
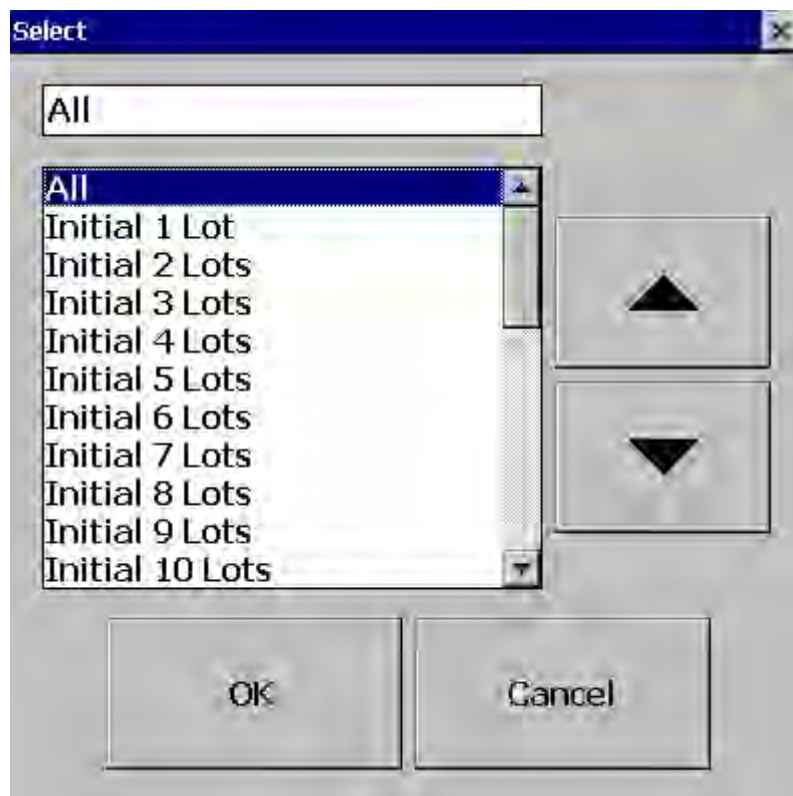




How to Dump Batch data to external USB memory

Press on  (Menu)-More then press on Dump

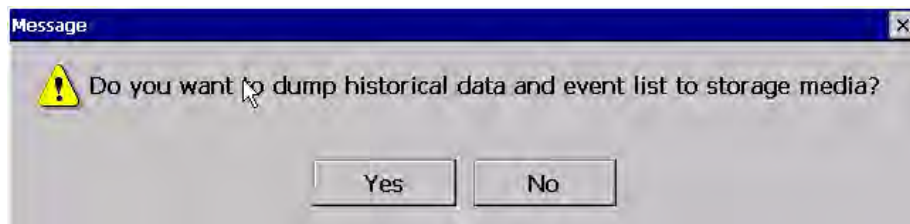


Select "All" or required lots and press "OK"

For ex: Batch1-1, Batch 1-2, Batch1-3 are available
Initial 1 Lot means, Batch1-1
Initial 2 Lots means, Batch1-1 and Batch1-2
Initial 3 Lots means, Batch1-1, Batch1-2 and Batch1-3

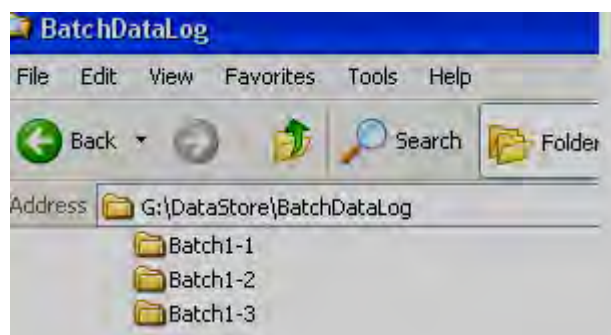
Note: Provision not available to dump only specific lot.

Please refer Instrument->Data Transfer-> Transfer and Remain



Press on “Yes” to dump data from internal memory to external SD Card or USB memory .

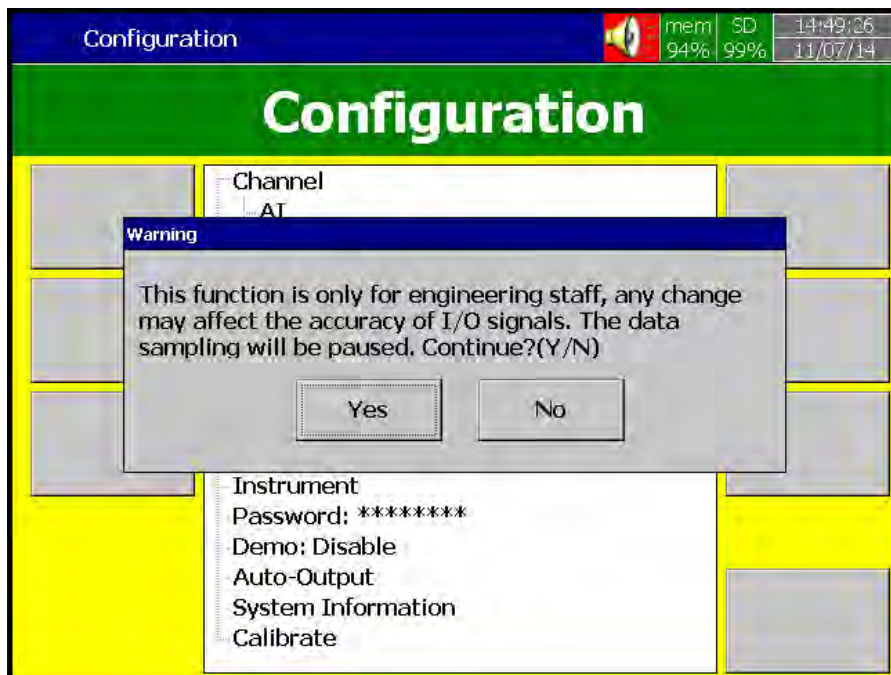
If you have 3 batches say Batch1-1, Batch1-2 and Batch1-3, then you can see three different folders in the external USB memory card after completing of dump



Please note that the data available in USB memory is in proprietary format to avoid any kind of tampering and you need PC software to view this data.

4.12 Calibrate

This function is used for calibrating Individual Analog channel.

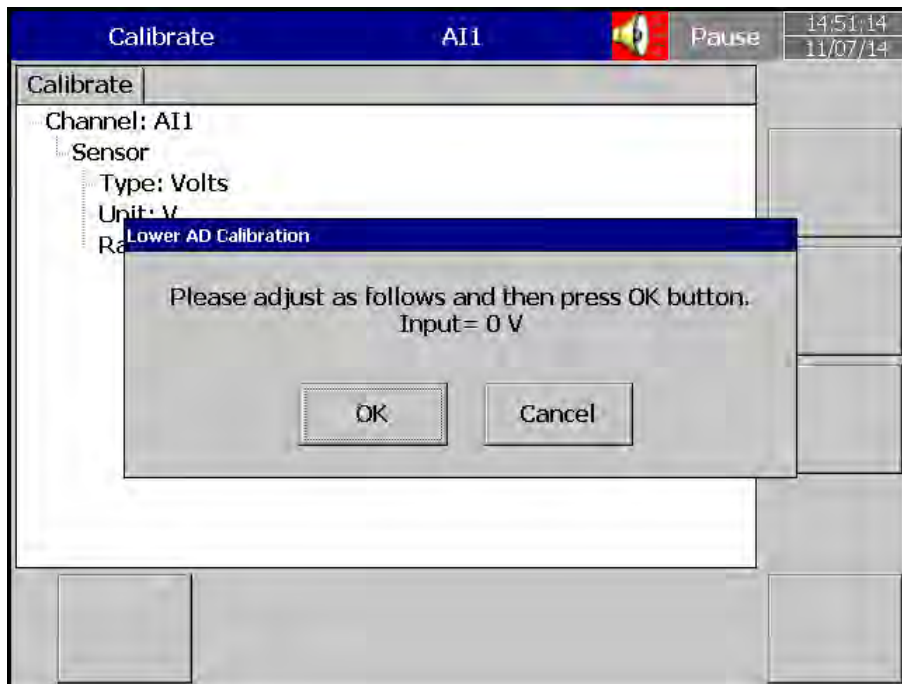


For Eg:

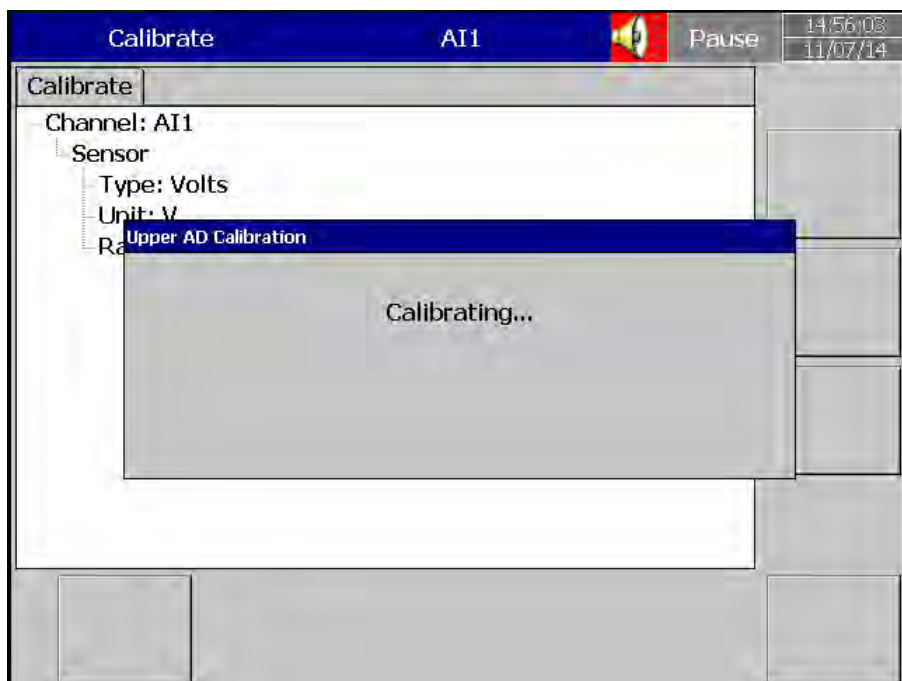
If you are calibrating an AI (0-5V). When you click Calibrate menu , User can see the below screen. Then please click calibrate as shown in the below screen



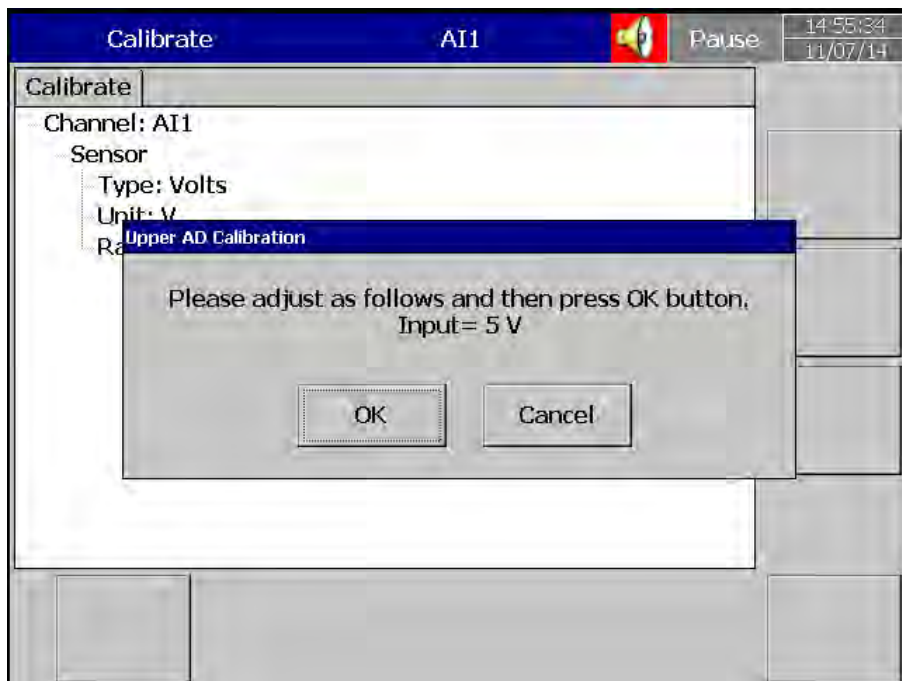
Please follow the next instruction, inject 0V in to the input which can be seen in below screen



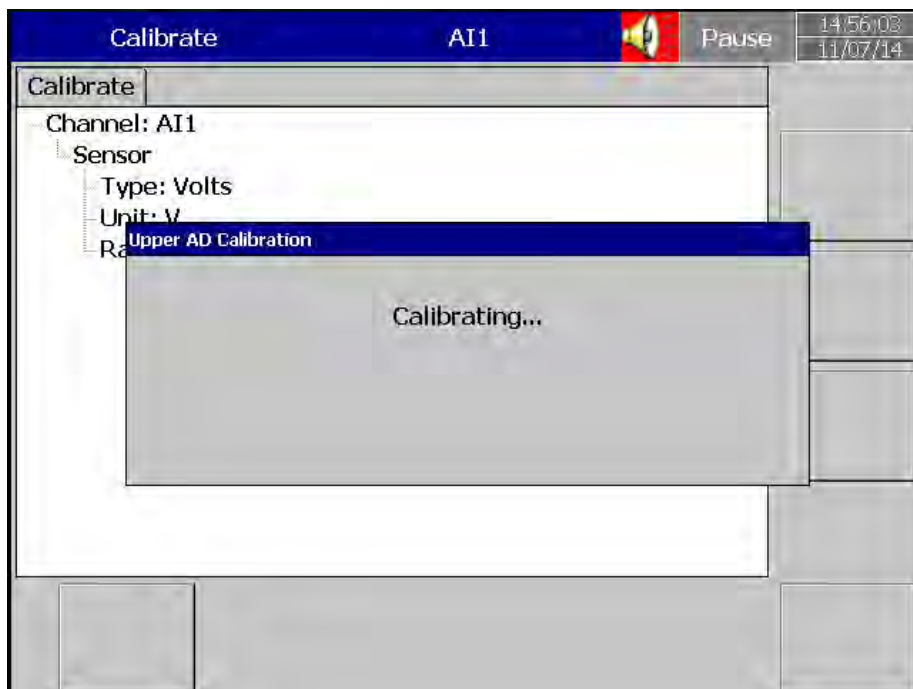
After you inject and select ok , User can see the below screen
Now follow the next instruction



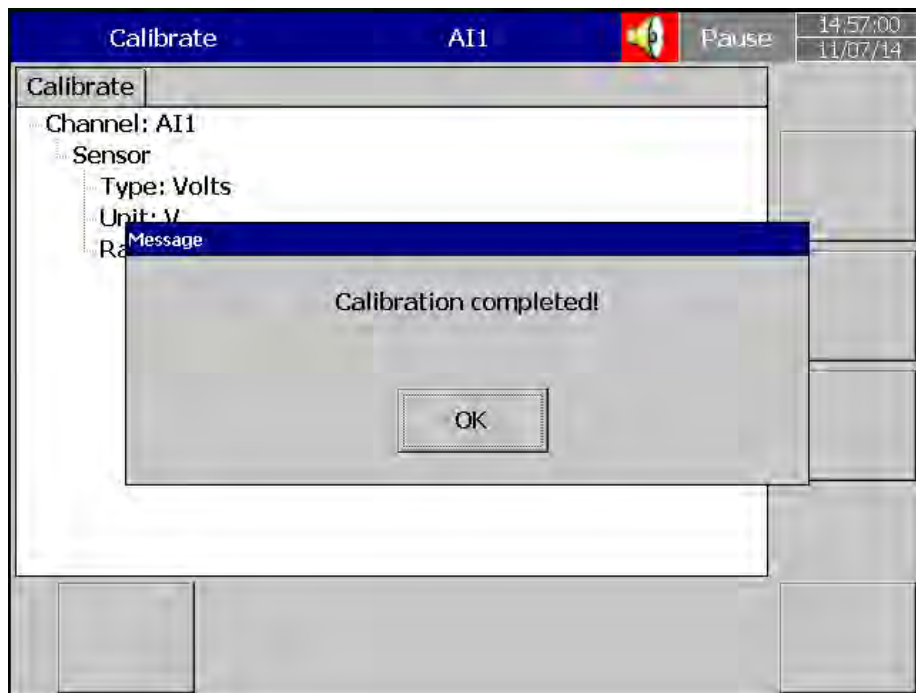
Now inject 5V and click ok



After you inject and select ok , user can see the below screen
Now follow the next instruction



When the calibration is done successfully , the user can see below screen.



5. PC BASED SOFTWARE

By using this software you can configure the settings of the Recorder offline and online. Trends of configured channels can be viewed in PC by using this .

This has got 4 Options:

5.1 Free Basic Software

5.1.1 Requirements

Hardware


Recommended hardware
PC with 3G GHz processor, 512 MB RAM
50GB free space in the hard disk.
Ethernet port, RJ 45 female/ USB port

5.1.2 Operating system

Windows based Operating systems, Windows XP, Windows 7, Windows 8 etc..
32 bit and 64 bit operating systems are supported

5.1.3 Software

Software installation

1. Install latest dotNet software from Microsoft website
2. Install the software
3.  Historical viewer icon desktop shortcut will be created after installation of software
4. Historical viewer can be accessed from the following path as well
5. Start-Programs-Historical viewer-Historical viewer.

The Software contains:



HIST_VIEWER is for monitoring historical trends and also for configuration of recorder parameters in PC.

Uninstall the free Software

This is to remove previous versions of free software from PC.

HIST_VIEWER



On how to set configuration of the Recorder from PC.

Start-Programs-Historical Viewer

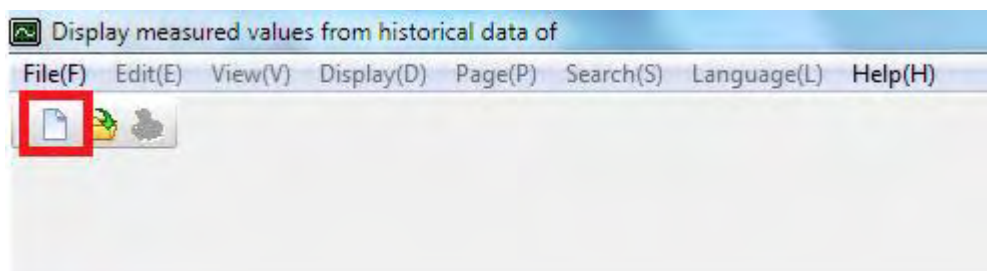
Tool bar



To open new project



To open existing project file

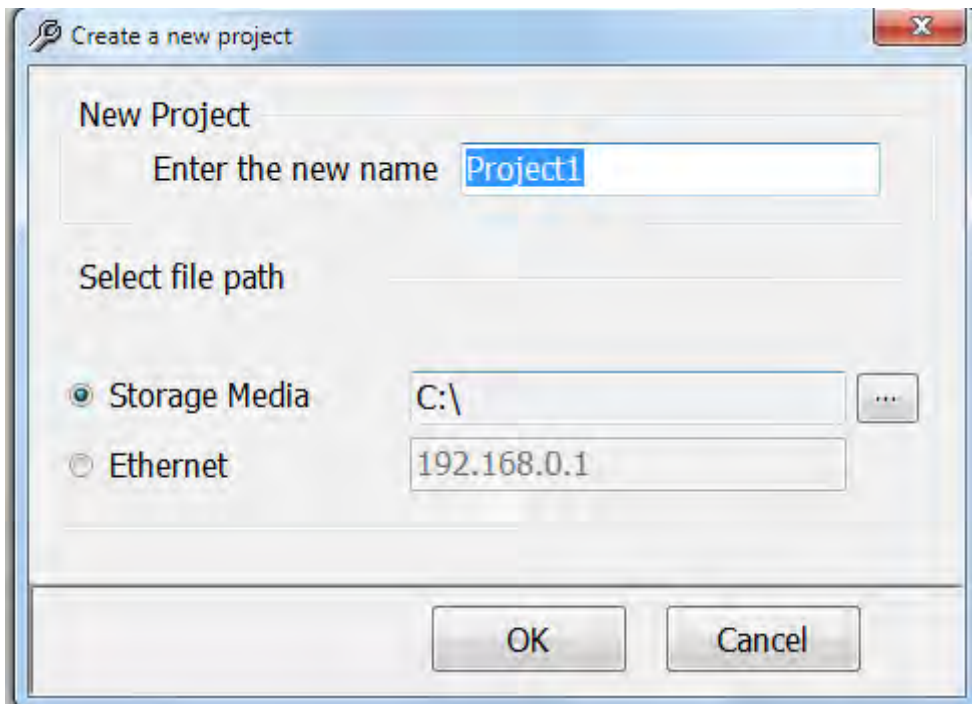


When the User clicks the icon new (shown in the above picture, squared), they can view the below menu, and accordingly they can select the Recorder (PR) and click ok.

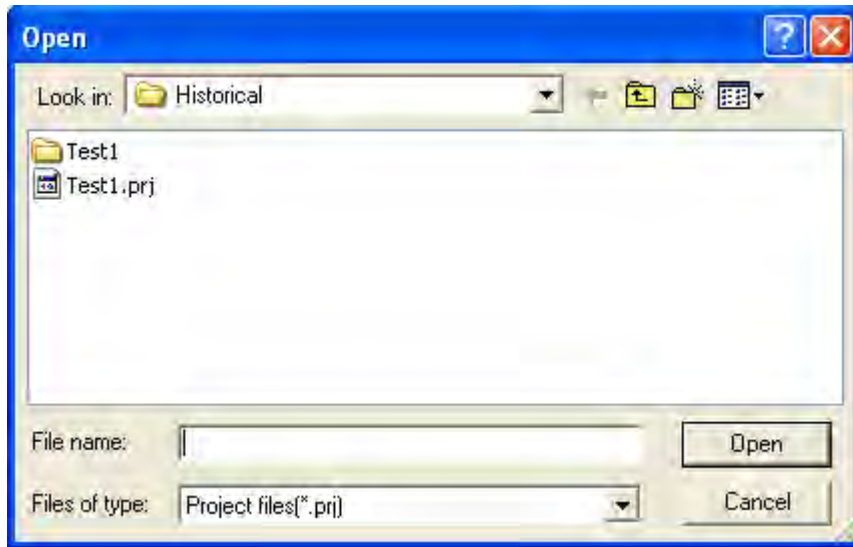


After that User has to give a name to the project (as shown in the below figure). If the user has already got the configuration in a SD card or USB , they can select the path accordingly.


If the User for the first time wants to configure the Recorder , then they have to select Ethernet, and enter the correct IP address of the Recorder.




If the User wants to open file in the software, already configured in the PC, then they can select *.prj file to open the project.



 To save the project file settings in PC

 Receive configuration (Storage Media/Ethernet)

 Send configuration (Storage Media/Ethernet)

If the software is already configured in the PC, then you can select *.prj file to open the project.

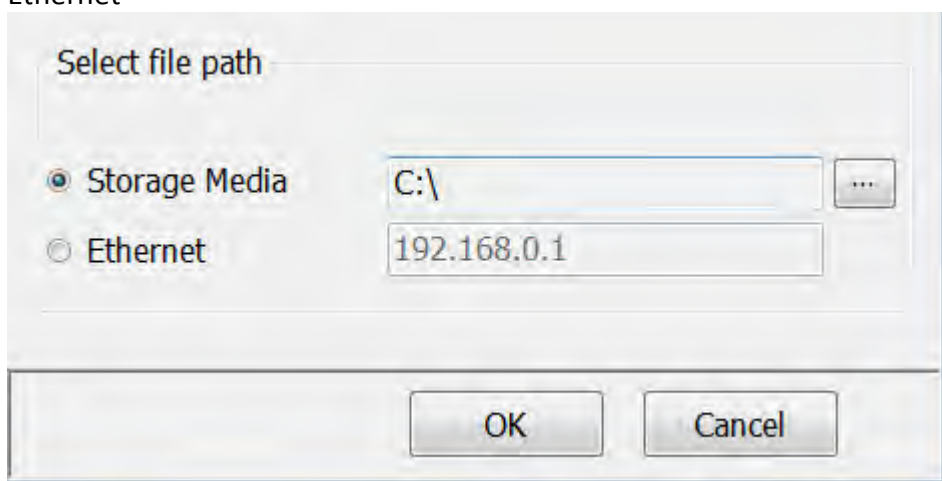
Bank 

This is used to select physical connection between the Recorder and PC.

two options are available:

Storage Media

Ethernet



Standard Ethernet port (RJ 45 female) shall be available at the Recorder. RS 232/RS485 shall be supplied as additional options.

5.1.4 Ethernet Configuration

It is possible to use PC software for data logging of Recorders connected on standard Ethernet. Maximum 1024 tags can be configured for data logging, archiving and analysis. The tags cover AI, Math, DI, DO, Counter & Totalizer.

1. Make sure that network adapter in PC is properly configured. IP address, Subnet mask and Gateway should be configured at the PC for using Observer II program. Please contact System administrator to set Unique IP address for the PC.
2. Install Observer II application software in PC. The software may be installed from setup available in the CD supplied as per the order.
3. Ethernet configuration at Recorder

Please refer to **4.5 Communication** for entering IP address, subnet mask and gateway address manually at the Recorder.

Gateway refers to a device on a network that sends local area traffic to other networks.

Subnet mask numbers help to define the relationship between host and rest of the network.

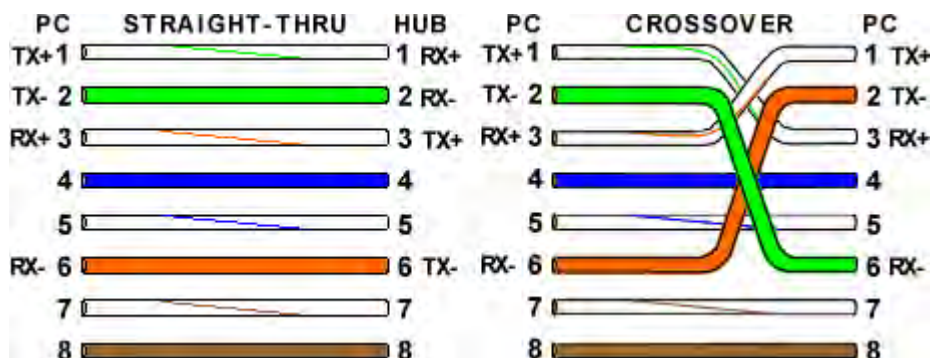
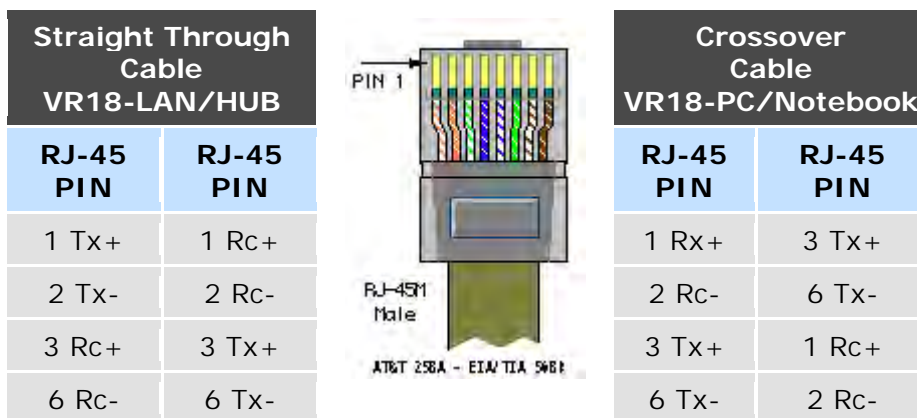
For every LAN, the Network administrator shall define Subnet mask and Gateway. Obtain subnet mask and gateway address for the LAN at the place where the Recorder to be connected. Enter these details at the Recorder manually using front buttons.

By default, subnet mask address: 255.255.255.0

By default, Gate way: 0.0.0.0

Allocate the Unique IP address to the Recorder and enter IP address at the Recorder manually. Contact System administrator for obtaining free IP address available at user LAN. Naming duplicate IP address may disable the communication between the Recorder and PC/LAN HUB.

- Local area network uses UTP cable for Ethernet connectivity. Maximum UTP cable distance between the Recorder and LAN/HUB/PC should be less than 100 Meters. If the distance is more than 100 Meters, additional LAN accessories/equipments may be required for increasing signal strength. Please contact network administrator for more information on extending LAN.
- Two different types of cables shall be used for connecting the Recorder on Ethernet as follows. For connecting the Recorder to LAN HUB, then standard straight-through Ethernet cable should be used. For connecting the Recorder to PC/Notebook directly, then crossover Ethernet cable should be used.



- Connect proper UTP Ethernet cable as per the requirements and observe the communication status between the Recorder and PC/LAN HUB at the LED's dedicated for the purpose near female RJ 45 connectors.

Recorder side

Link (Green LED)

Green lit: Cable connected between the Recorder and PC/LAN HUB

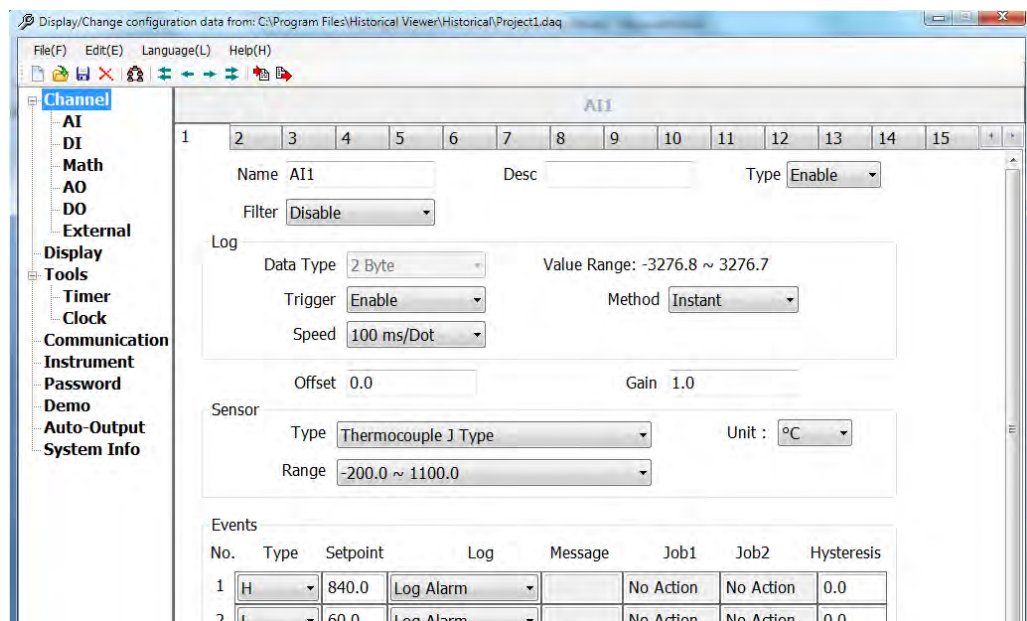
Green Off: No Link between the Recorder and PC/LAN HUB

Tx/Rx

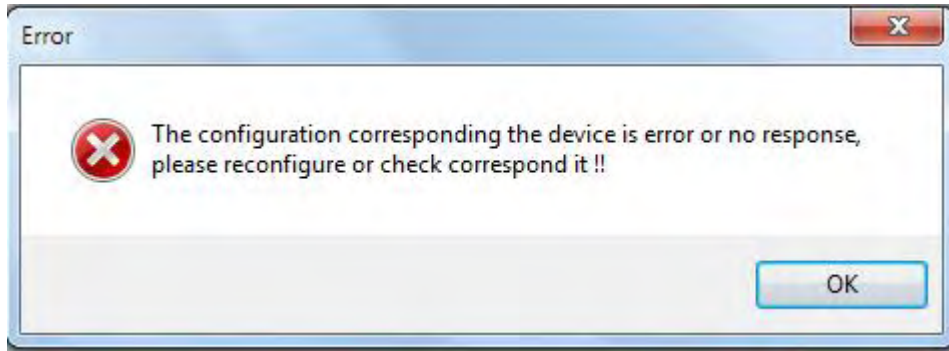
Orange Lit continuous: No cable connection

Orange slow blink: Communication established between Recorder & PC/LAN HUB

If the download is successful, the User can see the below screen.



If Upload is unsuccessful, it shown message as “No response from Recorder, connection fails”.



If this is the case, please check the Ethernet cable connections at both the Recorder and PC/LAN HUB side. Also make sure that green communication LED available for proper firm connection at RJ 45 connector.

If still communication is not established between the Recorder & PC, then once again check Subnet mask and gateway address at the Recorder & PC. Contact Network/ System administrator for proper Ethernet configuration of the Recorder & PC. Please note that Recorder should have unique IP address in the network and PC being used for Observer II shall have separated Unique IP address in the network.

5.2 Data Acquisition Studio Software

5.2.1 Requirements

Hardware

Recommended hardware
PC with 3G GHz processor, 512 MB RAM
50GB free space in the hard disk.
Ethernet port, RJ 45 female/ USB port



5.2.2 Operating system

Windows based Operating systems, Windows XP, Windows 7, Windows 8 etc..
32 bit and 64 bit operating systems are supported

5.2.3 Software

Software installation

6. Install latest dotNet software from Microsoft website
7. Install Data Acquisition Studio software

 Historical viewer icon and Real time viewer icon , desktop shortcut will be created after installation of software

Historical viewer can be accessed from the following path as well
Start-Programs-Historical viewer-Historical viewer

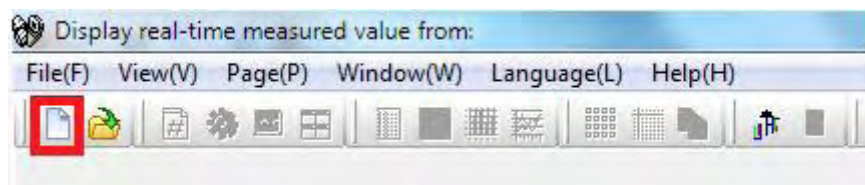
Real time viewer can be accessed from the following path as well
Start-Programs-Data Acquisition StudioStudio- Realtime viewer

5.2.4 How to configure Communication Bank

It is to set path for the data transfer. It's important to setup "Bank" properly at the firsthand to proceed further

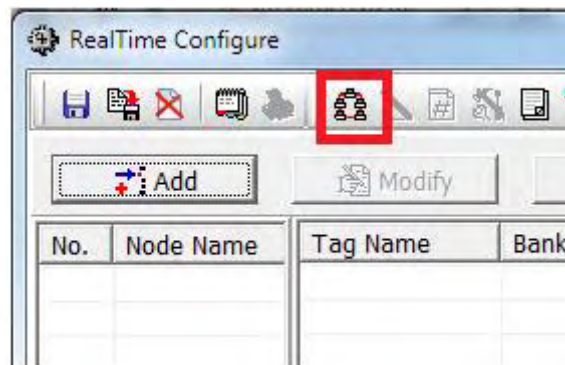
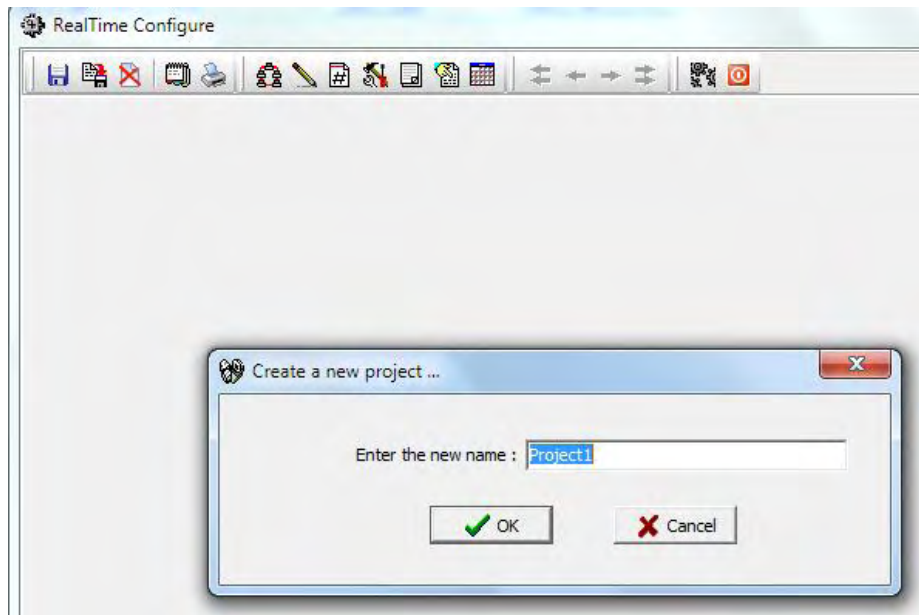
1. Open existing Project or create a new project from RealTime viewer using one of the following options


Start-Programs-Data Acquisition Studio-Realtime Viewer

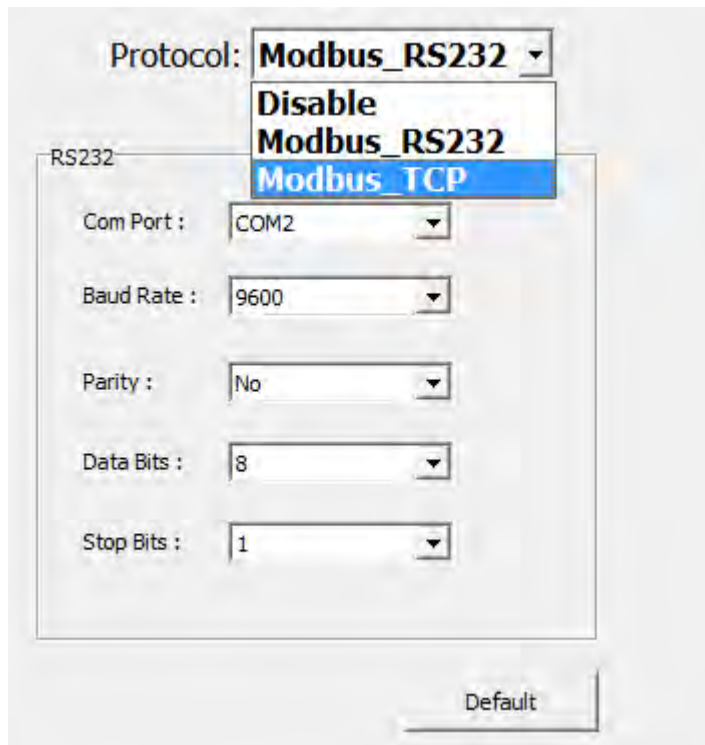


Click on new Project as shown in square icon in the above figure

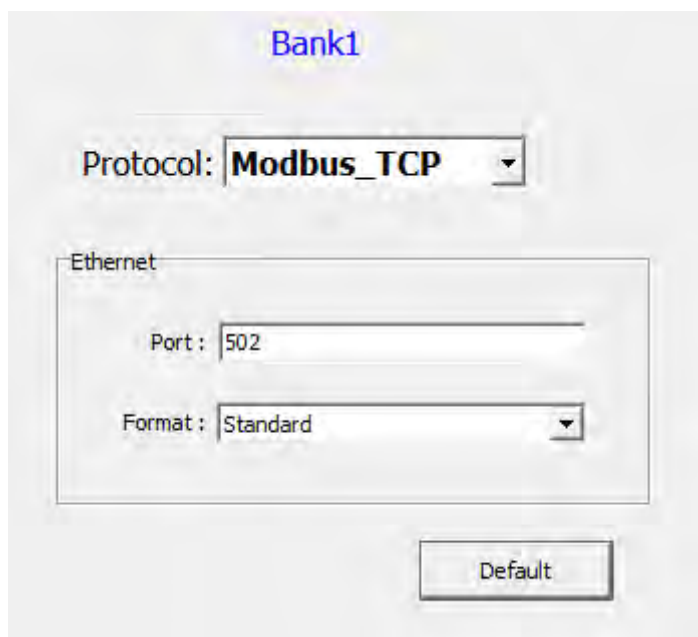
Then the User has give name to the project as shown in the below figure



Click at bank icon  to open communication bank configuration, and select the bank bank accordingly.



