The ‘Indirect Move’, or ‘IMV’, it is used to move data from variable positions or to variable positions or both. It functions, for the most part, like the Block Move function. If specified as Indirect, the IN and/or the Q are used as pointers to where in the %R registers to get data from or put data to. When looking at the ladder logic, the @ symbol will appear next to the IN or Q address if it is specified as Indirect. This function is used in data logging applications.

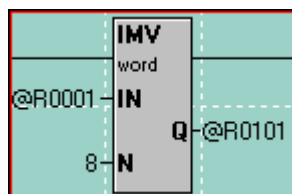
Indirect Move Examples



In this example, the IN is specified as Indirect. This means the controller will look at %R1 and see a value within it. If %R1 has a value of 501 in it, the controller will go to %R501 to get the source data. 5 registers will then be moved from %R501-%R505 to %R101-%R105.



In this example, the Q is specified as Indirect. This means the controller will look at %R101 and see a value within it. If %R101 has a value of 851, the controller will take the data in %R1-%R5 and move it into %R851-%R855.

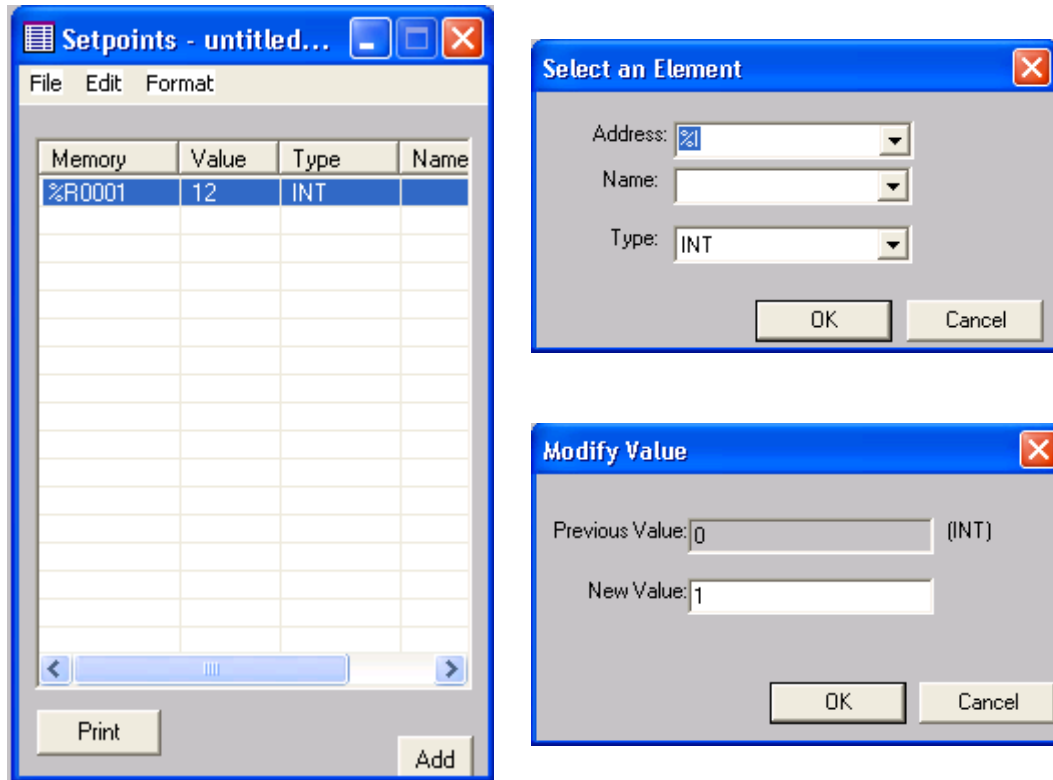


In this example, both the IN and the Q are specified as Indirect. This means the controller will look at %R1 and see a value. Let's say it is 241. The controller also looks at the value in %R101. Let's say it is 341. The controller will then take the values in %R241-%R248 and move them into %R341-%R348.

Set Points

It is possible to set registers with initial values by using the set point editor. To open it select the Setpoint option from the program menu.


From within the editor we can “Add” a new register. Double click on the Value column to enter a Setpoint.

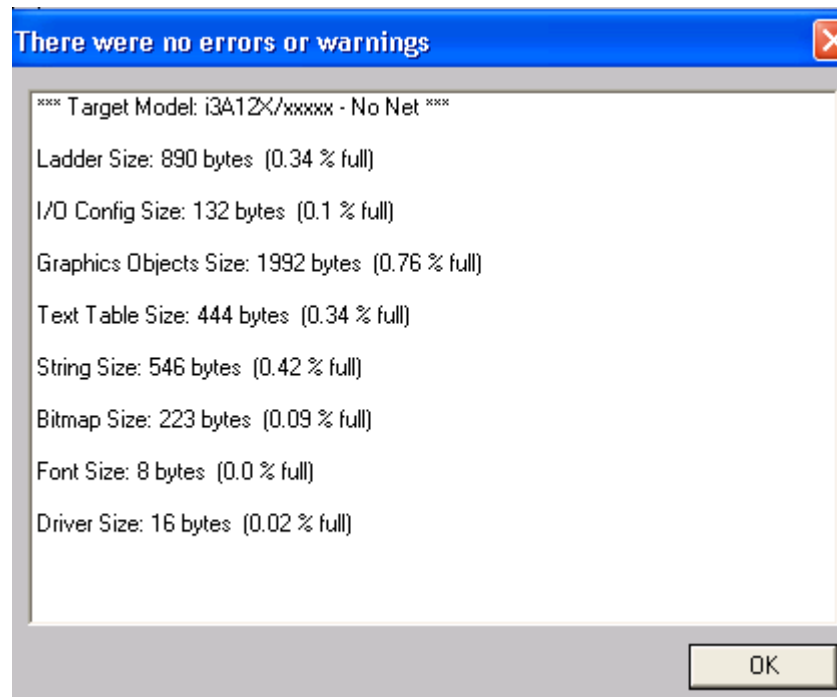


NOTE:

The Setpoint button must be selected in the Download Options when you are ready to download the application program into the i^3

Download Options

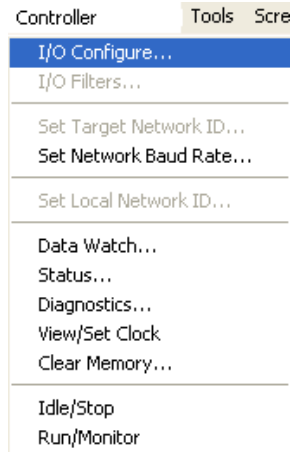
Once you have created the Ladder logic and user screens the program can be verified by clicking the icon . This will check the program for any errors. If there no errors are detected in the program or configuration of the *i*³ the download can proceed.



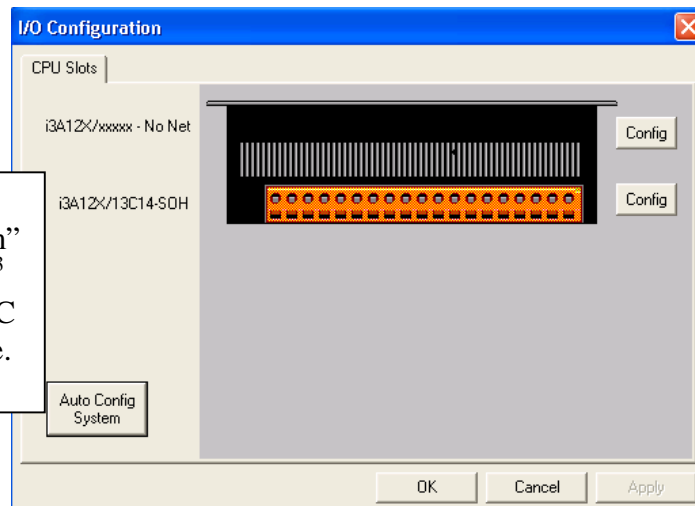
Configuring the correct model.