If Recorder is connected to Ethernet, then select Modbus_TCP as shown below



If Recorder is connected on Serial RS-232 or RS-485, then select Modbus_RS232 as shown below. Please select the com port , baud rate as in the instrument.

Bank1

Protocol: **Modbus_RS232** ▾

RS232

Com Port : COM2 ▾

Baud Rate : 9600 ▾

Parity : No ▾

Data Bits : 8 ▾

Stop Bits : 1 ▾

Default

5.2.5 How to configure Recorder

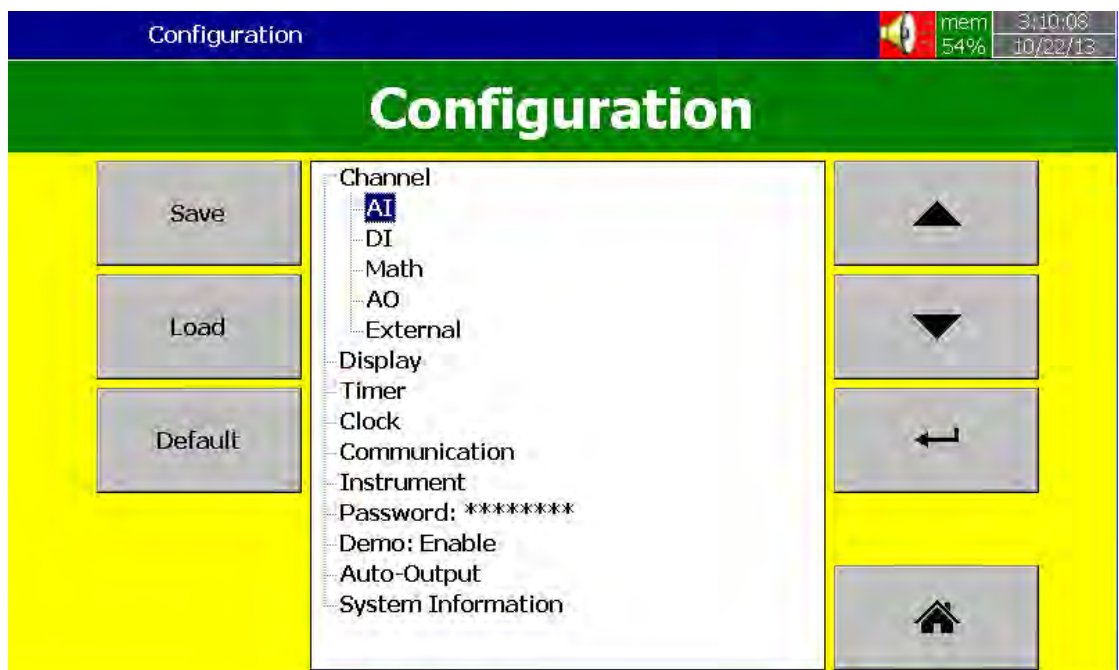
Three ways

Touch screen, Software and Storage Media.

5.2.6 Touch Screen

It is possible to configure Recorder directly from Touch screen

Press Menu-Config



Please refer chapter 4 for more details

5.2.7 Ethernet

The steps are given below

1. Connect Recorder to PC via cross over or straight Ethernet cable
2. Check IP address of your Computer. Make sure to set IP address of Recorder in same domain as your PC
For ex: IP address of your computer: 192.168.0.200
You may set IP address of Recorder as 192.168.0.11

3. Procedure to set IP address manually at Recorder
 Menu-More-Config-Communication, press "Enter"
 IP = Select User Define
 Select, IP address: 192.168.0.11 (Default) and press "Enter" to change if required
 Subnet mask: 255.255.255.0
 Default Gateway: 192.168.0.1
4. Use Ping from DOS prompt and check communication is ok or not. If no response, then, check cable or IP address at your computer or IP address at computer

```

C:\> Command Prompt
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

E:\Documents and Settings\Mahi>ping 192.168.0.11

Pinging 192.168.0.11 with 32 bytes of data:


Reply from 192.168.0.11: bytes=32 time<1ms TTL=128
Reply from 192.168.0.11: bytes=32 time<1ms TTL=128
Reply from 192.168.0.11: bytes=32 time<1ms TTL=128
Reply from 192.168.0.11: bytes=32 time<1ms TTL=128

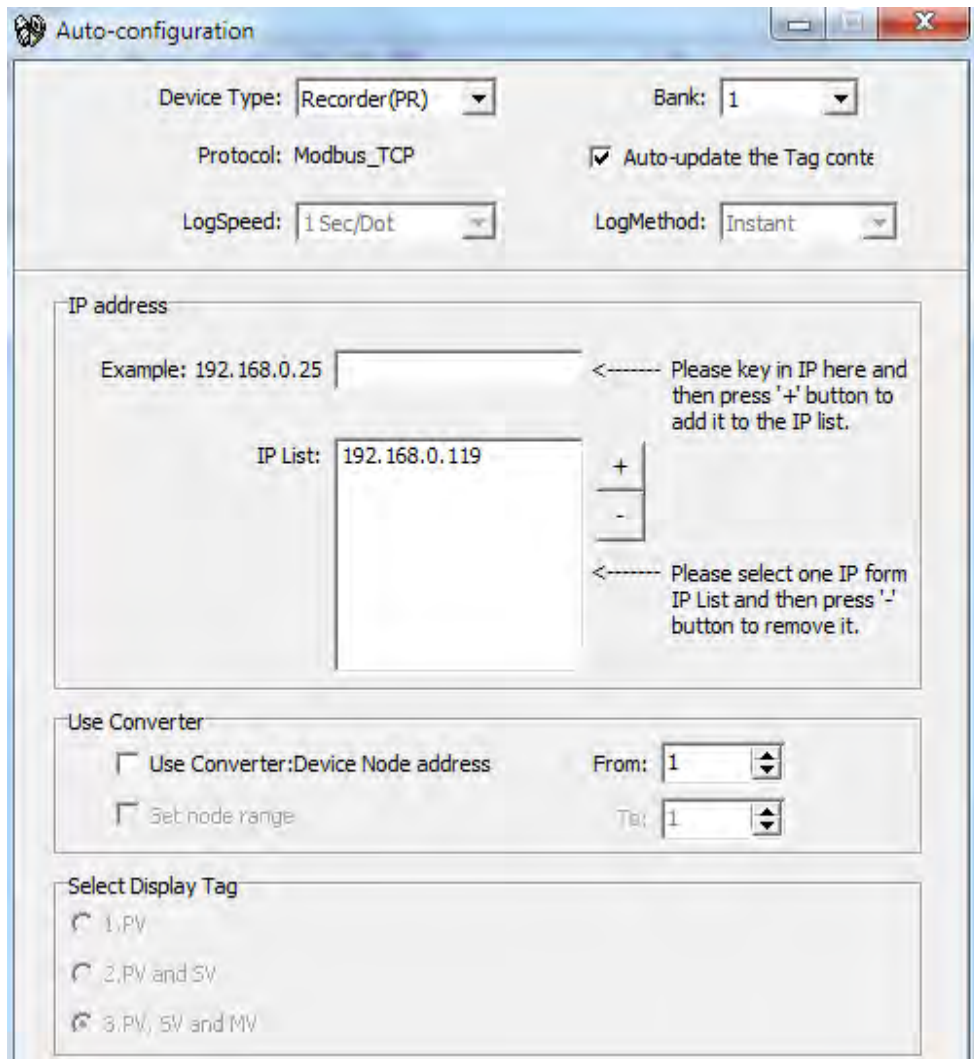
Ping statistics for 192.168.0.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

E:\Documents and Settings\Mahi>_

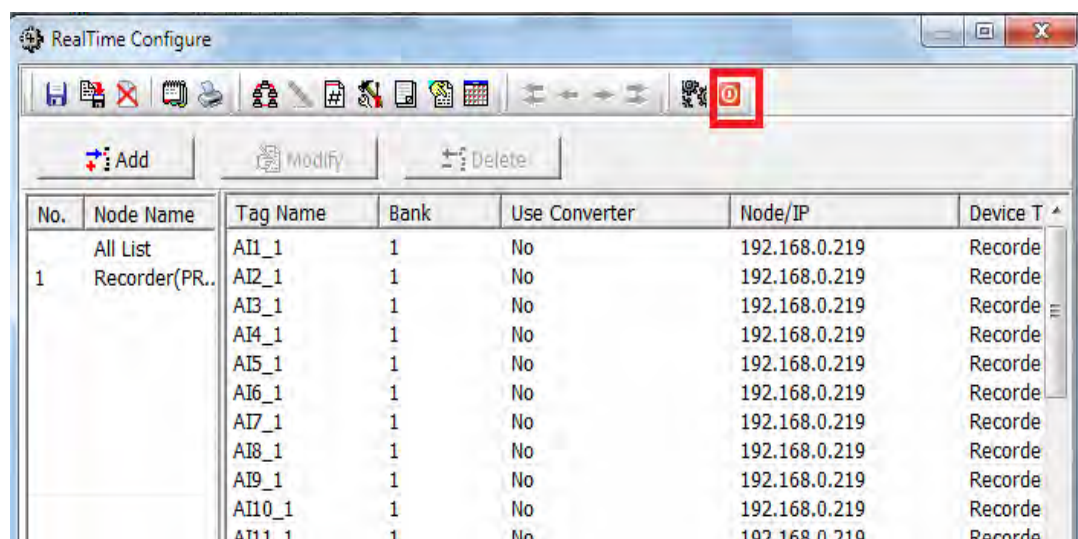
```

5. Double click at Realtime viewer icon  at desktop and follow on screen instructions to create a new project

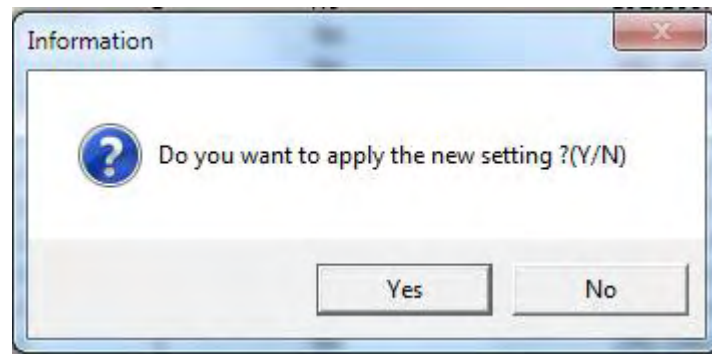
Note: Create a new project only if it's first time. Next time onwards, you can open  the saved project available in your computer



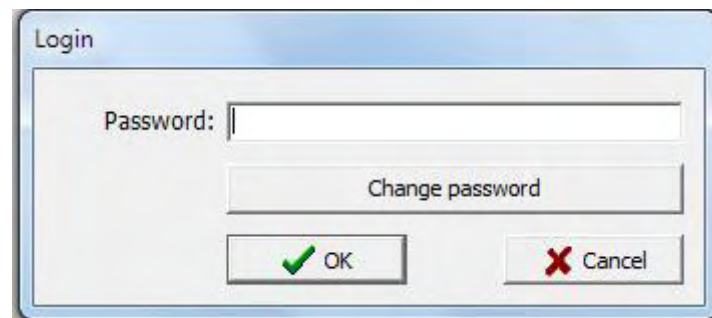
If the connection is working fine, the user can see the below figure. Upon clicking the icon shown you are accepting the configuration



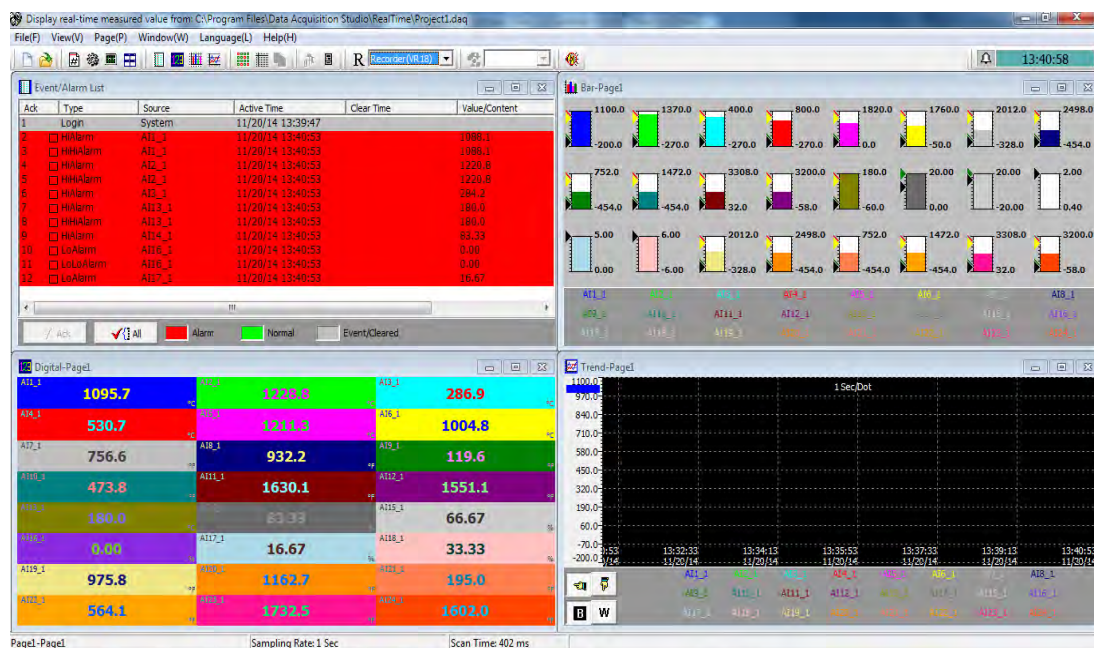
Click yes to apply the settings.



If you have set no password just click ok



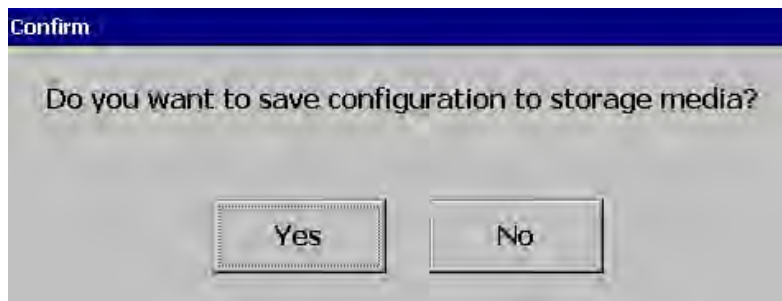
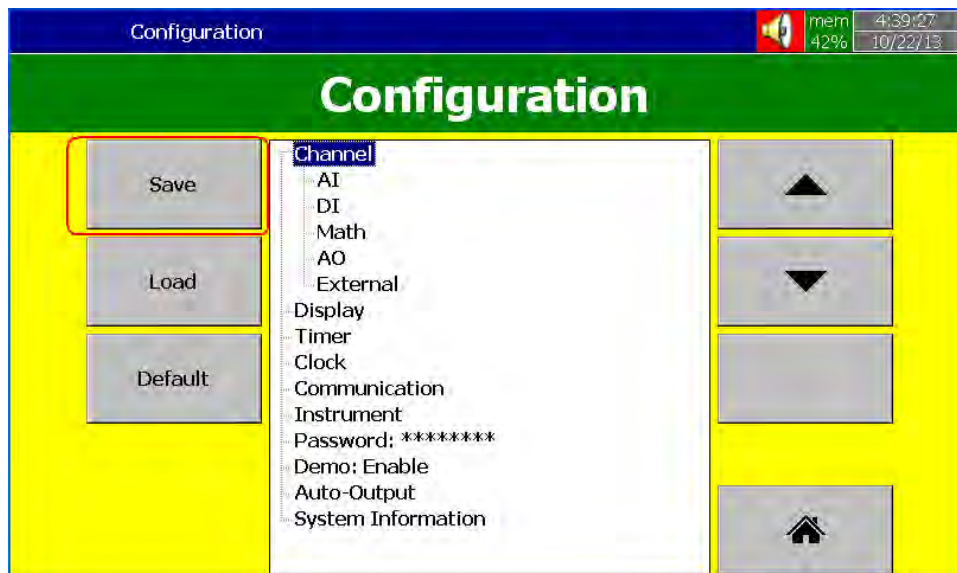
And after that you can see the below figure



5.2.8 Removable Media

The steps are given below

1. In Recorder, pl. insert empty SD card or USB stick
2. In Recorder, press “Menu-More-Config”. Press “Save”




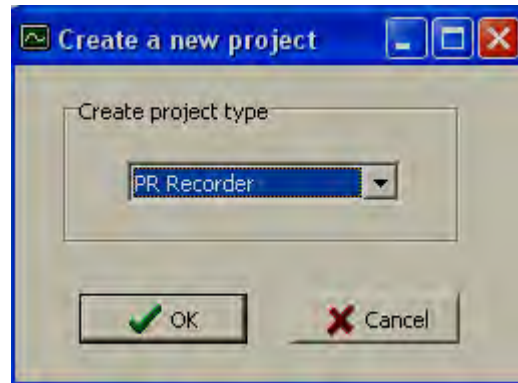
Press “Yes”. It will save Recorder configuration files into USB stick.

Check contents of Removable media. It should have following files



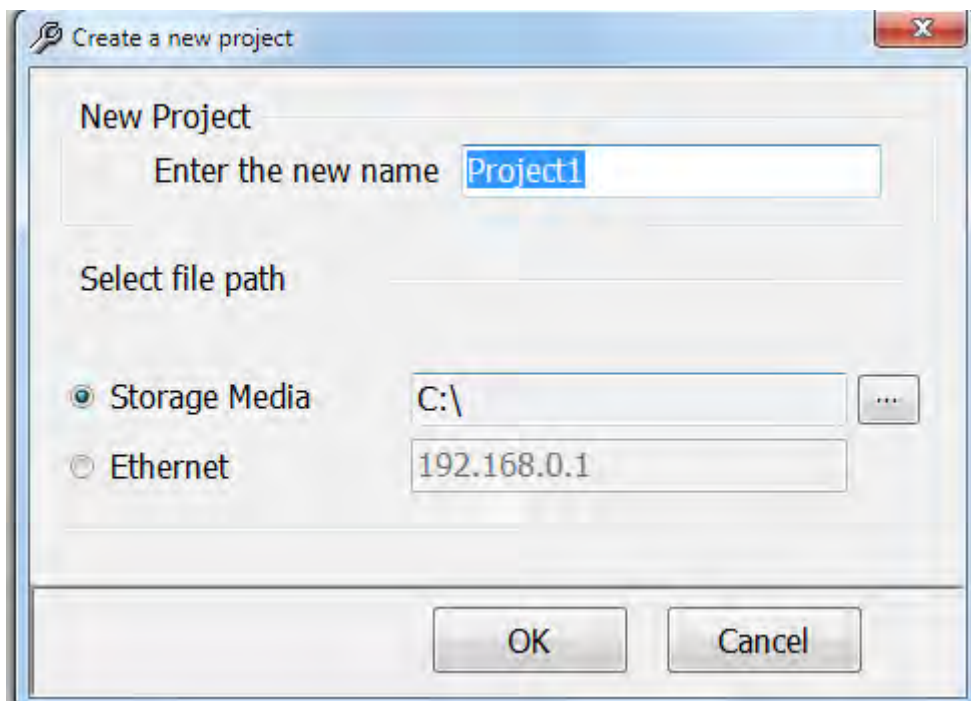
3. Remove Removable media from Recorder. Insert in PC

4. Double click at historical viewer icon  at desktop and follow on screen instructions to create a new project

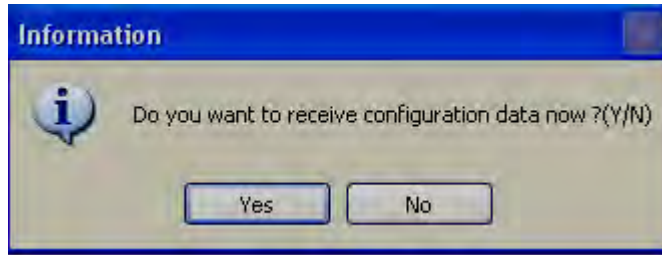


Select PR Recorder. Click "OK"

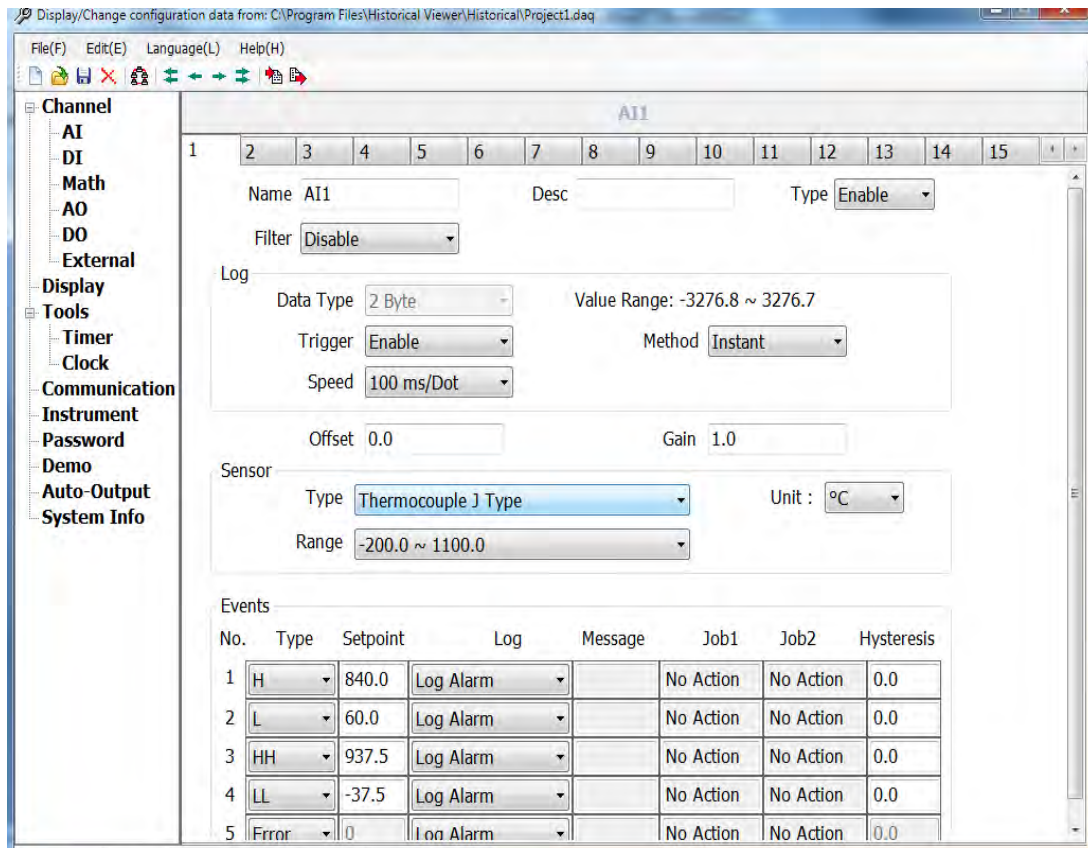
Note: Above screen appears first time if no project files available in Computer




Select Storage Media, path to the Recorder files in USB stick or SD card and click "OK"

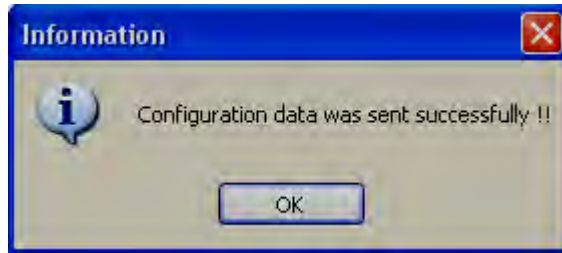


Click “Yes”. It will open Recorder configuration screen



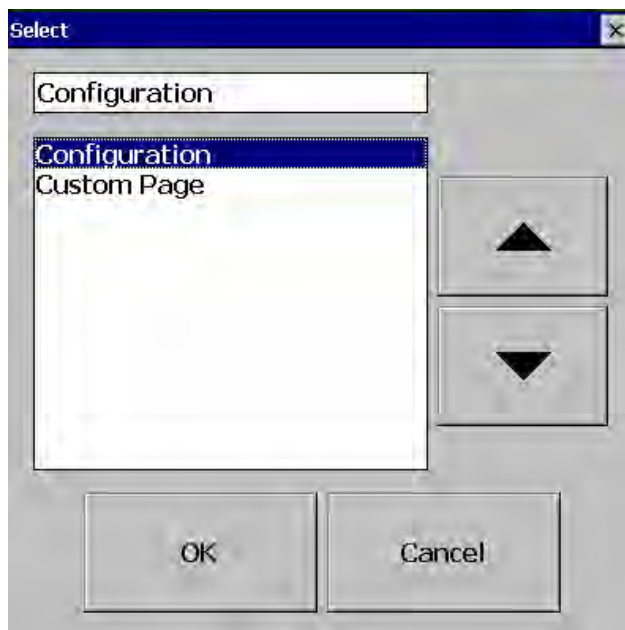
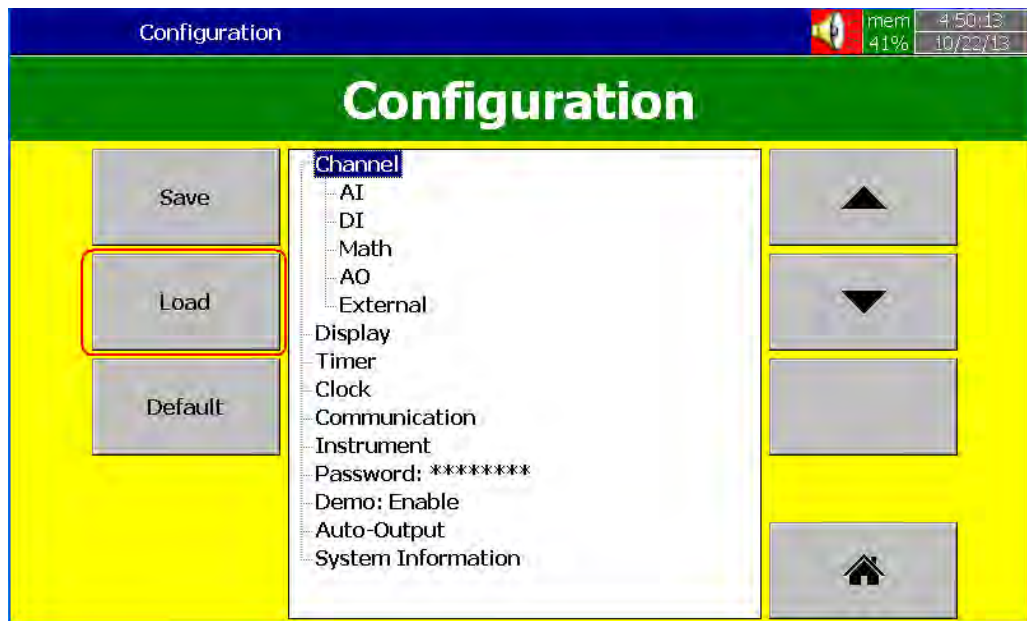
Note: The configuration screen is same as available directly in Recorder. Please refer Chapter 3 & 4 for more details about configuration

5. Do the required changes in the configuration. Click at Send configuration icon 

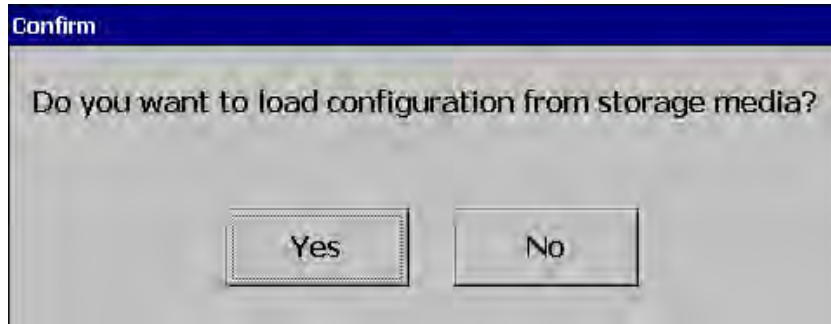


6. Now, remove Removable media from PC. Insert it into the Recorder. In Recorder, press "Menu-More-Config"

Press "Load"



Press "OK"



Press "Yes"

5.2.9 Configuration

Please refer Chapter 4 for full details related to configuration

5.2.9.1 Analog Input

The screenshot shows the configuration interface for Analog Input (AI1). On the left is a navigation tree with categories: Channel, DI, Math, AO, DO, External, Display, Tools, Timer, Clock, Communication, Instrument, Password, Demo, Auto-Output, and System Info. The main area is titled "AI1" and contains the following settings:

- Filter:** Disable
- Log:** Data Type: 2 Byte, Value Range: -3276.8 ~ 3276.7, Trigger: Enable, Method: Instant, Speed: 100 ms/Dot
- Sensor:** Offset: 0.0, Gain: 1.0, Type: Thermocouple J Type, Unit: °C, Range: -200.0 ~ 1100.0
- Events:** A table with 5 rows and 8 columns: No., Type, Setpoint, Log, Message, Job1, Job2, Hysteresis.

No.	Type	Setpoint	Log	Message	Job1	Job2	Hysteresis
1	H	840.0	Log Alarm		No Action	No Action	0.0
2	L	60.0	Log Alarm		No Action	No Action	0.0
3	HH	937.5	Log Alarm		No Action	No Action	0.0
4	LL	-37.5	Log Alarm		No Action	No Action	0.0
5	Error	0.0	Log Alarm		No Action	No Action	0.0

5.2.9.2 Digital Input

Channel: AI, **DI**, Math, AO, External, Display, Tools, Communicati, Instrument, Password, Demo, Auto-Output, System Info

DI1

1 2 3 4

Name: DI1
 Desc: Tank level high
 Type: Logic Level

Events

No.	Type	Log	Message	Job1	Job2
1	Disab	No Action		No Action	No Action
2	Disab	No Action		No Action	No Action

5.2.9.3 Math channel

Channel: AI, DI, **Math**, AO, External, Display, Tools, Communicati, Instrument, Password, Demo, Auto-Output, System Info

Math1

1 2 3 4 5 6 7 8 9 10 11 12

Name: Math1
 Desc: Totalizer 6
 Type: Math

Log

Data Type: 4 Byte
 Value Range: -3.4E+38 ~ 3.4E+38
 Trigger: Enable
 Method: Instant
 Speed: 100 ms/Dot

Expression: $(AI1+AI2)/2$

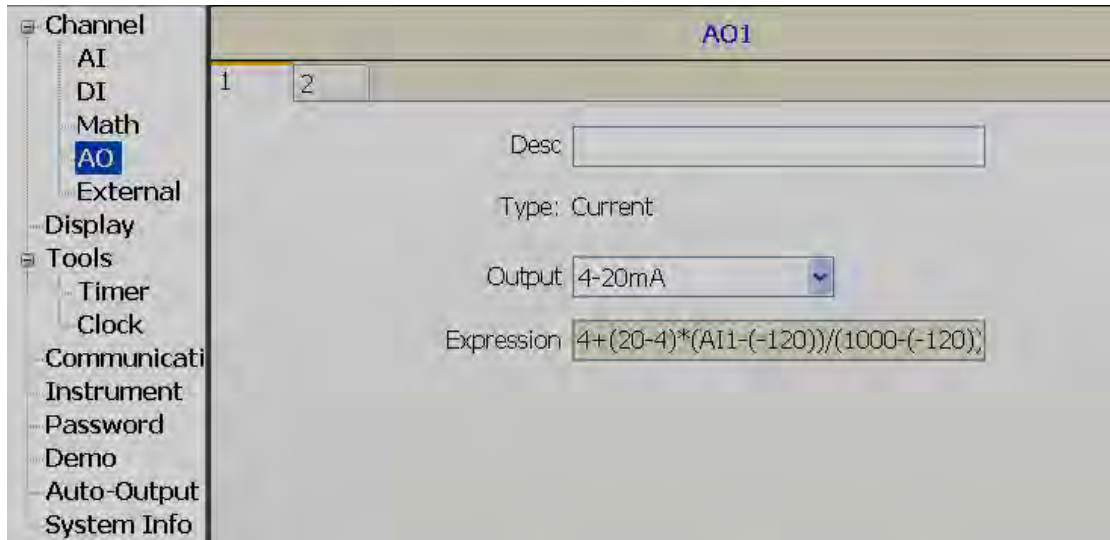
Scale

Unit:
 Transformation: Value
 Decimal: 0
 Table: Point 1 to 2
 Range: 0 ~ 10

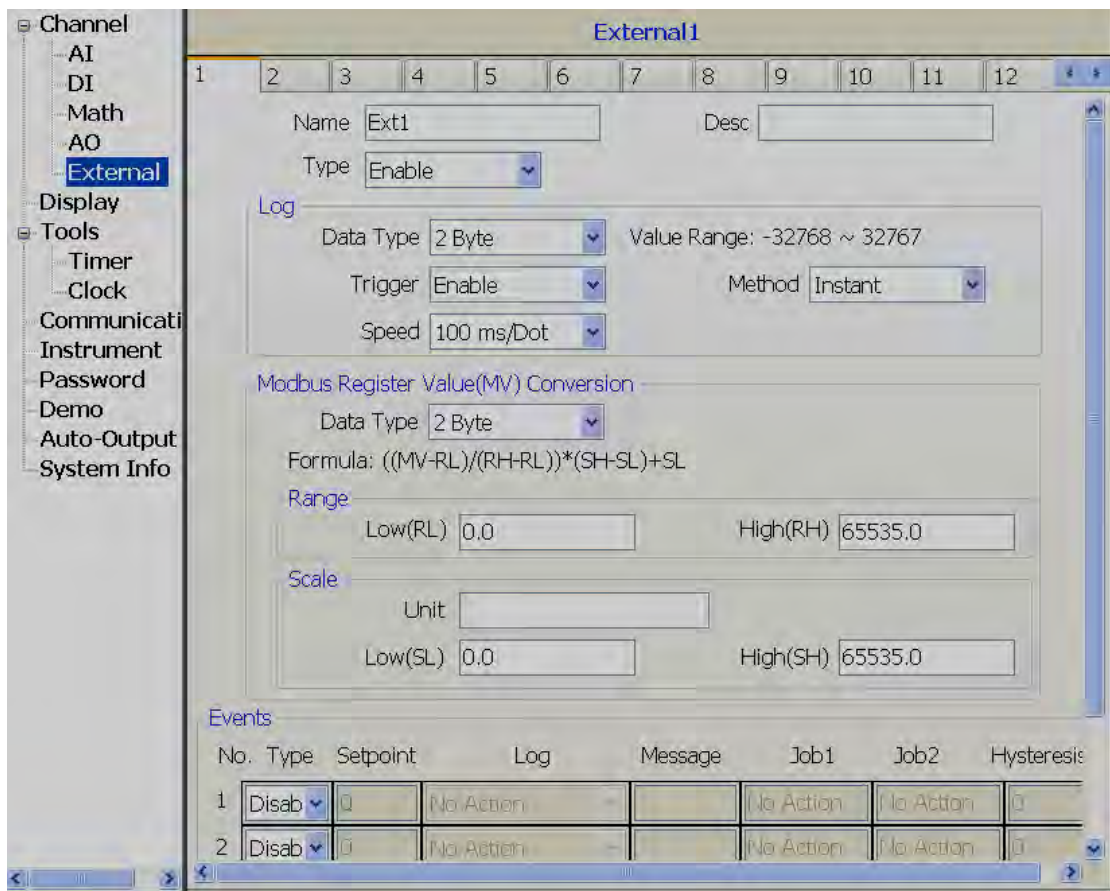
Events

No.	Type	Setpoint	Log	Message	Job1	Job2	Hysteresis
1	H	0	No Action		No Action	No Action	0
2	Disab	0	No Action		No Action	No Action	0
3	Disab	0	No Action		No Action	No Action	0
4	Disab	0	No Action		No Action	No Action	0
5	Disab	0	No Action		No Action	No Action	0

5.2.9.4 Analog Output



5.2.9.5 External Channel



5.2.9.6 Display

Display1

Name: Page1 Mode: Trend Direction: Horizontal

Speed: 1 Sec/Dot Background: Black

No.	Channel	Color	Width	Display Low	Display High
1	AI1	Blue	1	-120.0	1000.0
2	AI2	Lime	1	-200.0	1370.0
3	AI3	Cyan	1	-250.0	400.0
4	AI4	Red	1	-100.0	900.0
5	AI5	Magenta	1	0.0	1820.0
6	AI6	Yellow	1	0.0	1767.8
7	AI7	Gray	1	0.0	1767.8
8	AI8	Dark Blue	1	-250.0	1300.0

Status Bar

Type: Disable

1. Disable 2. Disable 3. Disable 4. Disable

5. Disable 6. Disable 7. Disable 8. Disable

5.2.9.7 Timer

Timer1

Type: Daily Action: Enable

Time

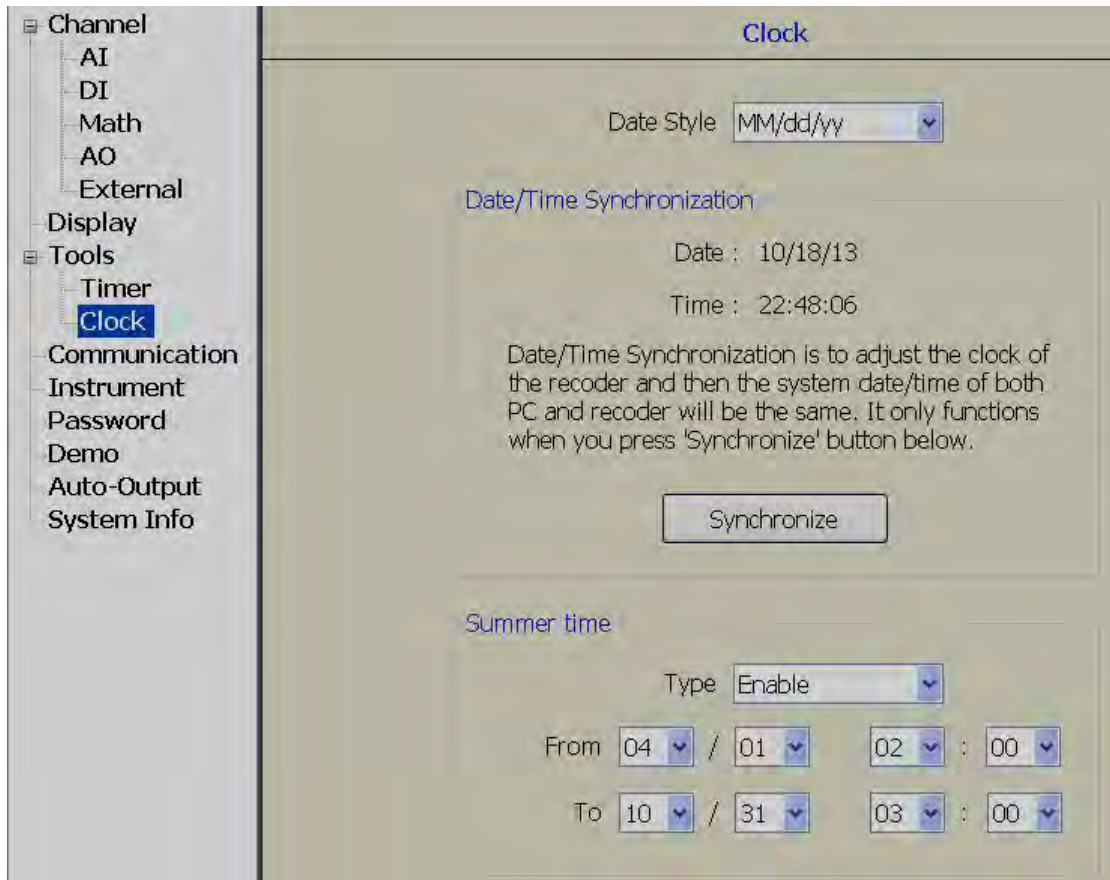
Day: 1 Hour: 8 Min: 0 Sec: 1

Events

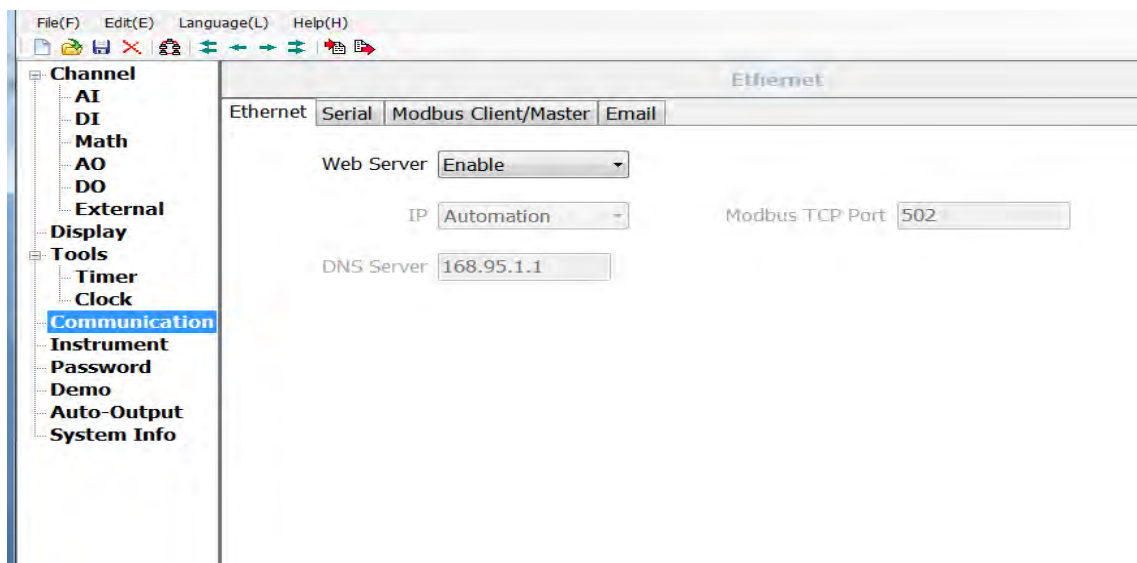
Job1: Print Report List

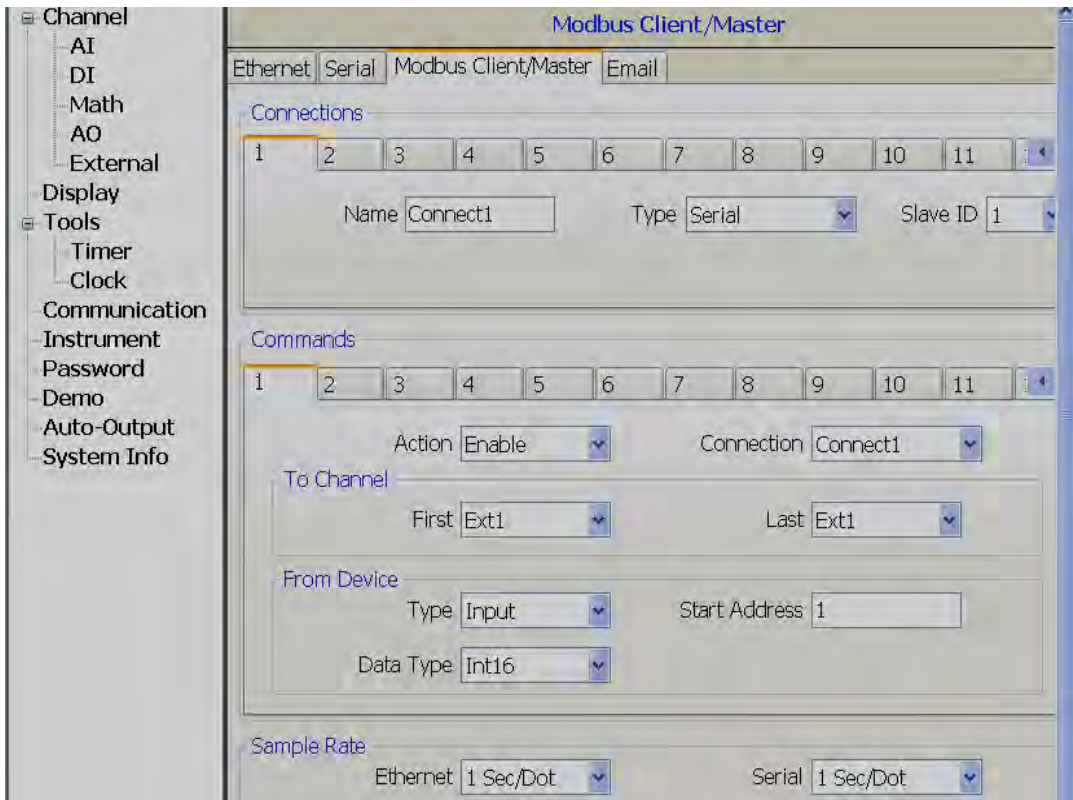
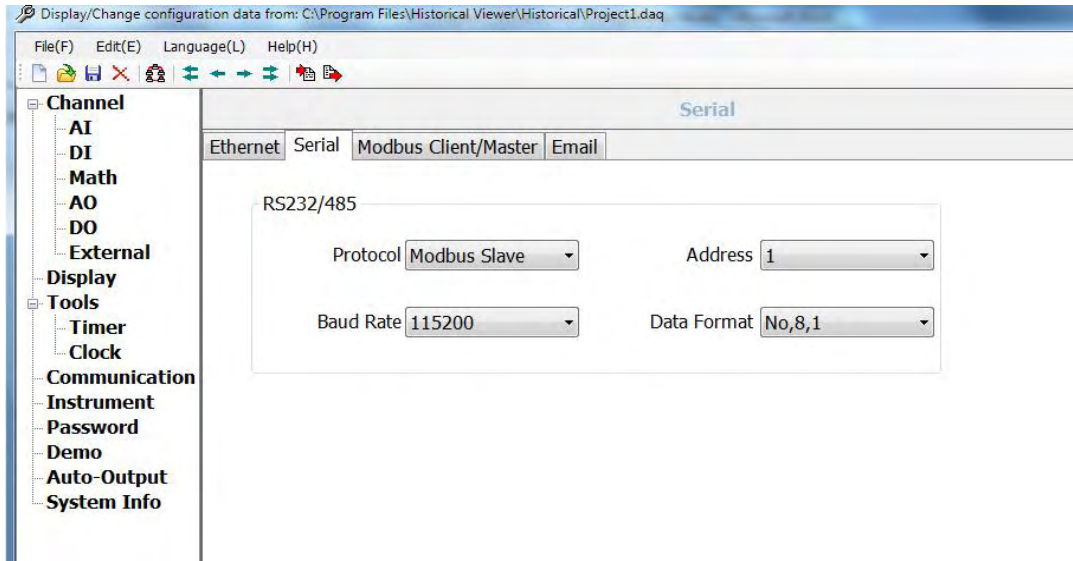
Job2: No Action

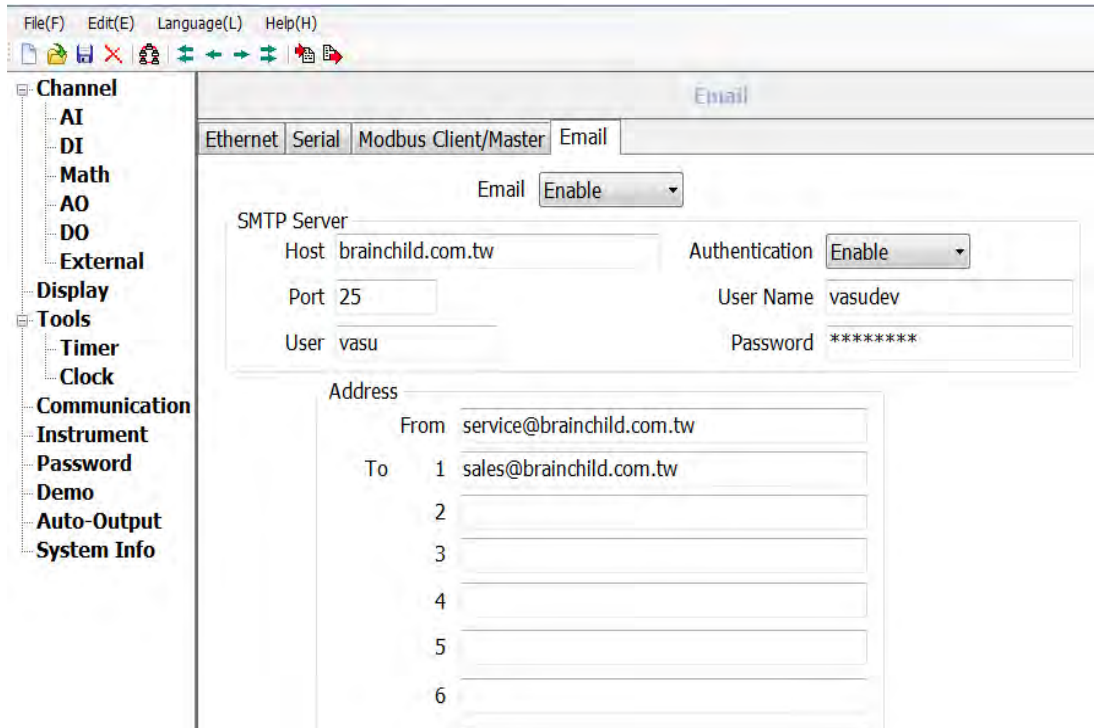
5.2.9.8 Clock



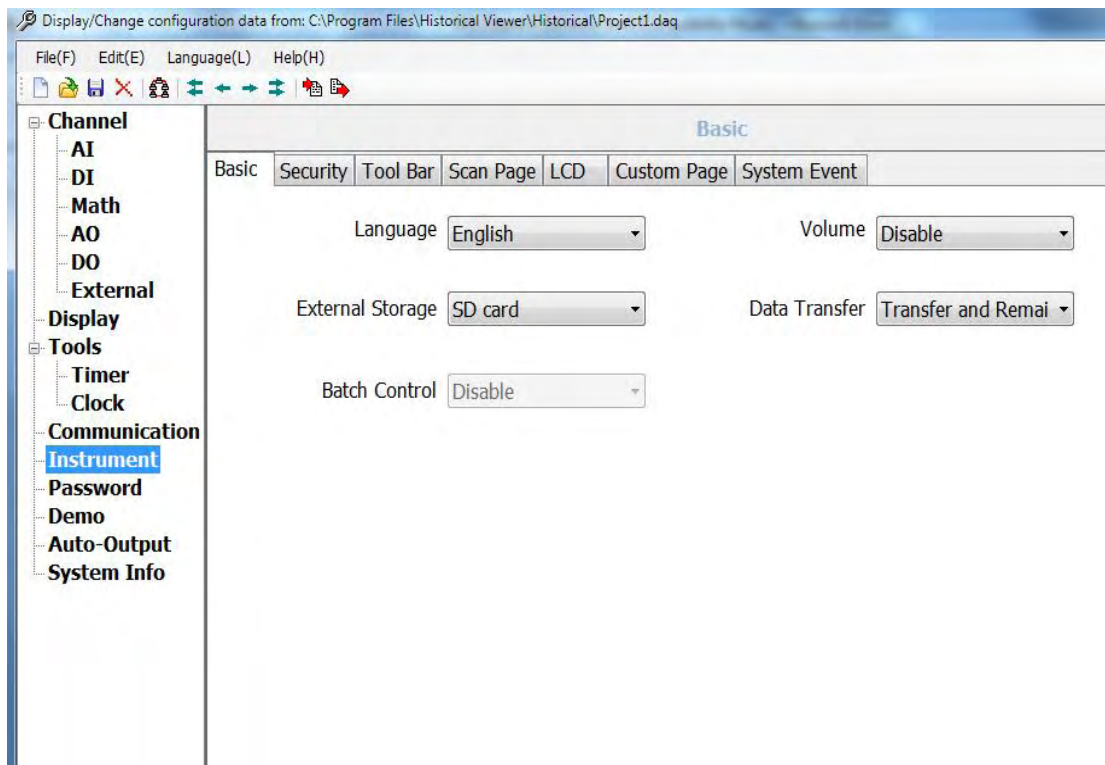
5.2.9.9 Communication

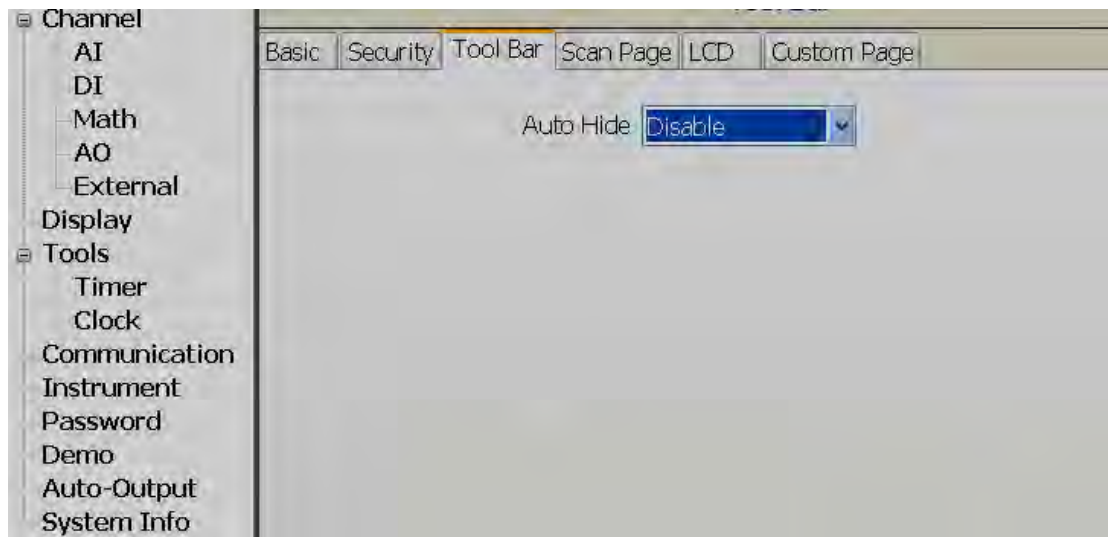
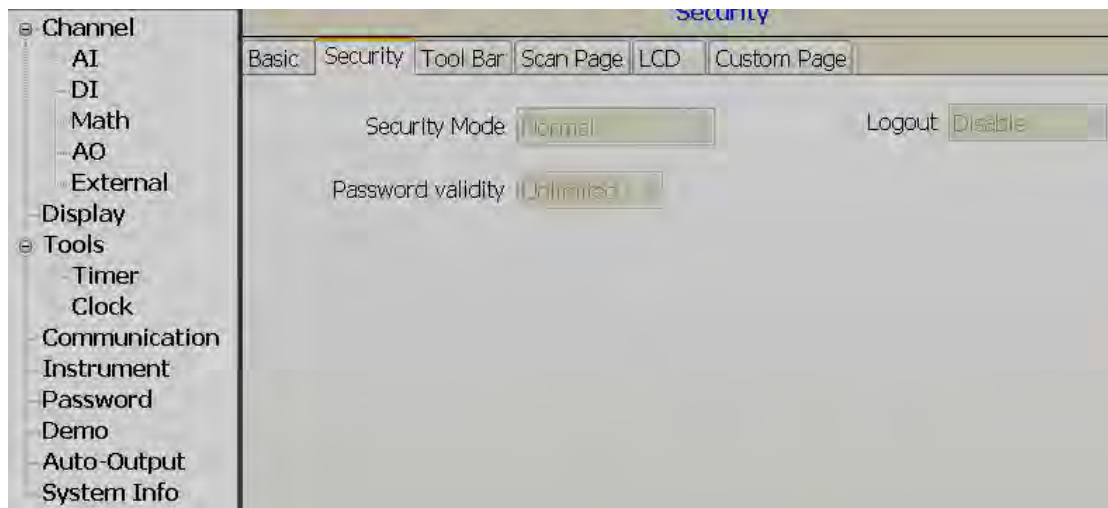


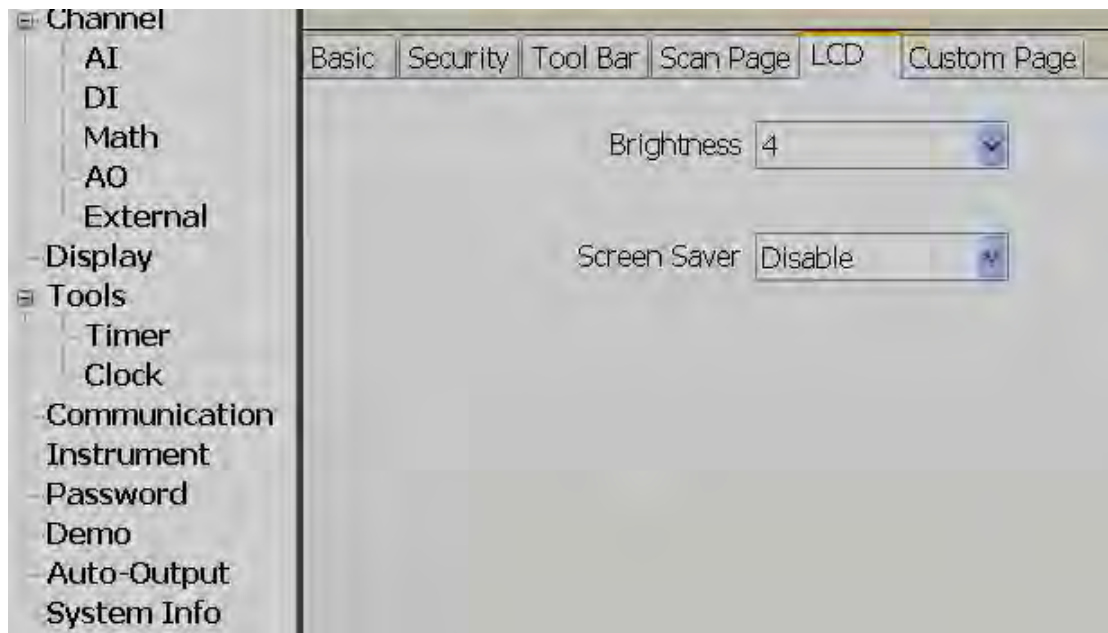
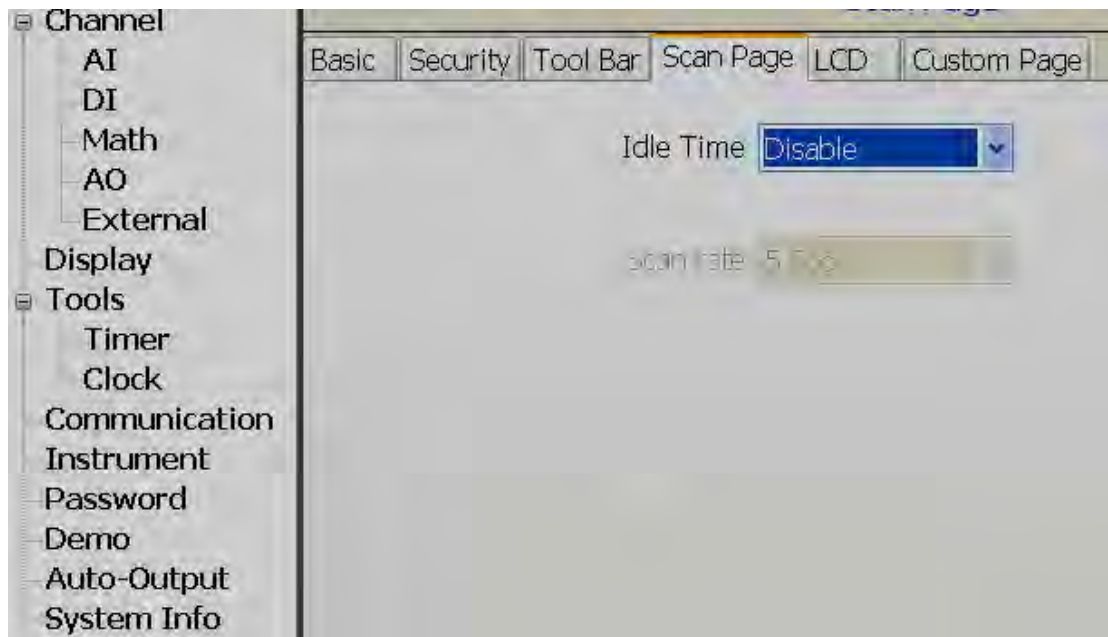


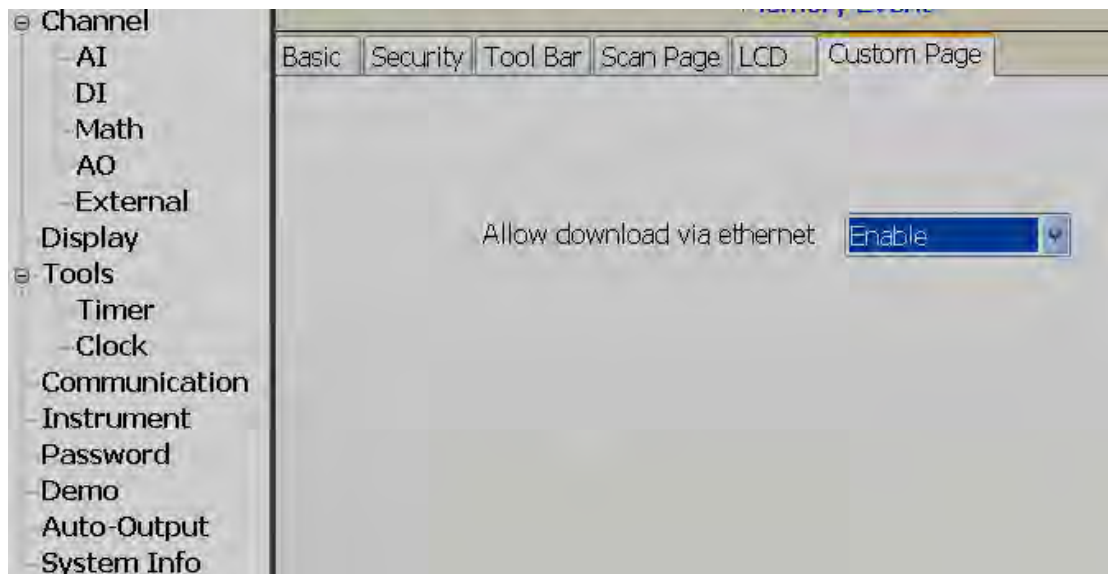


5.2.9.10 Instrument

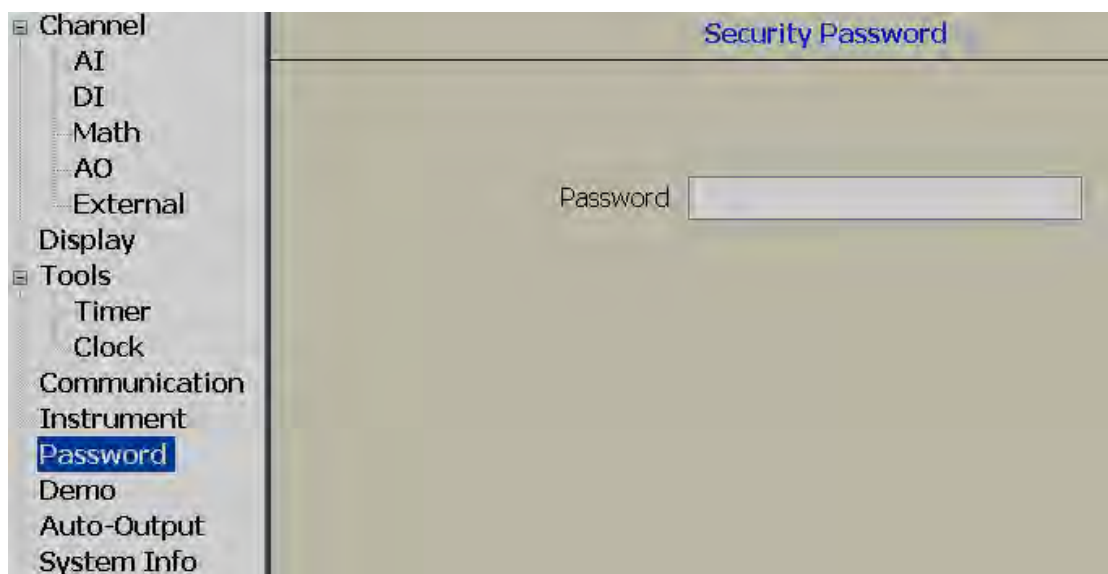




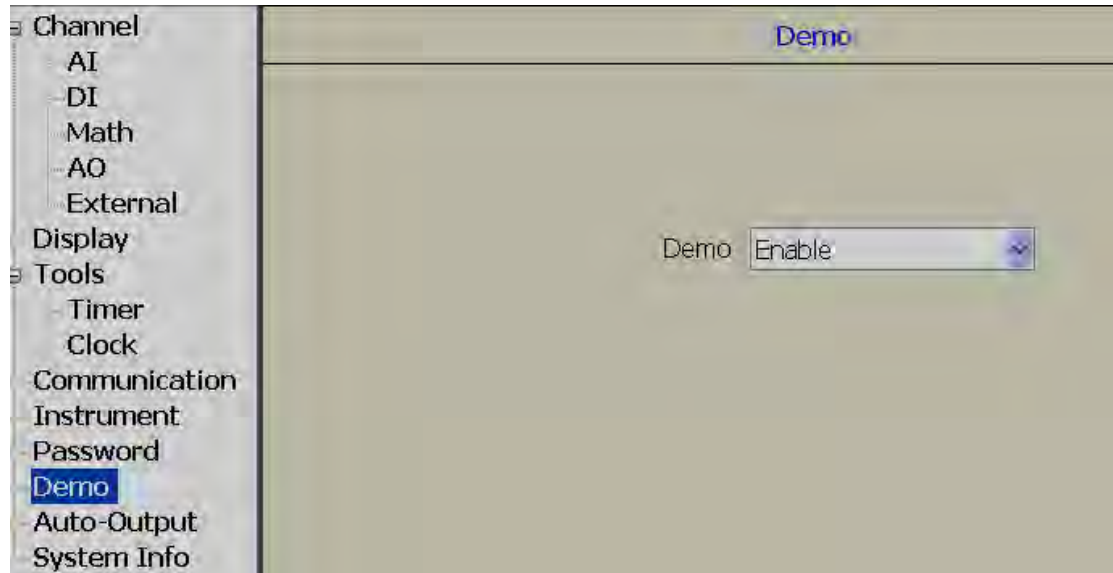




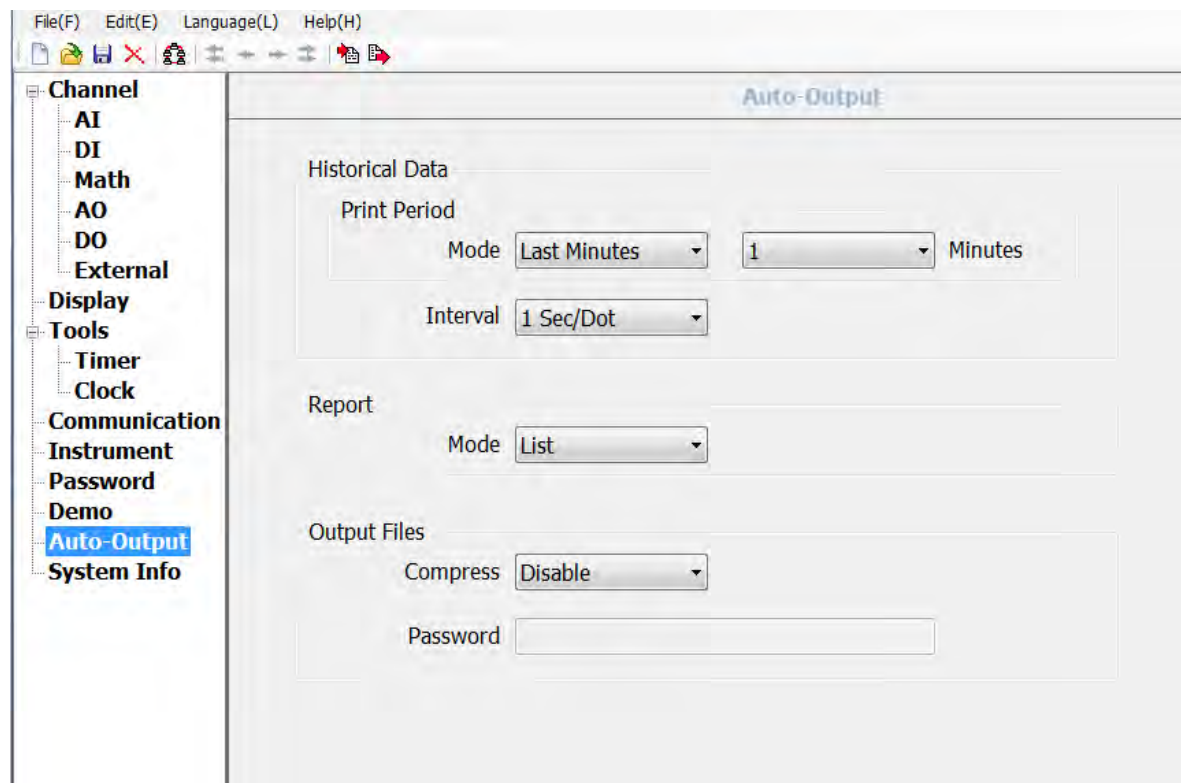
5.2.9.11 Password



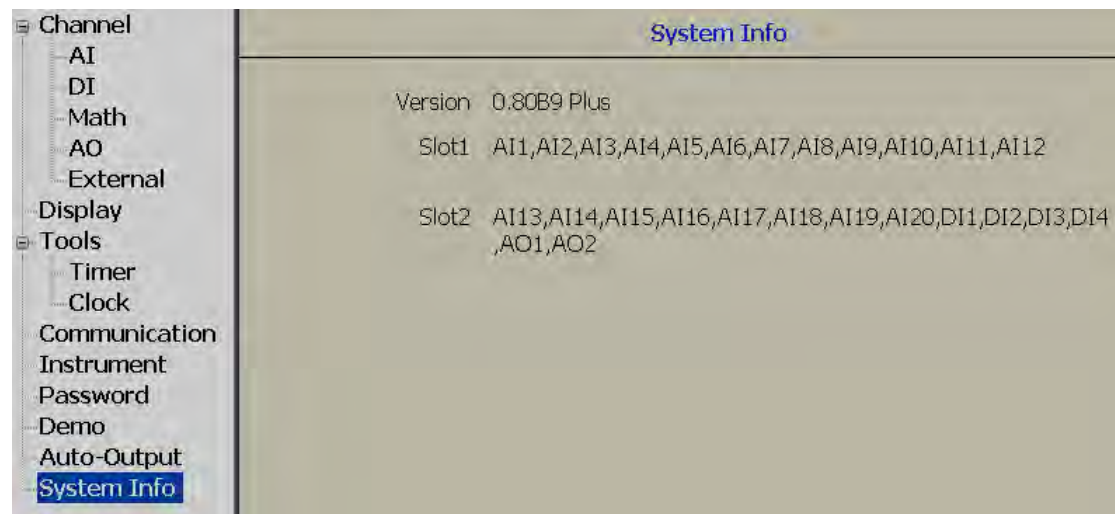
5.2.9.12 Demo



5.2.9.13 Auto-Output



5.2.9.14 System Information



5.2.10 How to view Historical data

Three ways

1. Touch screen
2. Ethernet
3. USB stick

5.2.10.1 Touch Screen

Please refer Chapter 3 for details how to view historical data in Recorder directly using the Touch screen

5.2.10.2 Ethernet

Note: Please read the following sections first

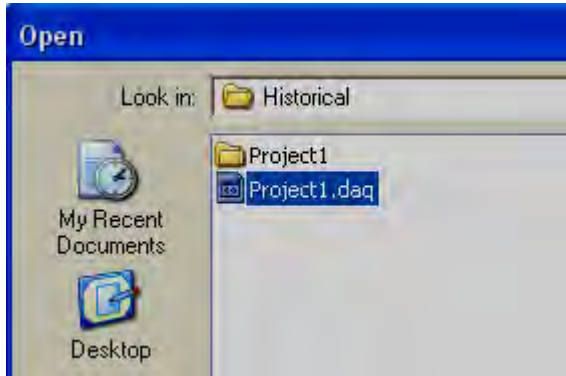
1. How to configure Communication bank
2. How to configure Recorder - Ethernet

Make sure, Project already created and it's saved in Computer, set bank properly to Ethernet before proceeding with the below steps

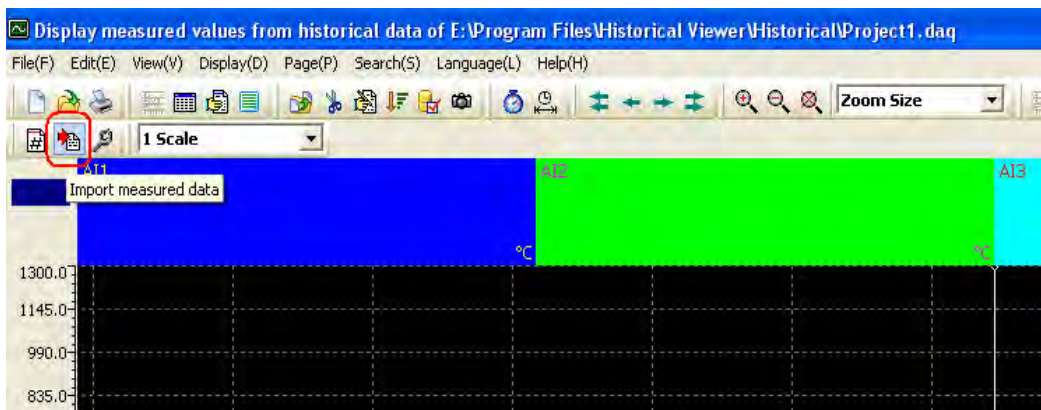
Open Project from Historical viewer using one of the following options


Desktop: Historical viewer icon 

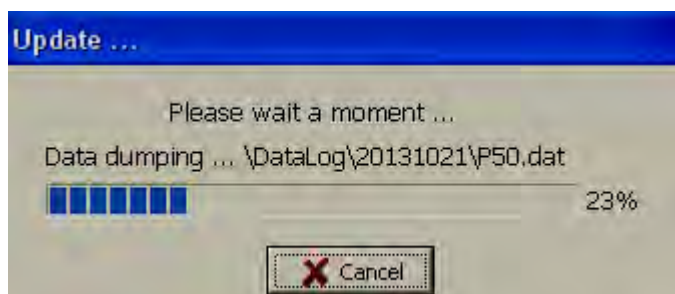
Start-Programs-Historical viewer-Historical viewer