Before downloading the program it must be configured to match the model of i^3 to be used.

Select the I/O configure from the controller menu.




Then click the “Auto Config System” button ensuring the i^3 is connected to the PC with an i3PC45 cable.

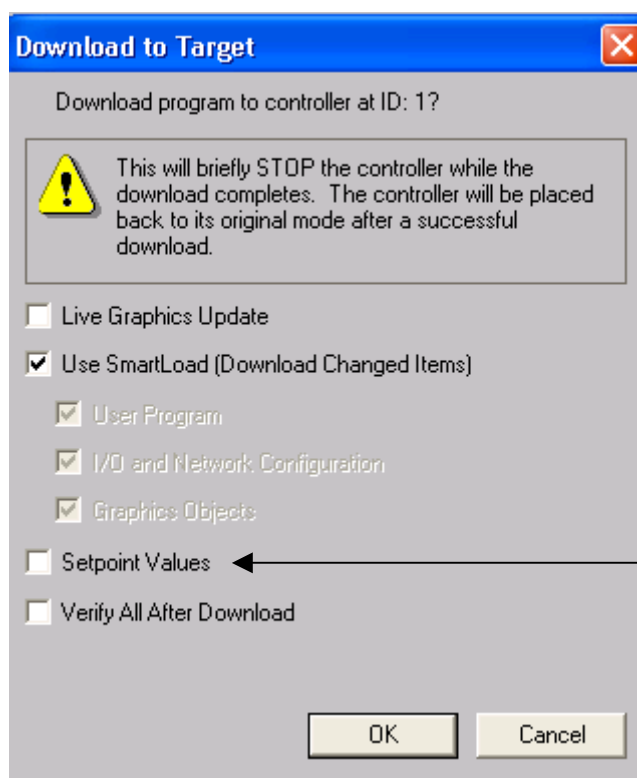


When configured the i^3 part number will match the unit.

Downloading the Program

Then to download to the i^3 click the icon  or select Download from the Program Menu.

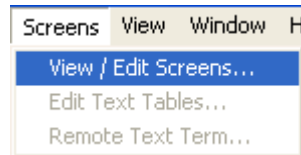
The “Download to Target” menu will appear.



If you want to download set points, ensure that this option is checked.

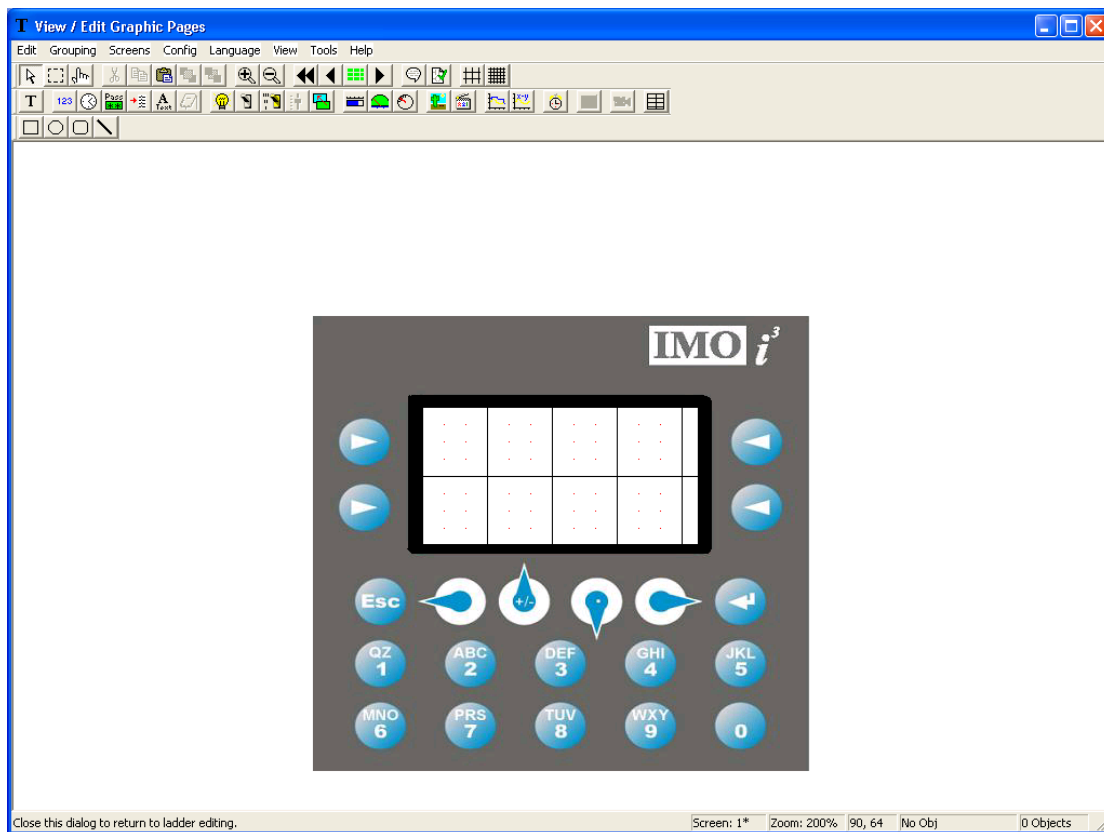
Screen Editor

To open the screen editor click on the icon  or select the option from the screens menu.



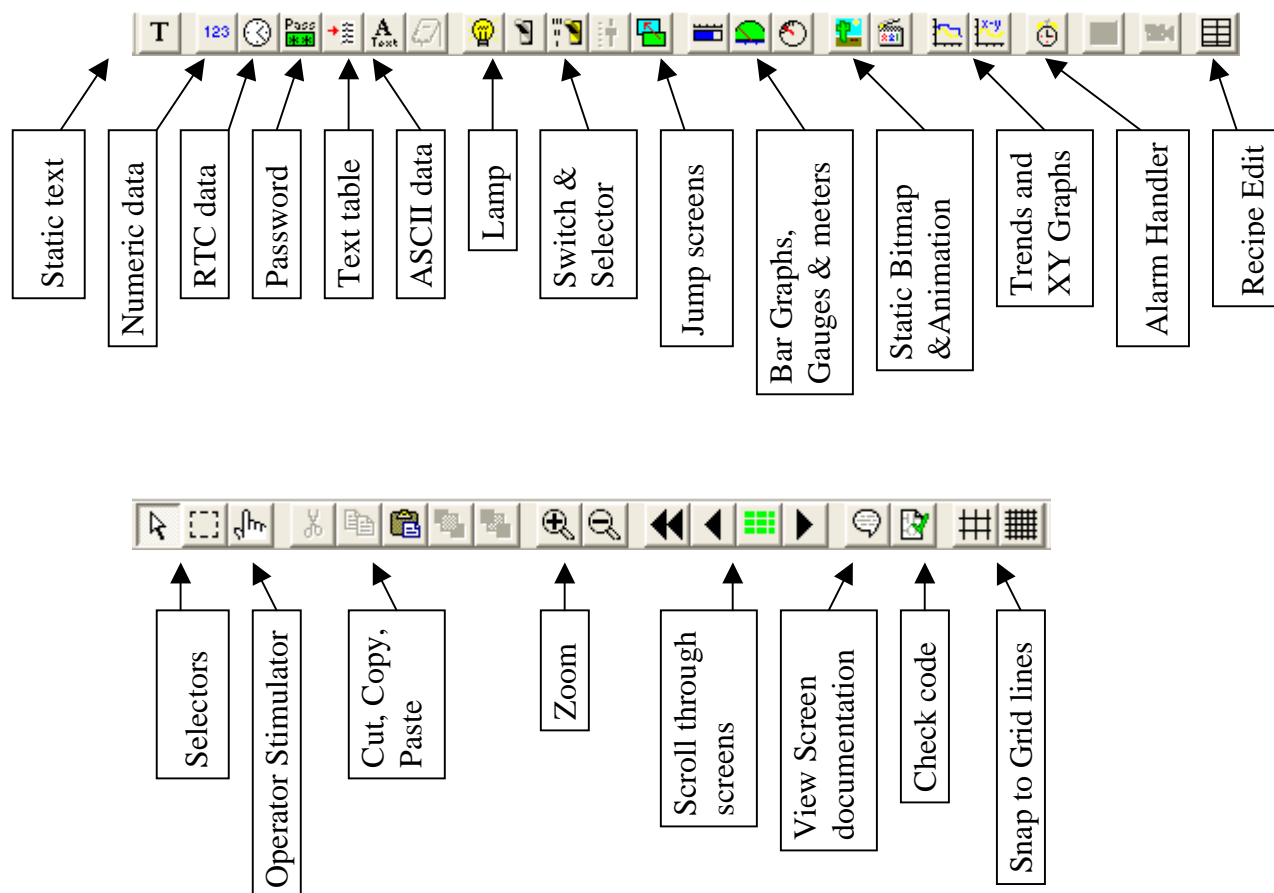
Please note that a default screen needs to be configured before a program can be downloaded to an i^3 .