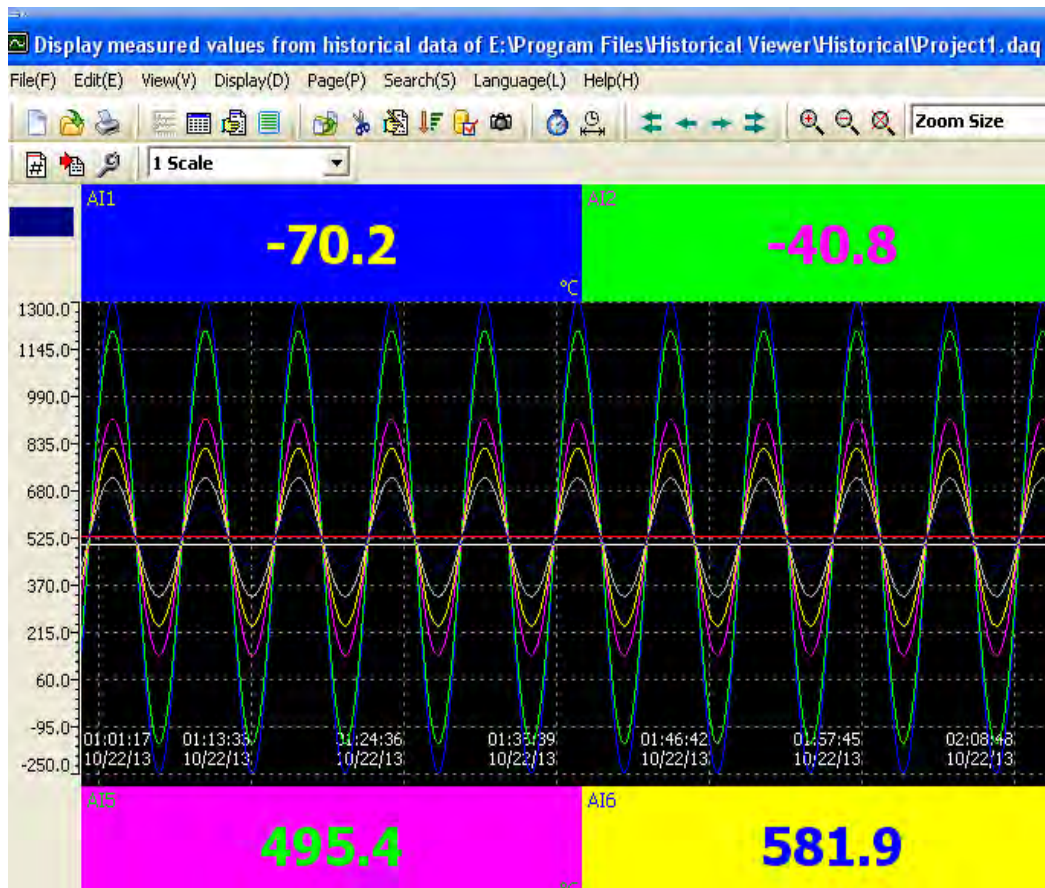
Select Project and click “Open”




Click Import measured data icon 



Note: Time taken based on amount of data available in internal memory



Select on any of the trend area, then click at Zoom icon  and then see the historical trend clearly

Note: Please read “Historical viewer” help file from software itself for all the features available in Historical viewer software

5.2.10.3 Removable Media

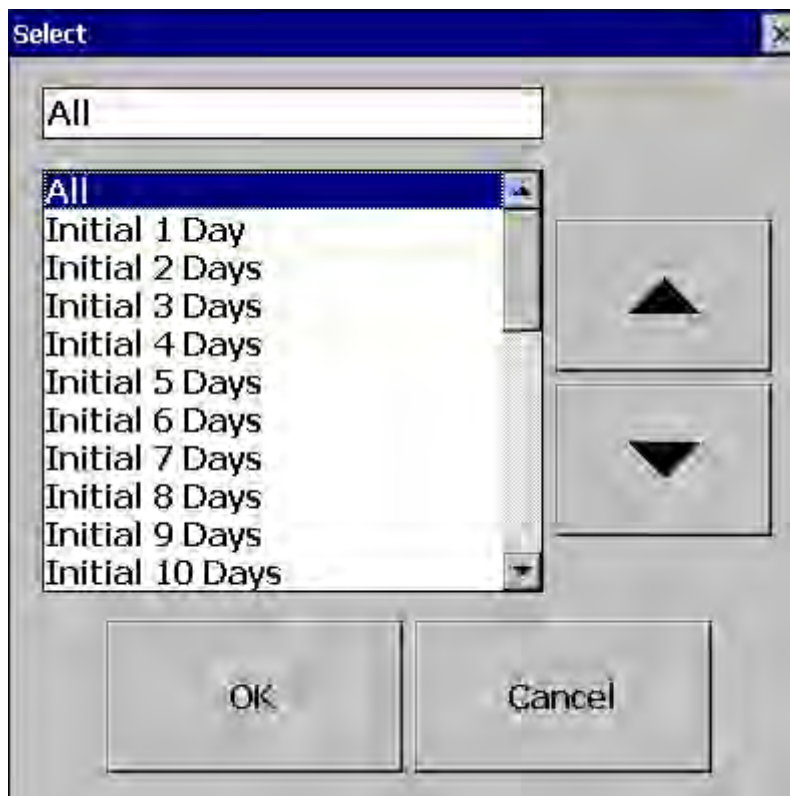
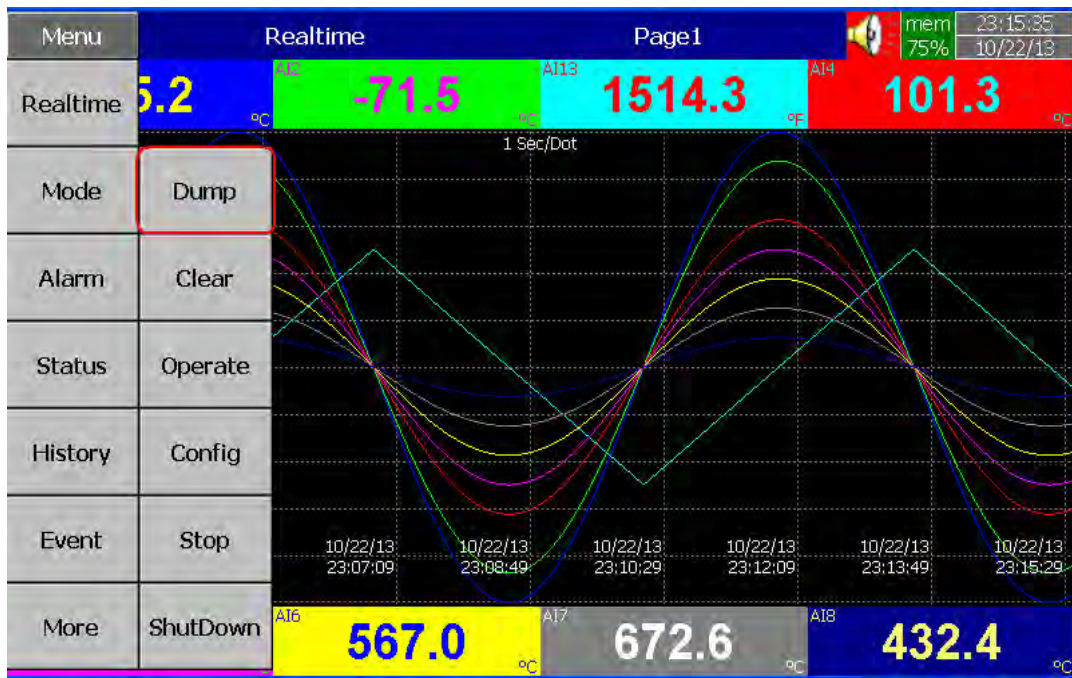
Note: Please read the following sections first

1. How to configure Communication bank
2. How to configure Recorder - SD card or USB

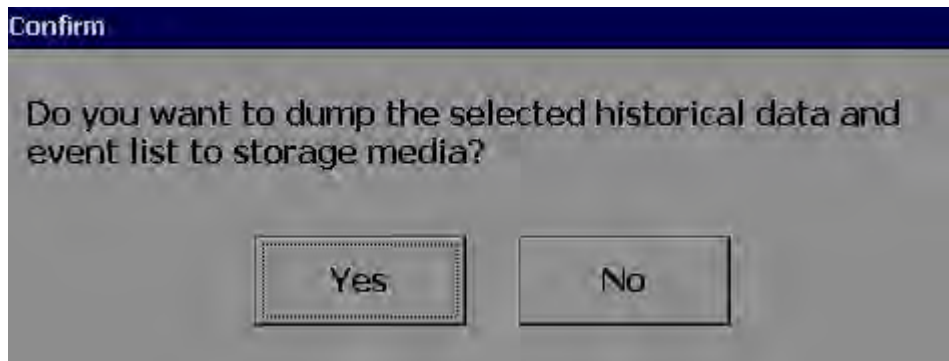
Make sure, Project already created via SD card or USB, it's saved in Computer, set bank properly to “Storage media” before proceeding with the below steps

Insert Empty - SD card or USB in Recorder

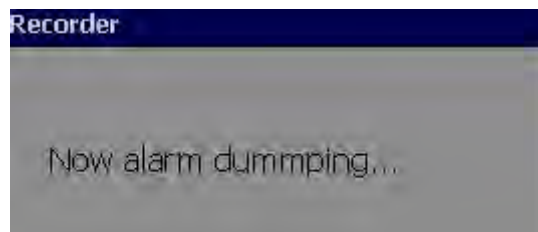
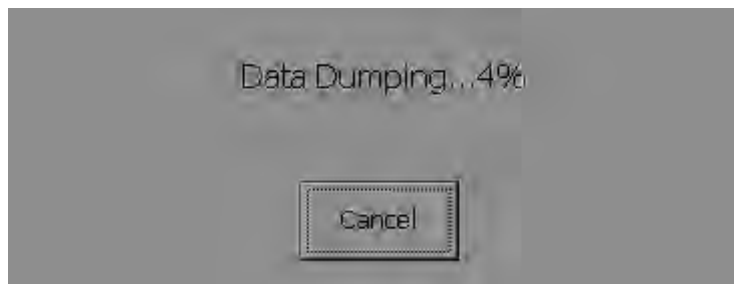
Press “Menu-More-Dump”



Select "All" or one of the other available options, then press "OK"

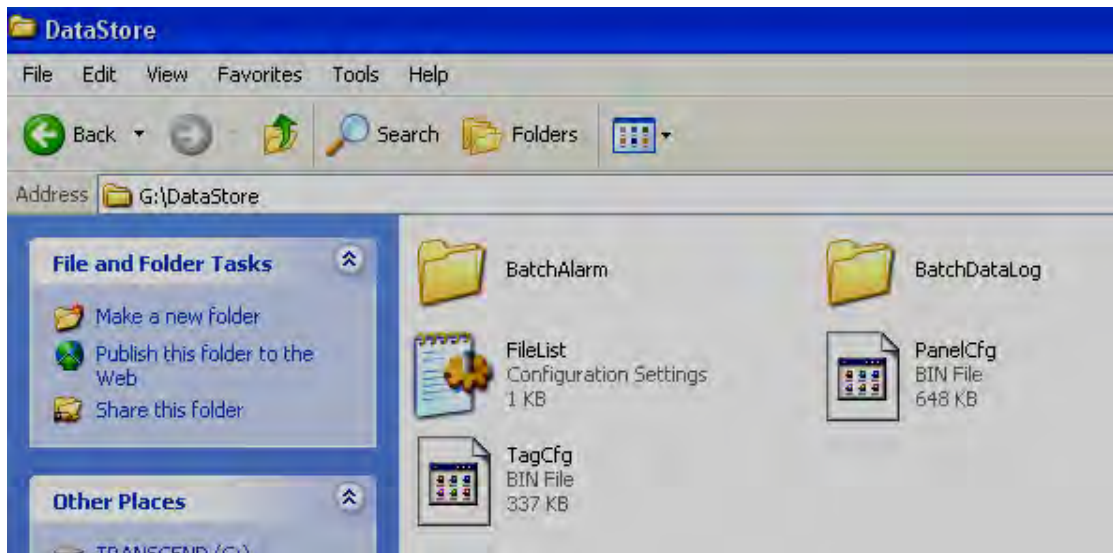


Press "Yes"




Now, remove USB stick from Recorder

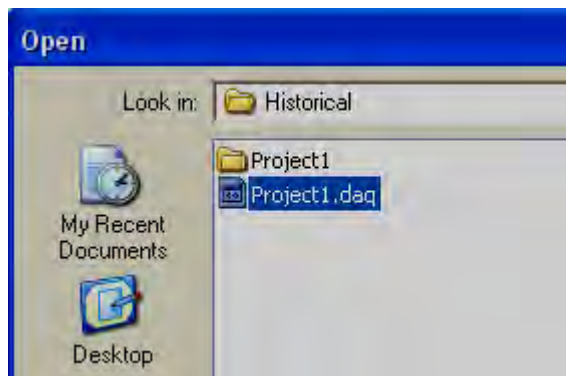
Check contents in the USB stick



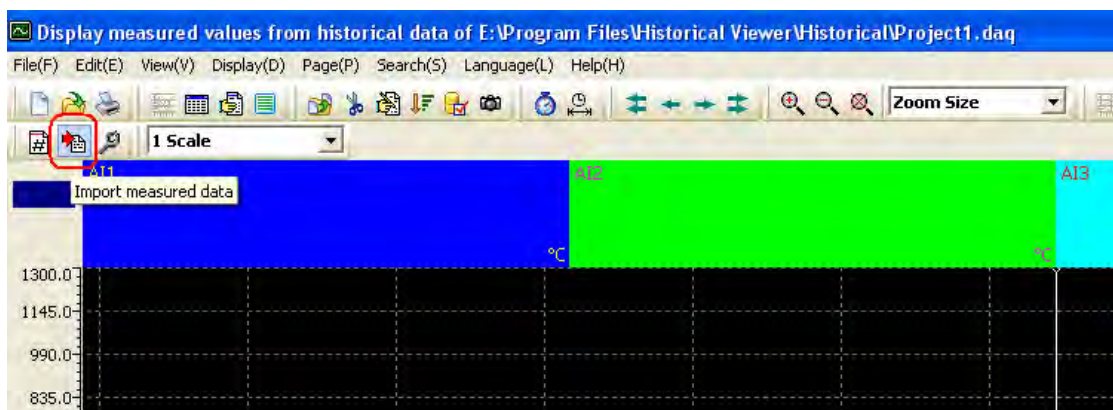
Open Project from Historical viewer using one of the following options


Desktop: Historical viewer icon 

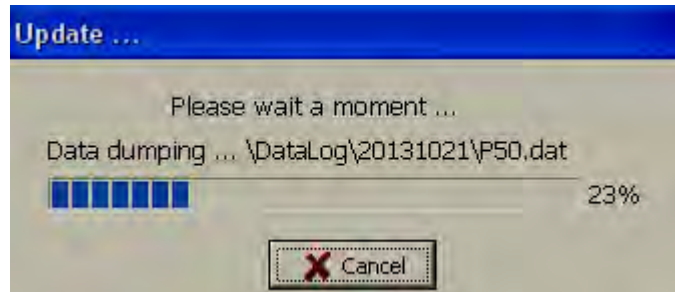
Start-Programs-Historical viewer-Historical viewer



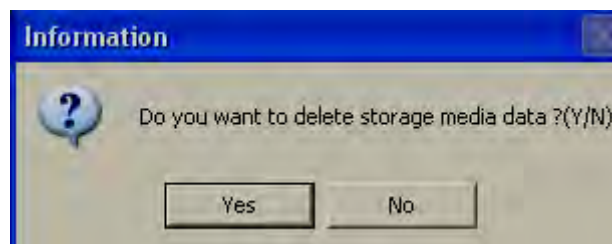
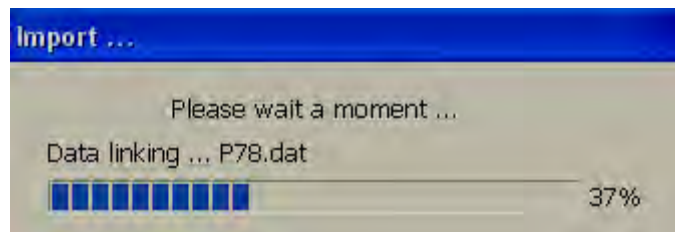
Select Project and click “Open”



Click Import measured data icon 

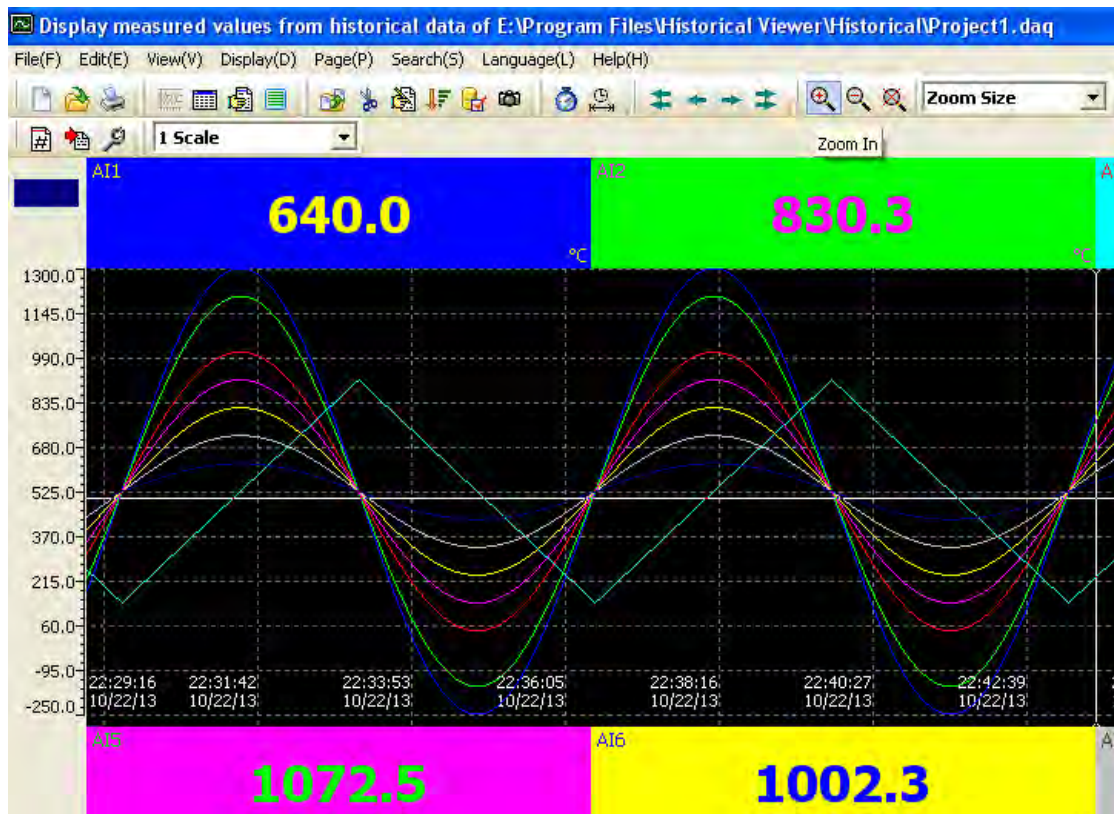



Note: Time taken based on amount of data available in internal memory



“Select” Yes if you wish to delete data from USB stick.

“Select” No only if any plans to transfer data say another Computer or if you have any plans to maintain data storage as back up in proprietary format in Computer hard disk



Select on any of the trend area, then click at Zoom icon  and then see the historical trend clearly

Note: Please read “Historical viewer” help file from software itself for all the features available in Historical viewer software

5.2.11 How to view Real time data in PC

It is possible to monitor Real time data from Paperless Recorder in PC

For this, Recorder should be connected to PC via Ethernet or Serial network (RS232/422/485). Set bank properly to proceed with required option

5.2.12 Bank configuration

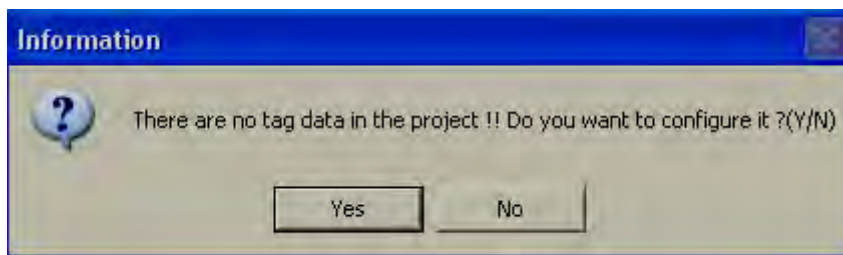
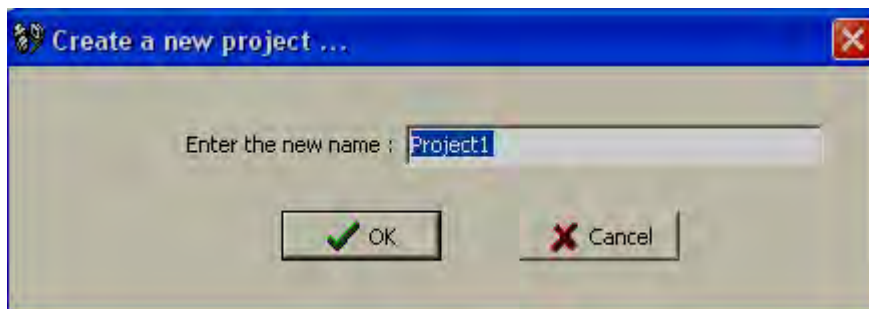
How to open Real time viewer

Two ways

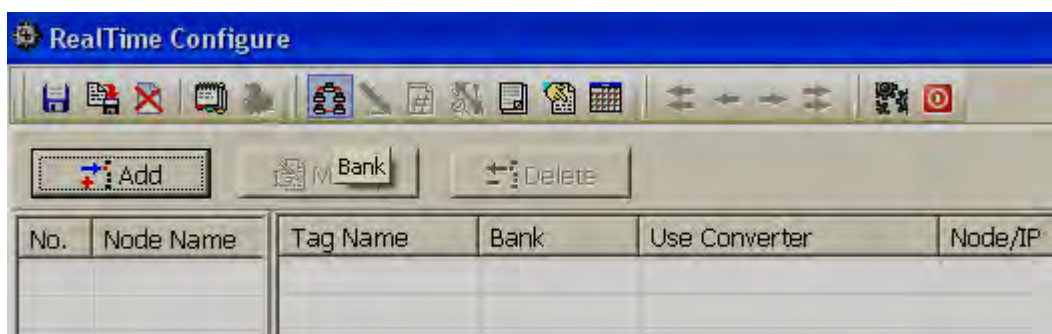



Click at desktop icon

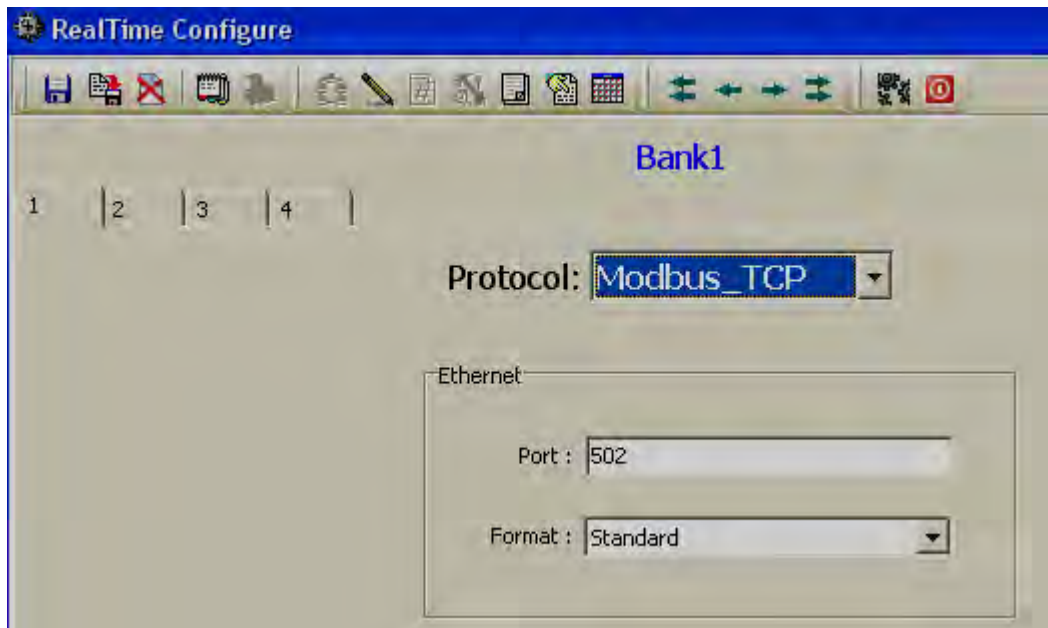
Start-Programs-Data Acquisition Studio Studio-Real time viewer



Click "No"





Click bank icon 

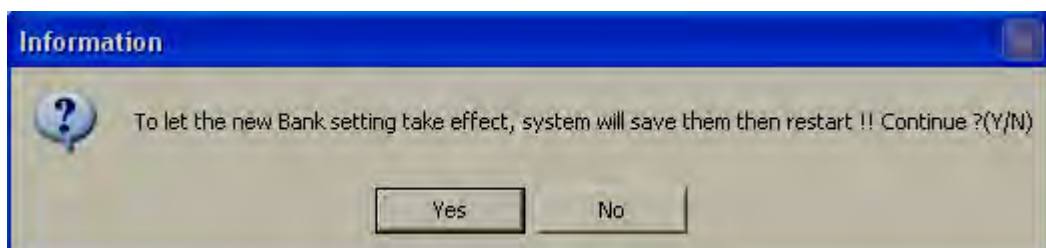


Total 4 communication banks are available

Each bank can be configured as Either Modbus Serial (232/422/485) or Modbus_TCP (Ethernet)

For ex: If two Paperless Recorders are coming on two different RS485 networks, then, each bank can be configured for each Recorder, provided two COM ports are configured in PC to receive data from two different serial networks. You may use two USB to Serial converters for this application

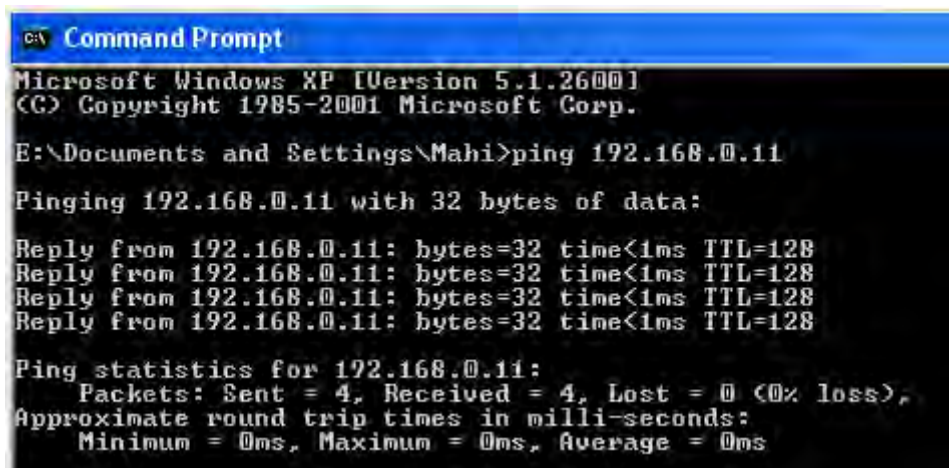
After completing the bank setup, click “Save” icon  and close return to main program icon 



5.2.13 Ethernet

1. Install Data Acquisition Studio software
2. Set bank properly to Ethernet
3. If Recorder connected to PC via Ethernet, make sure Recorder is set with User define IP address and domain same as PC

Use Ping instruction from the Dos prompt, make sure Recorder communicating with PC via Ethernet



```
CA Command Prompt
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

E:\Documents and Settings\Mahi>ping 192.168.0.11

Pinging 192.168.0.11 with 32 bytes of data:

Reply from 192.168.0.11: bytes=32 time<1ms TTL=128
Reply from 192.168.0.11: bytes=32 time<1ms TTL=128
Reply from 192.168.0.11: bytes=32 time<1ms TTL=128
Reply from 192.168.0.11: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.0.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

4. Create a new project in Data Acquisition Studio software and monitor real time data from Recorder directly from PC

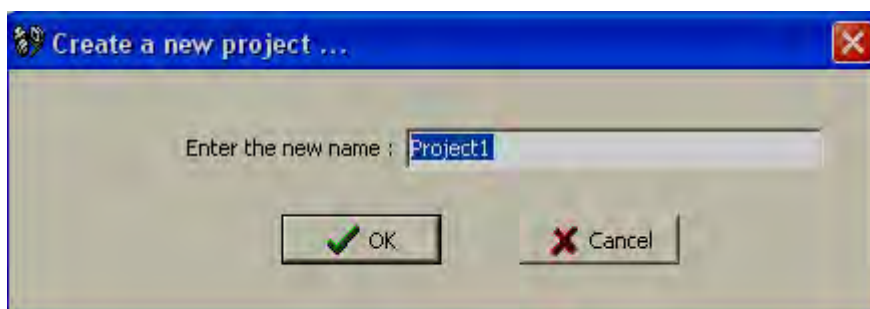
How to open Real time viewer

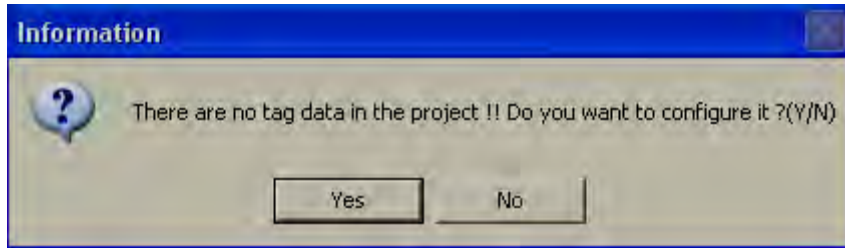
Two ways



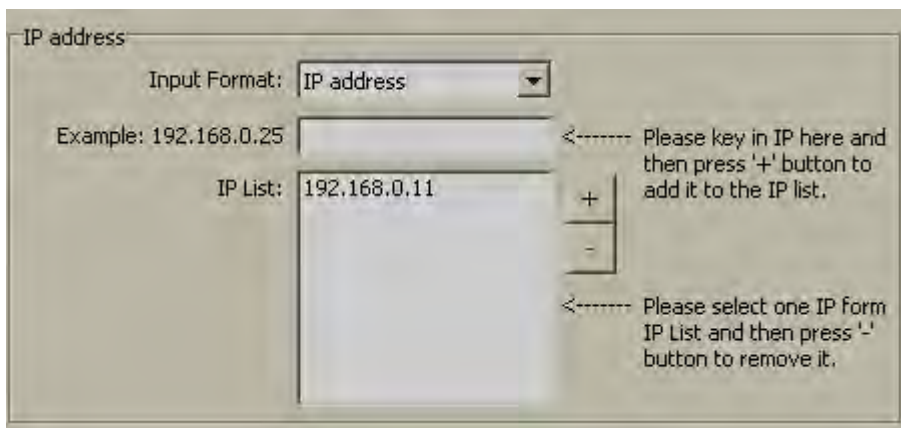
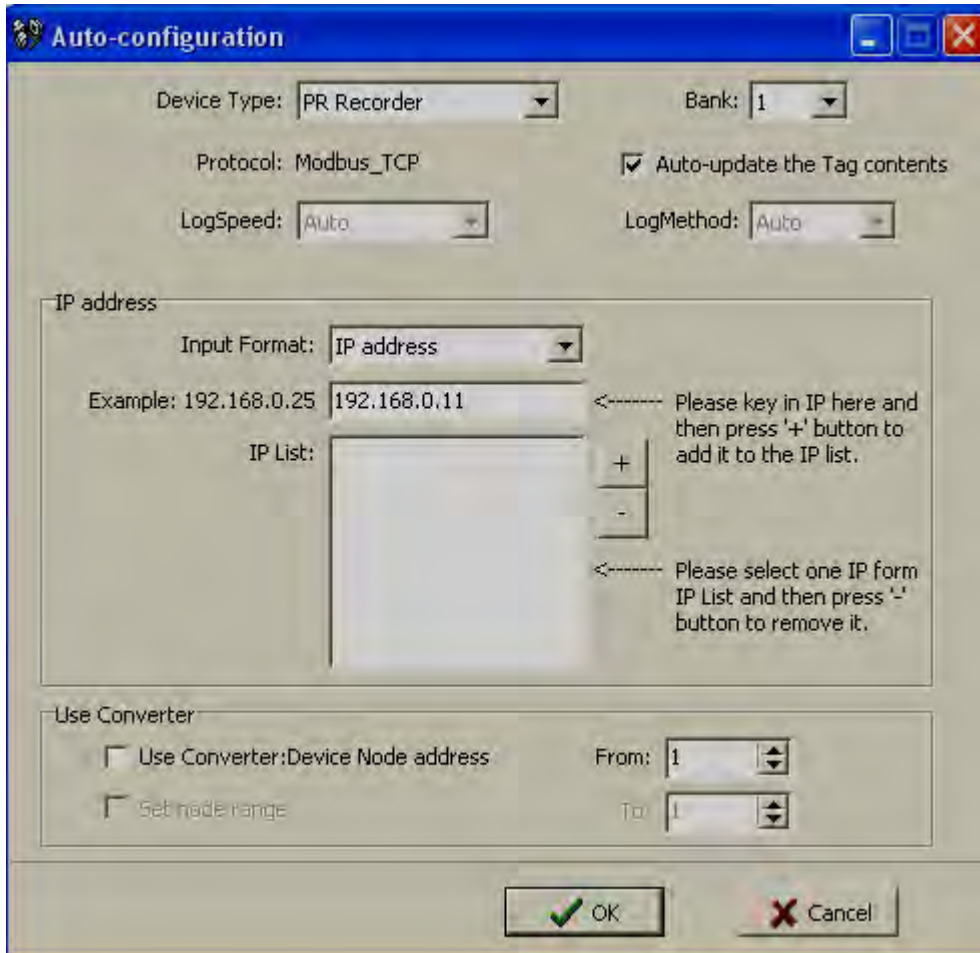
Click at desktop icon

Start-Programs-Data Acquisition Studio Studio-Real time viewer

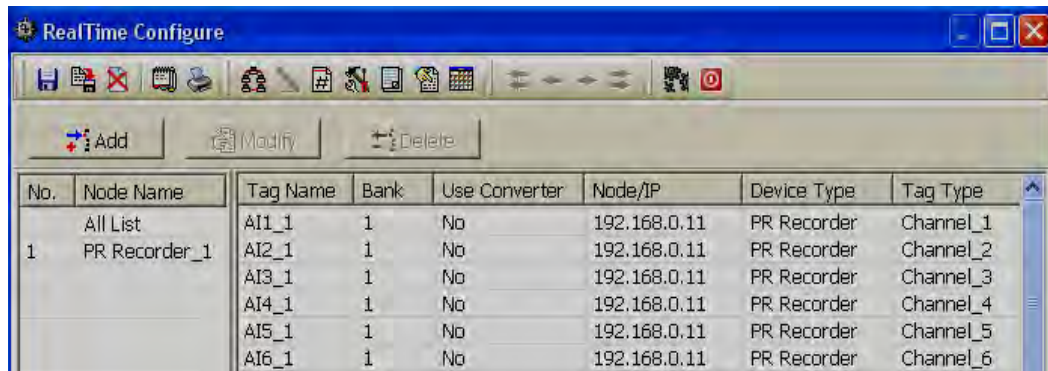






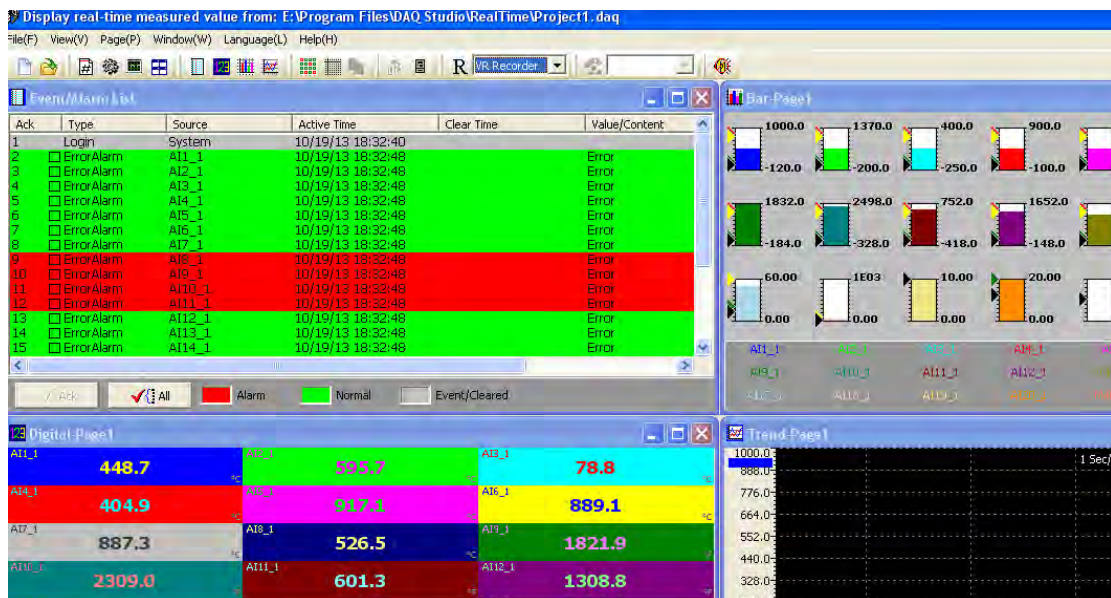
Click "Yes"



Click "OK"



Click "Save" icon  and close return to main program icon 



Note: When real time viewer is running in PC, then, data will be stored in computer hard disk. This data can be archived later from Real time viewer itself from "Measured data" icon. This data is same as Paperless Recorder internal memory (Historical data)

In case if PC running round the clock like a server, then, there may be no need to manually transfer historical data from Recorder to PC via Memory stick.

Note: Please read "Real time viewer" help file from software itself for all the features available in Real time viewer software

5.2.14 Serial (RS232/422/485)

The procedure is similar to Ethernet. But need to set bank properly for Modbus Serial

5.2.15 View Real time data from Multiple Recorders

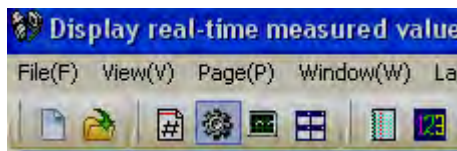
Assume, one Recorder database already added in Ethernet, IP address 192.168.0.11

Target: Connect second Recorder, IP address 192.168.0.12 to the Real time viewer

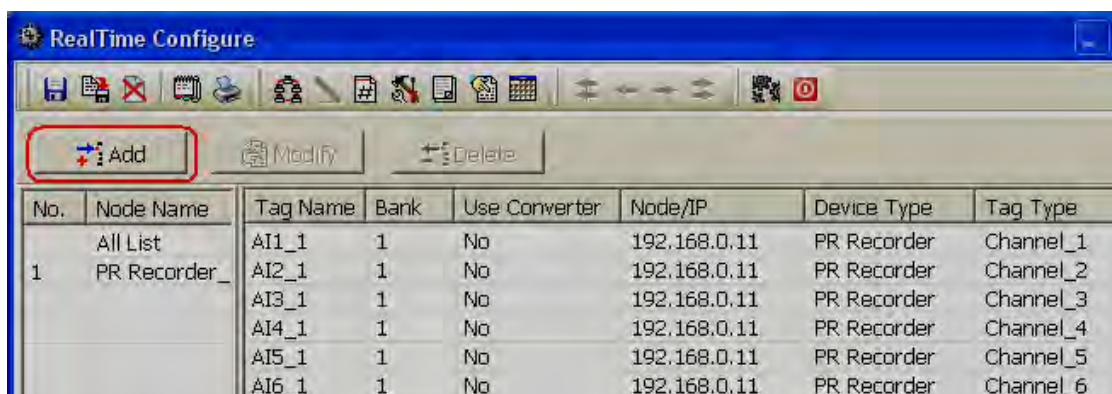
Connect both the Recorders and PC to Ethernet switch

Use “Ping” instruction at DOS prompt and check communication between PC and two Recorders. If no response, then check IP address at all the devices and also Ethernet cables

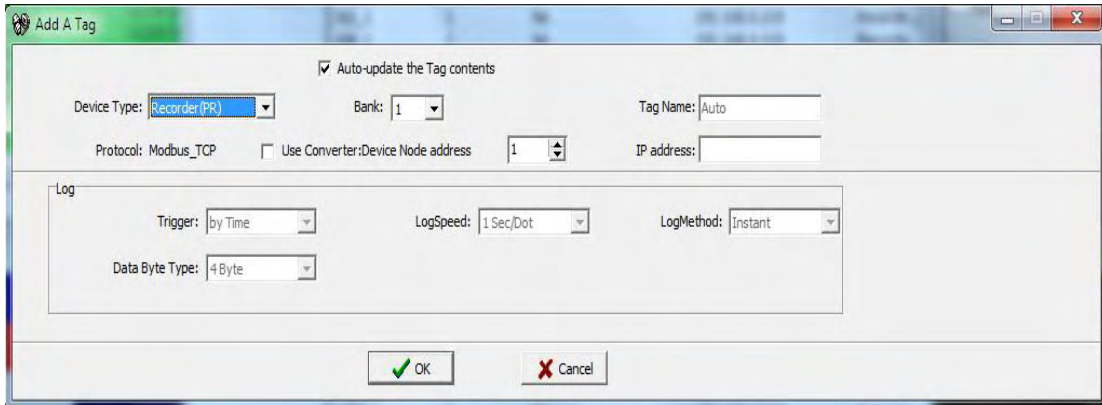
If there is good response from Recorders from “Ping” instruction, then, Open Real time viewer



Click “Configuration data” icon 



Click “Add”



Select Device Type = PR Recorder

Deselect checkbox at Auto-updae the Tag contents

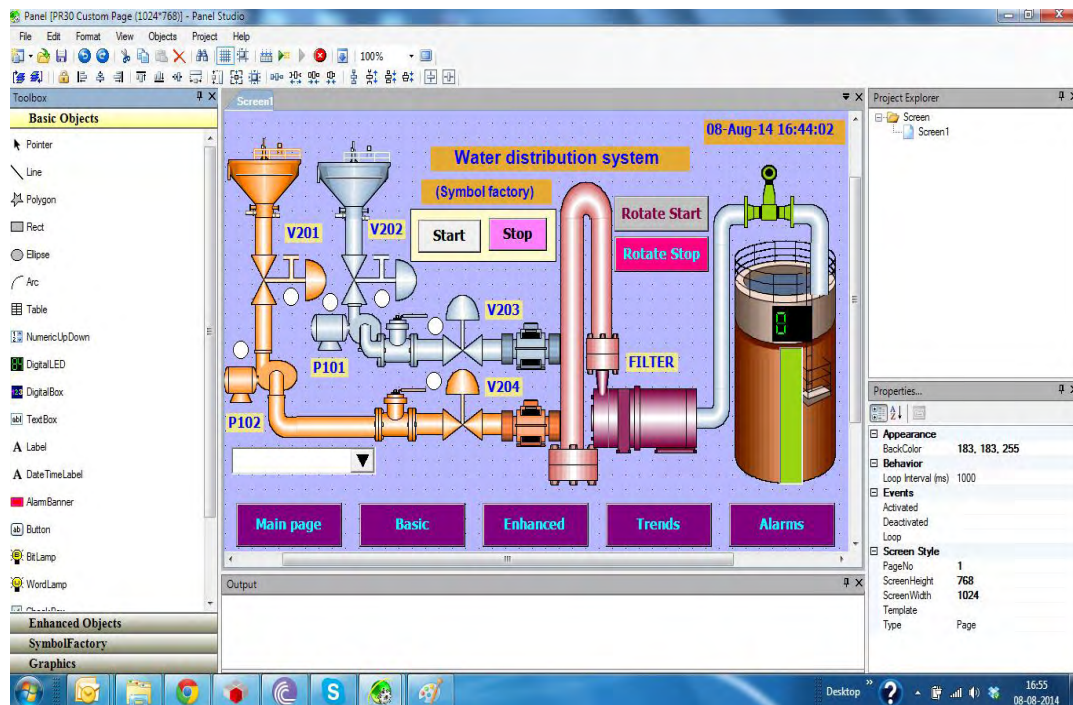
Enter "IP address of second Recorder". (Make sure to select user define IP address in Recorder-do not select automation)

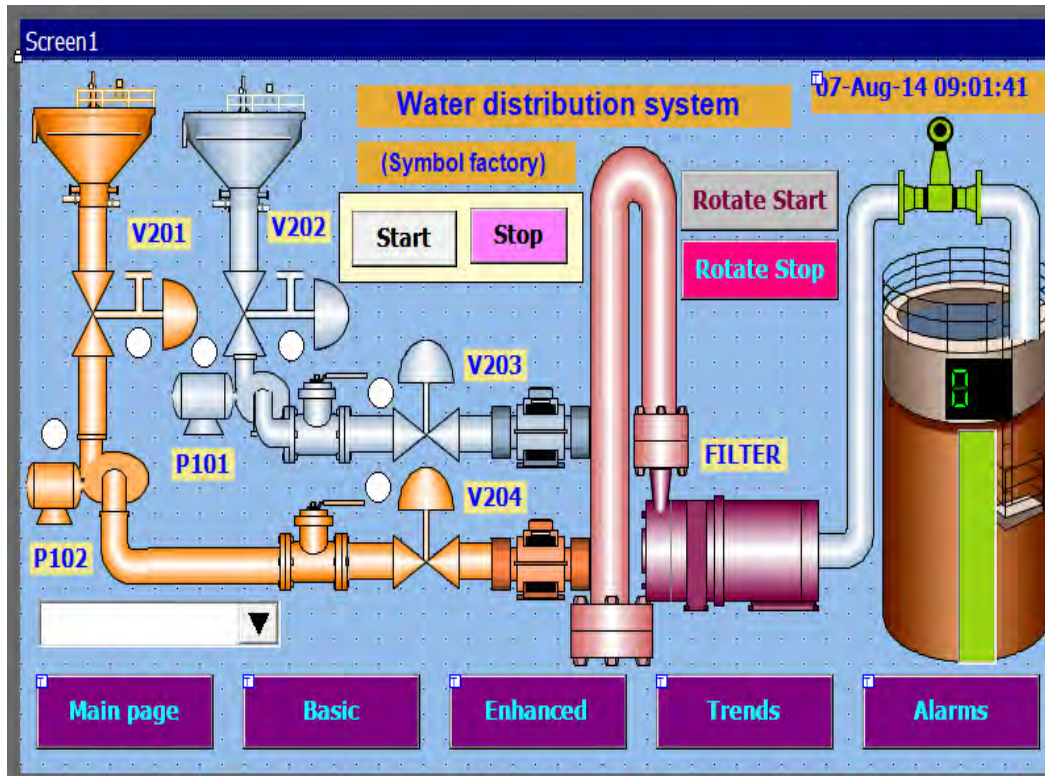
Click "OK"

Now, second Recorder database will add to Real time viewer.

5.3 Panel Studio version

Using this software you can develop custom screens for your display same as SCADA. All the graphics developed on the screens can also be configured for animations.





Use this editing software to develop animation screens on the Recorder. It is mainly used for application development useful for operator interface in industrial applications. Using Screens, operators will be able to communicate with PLC's, Inverters etc. via COM port and Ethernet port on Modbus RTU or Modbus TCP/IP. Using this software, it is possible to develop operator interface applications like the following.

- Sending start/stop command from Recorder to PLC to start motors, pumps etc.
- Display running stats of motors, pumps etc.
- Display Real time value of process parameters like temperature, flow, pressure etc
- Visualize process data in meaningful way as bar graphs, dial, meter, level, digital LED etc.
- Animation like visibility control, blinking, horizontal movement, vertical movement etc

5.3.1 System Requirements

PC with Minimum 1GHz processor, 1GB RAM (Minimum), 2 GB preferred
500 MB free space in the hard disk

Minimum 20% free space in hard disk, Less than 10% space generates error message

Ethernet Network adopter RJ 45 female

RS 232 serial port, RS485/RS232 converter to check online simulation if required

USB host to insert USB flash disk

Screen resolution better than 1024 X 768 (For Recorder 10+ and 1550 projects)

Operating system: Windows XP, Windows Vista, Windows 7, Windows 2000 & Windows 2003 Server

5.3.2 Software Installation

Install Microsoft installer V3.1

Install Microsoft.Net frame work V3.5 SP1

Install Editing Software

Install OPC server

Install Demo projects

Install Historical viewer

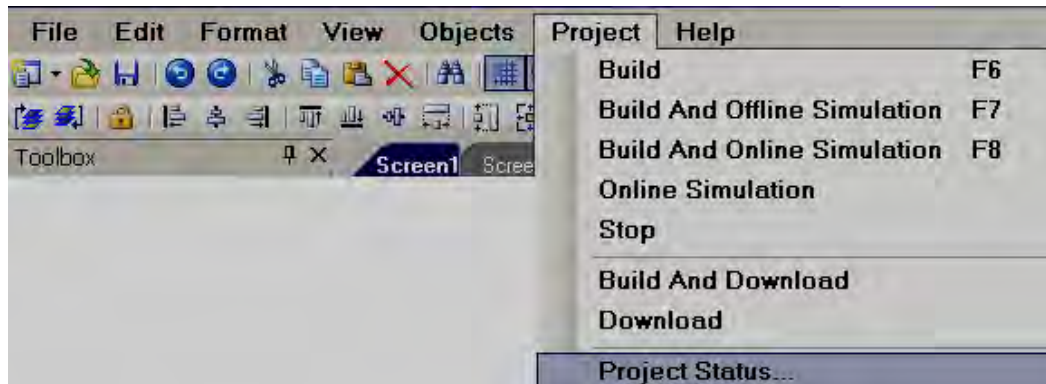
Install Remote viewer



If any folders or files are deleted manually from C:\Program Files\Panel Studio , then, delete a file by name %BCFile+manually from C:\WINDOWS before attempting to start new installation process. Other wise, you may get error message %Access Violation+.

5.3.3 Project status

During design time, it is possible to check current status of resources being used



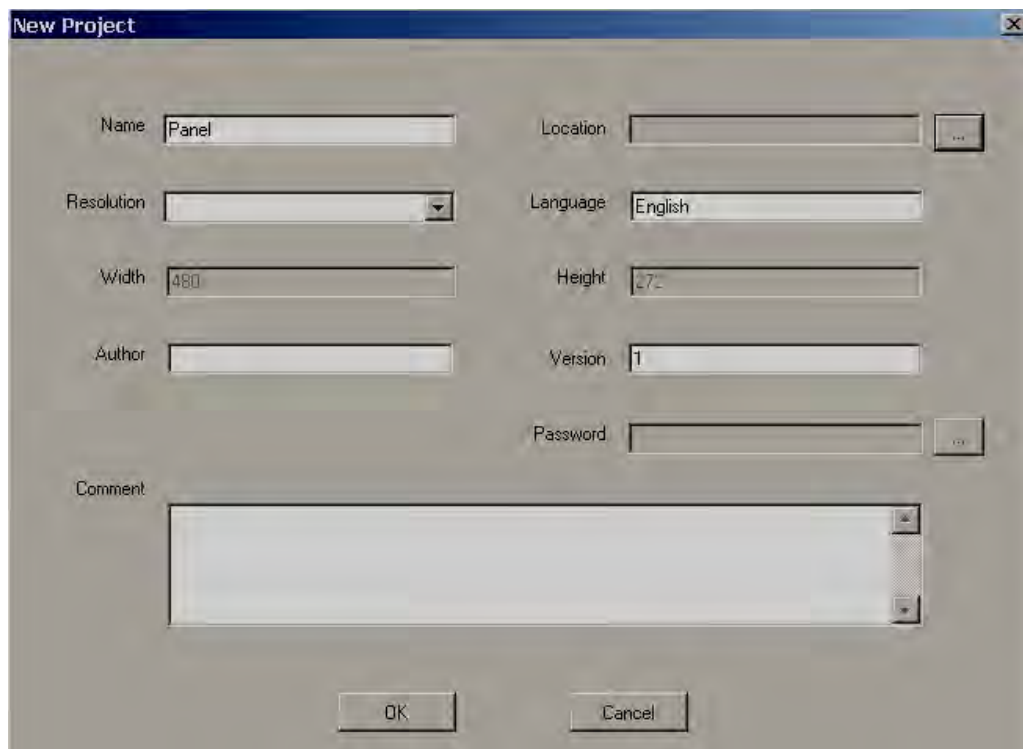
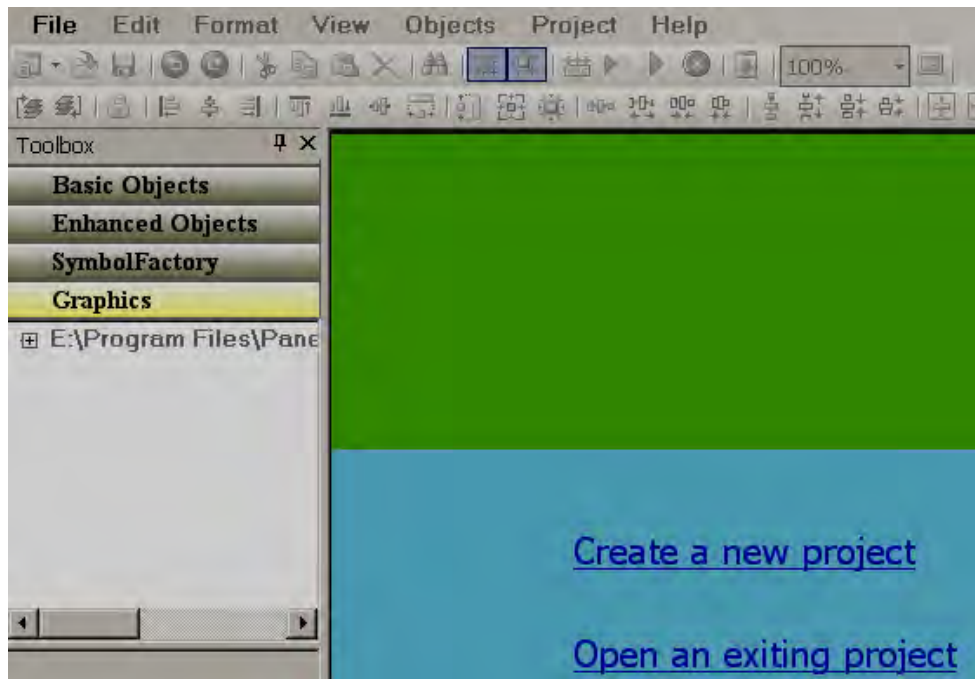
Images means symbols used from graphics and symbol factory. These symbols also considered as objects so, if you add symbols, it also updates quantity in objects.

For example: If you add 2 symbols and one rectangle object. Then, Images = 2, Objects = 3

5.3.4 Create new project

Open Recorder Editing Software from desktop icon or from Start-Programs-Recorder Editing Software

Click on %Create a new project+



Project Name: It is Name of Project. For ex: Boiler

Location: It is path for project file storage.

Default Language: English

Width: It is pixels, resolution in dots available on X-axis

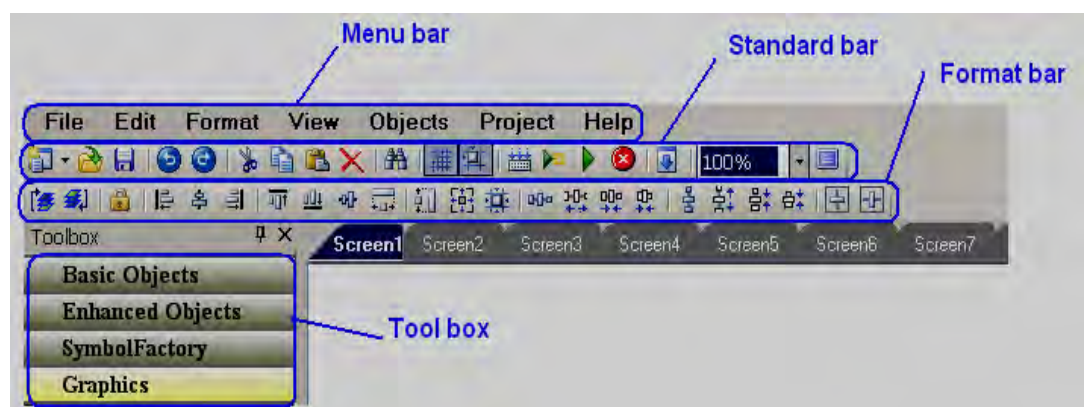
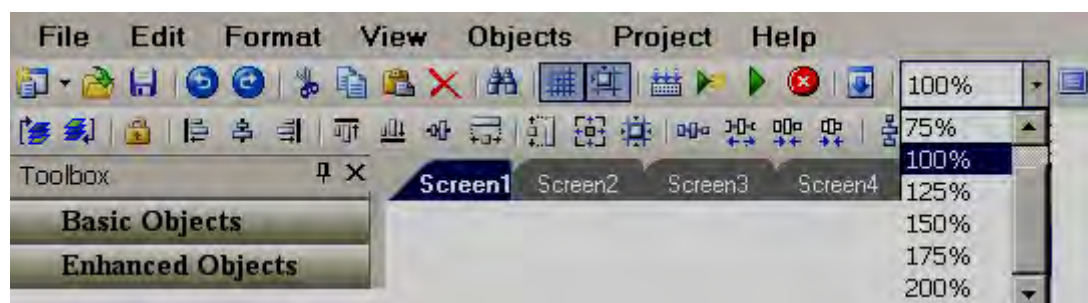
Height: It is pixels, resolution in dots available on Y-axis

Author: Write author name/system integrator name for future reference

Version number: It is for version management

Comments: It is for project management

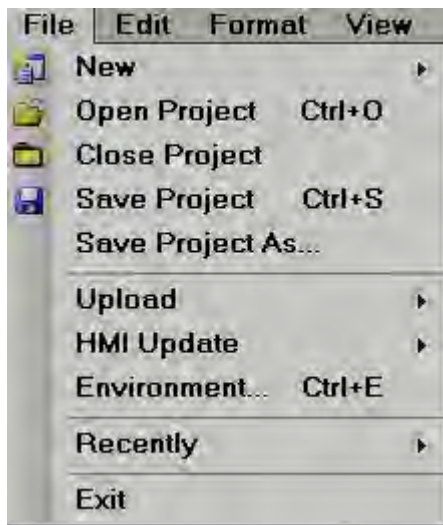
After entering all the above details, click at **OK+**



5.3.5 Menu bar



5.3.6 File



New: To create a new project

Open Project: To open existing project

Close Project: To close present project

Save Project: To save Project in default path

Save Project As: To save project in selected path other than default path specified while creating a new project settings.

Upload: To upload project from Recorder back to PC

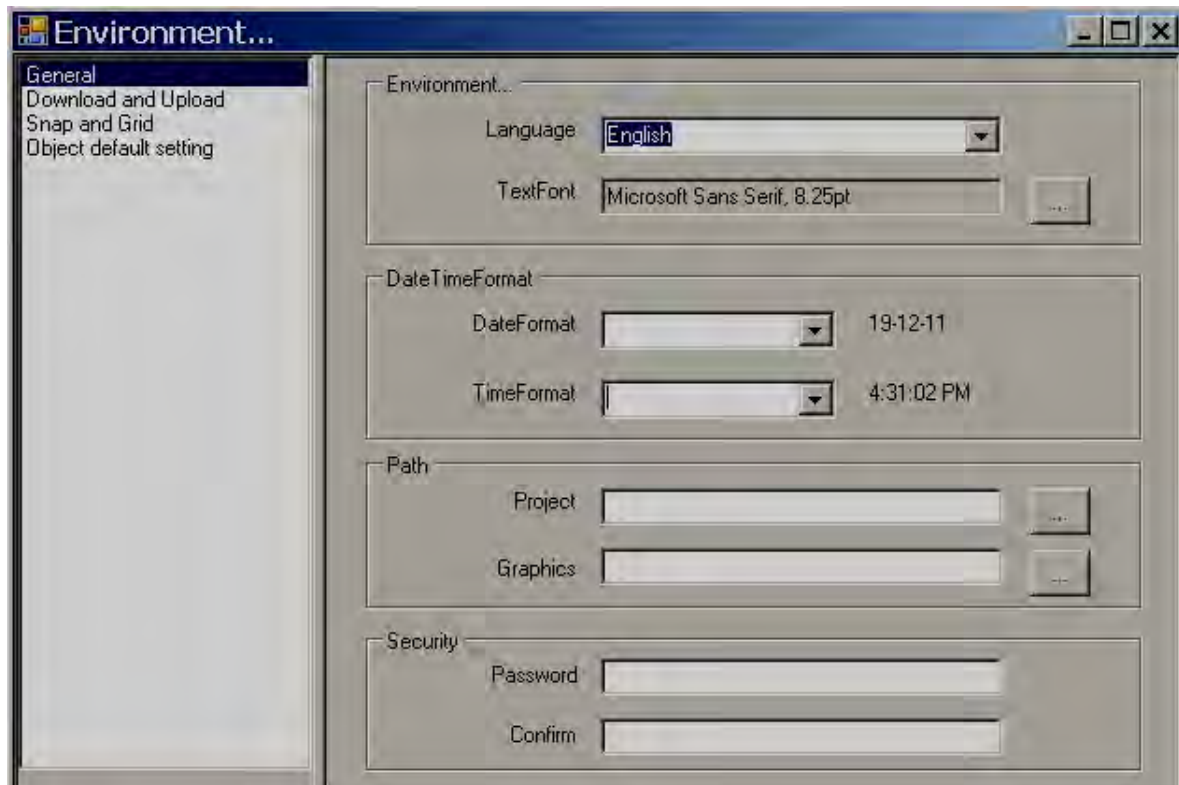
Recently: It is to open recently opened projects

Exit: To exit from current project

Language: To update language files in Recorder. This is required only if new language required at Control Center. Contact factory for further information

Clock Synchronization: To Synchronize Recorder clock with PC Clock.

5.3.7 Environment



General:

Language: Select Language for project environment. 19 languages are supported from Recorder editing software V1.1 onwards including English, Simplified Chinese, Traditional Chinese, Japanese, French, German, Italian, Polish, Spanish, Portuguese, Brazil Portuguese, Russian, Thai, Czech, Danish, Dutch, Korean, Swedish and Turkish

Environment font: Select font required for design time environment.
Example: Menu, Tool Box, Project explorer, function editor etc.

Project Path: Location to storage of project files
Default project path: C:\Program Files\Recorder Editing Software\Recorder Editing Software\PanelProject

Graphic Path: Location of default basic Symbols
Default graphic path: C:\Program Files\Recorder Editing Software\Recorder Editing Software\Basic Symbols

Security: This is to protect opening Recorder editing software in specific Personal computer (Not for project). Once password is entered, it is required to enter password correctly to open Recorder editing software for the current session. This is useful in factory environment to prevent un- authorized users to open Recorder editing software.

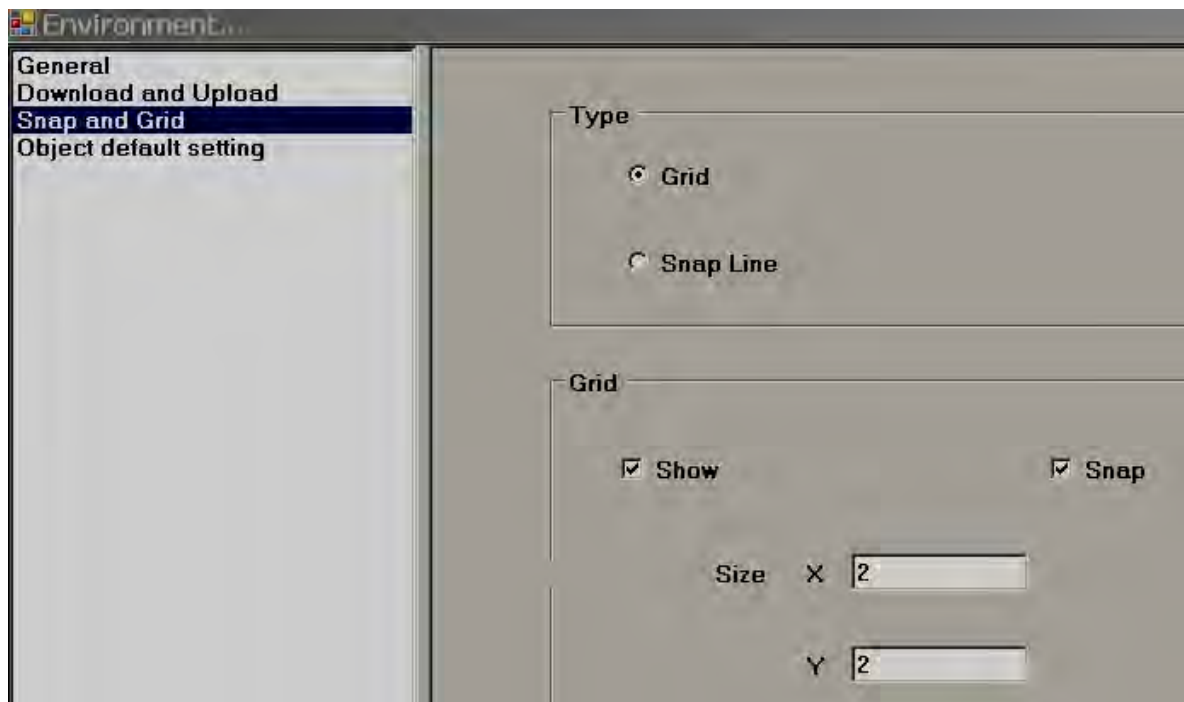
Note: If you need password for specific project, then, click at %Settings+in project explorer, select %General+tab and then enter the Password



In general, it is preferred to take back up of project files regularly in other standard storage media like CD, DVD etc. It is recommended to store project files in separate folders at D: drive instead of C: drive. Developer may plan hard disk partition and save all project files in drive other than location of operating system such that even if there are problems with Operating system, still it is possible to retrieve project files.

Download and Upload: Please refer section %Project tools+for more detailed information

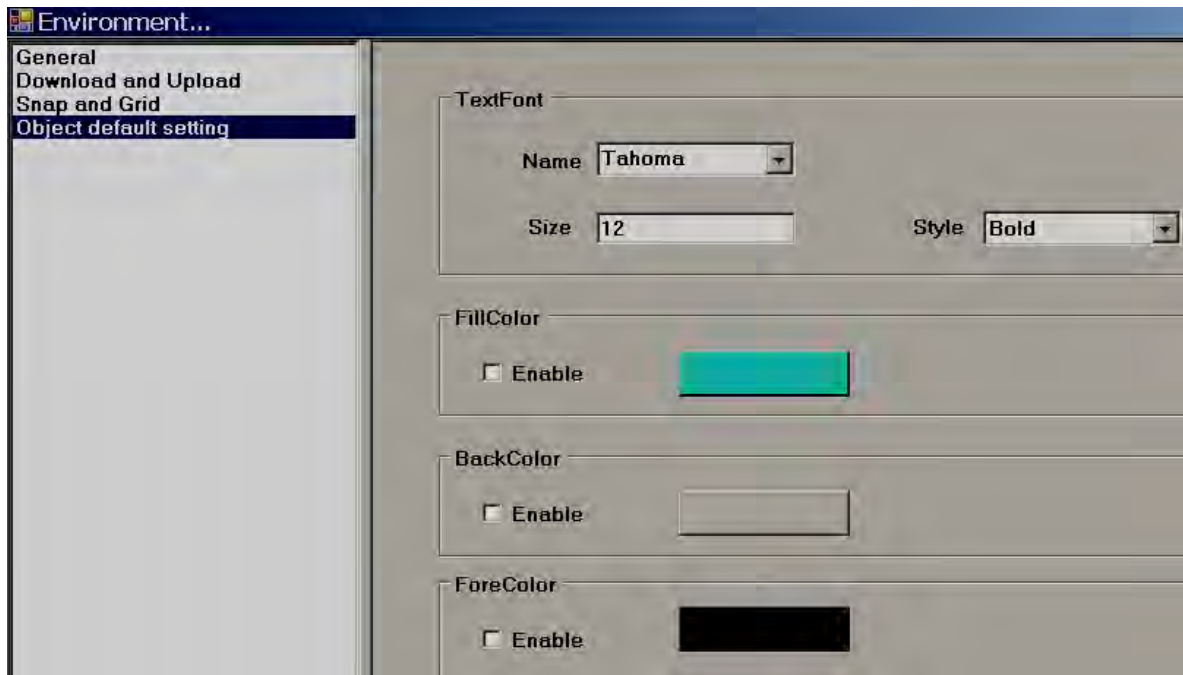
Snap and Grid: It is to define grid behavior in design time environment.



Grid: Select this option and select %Show grid+if grids are to be appeared in screen at design time.

Snap lines: Select this option if grids are not required to appear in screen at design time.

Snap: Select this option if component coordinates should with in grids all the time.



Object: Define default font size, Fill color, Back color and Fore color for the properties of most of the objects like label, Check box, Rectangle, Ellipse, Pie, Table, Dial, Level, Meter, Slider, Thermometer etc.

5.3.8 Edit



5.3.9 Format



Align: It is to align selected components, objects etc. for adjusting their position precisely in screen layout. Available options for selection are Center, Right, Left, Top, middle & Bottom.

Ex: Align two Labels to the left in Recorder screen.

Assume both labels are created in Screen1. Select both the labels first using mouse, alternatively, select first label by left click at mouse, then press %Ctrl+ keyboard and then select second label by left click at mouse. Now, in Menu, click at %Format+, then select %Align+, then select %Left+.

Before Align adjustment



After Left Align adjustment



Make Same Size: It is to adjust different objects to the same Width, Height, Both width and height, Size to grid etc.

Ex: Adjust five buttons to same size i.e., height and width.