Before editing screens it is important to configure the I/O as previously described.



The screen editor program shows the i^3 in the middle with the programming functions at the top and screen information in the bottom right corner. To exit click the top right corner where the X is.

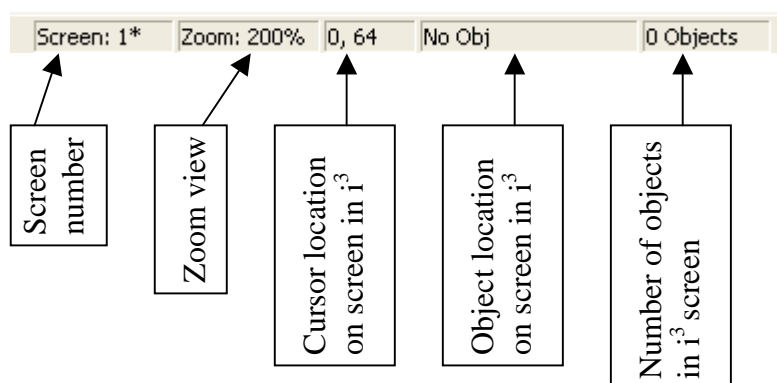
Screen Editor Tool Bar.




Drawing Tools



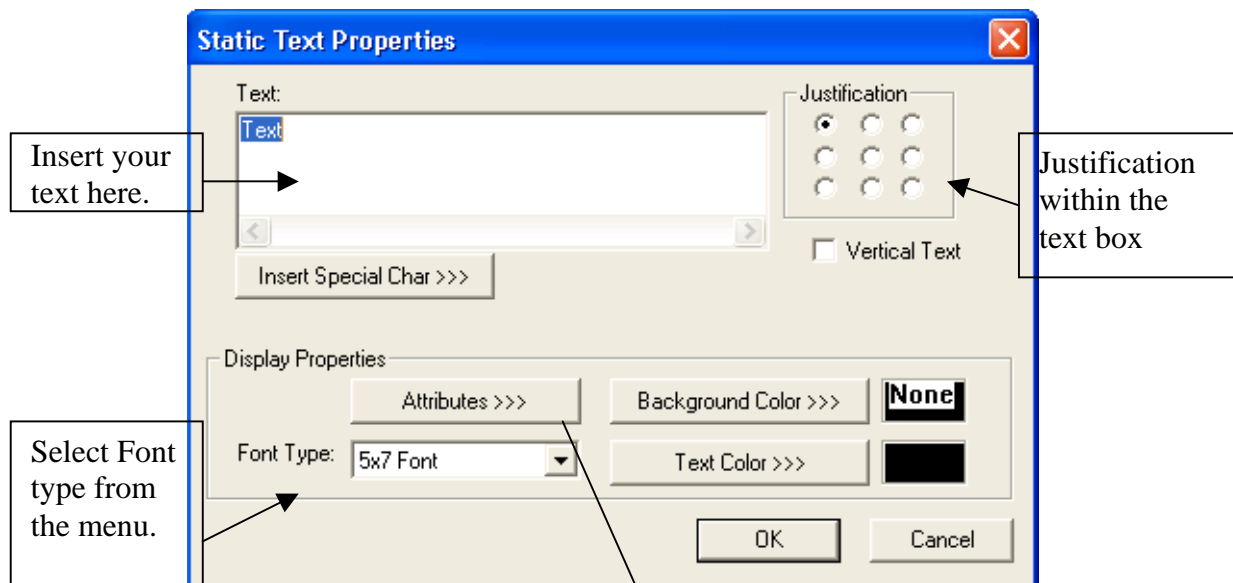
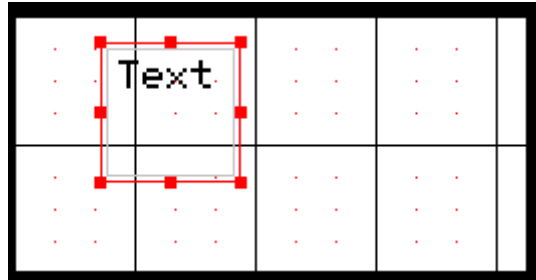
Bottom right corner of Editor



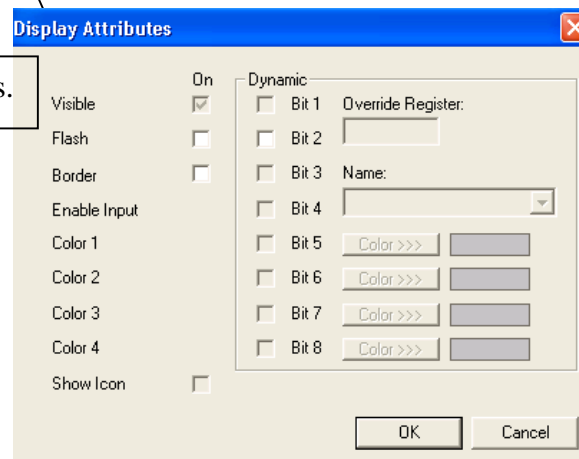
Static Text

To insert a Static Text message click on the icon  and click it to the screen.

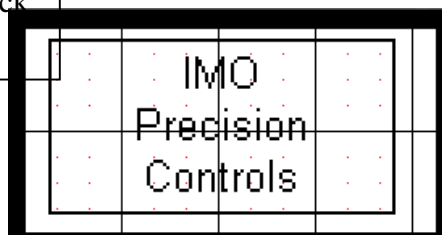
The box can be resized as required. To enter the text to be displayed double click on the box.




Display Attributes.