Create five buttons first say in Template. Then, select all these buttons via Mouse and then click at %Format+, then select %Make same size+, then select %Both+

Before size adjustment



After Same Size adjustment



Horizontal spacing: It allows adjustment of horizontal spacing between any objects to make Equal/Increase/Decrease/Remove.

For ex: There are 3 buttons located at bottom area of a page. Spaces between these buttons are not equal and screen is not looking well. Now, select all the 3 buttons via Mouse or using %Ctrl+in keyboard along with mouse and then in Menu bar, click at %Format+, then select %Horizontal spacing+, then select %Make equal+. Now, it adjusts space between all these buttons with equal distance.

Before Spacing adjustment

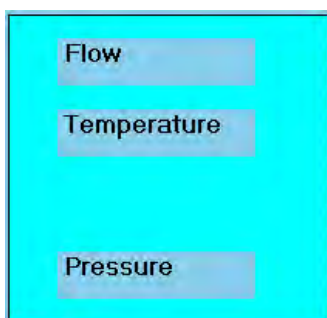


After Horizontal spacing adjustment

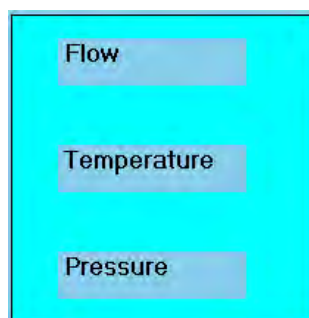


Vertical spacing: It allows adjustment of vertical spacing between any objects to make Equal/Increase/Decrease/Remove

Before Spacing adjustment

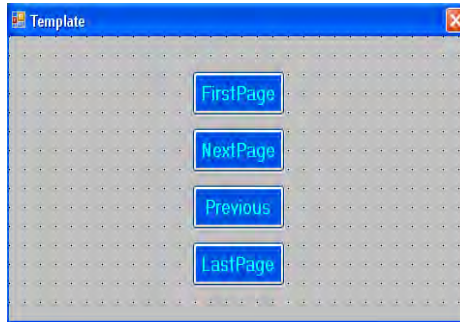
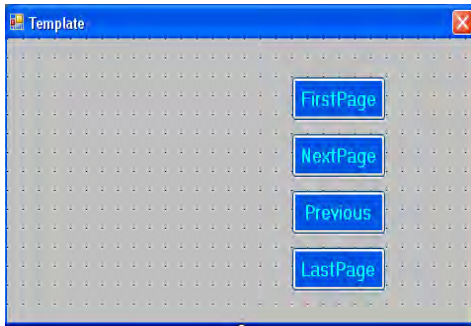


After vertical spacing adjustment



Center in Page: It allows adjustment of objects center in page horizontally and vertically.

For ex: There are 3 buttons located at screen. You wish to locate them center in page horizontally. Then, select these buttons and apply this feature to adjust buttons as per requirement.

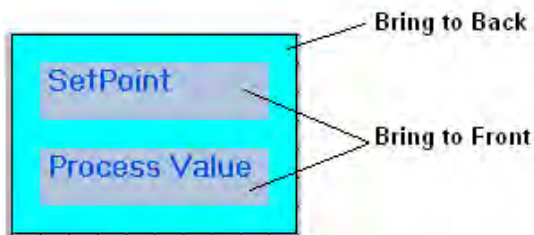


Order:

Bring to back: It take object back

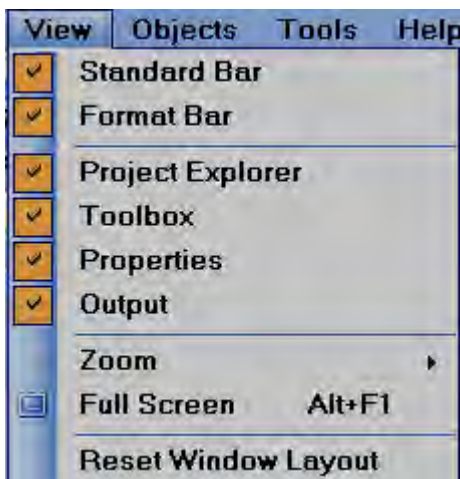
Bring to Front: It take object to the front side

For ex: There is Rectangle box and a label with different colors. If you wish to keep label text on Rectangle, then, for the Rectangle, choose the option, %Bring to Back+and for the label, choose the option %Bring to Front+such that both are visible at same time allowing overlapping of two objects for clear display.



Lock Controls: It is to lock control for further development. Apply this for a second time to unlock the control.

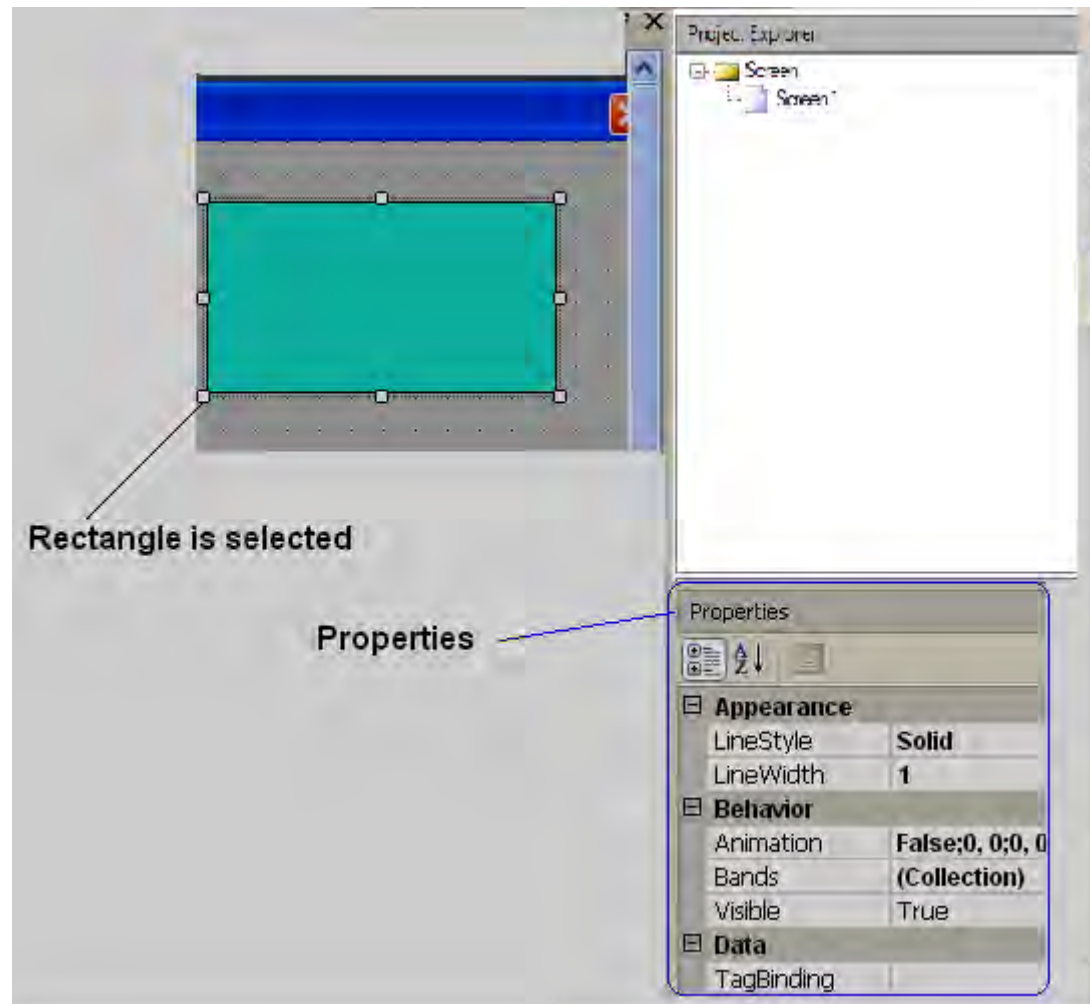
5.3.10 View



Select the required items to view in window layout.

Properties


If properties is checked as above, then, in the right side bottom of screen layout, properties box will appear showing all the properties for the component/object selected.

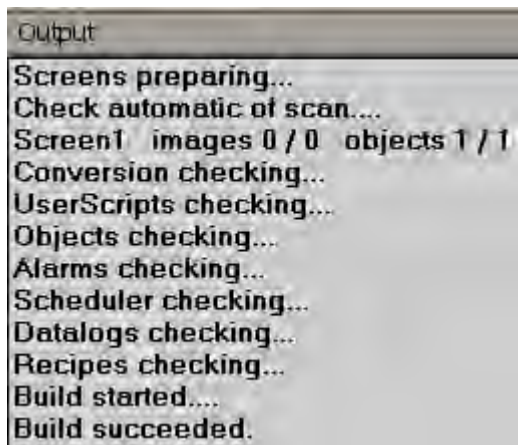


In above example, rectangle is drawn and once it is selected, then right side bottom corner, it shows all the properties for this specific rectangle if properties are checked in view at Menu bar. It is possible to modify properties of rectangle from property grid. Alternatively, double click on Rectangle and enter the same at Graphical wizard.

Output

If output is selected in the view, this window appears just below the screen working area. This window will display any errors that appear during compilation of project.

In Menu, click at %T**ools+** and then %B**uild+** or alternatively, in standard bar, click at icon  to prepare build for the application. Then, project will compile and it shows summary in the output window as shown below.



Zoom

It is to Zoom current screen to various % and it is useful during screen editing particularly if screen size of PC screen is less. If 200% is used and if PC screen size is small, then horizontal and vertical slider will appear automatically in screen to navigate to other areas of screen easily.

Full screen

It is to display full screen and after selection, screen layout will be as shown below. To go back, in menu, click at %View+ and then %Full screen+ again

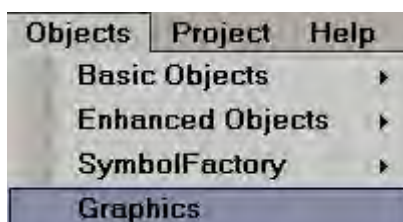
Reset window layout

It is to display default screen layout showing screen working area, tool box, project explorer, output window etc.

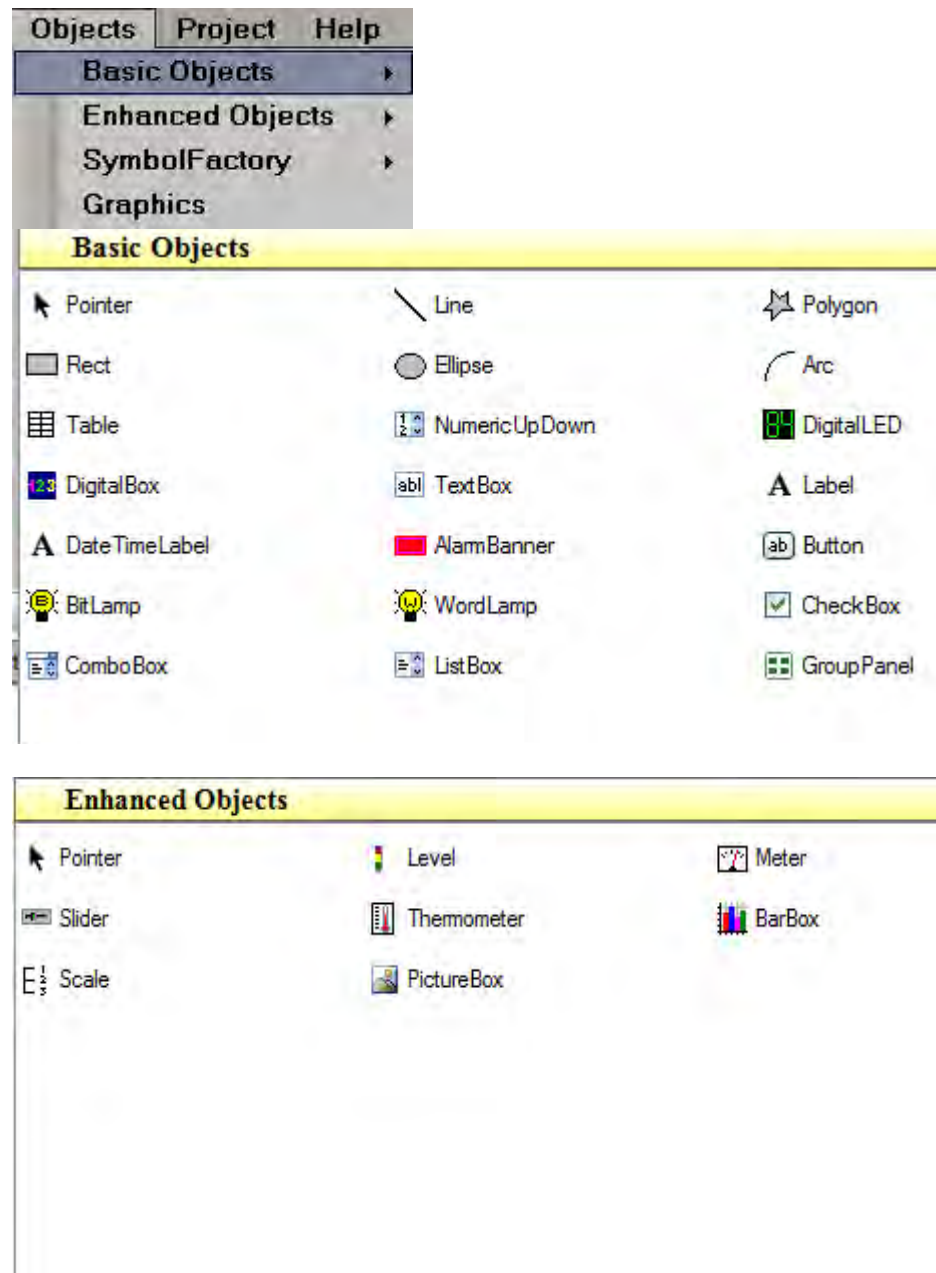


Ex: If user deselects project explorer at View, then it will not show Project explorer at right side of the window layout. In this case, user may select Project explorer again at View, alternatively, in Menu, click at %View+ and then %Reset Window Layout+, then it will reset all the view selections and show default window layout.

5.3.11 Objects

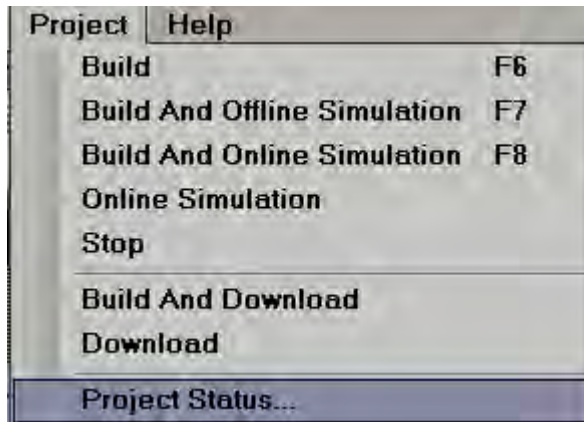


More details about Basic objects, Enhanced objects, Symbol factory and Graphics are explained in section [Tool Box+](#)



If you would like to increase font size in Menu bar, then, in menu, click at File, then click at [Environment+](#) and then set font settings.

5.3.12 Project



Above details are explained at section %Project Tools+

5.3.13 Standard bar



New Project



Open Project



Save Project



Undo



Redo



Cut



Copy



Paste



Delete



Search



Show Grid



Align to Grid



Build



Offline Simulator



Online Simulator



Stop simulation



Download



Full screen

5.3.14 Format bar



Bring to Front



Bring to Back



Lock the control



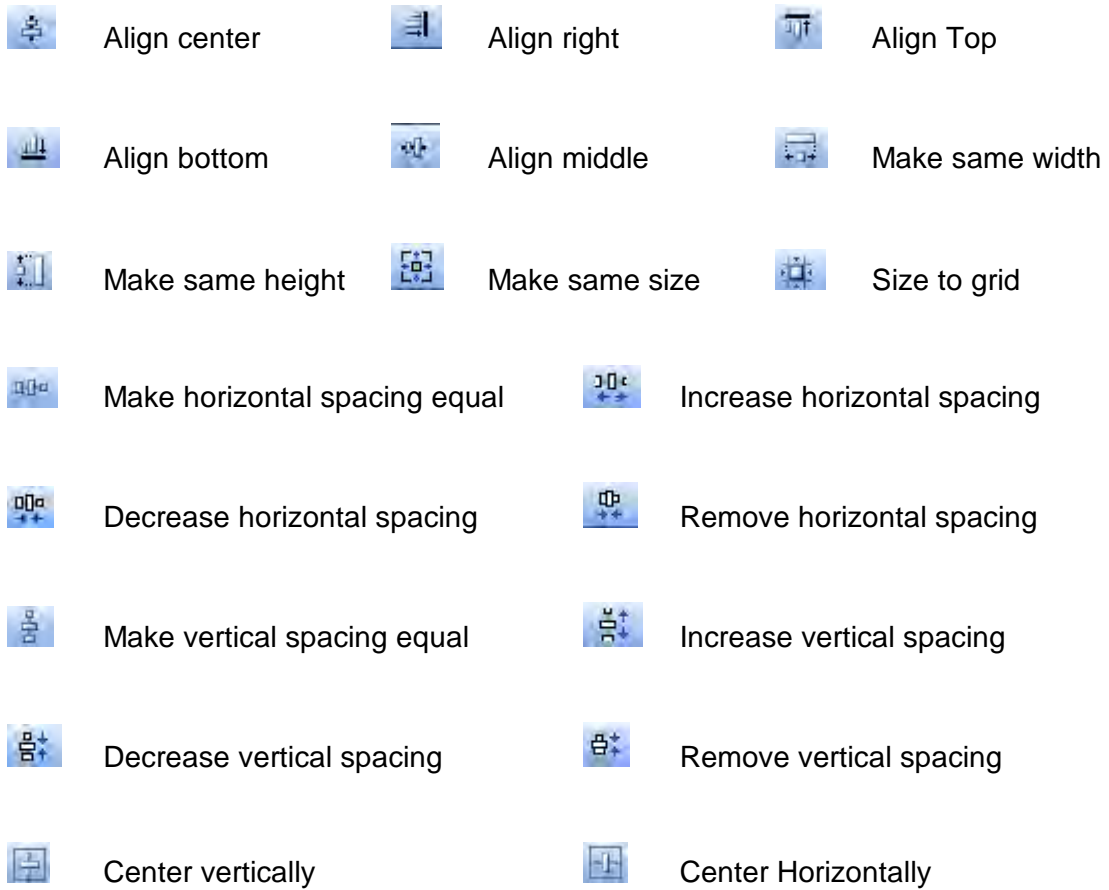
Group



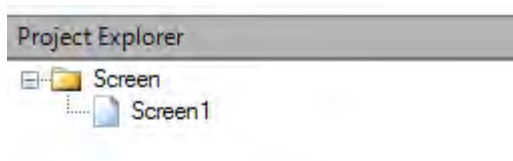
Ungroup



Align left



5.3.15 Project Explorer



5.3.16 Screen

This is to add new screen to the project.

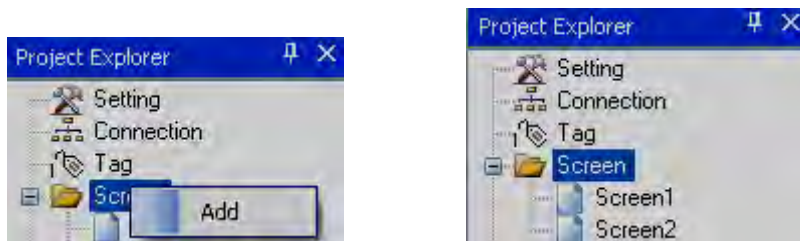
It is possible to set screen into following type

1. Page

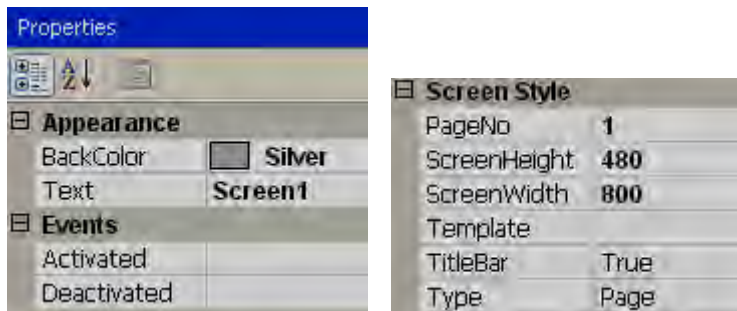
When new project is created, screen1 (Page type) is created by default. It is not possible to change screen1 to either template or popup. Screen1 (start page) should be Page+type only.

How to add a new page

In Project explorer, select Screen1+, then right click Mouse, then, it shows the screen below. Click at Add+, Screen2 will be created and appears as shown below.

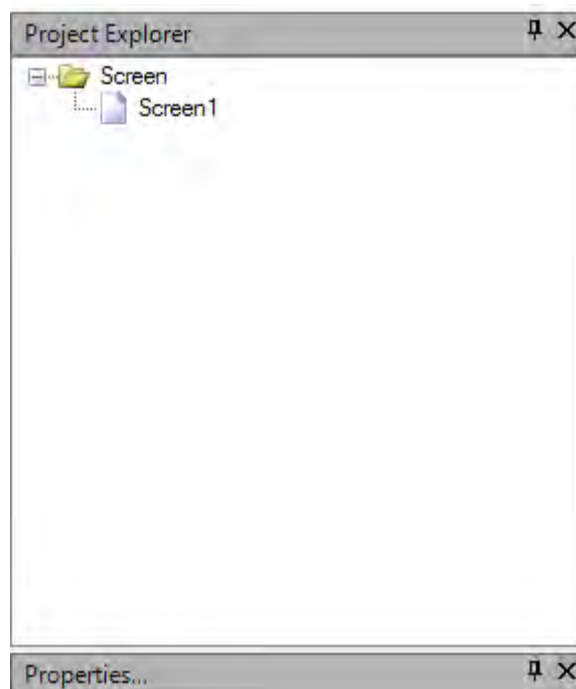
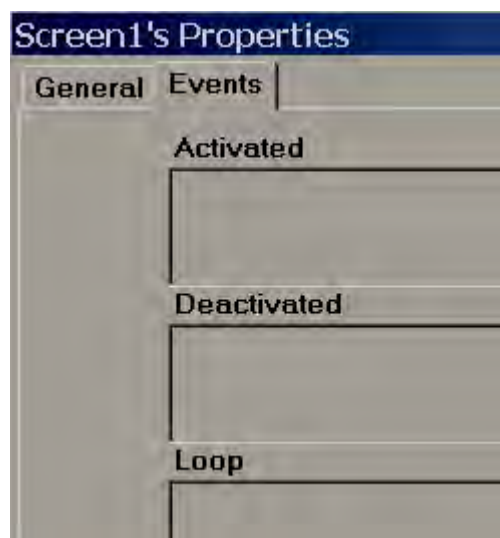
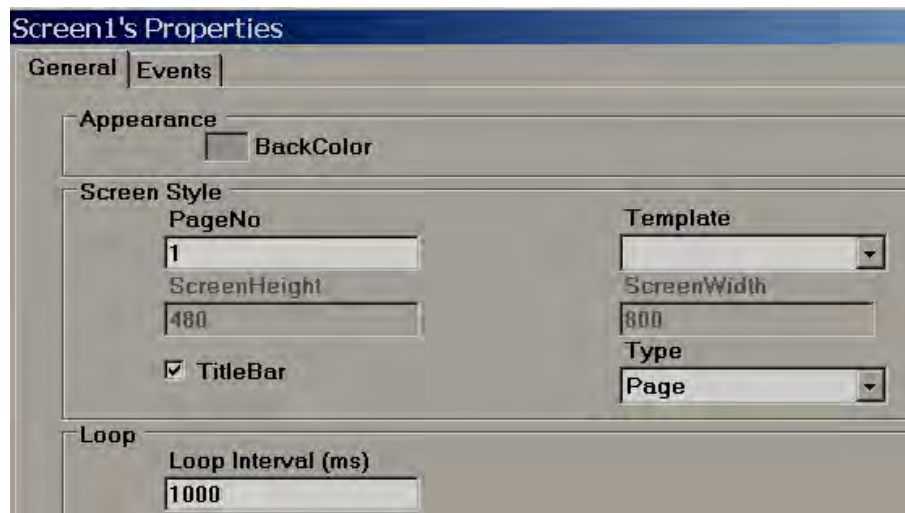


Now, Select Screen1, and then check its properties. For ex: It is possible to change background color of screen from the page properties



Right click mouse keeping pointer on any page, then, you can edit screen properties via wizard.





It is possible either to open, delete or rename screen. Select screen, then **Right click+at mouse** to appear above dialog.



Note: These screen display names are same as available at project explorer. These are different from title bar (Text) defined for screen

Properties:

Back Color: Define background color of component.

Events:

Activated: Define tasks to be executed before opening Screen.

Deactivated: Define tasks to be executed before closing Screen.

Screen Style

Page No: Display current page number.

Screen Height: Define/Display current screen height.

Screen Width: Define/Display current screen width.

Template: Select Template page for this screen.

Title bar: Control visibility of Title bar and select it in design time.

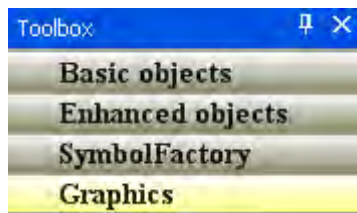


If Title bar = True selected in Page properties, then, number of grids vertically in screen multiplied by grid size will not match with screen height as Title bar occupies some space.

Type: Define type of screen. Available options include Template, Page and Popup.

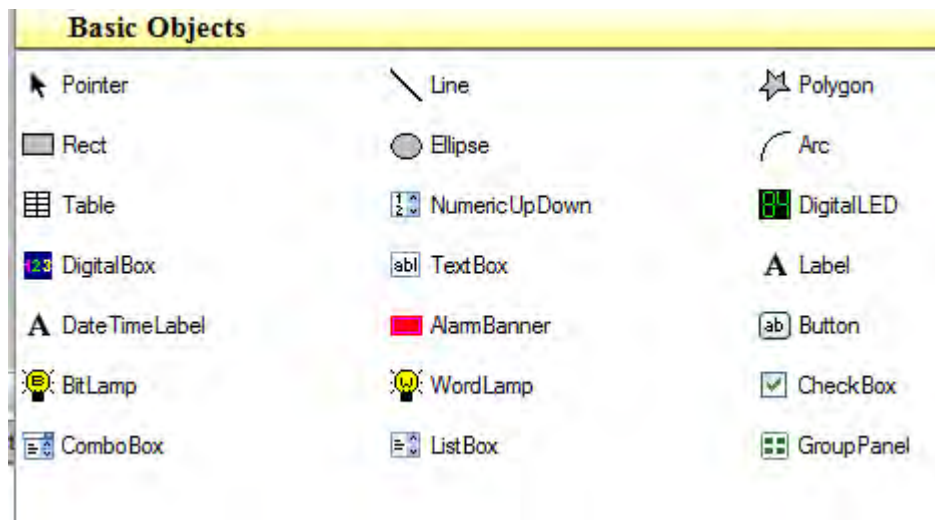
5.3.17 Tool box

These can be accessed from menu bar also from objects.



5.3.17.1 Basic Objects

It is to draw simple shapes in the screen, data entry, data display, alarms view etc.



There are three ways to insert above objects into screen.

- i) Drag and drop.
- ii) Select the object say line first and then use mouse to draw a line in screen.
- iii) Select the object say line, then double click (mouse left click) quickly by keeping pointer on selected line. Then, line will appear in screen. For example, select line and Double click it 3 times by keep mouse pointer on line, you can see 3 lines appeared in screen.

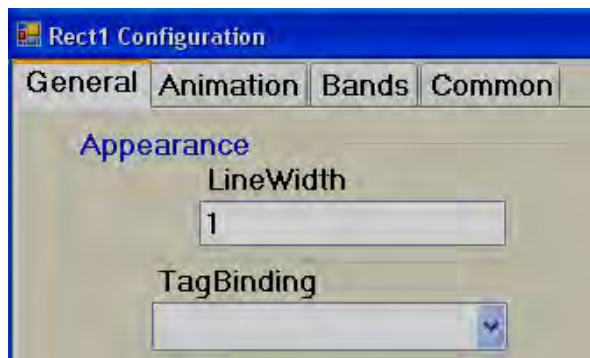
After inserting object to screen, it is possible to edit properties either by Graphical User Interface (GUI) dialog or editing properties directly in property grid.

How to edit via GUI dialog

Insert any object in screen. Select the object, right click the mouse and then select properties.

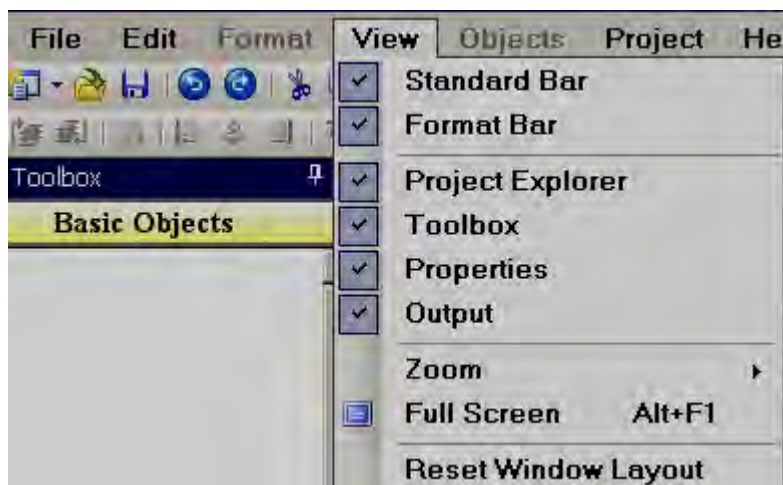
Or

Insert any object in screen. Double click on Object and then GUI dialog will open automatically.

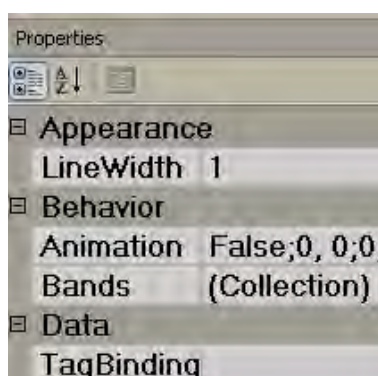


How to edit via Property grid

By default, property grid will appear at Right-Bottom area of screen editor. If not available, in Menu, click on “View” and then click at “Reset Window Layout”, then, property grid will appear at bottom right side of the screen editor just below the Project Explorer.

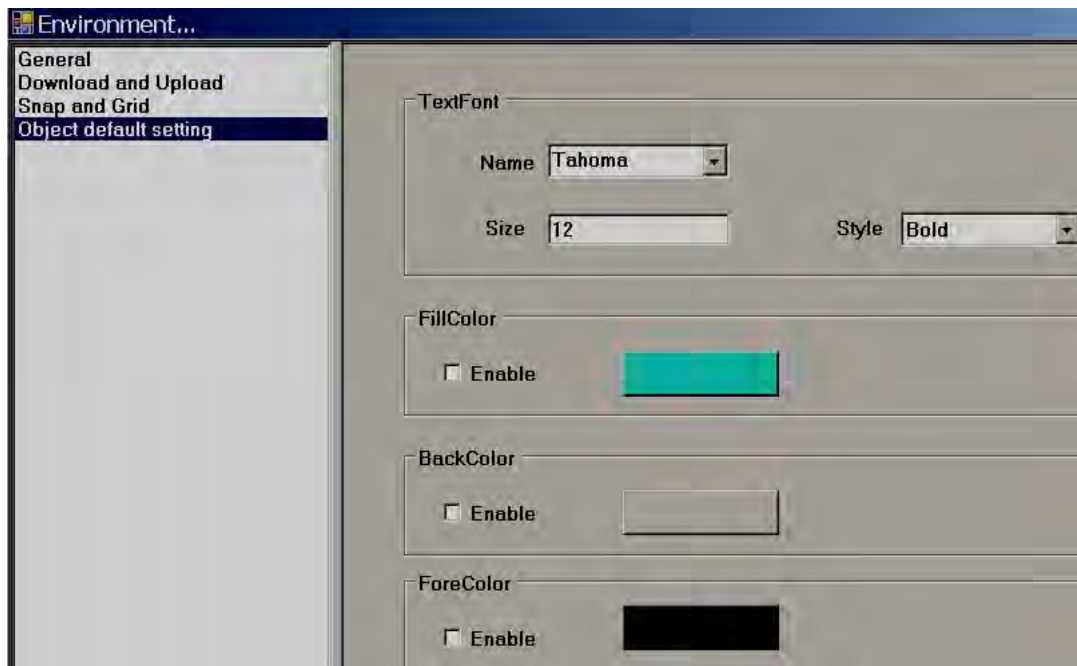


Property grid





Before placing any objects in screens, check section File- Environment and set default font size, fill color, fore color and back color for the objects as shown.



5.3.17.2 Common Properties

Appearance

Back Color: Set background color of the component.

Fore Color: Set Fore color of the component.

Bevel: It is to set border including inner border, outer border and style of border.

Inner Border: True/False

Outer Border: True/False

Style: 9 styles are available

None, Flat, Single, Double, Raised, Lowered, Double Raised, Double Lowered, Frame Raised, Frame Lowered



Behavior

Visible: True/False, determine whether component/control is visible or hidden

Enable: This is for event control. If linked with Digital tag, if tag value =1 in run time, then, events configured for the object will be executed. If tag value = 0, then, events will be not executed

Data

Tag Binding: Select the Tag of process value

Write design time value: If selected, it writes value available at %Text+in design time and also in run time replacing default value defined at Tag data base.

Design

Name: It is name of the component.

Security level: Define security level for the component.

Locked: True/False: It is to Move or Resize the component.

Layout


Dock: Defines which borders of the control are bound to the container.

Location: The coordinates of the upper-left corner of the component relative to upper-left corner of the container. Set X and Y position in screen in pixels.

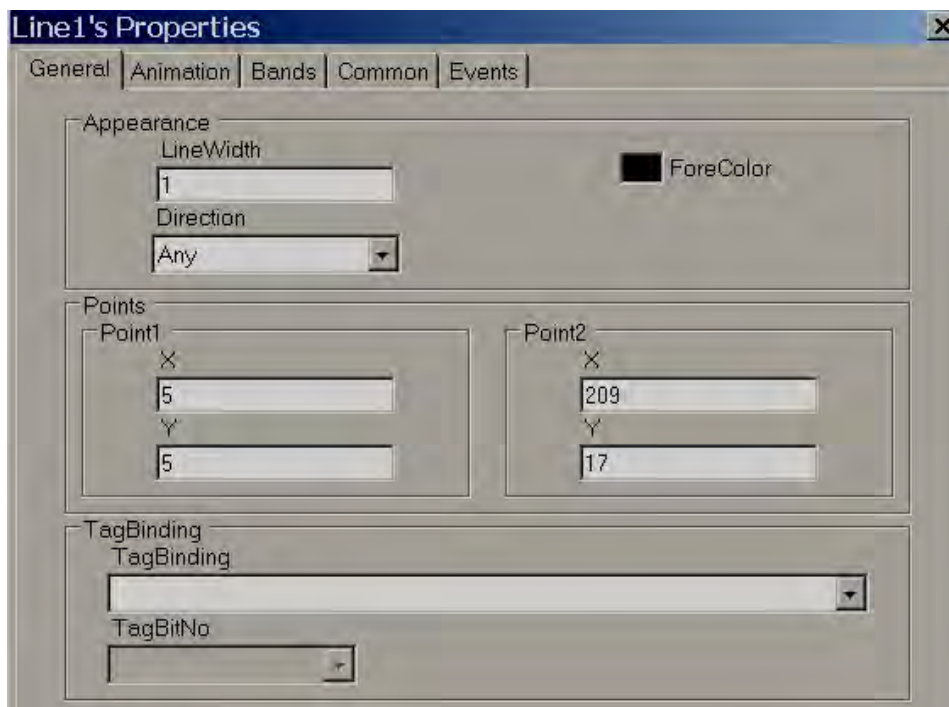
Size: Size of the component in pixel. Set height and width of component in pixels.