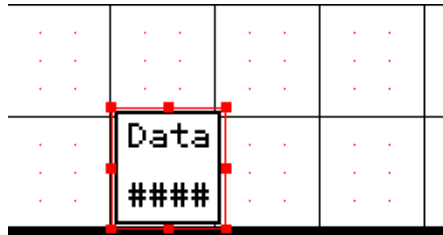
Once you have correctly set up the static text, click OK to confirm and exit



Numeric Data

To insert a numeric data display click on the icon  and click it into the screen.

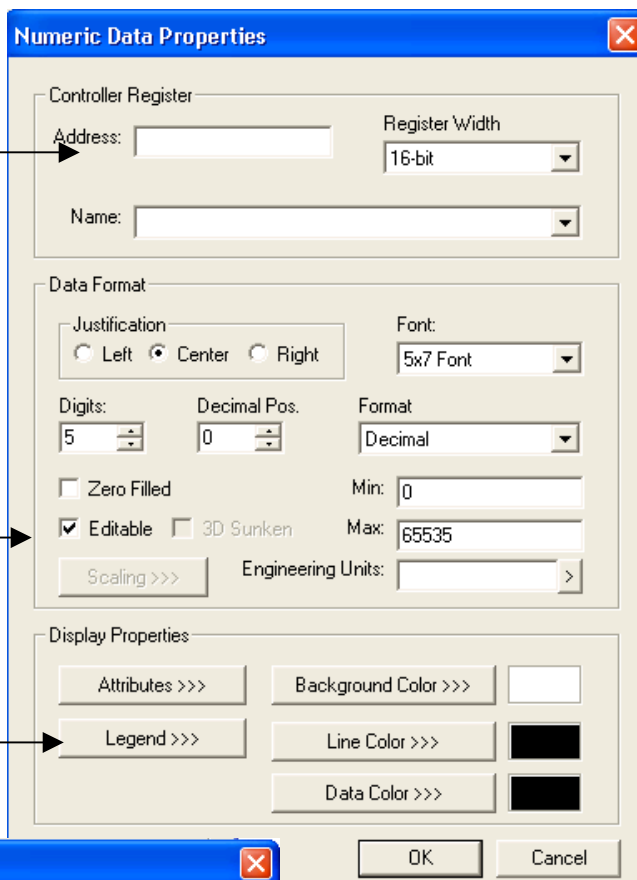
The box can be resized as required. To Enter the details of the numeric data double click on the box.



The address of the data to be displayed display

Editable allow the user to enter data through the screen

The Legend of the Numeric Field can be modified as required.



Numeric Data Properties

Controller Register

Address: Register Width:

Name:

Data Format

Justification: ☐ Left ☒ Center ☐ Right Font:

Digits: Decimal Pos.: Format:

☐ Zero Filled ☒ Editable ☐ 3D Sunken Min: Max:

Scaling >>> Engineering Units:

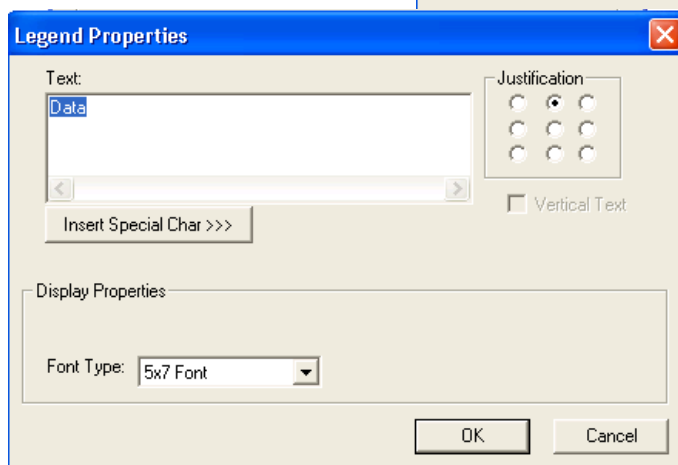
Display Properties

Attributes >>> Background Color >>>

Legend >>> Line Color >>>

Data Color >>>

OK Cancel



Legend Properties

Text:

Justification: ☐ Left ☒ Center ☐ Right ☐ Left ☐ Center ☐ Right

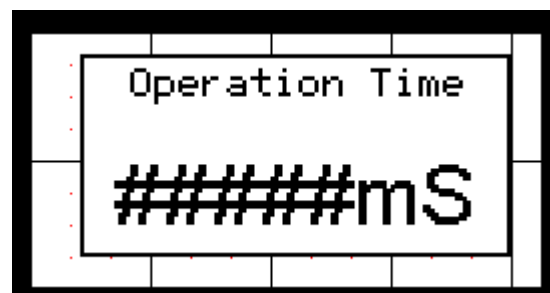
☐ Vertical Text

Insert Special Char >>>


Display Properties

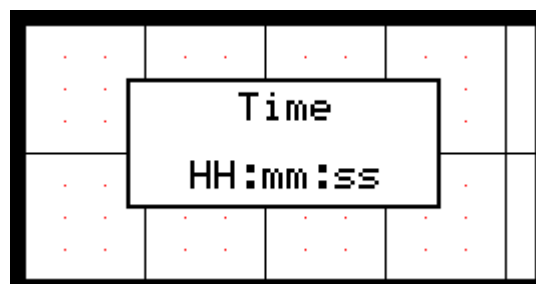
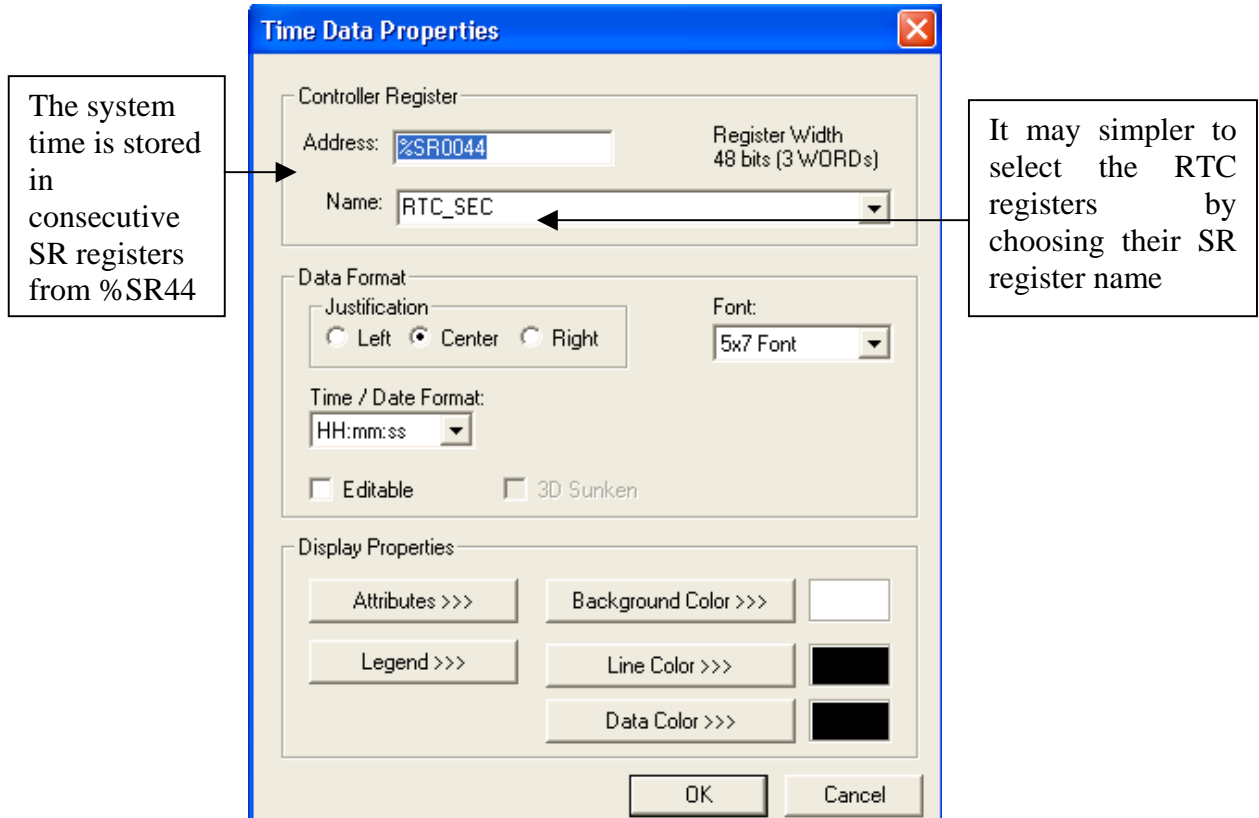
Font Type:

OK Cancel




Time Data

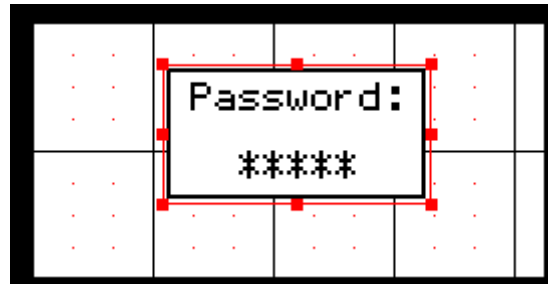
To insert a time data display click on the icon  and click it into the screen. Double click the box to edit the properties.



Password

To insert a Password display, click on the icon  and click it into the screen.

The password box is similar to the numeric data display but the numbers are hidden.



Password Data Properties

Controller Register

Address: Register Width:

Name:

Data Format

Justification: ☐ Left ☒ Center ☐ Right

Font:

Digits:

☒ Editable ☐ 3D Sunken

Display Properties

Attributes >>> Background Color >>>

Legend >>> Line Color >>>


Data Color >>>

OK Cancel

Address where the password will be entered.

Simple password logic uses a Compare Function block. When the Password Number entered is equal to the stored value an additional control condition can be unlocked.

Text Table data

To insert a Text Table display, click on the icon  and click it into the screen.

The text table can be used to display text messages instead of numeric data for a given register.



Text Table Data Properties

Controller Register
 Address: Register Width:
 Name:

Data Format
 Justification: ☐ Left ☒ Center ☐ Right
 Font:
 Digits: Text Table >>>
☐ Editable ☐ 3D Sunken

Background Color >>>
 Line Color >>>
 Data Color >>>

A message table can be selected for a word, byte or a bit.

There can be up to 255 tables and one can be used more than once.

Edit/View Text Tables

| Value | Text |
|-------|------|
| 0 | Imo |

Table Number:

Add
Edit
Remove


Bytes Used: 16

OK

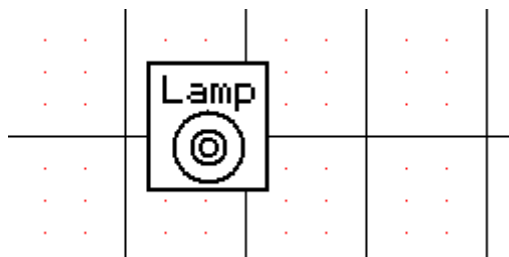
The number of digits to display must match the maximum length of message to display.

Select a value and enter a message to correspond to it. Now the message will be displayed instead of the numeric value.

Indicator Lamp

To insert an indicator lamp, click on the icon  and click it into the screen.

The indicator lamp can only be assigned to a bit (Q, M, S or T).



Indicator Properties

Controller Register

Address:

Name:

Indicator Type:


☒ Legend Plate ☐ 3D Bezel

Display Properties

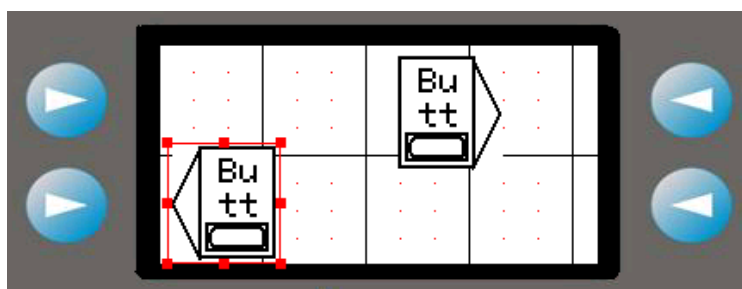
There are several different options for display of lamp.

-

Button

There are four buttons that can be programmed through the screen editor, the remaining keys are programmed in the ladder editor. To insert a button, click on the icon  and click it into the screen.

The button will then allocate itself to the nearest key next on the side of the screen. Only one button can be assigned to a single key per screen.



The buttons are binary and can only be assigned to a bit

Switch type

- Standard
- Standard
- Round
- Square
- Rocker

Action

- Momentary
- Momentary
- ON
- OFF
- Toggle

Switch Properties

Controller Register
Address:
Name:

Keypress Source
☒ Attach to nearest soft key
☐ Auxiliary Register
Address:
Name:
☐ Touch Screen

Switch Type:
Action:

☒ Legend Plate
☐ 3D Bezel
☐ Return to last screen after press
☒ Show Inside Line Detail

Indicator Properties >>>

Display Properties
Attributes >>> Background Color >>>
Legend >>> Line Color >>>

OK Cancel

The Keypress source defaults at the nearest softkey (4 keys either side of the screen.

However they can be set to another address in the i^3

Switch State Properties

Indicator Text
☐ Enable Indicator Text
On String:
Off String:
Font Type:
☒ Text follows controller register (switch output)
☐ Text follows indicator register


Color Indicator
ON Color >>>
OFF Color >>>
☒ Color follows controller register (switch output)
☐ Color follows indicator register

Indicator Register
Address:
Name:

OK Cancel

We can also edit the indicator properties

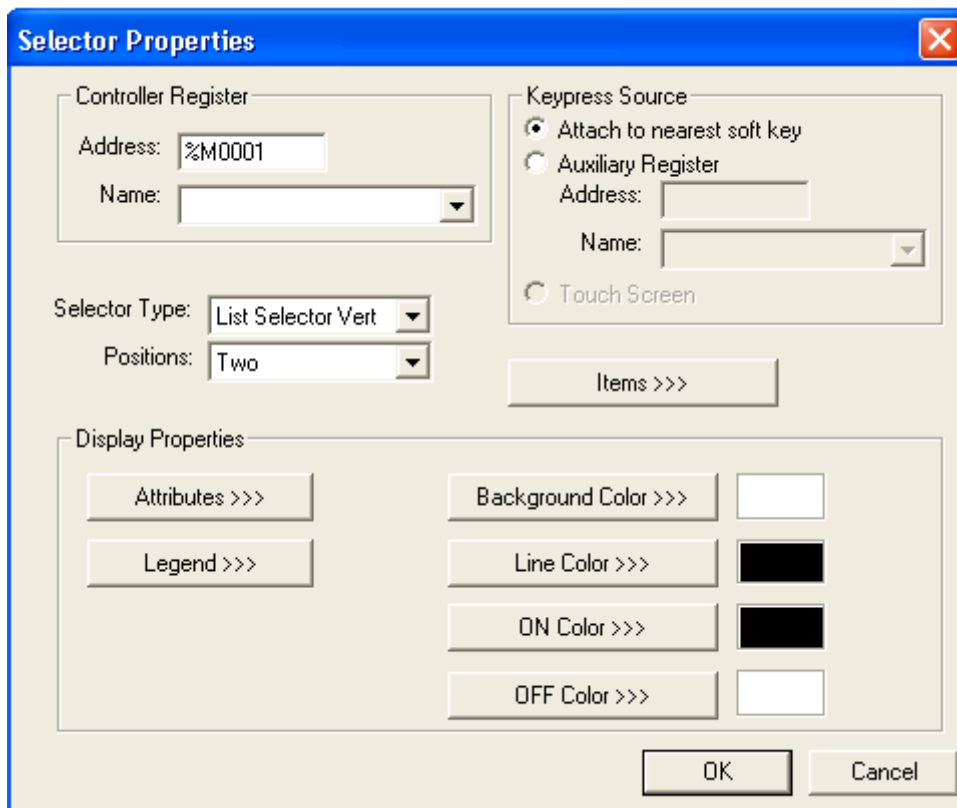
Selector Switch

To insert a selector switch, click on the icon  and click it into the screen.