 **Pointer:** It is to deselect the tool selection.

5.3.17.3 Line

 **Line:** It is an object used to draw line and do animation in Run time linking with Tag.

User can edit properties via GUI dialog or property grid as per convenience. After drag/drop of object to screen, double click on object to open GUI dialog or select the object and directly enter properties via property grid available at bottom right corner of screen editor.



General

Appearance

Line Width: Define Line width

Direction: Horizontal or Vertical

Points

Point1: Define X and Y coordinate for line starting point and they show current position.

Point1: Define X and Y coordinate for line end point and they show current position.

Tag Binding

Select Tag to be linked with this line. This is useful if animation is required to be done on the line.

The screenshot shows the 'Line1 Configuration' dialog box with the 'Animation' tab selected. The dialog is divided into several sections:

- Movement:** Contains a checkbox for 'EnableMove' (unchecked). Below it are two columns: 'StartPosition' and 'EndPosition'. Each column has 'X' and 'Y' labels with corresponding text input fields. The 'X' fields contain '0' and the 'Y' fields contain '0'.
- Size:** Contains a checkbox for 'EnableSize' (unchecked). Below it are two columns: 'StartSize' and 'EndSize'. Each column has 'Width' and 'Height' labels with corresponding text input fields. The 'StartSize' fields contain '10' and the 'EndSize' fields contain '100'.
- Tag Value:** Contains 'From' and 'To' labels with corresponding text input fields. The 'From' field contains '0' and the 'To' field contains '100'.

Animation

This is to do animation on line in Run Time

Movement

Select Enable Move check box if movement animation is required in Run time.

Start Position: Define X and Y coordinate for start position when tag value is minimum in Run Time.

End Position: Define X and Y coordinate for end position when tag value is max. Run time.

Where X position indicates movement from Left side to Right side which is Horizontal movement and Y position indicates movement from Top side to Bottom side which is Vertical movement.

For ex: Recorder 7+(High Performance) project,
800 X 480 pixels,
Normal installation, Horizontal (Left to Right) = 800 pixels,
Vertical (Top to Bottom) = 480 pixels

Enable move: Selected
Start position X = 0, Y = 0
End position X = 800, Y = 0
Tag Value, From = 0, Tag Value To = 100

Now, in Run time, when Tag value = 0, then line will be at Top left and when
Tag value = 100, position of line will be Top Right

Size

Select Enable Size check box to enlarge/decrease size of component in Run time.

Start Size: Define X and Y coordinate for start size when tag value is minimum in Run time.

End size: Define X and Y coordinate for end size when tag value is max. Run time.

Tag Value

Select Tag to be linked with this line. This is useful if animation is required to be done on the line.

Bands

This is to select various bands as part of animation in Run Time



Band Count

Maximum 32 bands are available.

For ex: In above sample,

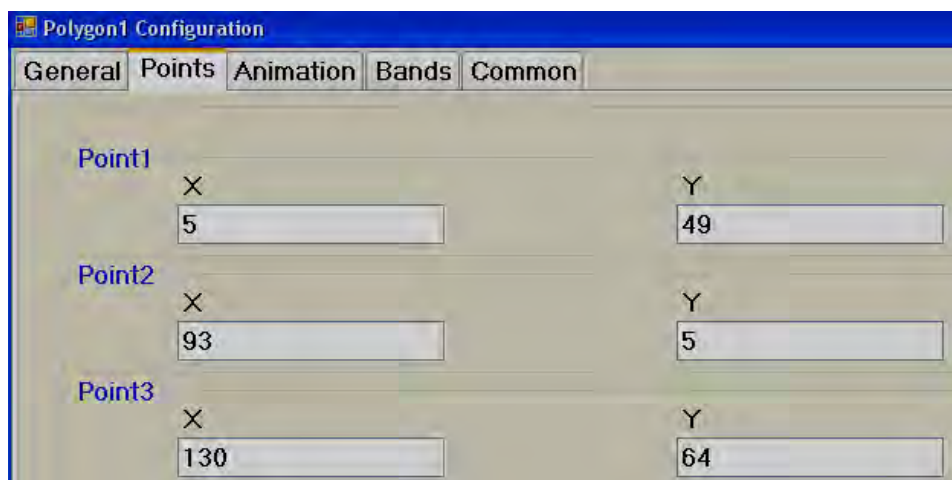
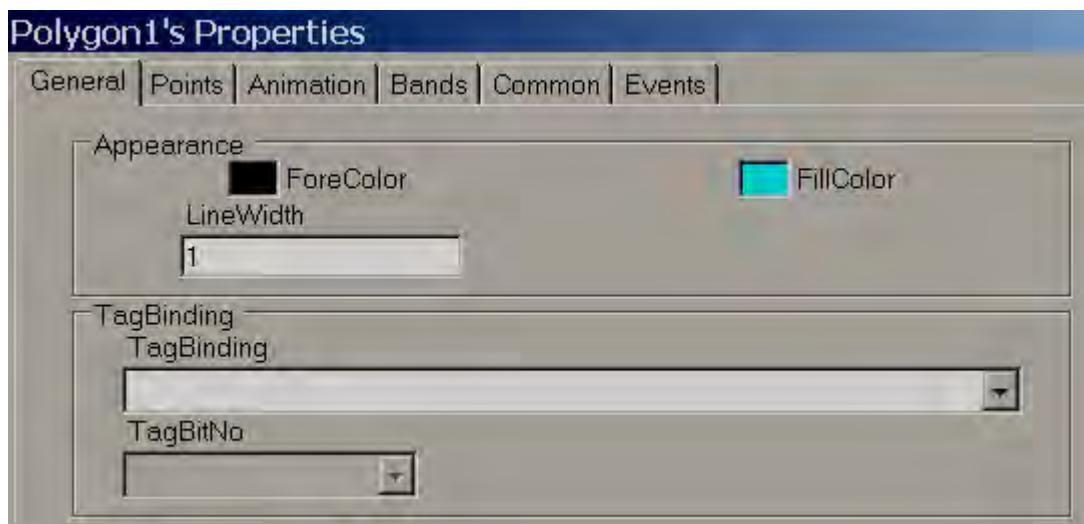
If Tag value is between 0 to 20, line will be in Yellow color

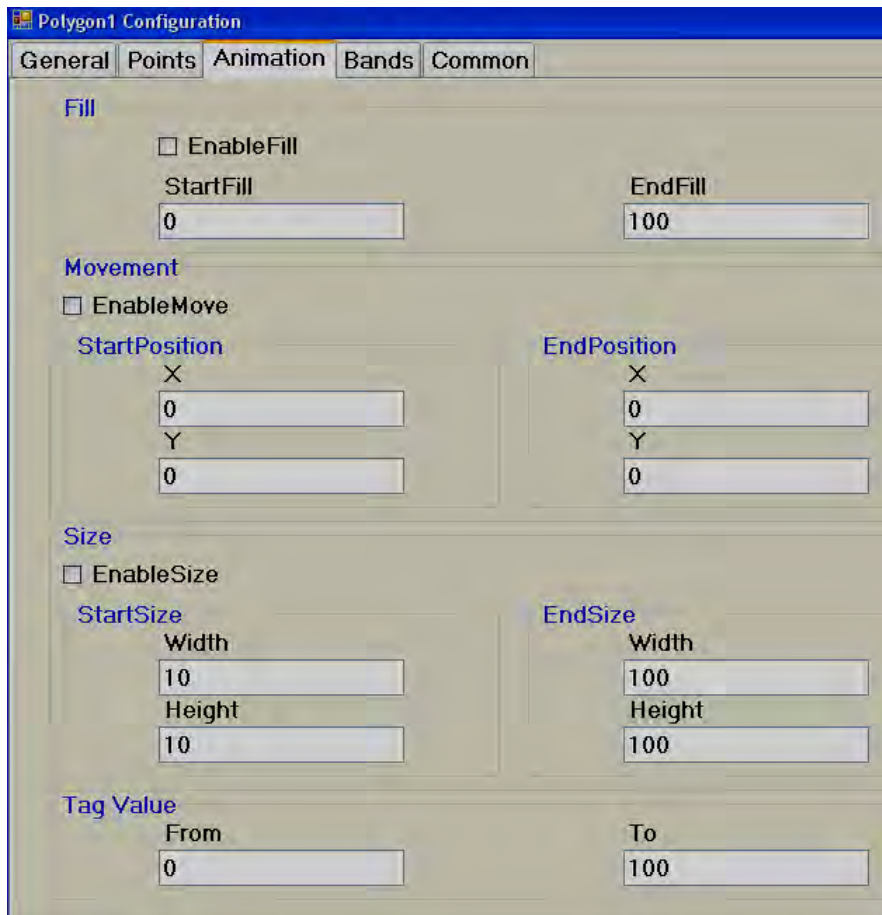
If Tag value is 21 to 80, then, line color = Green

If Tag value in Run time is above 80, line color = RED

5.3.17.4 Polygon

✦ **Polygon:** It is to draw a polygon. After finishing drawing, double click using mouse (left) to complete the Polygon. It is also possible to link polygon to a tag and define user friendly animation to appear in Run time.





Animation

This is to do animation on Polygon in Run Time

Fill

Select Enable Fill if filling animation is required on Polygon object in Run time. When tag value changes in Run time, it appears filling with defined color inside Polygon object. It is like a bar graph but filling is with in polygon shape defined during design time.

Start Fill: Define Start value for Fill

End Fill: Define End value for Fill

Movement

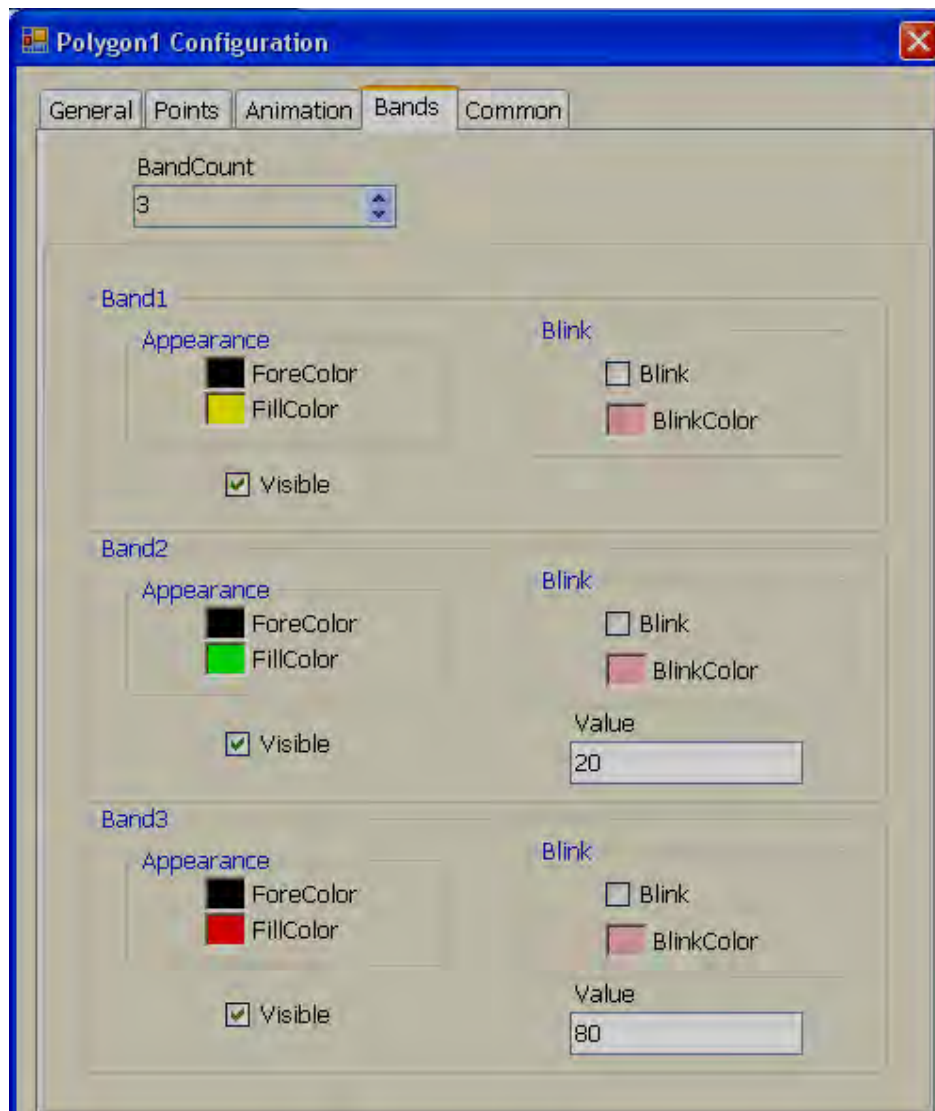
It is to define movement position and it is the same as explained for Line object.earlier.

Size

It is to define Size enlarge/decrease and it is the same as explained for Line object earlier.

Tag Value

Select Tag to be linked with Polygon object. This is useful if animation is required to be done on the Polygon.



Band editor: Maximum 32 bands are available.

For example: In above sample,

If Tag value is between 0 to 20, Polygon fill color = Yellow

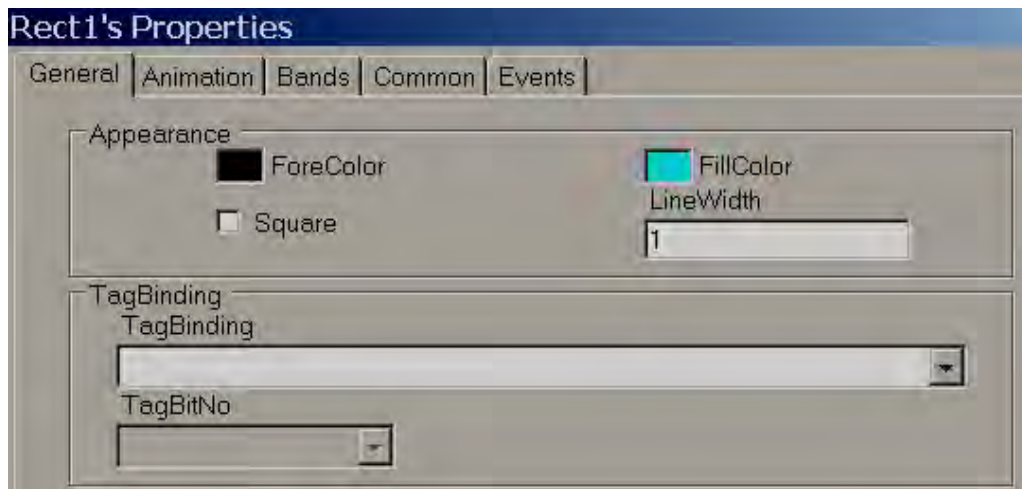
If Tag value is 21 to 80, then, Polygon fill color = Green

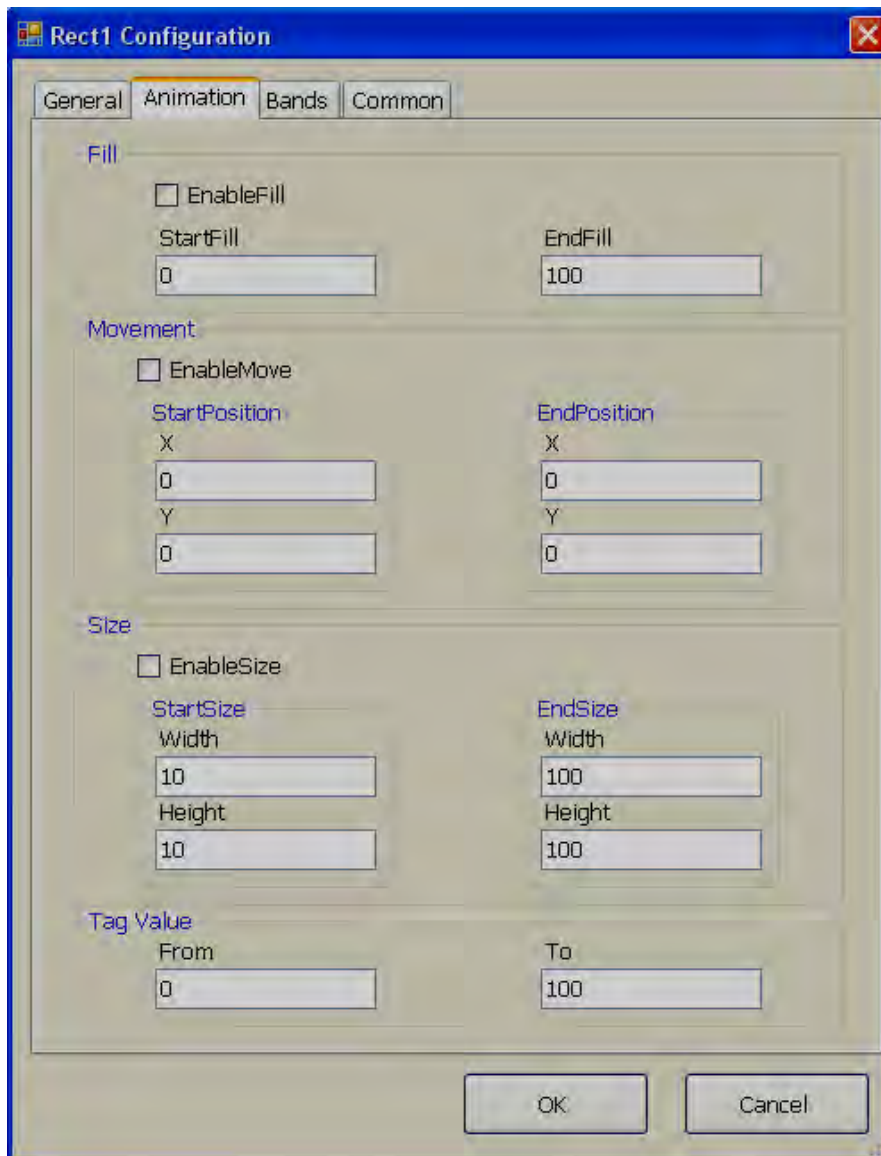
If Tag value in Run time is above 80, Polygon fill color = RED

If required, it is also possible to configure blink property and set blink color in any band.

5.3.17.5 Rectangle

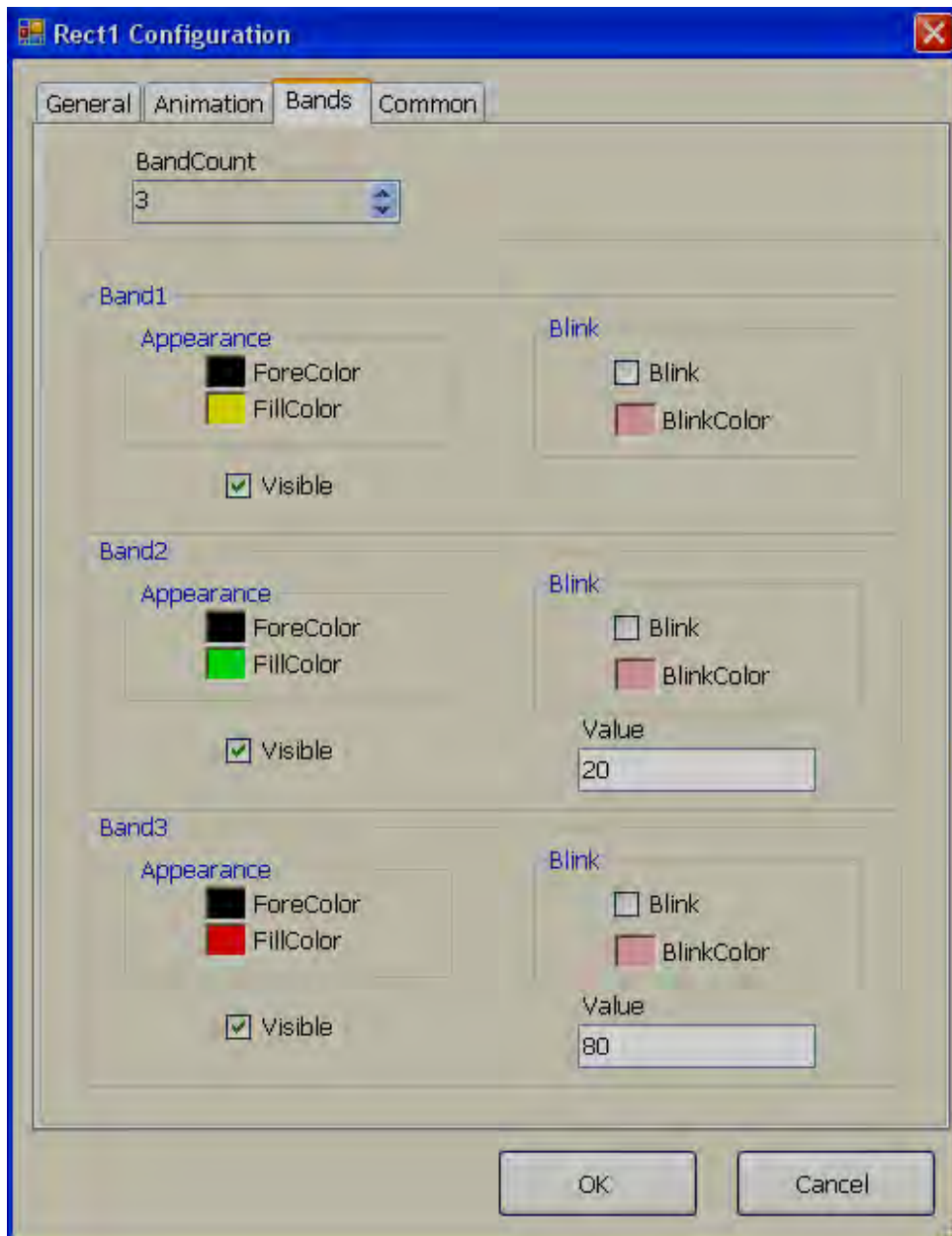
- Rectangle:** It is to draw a Rectangle and do animation in Run time linking with Tag.





Animation Supported: Fill, Movement and Size

The above features are same as explained for Line and Polygon objects



Band editor: Maximum 32 bands are available.

For ex: In above sample,

If Tag value is between 0 to 20, Rectangle fill color = Yellow

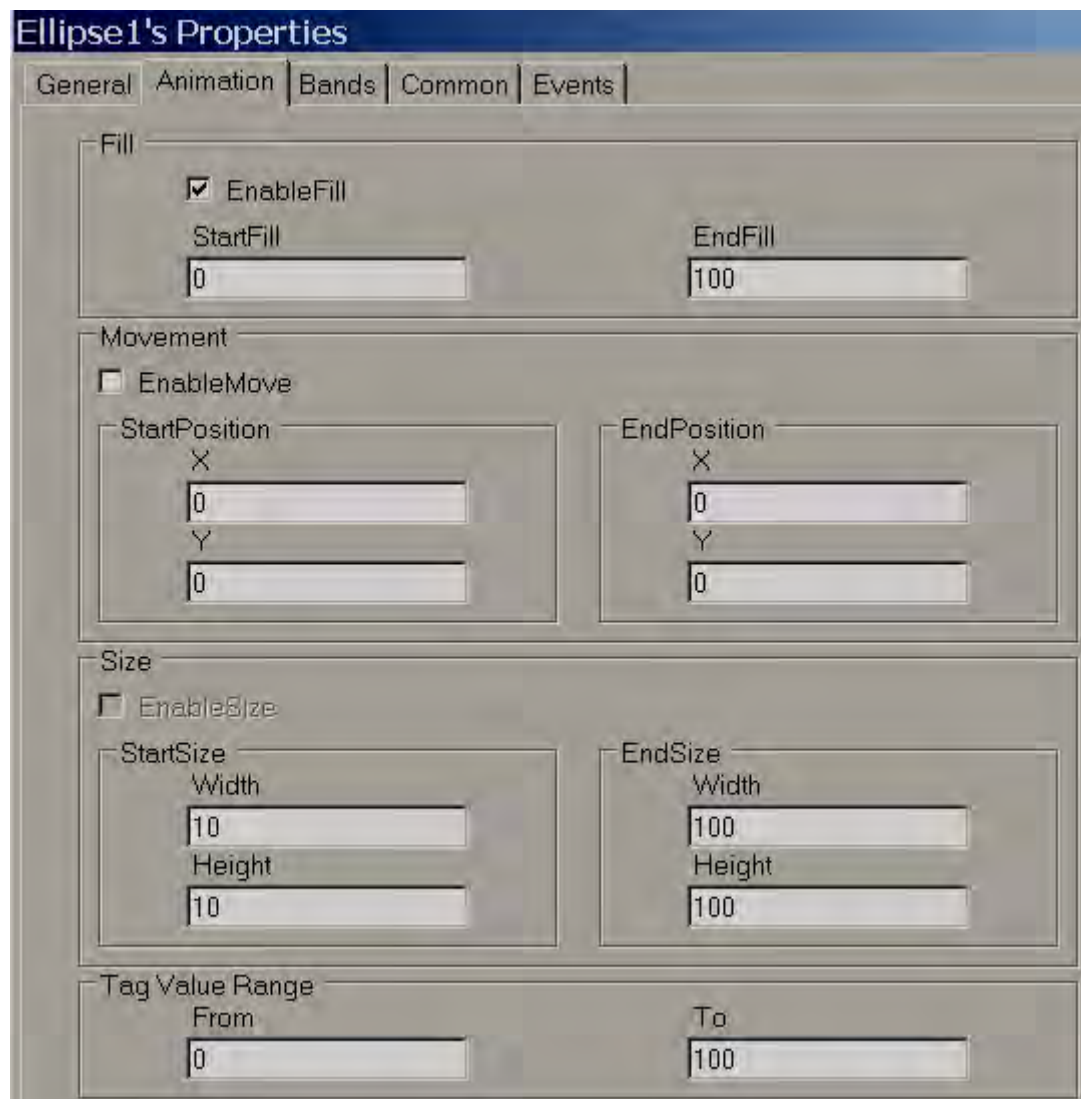
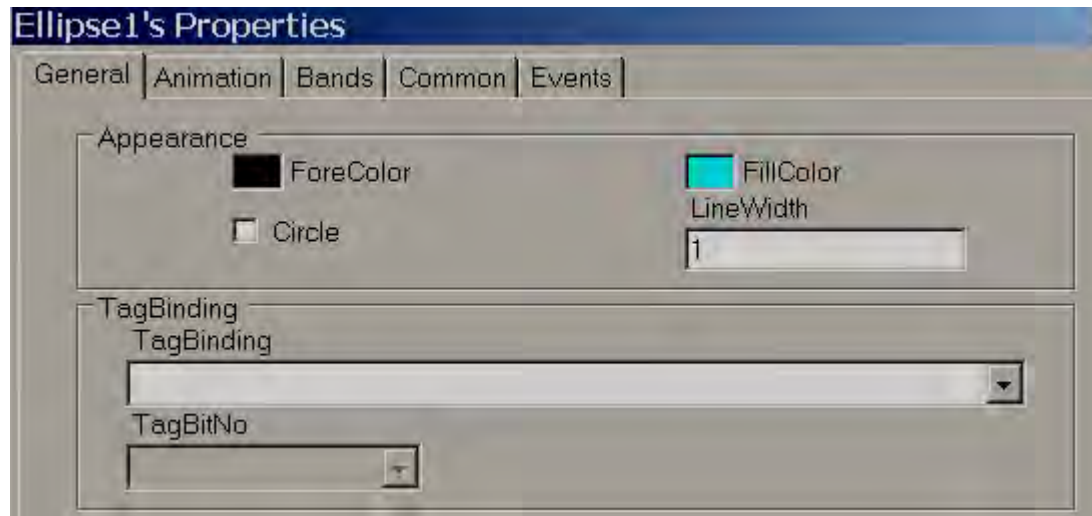
If Tag value is 21 to 80, then, Rectangle fill color = Green

If Tag value in Run time is above 80, Rectangle fill color = RED

If required, it is also possible to configure blink property and set blink color in any band.

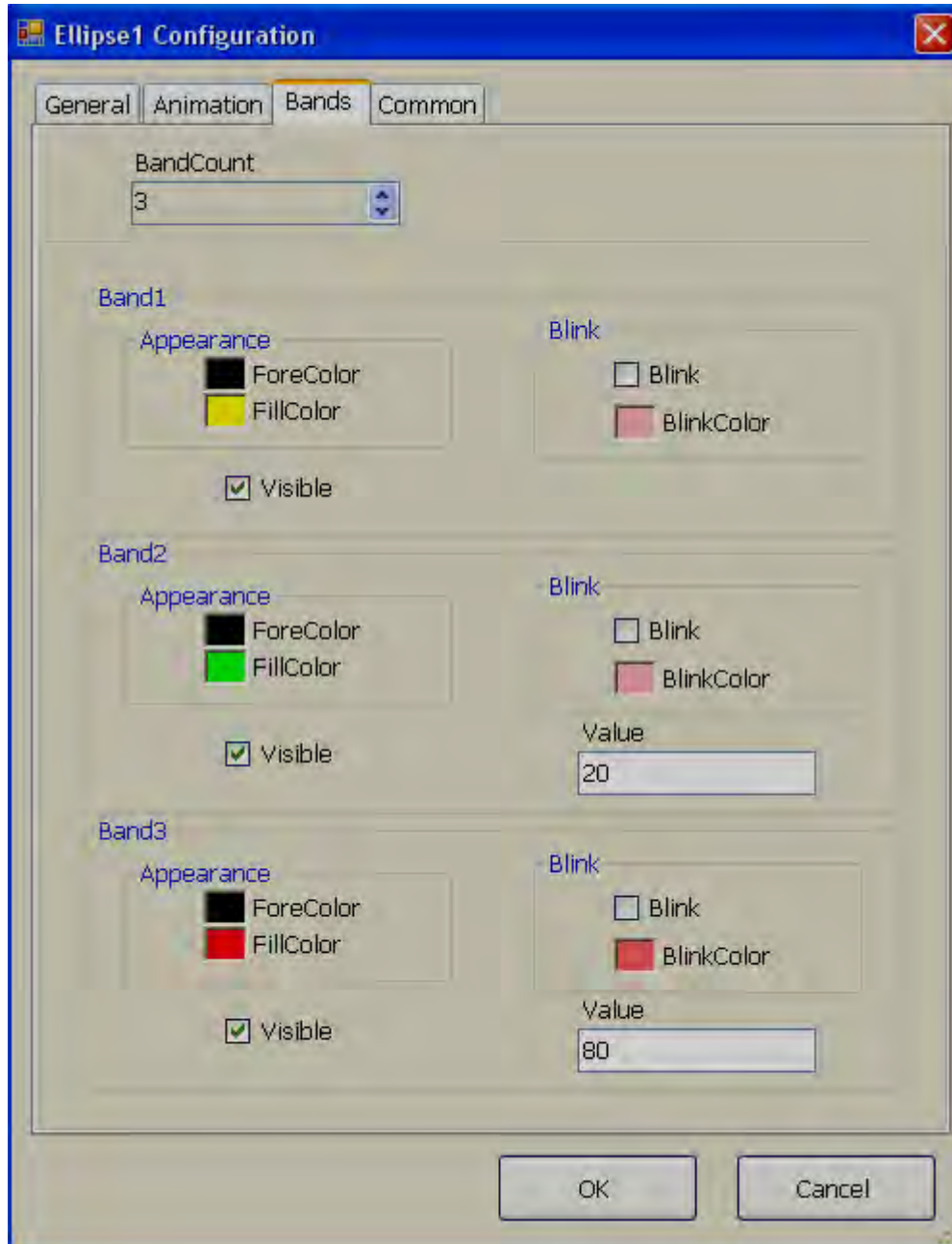
5.3.17.6 Ellipse

Ellipse: It is to draw Ellipse or a circle and do animation in Run time linking with a Tag.



Animation Supported: Fill, Movement and Size

The above features are the same as explained for Line and Polygon objects.



Band editor: Maximum 32 bands are available.

For example: In above sample,

If Tag value is between 0 to 20, Ellipse fill color = Yellow

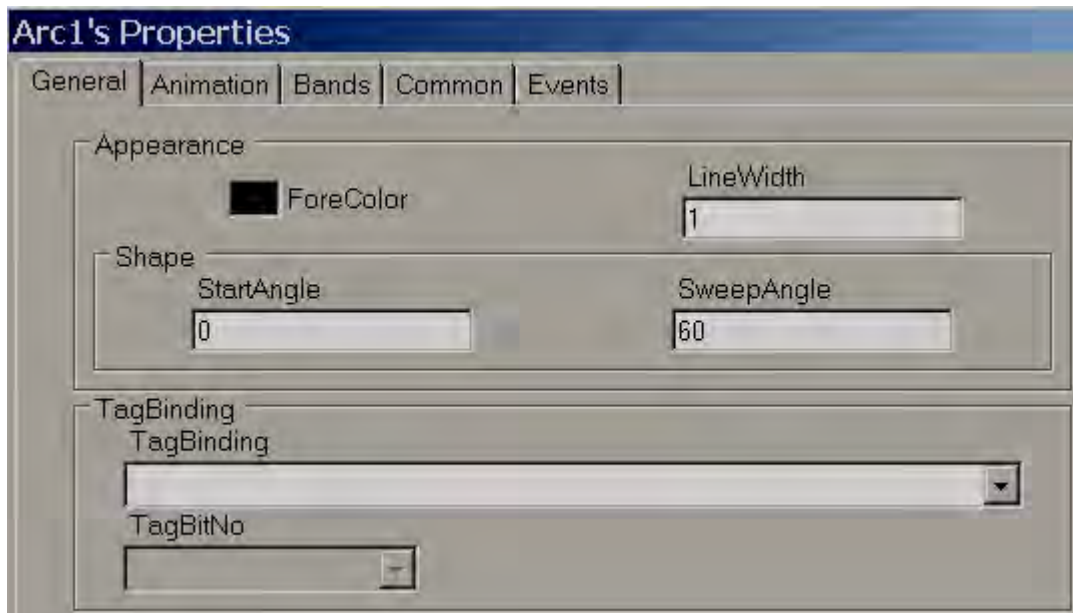
If Tag value is 21 to 80, then, Ellipse fill color = Green

If Tag value in Run time is above 80, Ellipse fill color = RED

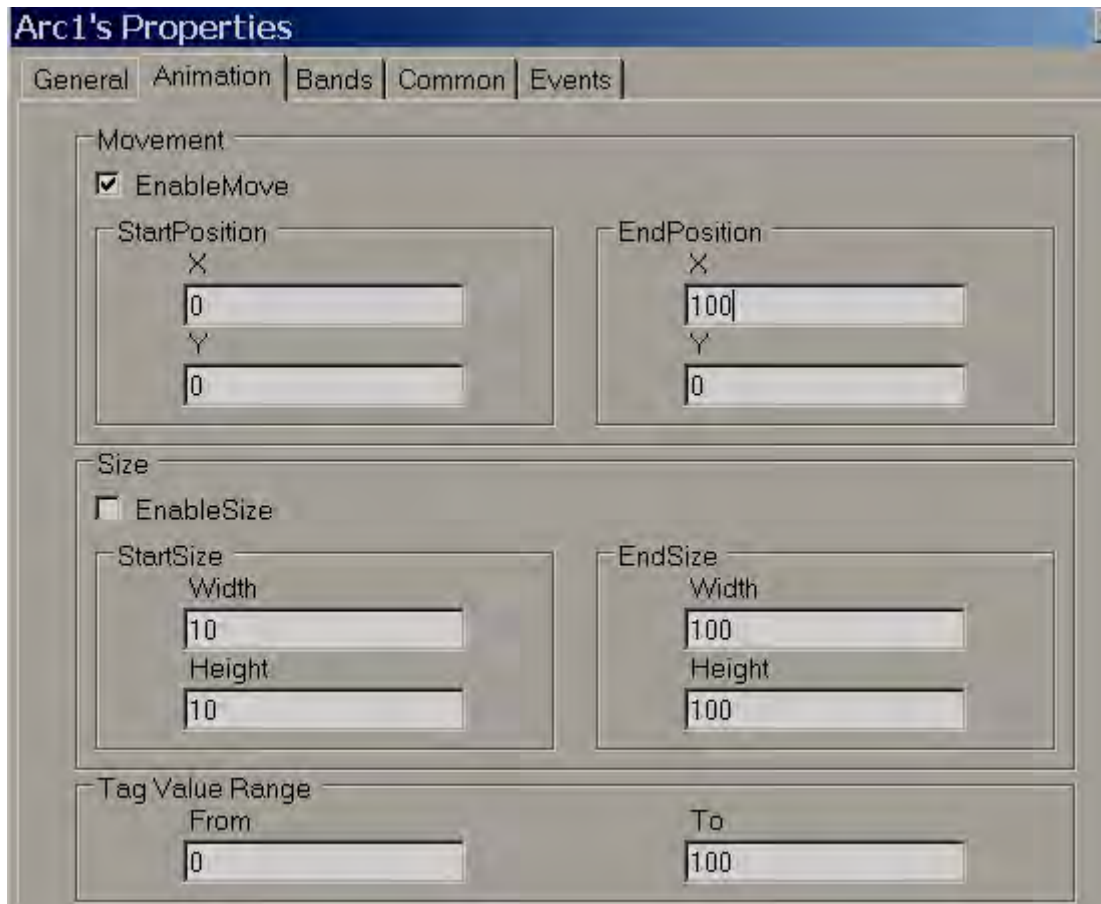
If required, it is also possible to configure blink property and set blink color in any band,

5.3.17.7 Arc

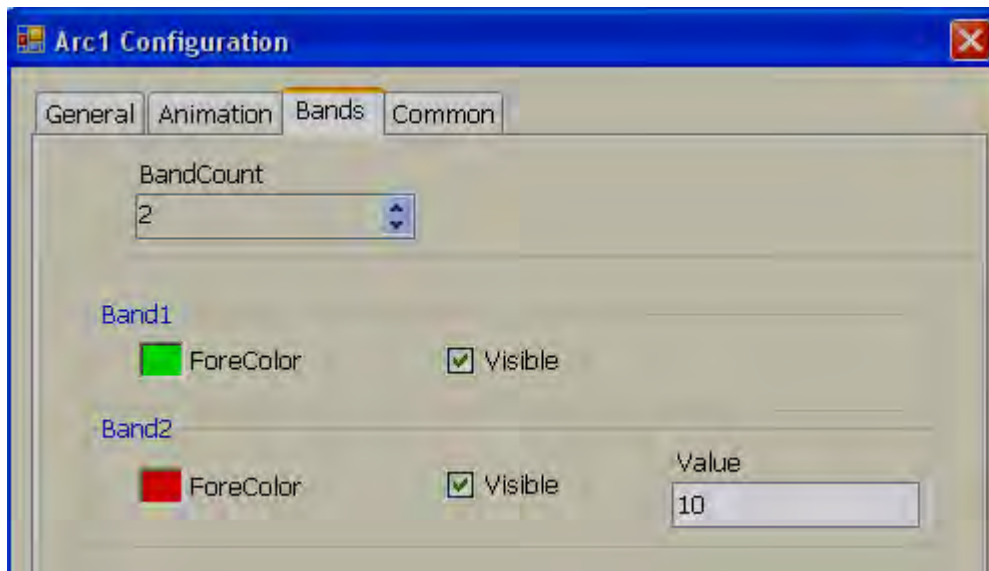
Arc: It is to draw Arc and do animation in Run time linking with Tag.



Start Angle: Define start angle, Sweep angle: Define end angle



Supported Animation: Movement and Size



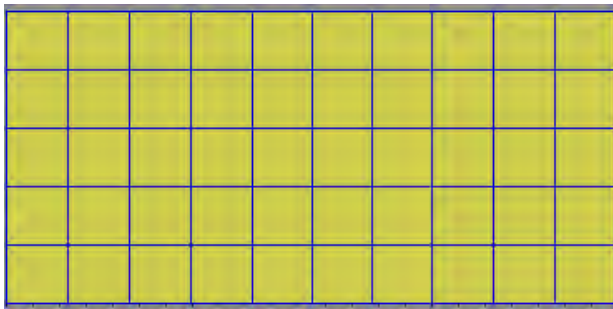
Band editor: Maximum 32 bands are available. Band editor for Arc is the same as explained for %line+object earlier.

5.3.17.8 Table

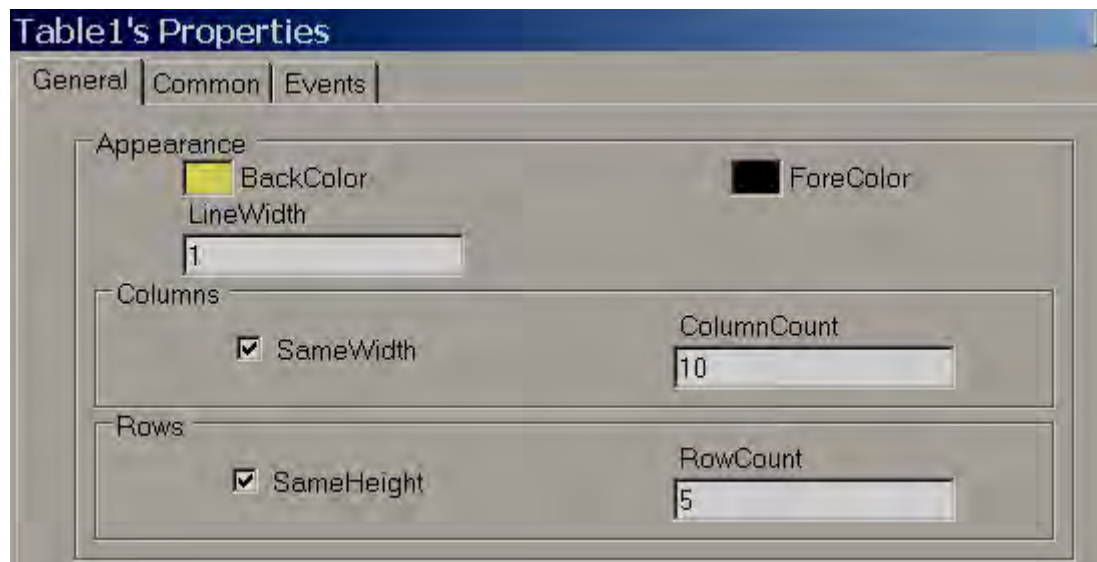
It is to draw a table in design time by specifying number of rows & columns. All rows/columns will have the equal width and height. It is possible to place labels on rows (Linked with Tags) for displaying process values to appear like a tabular column. User can edit properties via GUI dialog or Property grid as per convenience. After drag/drop of the object to screen, double click on object to open GUI dialog.



While working with Table, in page properties, select Snap to Grid = False such that it is easy to place labels/ Textbox in required position easily.



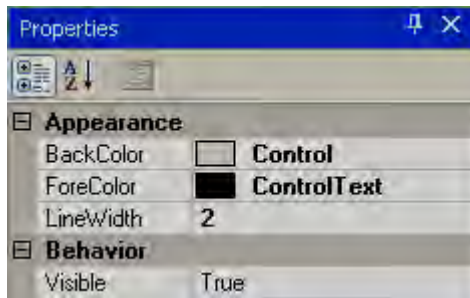
Drag/Drop Table from Basic objects to screen and double click on Table. Following screen will open.



Note: Deselect Same Width+to adjust column width in the Table

Note: Deselect Same Height+to adjust Row height in the Table

Property grid



Properties

Back Color: It is back color for the table

Fore Color: It is color for the lines in table

Line Width: It is the width of lines

Columns: It is to define number of columns in table

Rows: It is to define number of rows in table

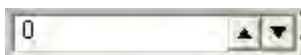
Name: It is the unique name for the table in specific page

Locked: It is to determine if table is locked for further moving and resize in design time and you can set this in property grid.

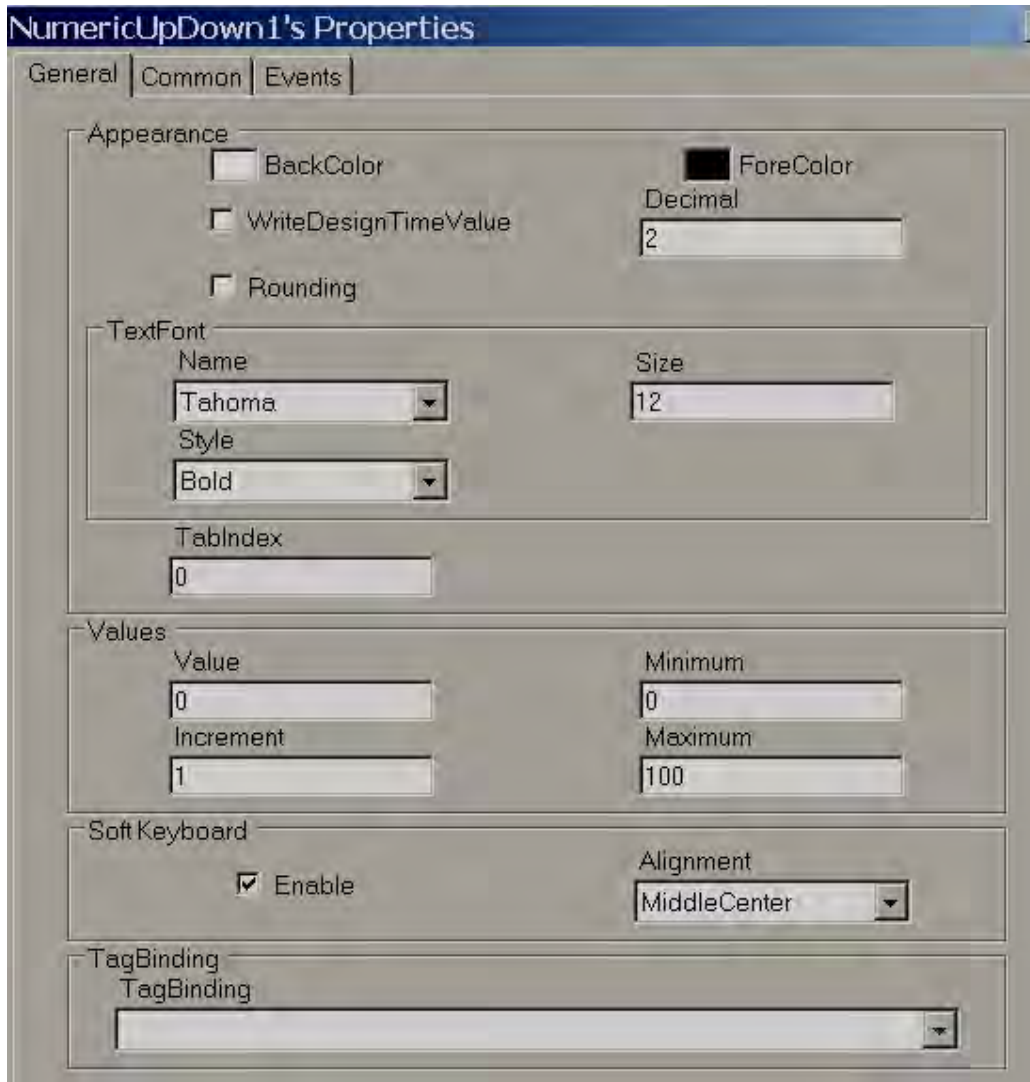
5.3.17.9 Numeric Up/Down

Numeric Up/Down is Graphical User Interface widgets that allow the user to increase or decrease value of a tag by pressing Up or Down arrows in Run time or alternatively enter numeric value directly via keypad. User can edit properties via GUI dialog or Property grid as per convenience. After drag/drop of object to screen, double click on the object to open GUI dialog.

Every Numeric Up/Down button should be linked with an **Analog** Tag.



Except Up/Down arrow, if user presses another area of Numeric Up/Down component in Recorder at Run time, Numeric keypad will open. Then, user can enter numeric value directly. Numeric Keypad will not appear in PC during Online/Offline simulation and you can use keyboard directly to enter numeric value.



Increment: Select the value to be incremented/ decremented each time when up/down arrow is pressed in Run time.

Properties

Write design time value: If selected, it writes value available at %Text+in design time and also in run time replacing default value defined at Tag data base.

Rounding: Rounding to nearest value

Decimal: Enter number of decimal points

Value: Current Tag value. It is used to enter value in design time and check how value is displayed in Run time.

Increment: Value to be incremented in Run time after pressing Up/Down button.

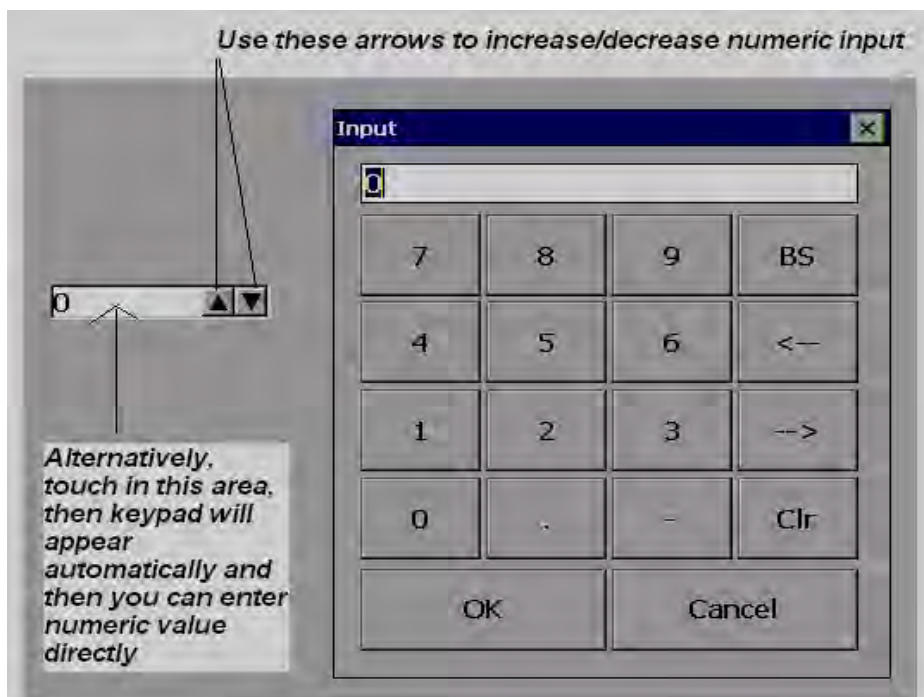
Minimum: Define Minimum value

Maximum: Define Maximum value



Soft keyboard: If enabled, then, it is possible to control the keypad appearance in run time. For example, if alignment is selected as Middle center, then, when keypad appears in run time, it will be located to Middle center in screen

Events: Define events to be executed when operator pressed on Up/Down arrow and value changes occurs in Run time.

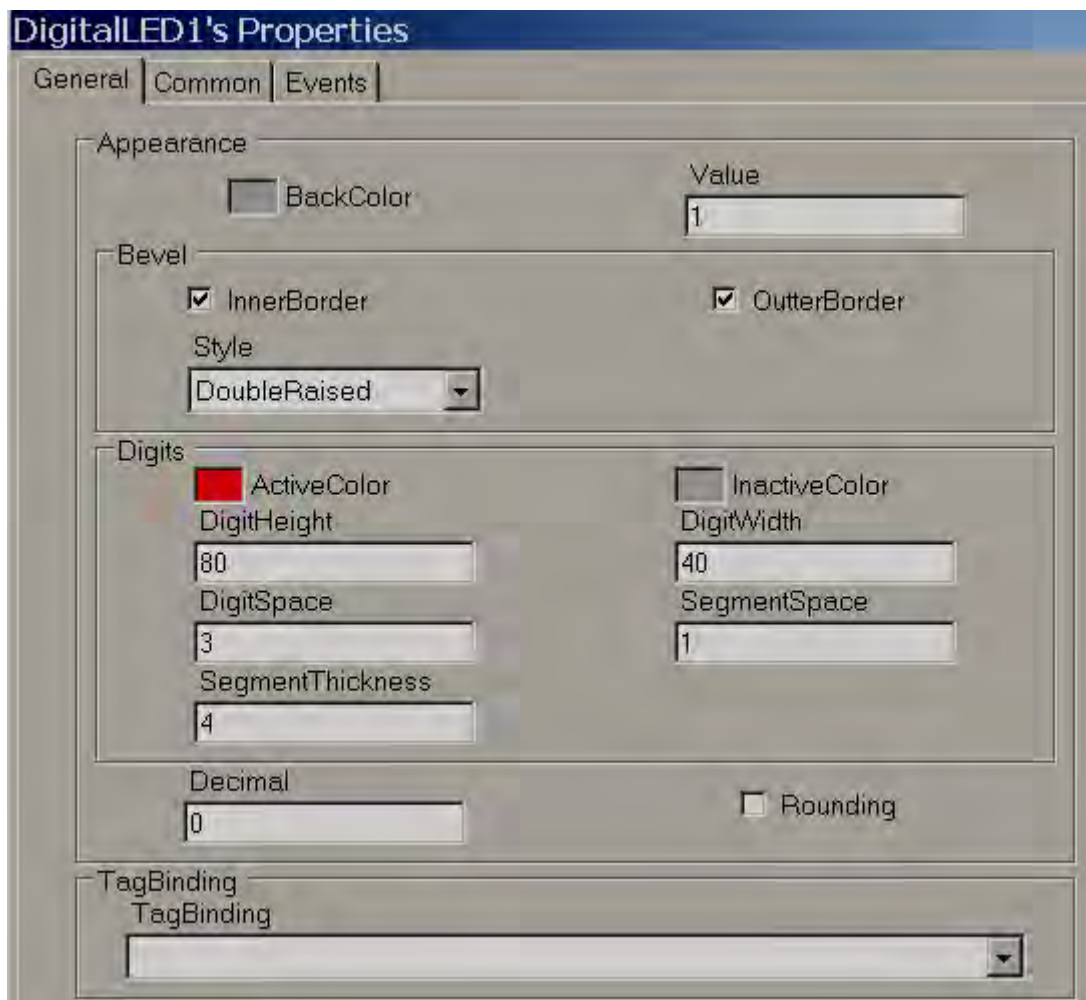


5.3.17.10 Digital LED

It is to view process value in Digital format. Generally it is linked with Analog type tag (Analog input type tag at PLC, which is received as 4-20 mA signals from field transmitters like Temperature, Pressure, Flow, Level, Position etc...)