It will then select the nearest buttons to it on either side of the screen. With the selector switch the maximum the i^3 can have is two positions.



A selector switch will be either one of two states.



Selector Properties

Controller Register
 Address:
 Name:

Keypress Source
☒ Attach to nearest soft key
☐ Auxiliary Register
 Address:
 Name:
☐ Touch Screen

Selector Type:
 Positions:

Items >>>


Display Properties

OK Cancel

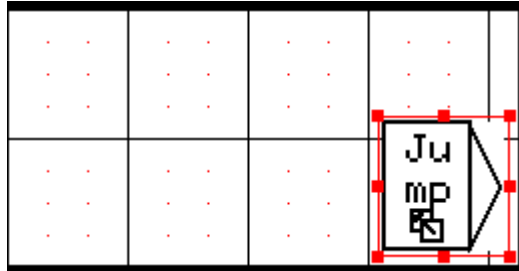
The address can be a bit or a register.

The items can be given meaningful names

Screen Jump

Screen jumps are allocated like buttons but are for jumping between screens in a menu fashion. To insert a screen jump, click on the icon  and click it into the screen.

The jump button will allocate itself to the nearest key at either side.



Select what screen number to jump to and the display properties of the button.

Screen Jump Properties

Jump to Screen Number
Address / Number: >
Name:

☐ Simulate ESC
☐ Allow ESC to Return

Keypress Source
☒ Attach to nearest soft key
☐ Auxiliary Register
Address:
Name:

☐ Cursor Selectable
☐ Touch


Display Properties
Attributes >>> Background Color >>>
Legend >>> Line Color >>>

OK Cancel

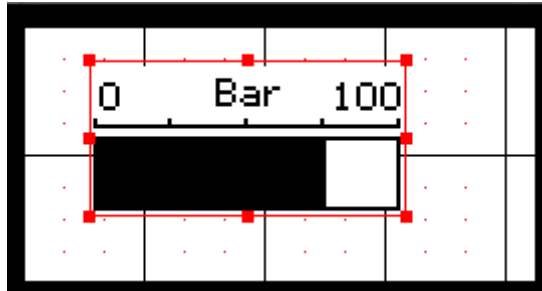
The Keypress source defaults at the nearest softkey (4 keys either side of the screen).

However they can be set to another address in the i^3 or can even be selected using the cursor and arrow keys

Bar Graph

To insert a bar graph, click on the icon  and click it into the screen.

To graphically display a register value on the screen. Click on the edge of the box and drag to make the bar graph bigger.



Bar / Meter Properties

Controller Register

Address: Register Width:

Name:

Scale

☒ Show Scale Limits Maximum: Minimum:

Font: Ticks:

Display Properties

Attributes >>> Background Color >>>

Legend >>> Line Color >>>


Fill Color >>>

OK Cancel

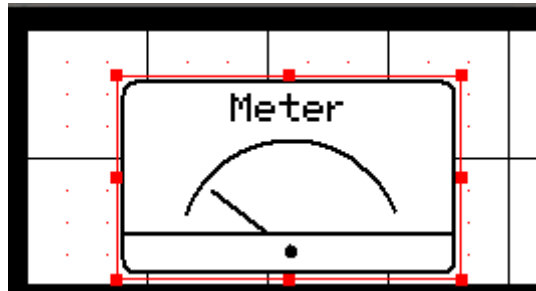
The bar graphs must be a word.

The bar graph has to be scaled and this can be shown on the screen.

Meter

To insert a meter graph, click on the icon  and click it into the screen.

Another option to the bar graph is to display the data as a meter.



Bar / Meter Properties

Controller Register

Address: Register Width:

Name:

Scale

☐ Show Scale Limits Maximum:

Font: Minimum:

Ticks:

Display Properties

Attributes >>> Background Color >>>


Legend >>> Line Color >>>

Fill Color >>>

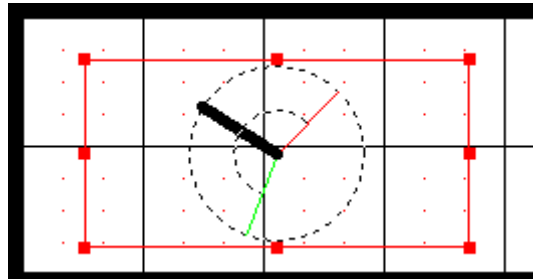
OK Cancel

The details are the same as with the bar graph.

Gauge

To insert a gauge graph, click on the icon  and click it into the screen.

The Gauge is more complex than a bar / meter. This gauge is an automotive style gauge and can be placed over bitmaps.



Gauge Properties

Controller Register

Address:

Register Width:

Name:

Scale

☒ Clockwise
 ☐ Counter-Clockwise

Maximum:

Minimum:

Needle Width:

☐ Display long needle

Start Angle:

End Angle:

While the object is selected for editing use SHIFT+UP or SHIFT+DOWN to adjust the start angle and SHIFT+LEFT and SHIFT+RIGHT to adjust the end angle.

Display Properties

Attributes >>>

Needle Color >>>

OK

Cancel


Select starting and ending angle and the needle will rotate within the set scale.

www.imopc.com

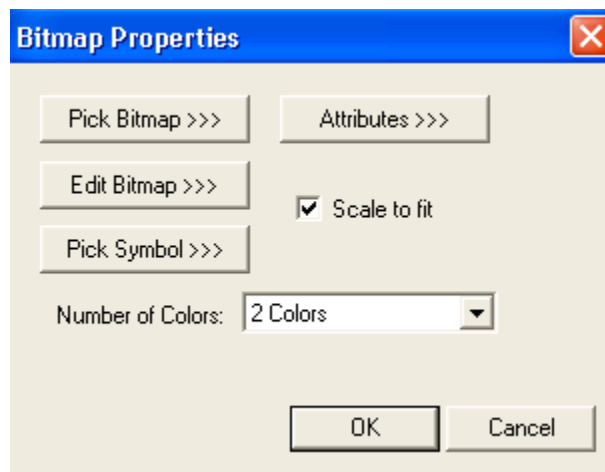
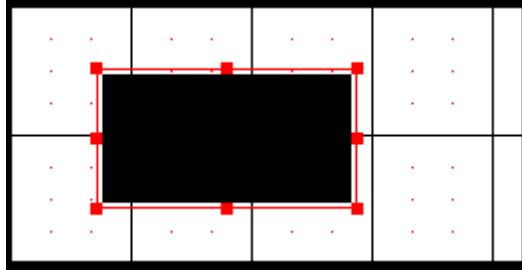
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Static Bitmap

A bitmap can be used as a screen back drop, where a company logo can be inserted.

To insert a static bitmap, click on the icon  and click it into the screen.


The t^3 has a mono screen, therefore the bitmap must comply to these restrictions.

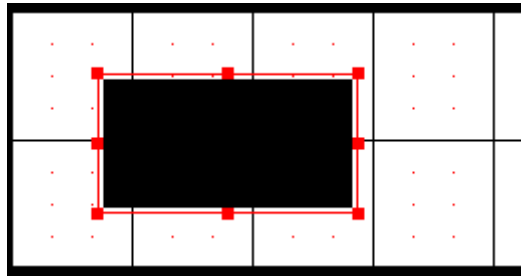


Bitmaps can be created in simple packages like MS Paint.

Animation

The animation displays a series of bitmaps depending on the value of a register, double word, word, byte or bit.

To insert an animation, click on the icon  and click it into the screen.



Animation Properties

Controller Register

Address:

Register Width: 16-bit

Name:

Frame Number: 0

None

Pick Frame >>>

Symbol Frame >>>

Edit Frame >>>

Delete Frame

Insert Frame

☒ Scale to fit

Number of Colors: 2 Colors

Attributes >>>

OK


Cancel

Select the bitmaps for the frames to match the value in the registers, i.e. a bit will have two frames.

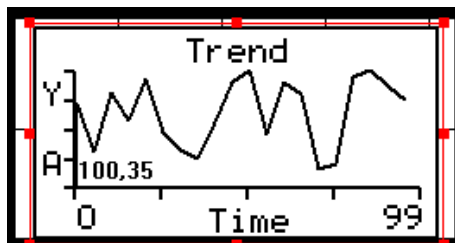
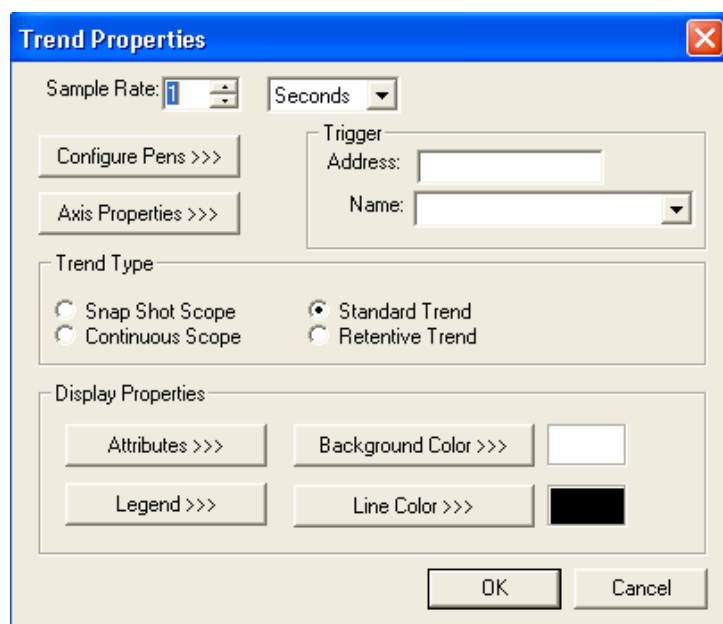
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Trend

The data trend tracks data over a period of time. To insert a trend, click on the icon  and click it into the screen.

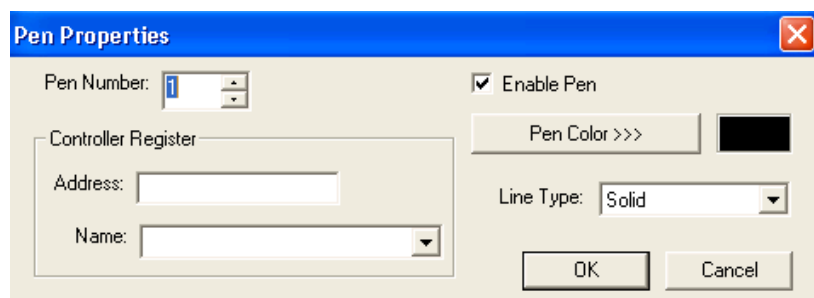
A data trend can track up to four registers over a set period of time.

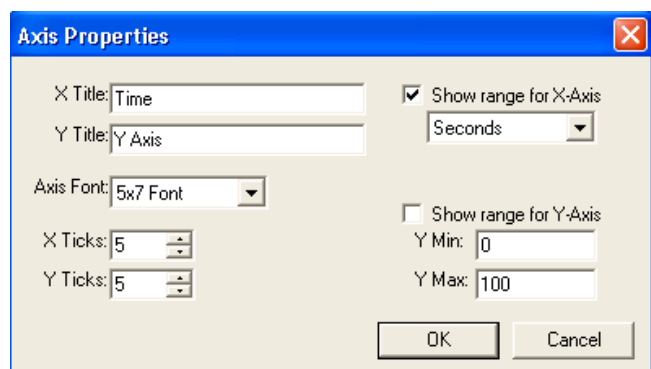
The sample can be in seconds, minutes or hours

The trigger address is required to activate the trend.

The trend can be 1 of 4 different types, see the help file for detailed information




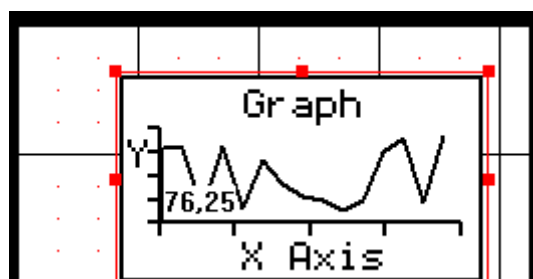
Up to 4 pens per trend can be edited. I.e. 4 data registers.



The axis titles can be edited to something more meaningful, and the scale can be adjusted

X – Y Data Graph

To insert an X – Y Graph, click on the icon  and click it into the screen. The X-Y graph represents variation of a variable in comparison to variations in one or more variables.



Graph Properties

Number of Values to Plot
(77)

Configure Pens >>>

Axis Properties >>>

Display Properties

Attributes >>>

Background Color >>>

Legend >>>

Line Color >>>

Trigger

Address:


Name:

OK

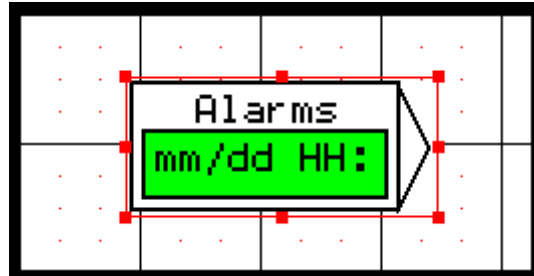
Cancel

The trigger address is required to reset and refresh the plotting process.

Alarms

To insert an Alarm Log, click on the icon  and place it into the screen. There are two types of alarm: Summary and History. Summary only displays the alarm when it is currently active and History logs the alarm. There are two steps to setting up the alarm, first the button needs to be set up then the log itself.

The alarm will display a message and time stamp it for when it occurred.



Type of alarm log

☒ Summary
 ☐ History

Details to display

☐ Display alarm button/icon only
☐ Unacked Only
☐ Allow Operator to Clear

List Format
 Font: 5x7 Font
☒ Date mm/dd
☒ Time HH:mm
☒ State (UNACK, ACK...)

Keypress Source
☒ Attach to nearest soft key
☐ Auxiliary Register
 Address:
 Name:
☐ Cursor Selectable
☐ Touch

Alarm Groups to Display

| | | | |
|---------------------------------------|---------------------------------------|--|--|
| <input checked="" type="checkbox"/> 1 | <input checked="" type="checkbox"/> 5 | <input checked="" type="checkbox"/> 9 | <input checked="" type="checkbox"/> 13 |
| <input checked="" type="checkbox"/> 2 | <input checked="" type="checkbox"/> 6 | <input checked="" type="checkbox"/> 10 | <input checked="" type="checkbox"/> 14 |
| <input checked="" type="checkbox"/> 3 | <input checked="" type="checkbox"/> 7 | <input checked="" type="checkbox"/> 11 | <input checked="" type="checkbox"/> 15 |
| <input checked="" type="checkbox"/> 4 | <input checked="" type="checkbox"/> 8 | <input checked="" type="checkbox"/> 12 | <input checked="" type="checkbox"/> 16 |

Display Properties

Attributes >>>

Background Color >>>

Legend >>>

Line Color >>>

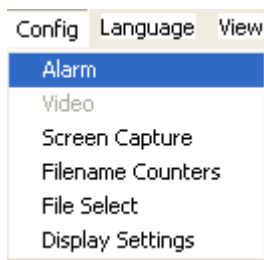
OK

Cancel

There can be up to 16 different alarm groups

Configure the Alarm Log

Select Alarm from the Config Menu drop down, to open the Alarm Log editor.



The alarm trigger can be 1 register or consecutive.

Choose what to display in the History log

Alarm Configuration

Alarm Trigger Block

Address: Max Numbers of Alarms:

Name:

Summary

☐ RTN implies ACK

History

☒ Log ACK
☒ Log CLR
☒ Log RTN

Alarm Point Configuration

| Number | Group | Identifier String |
|--------|-------|--------------------------|
| 1 | 1 | *** Undefined Alarm1 *** |
| 2 | 1 | *** Undefined Alarm2 *** |
| 3 | 1 | *** Undefined Alarm3 *** |
| 4 | 1 | *** Undefined Alarm4 *** |
| 5 | 1 | *** Undefined Alarm5 *** |

Copy
Paste
Edit

Summary List Text

Alarm:
 ACK/CLR:
 RTN:

Summary Button

UNACK:
 ACT:
 Empty:

History Button

Full:
 Not Empty:
 Empty:

OK Cancel

Edit Alarm Point Configuration


Identifier String:

Group:

OK Cancel

Alarm message to display and group related to.

Recipe Editor

To insert a Recipe Editor Object, click the icon  on to the screen.

A recipe can be created to store the values of variables for different batch quantities.

Recipe Table

| | | | |
|-------|----------------|------|------|
| | Whit brow fren | | |
| Flour | -### | -### | -### |
| Water | -### | -### | -### |
| Yeast | -### | -### | -### |

Ingredients

| Name | Format | Size(bits) |
|-------|----------------|------------|
| Flour | Signed Decimal | 16 |
| Water | Signed Decimal | 16 |
| Yeast | Signed Decimal | 16 |

Font: 5x7 Font

Batches

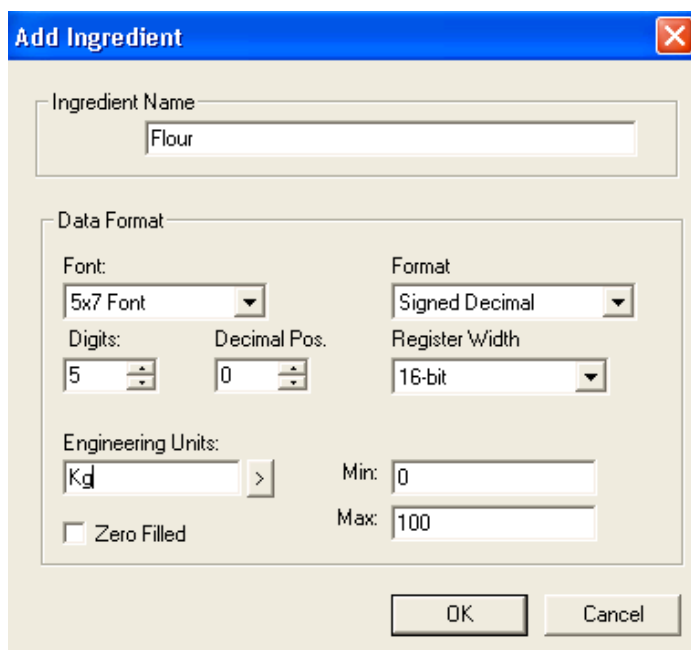
| Name | Start Register |
|--------------|----------------|
| White | %R0001 |
| brown | %R0004 |
| french stick | %R0008 |

Font: 5x7 Font

Display Properties

Add the ingredients table. These will be stored in consecutive registers.

Add the different batches, to store the different rates of ingredient quantities



Add Ingredient

Ingredient Name:

Data Format:

Font: Format:

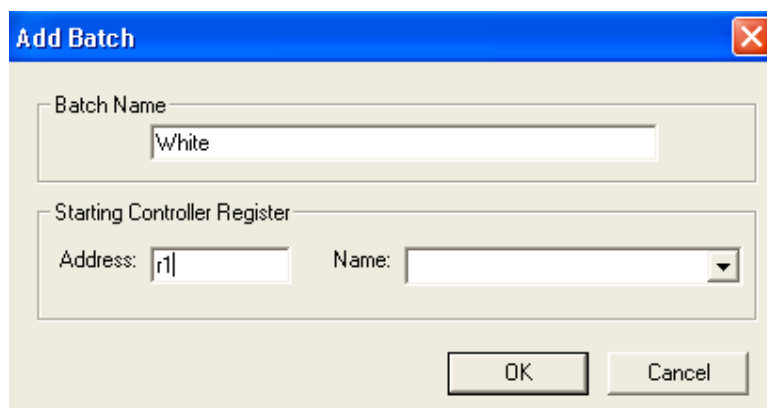
Digits: Decimal Pos.: Register Width:

Engineering Units: Min:

☐ Zero Filled Max:

OK Cancel

Set up the ingredient display and scales.



Add Batch

Batch Name:

Starting Controller Register:

Address: Name:

OK Cancel

Add the batch properties and storage register.

This recipe function can be used in conjunction with move function blocks, to move recipe data from one location to another.

Basic Operation



IMO Precision Controls Limited
1000 North Circular Road
Staples Corner, London
NW2 7JP United Kingdom
Tel: +44 (0)20 8452 6444
Fax: +44 (0)20 8450 2274
Email: imo@imopc.com
Web: www.imopc.com



IMO Jeambun Automation SAS
165 Rue Jean Jaures,
94700 Maisons Alfort
Paris, France
Tel: +33 (0)1 45 13 47 05
Fax: +33 (0)1 45 13 47 37
Email: info@imopc.fr
Web: www.imopc.fr



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schreiben. Sie bitte ein E-mail
an folgende Adresse:
imo@imopc.com



IMO Italia
Viale A. Volta 127/a
50131 Firenze, Italia
Tel: +39 800 783281
Fax: +39 800 783282
Email: info@imopc.it
Web: www.imopc.it



IMO Canada
Unit 10, Whitmore Road
Woodbridge, Ontario.
L4L 8G4 Canada
Tel: +1 905 265 9844
Fax: +1 905 265 1749
Email: imocanada@imopc.com



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Limit Switches
Photoelectric Switches
PLCs
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Limit Switches
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Proximity Switches
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Device programmers
LEDs & 7 seg. displays
PCB Terminal blocks
Relays - automotive
Relays - power
Relays - signal
Switches