For common properties like Back Color, Bevel, please refer section %Common Properties



DigitalLED1's Properties

General | Common | Events

Appearance

BackColor Value: 1

Bevel

InnerBorder OuterBorder

Style: DoubleRaised

Digits

ActiveColor InactiveColor

DigitHeight: 80 DigitWidth: 40

DigitSpace: 3 SegmentSpace: 1

SegmentThickness: 4

Decimal: 0 Rounding

TagBinding

TagBinding: [Empty]

Property grid

[-] Digits	Red,80,3,40,Color [Silver]
ActiveColor	 Red
DigitHeight	80
DigitSpace	3
DigitWidth	40
InactiveColor	 Silver
SegmentSpace	1
SegmentThickness	10

Properties

Back Color: Define background color for the component

Inner border: Select if inner border is required for the component

Outer border: Select if outer border is required for the component

Style: Define border style. Available options are Single, Double, Raised, Lowered, Double Raised, Double Lowered, Frame Raised and Frame Lowered

Active Color: Define Active Color of Segment for Digits

Inactive Color: Define color of inactive segment. In the seven-segment LED display, some segments might be active and some other segments might be inactive depending numeric value.

Digit Height: Define Height of Digits

Digit Width: Define width of Digits

Digit Space: Define Space between digits

Segment Space: Define space between segment to segment for digits

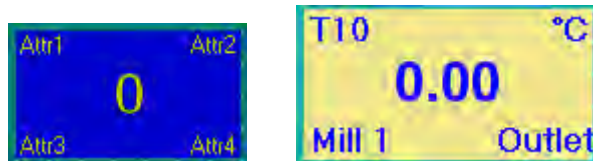
Segment Thickness: Define thickness of segments for digits

Decimals: Define number of decimal points

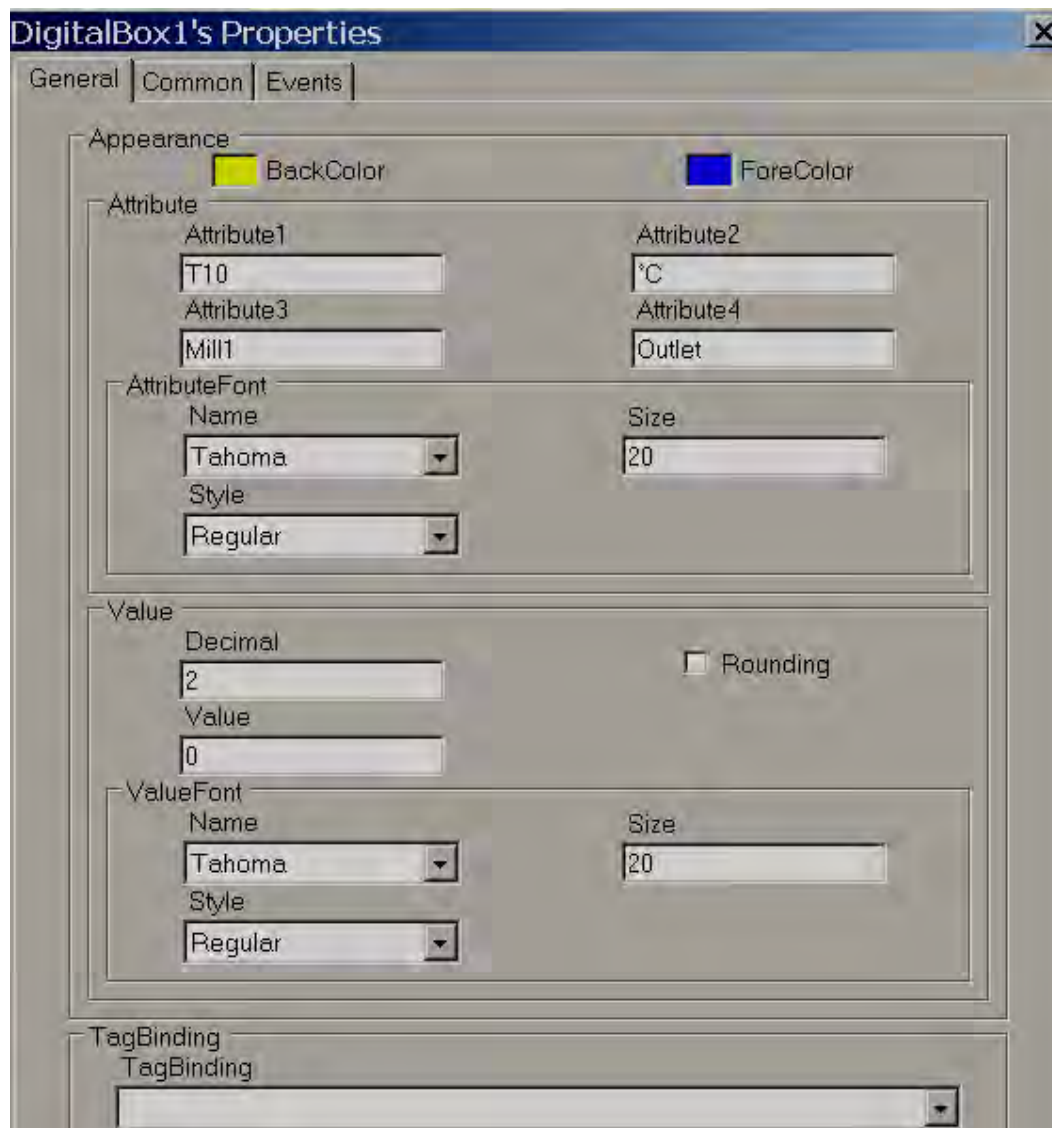
Tag Binding: Select the Analog Tag of process value

5.3.17.11 Digital Box

Digital Box is a Graphical User Interface widget that displays Digital Tag value along with four predefined labels as attributes for the process value in Run time.



Every Digital Box normally used with **Analog** Tag to display process values like Temperature, Pressure, Flow etc., It also allows 4 different labels as attributes for displaying tag related information.





Properties

Attribute1: attribute to be displayed at Top left side of Digital Box

Attribute2: attribute to be displayed at Top Right side of Digital Box

Attribute3: attribute to be displayed at Bottom Left side of Digital Box

Attribute4: attribute to be displayed at Bottom Right side of Digital Box

Attribute font: Define font for attribute, select type of windows font, size of font and style of font which includes Regular, Bold, Italic, Underline, and Strike out.

Back color: Define back ground color

Fore Color: Define fore color for the font

Decimal: Define number of decimal places for the value to be displayed

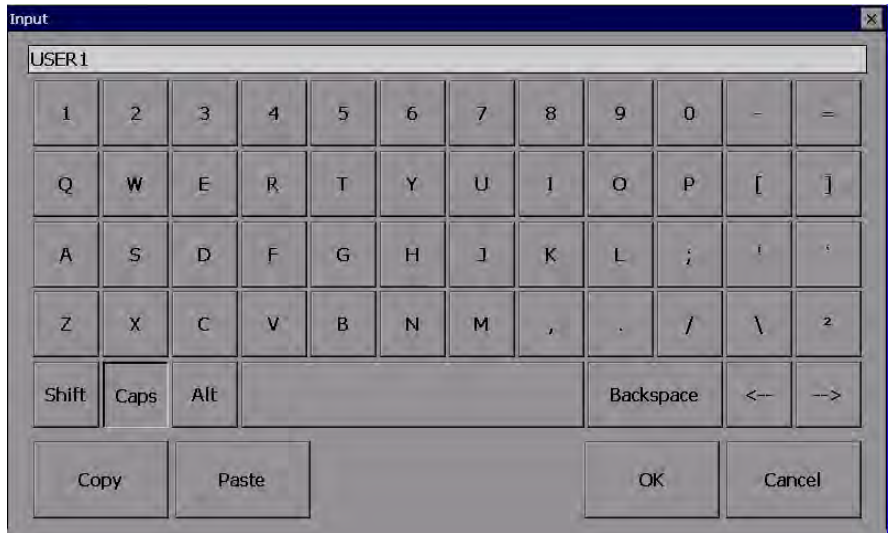
Value font: It is to adjust size of display process value font, select type of font, size of font and style of font including Regular, Bold, Italic, Underline and Strike out.

5.3.17.12 Text box

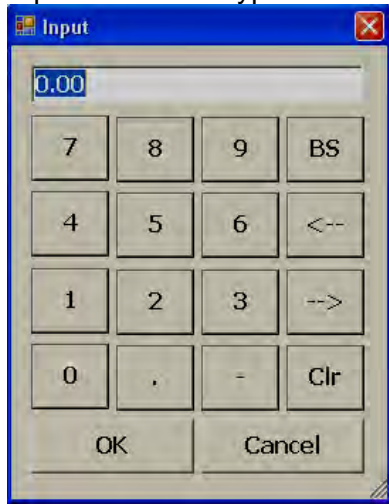
It is to Read/Write, Alpha numeric text in Run time. It can be linked with any type of tag.



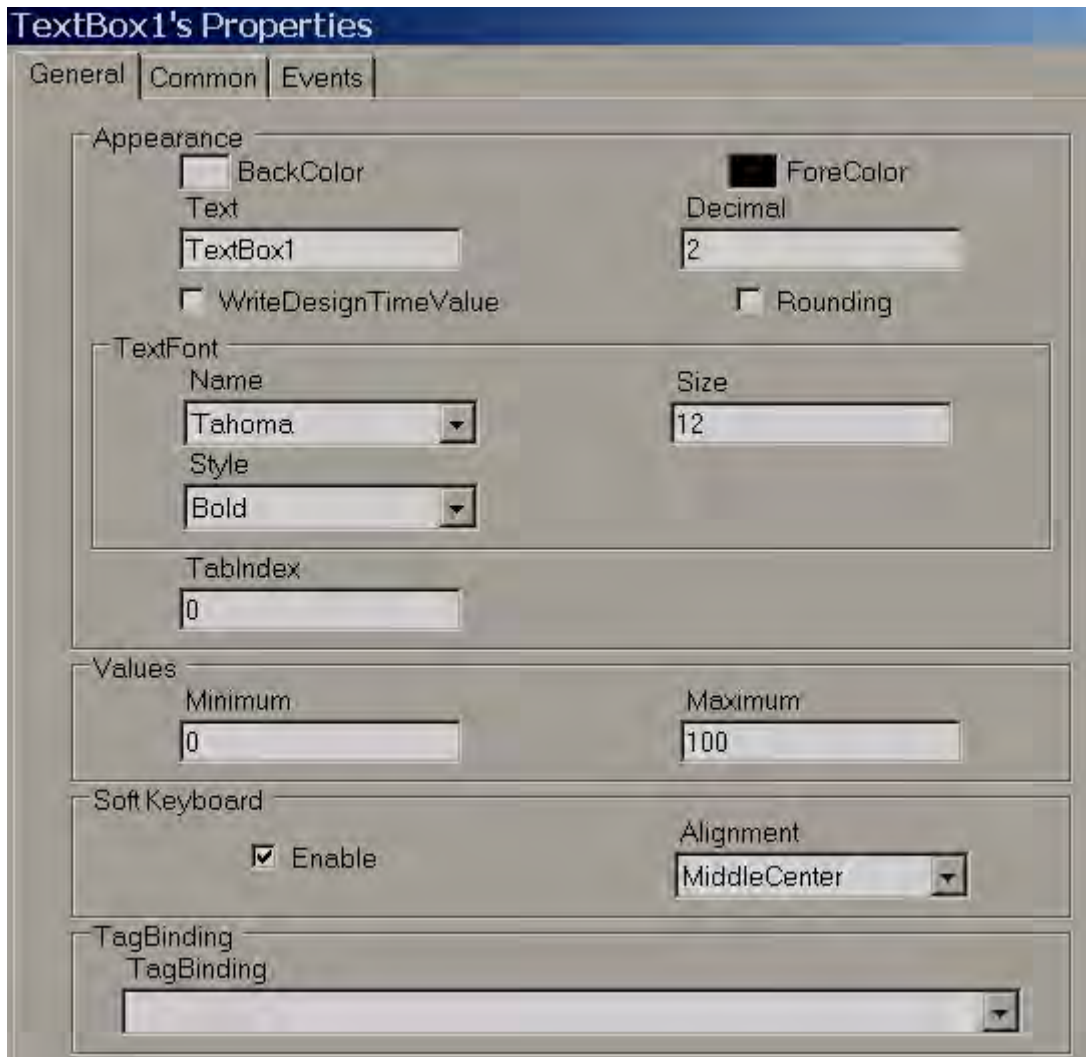
If object is linked with String type tag, then, Alpha numeric keypad opens in Run time if users touch on object. If object is linked with Analog or Digital tag, then, numeric keypad opens in Run time if user attempts to touch on object. If Digital tag is used, then, make sure decimals are set to 0.



Alpha numeric keypad



Numeric keypad

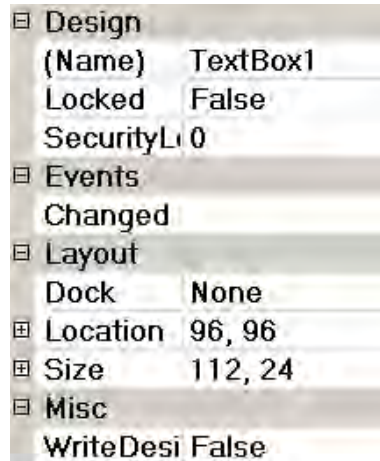
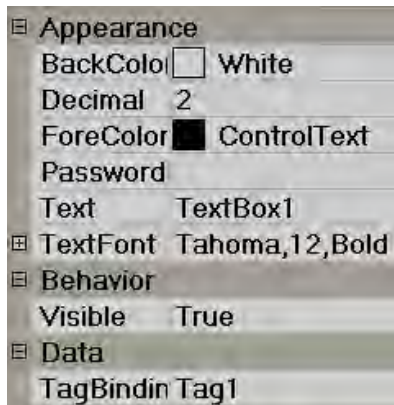


Note: For common properties of all the components, please check beginning of this section.

Write design time value: If selected, it writes value available at %Text+in design time and also in run time replacing default value defined at Tag data base.

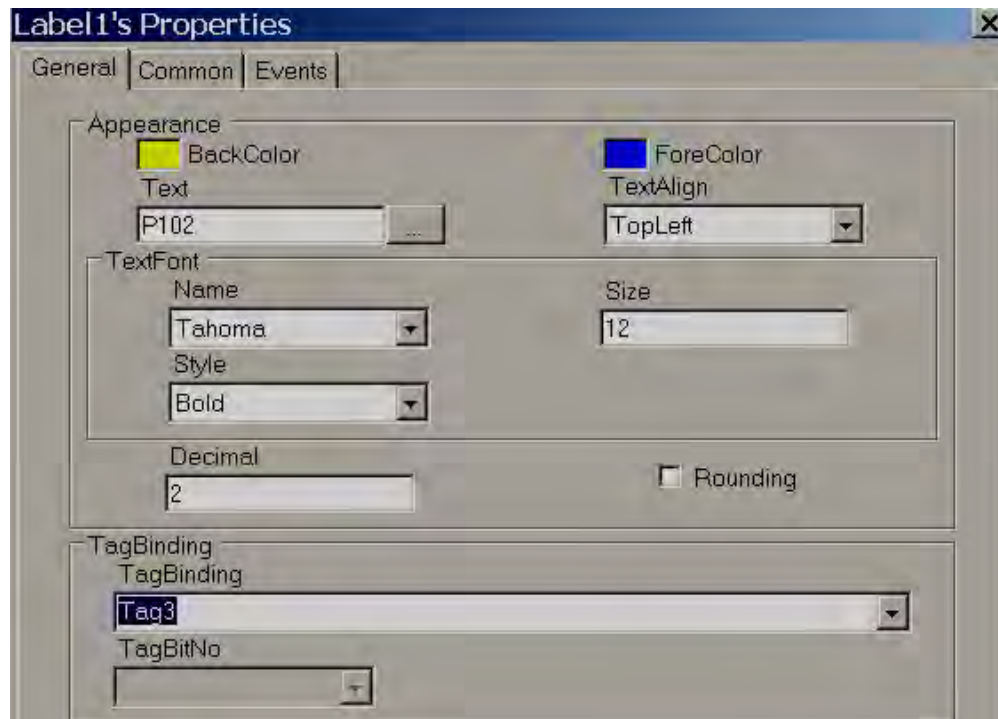


Soft keyboard: If enabled, then, it is possible to control the keypad appearance in run time. For example, if alignment is selected as Middle center, then, when keypad appears in run time, it will be located to Middle center in screen



5.3.17.13 Label

Label is to write a simple text for user information in the screen to improve clarity for the operator. Example: Tag name, Pump number display etc. It is also used to display process value (read only) to operators by linking with Tag.





Note: For common properties of all the components, please check beginning of this section.

Properties

Text: Define text associated with this component and it should be entered at design time only.

Text Align: It is for Alignment of text and available options include Top Left, Top Center, Top Right, Middle Left, Middle Center, Middle Right, Bottom Left, Bottom Center and Bottom Right

Text Font: Define font for text including type of font, size of font and style of font. Styles include Regular, Bold, Italic, Underline and Strikeout.

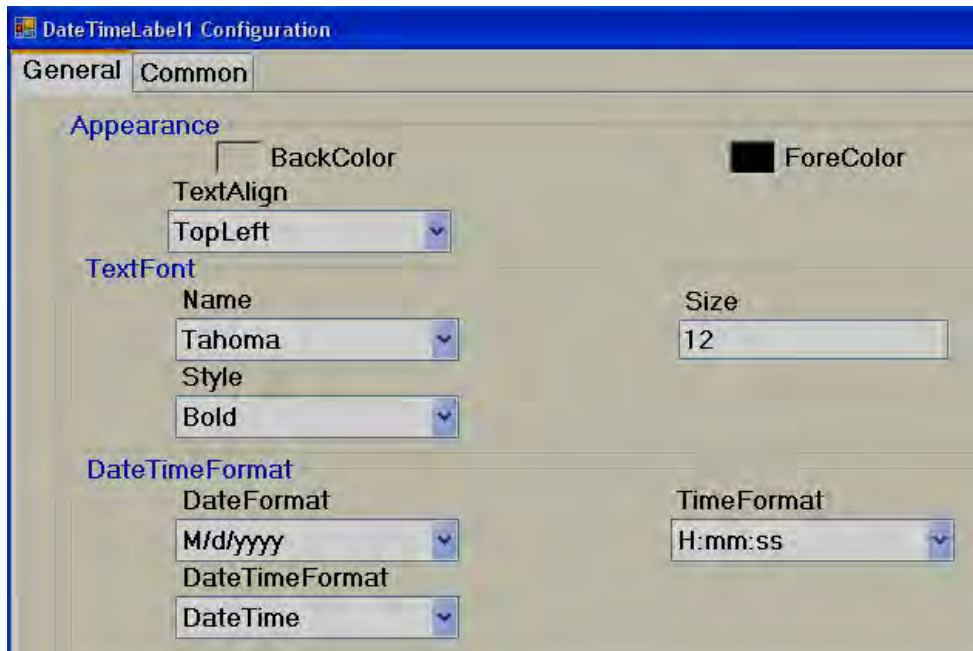
Tag Binding: Select the Analog Tag of process value

Decimal: Define number of decimal points

5.3.17.14 Date and time Label

1/20/2010 PM 4:43:03

It is to display Date and Time in screen.



If date and time required in more than one screen, it is better to create screen and select screen type as %Template+ and then link this template to all other required screens to display Date and Time automatically. This is more efficient than keeping Date and Time label in more than one screen.

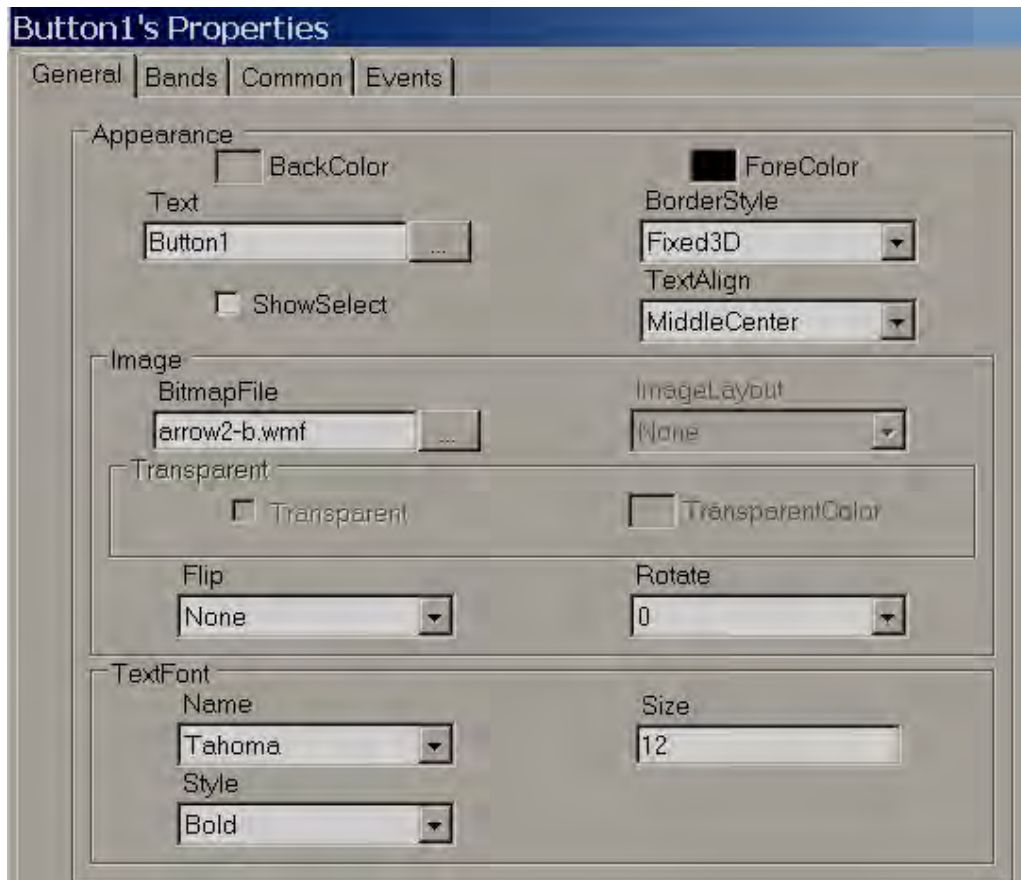
5.3.17.15 Button



A Button is commonly used to perform an action after operator presses it via finger or by clicking using a mouse in Run time.

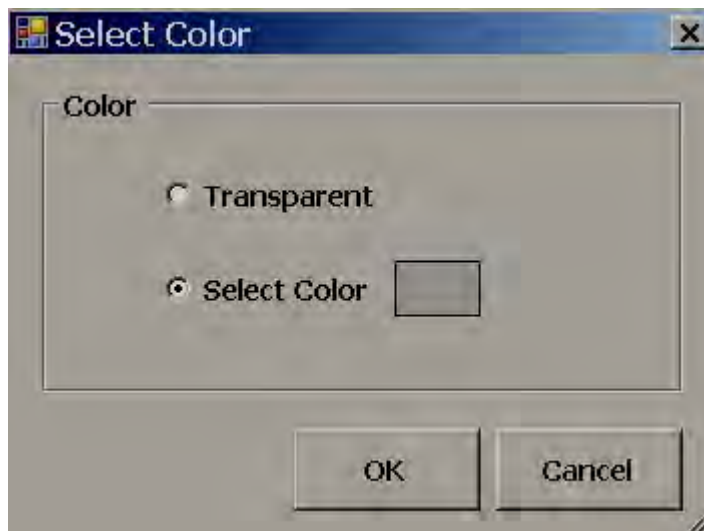
Generally button is used to turn ON a bit, Turn OFF a bit etc. used with Digital type tags. Example: Start Pump, Stop pump etc.

Three kinds of events supported for a button. Clicked, Pressed and Released. Several functions are supported which can be configured from Events and all the functions are covered in next section %Function editor+.



Properties

Back Color: Selects Back color for the object. Also, it is possible to select transparent mode if required from V1.20 onwards



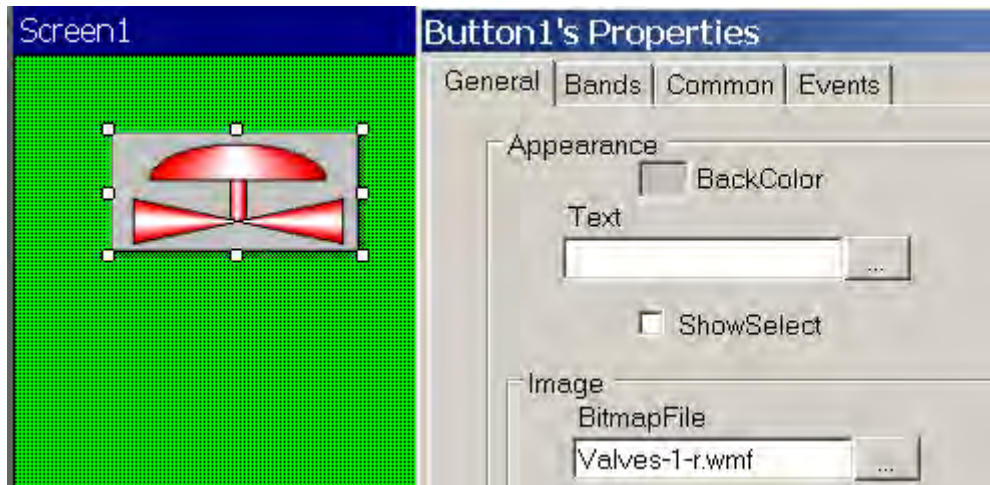
Text: Define required text to be displayed on the object. It is also possible to enter multiline text from V1.20 onwards



Show select: True/False. If it is selected, then, when operator presses this button, it will show dotted line just inside the button. When operator presses another button, it automatically shows selected %show+status to latest button and deselect %select+status for previous button pressed by the operator.

Border Style: Define border style. Available options include none, fixed single and fixed 3D

Image: Select the Image to be displayed on top of the object. Image can be selected either from Basic symbols or Symbol factory or custom image in formats of bmp, wmf, jpg, gif and png



Text font: Define the font including name of font, size of font and style of font

The screenshot shows a configuration dialog box with two main sections: **Timing** and **TagBinding**.

- Timing** section:
 - Clicked**: Contains a checkbox for **Hold** and a text input field for **HoldTime (ms)** with the value **50**.
 - Pressed**: Contains a checkbox for **AutoRepeat** and a text input field for **Interval (ms)** with the value **50**.
- TagBinding** section:
 - TagBinding**: A dropdown menu.
 - TagBitNo**: A dropdown menu.

Timing: This is an advanced feature and used to make sure operator action is properly received by PLC when PLC scan time is large.

Hold time: This is generally applicable for %Click+event. This keep on executing action defined at Clicked event for the time defined at hold time. We suggest using holding time of button more than PLC scan time. Example: 300 msec.

Example:

Push button Function

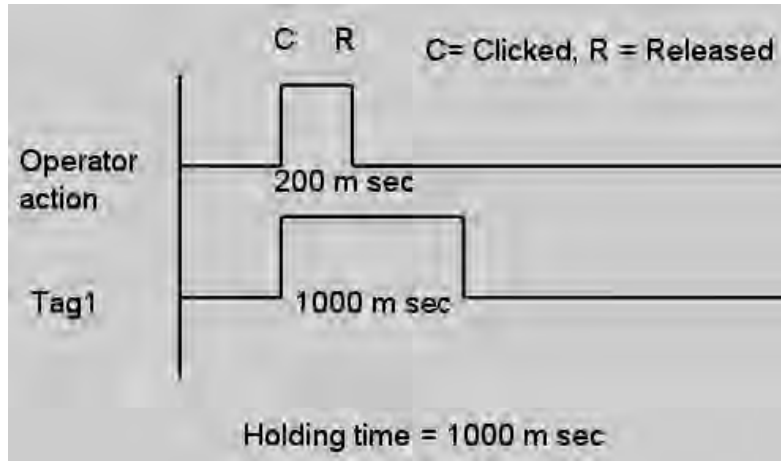
The screenshot shows the **Button1 Configuration** dialog box with the **Events** tab selected. It displays three event handlers:

- Clicked**: `TurnBitOn(Tag1);`
- Pressed**: (Empty text box)
- Released**: `TurnBitOff(Tag1);`



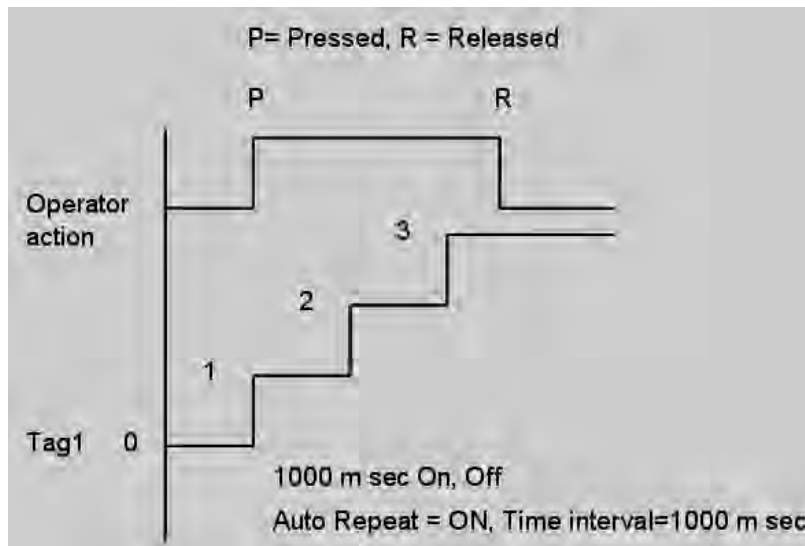
Example: Operator presses button for only 200 msec. When operator clicks button, Tag1 = 1 and when operator releases button, Tag1 = 0, holding time = 1000 msec.

Since holding time is set for clicked action, released action, %TurnBitOff+ will be executed only after completing 1000 msec but not immediately after operator releases the button. In this case, if PLC scan time is 800 msec, and still operator click action will be detected properly because operator command will be available for 1000 msec.



Auto Repeat & Interval time: This is generally applicable for %Pressed+ event. It is to repeat the action defined at %Pressed+event as per set interval time.

Example: When operator keeps pressing button, set point should be incremented by 1 for every 1 sec and Tag1 is Integer type.

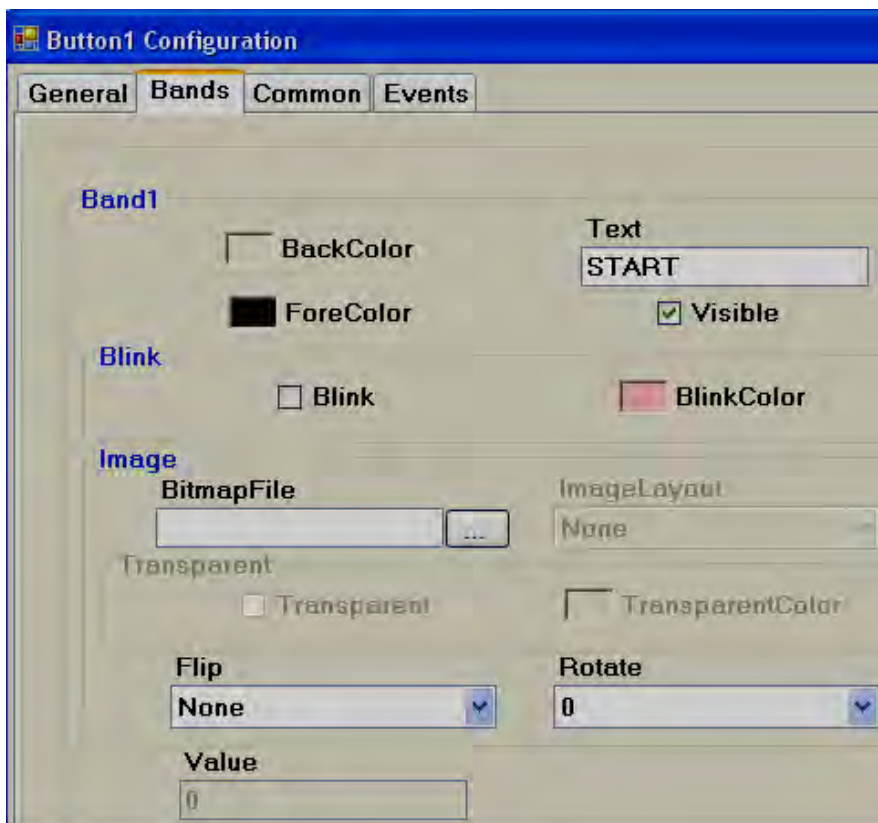


Auto repeat with time interval and holding time cannot be used together.

Tag binding: Select the tag that should be linked with the button to show different display in run time based on configuration available at Band editor.
Both Analog



If Tag1 is Analog Type (32 bit), it is also possible to show different display based on individual bits. By default, it is disabled. You can select the bit from the combo box and then configure band editor as per project requirements.



Bands: Define bands for the button.

Back color: Define back color for the selected band

Fore color: Define fore color to appear for selected band in run time

Text: Define the text to be displayed for selected band in run time

Visible: Control the visibility

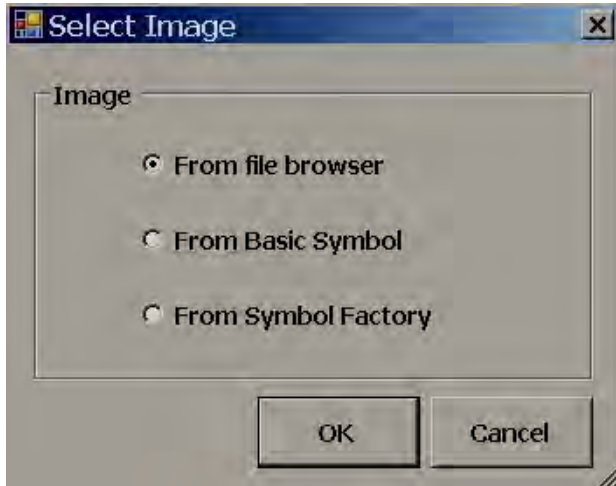
Blink: Select if blink is required when tag value reaches selected band in run time. If yes is selected, then, it allows to enter blink color as well.

Bitmap file: Select the image to be displayed on button when tag value reaches this band in run time.

For example: When Tag1=0, show Red color motor symbol on button.
When Tag1=1, show Green color motor symbol on button.

Note: Two different symbols are required for the above

Bmp, wmf, jpg, gif and png types are supported. If selected file is other than wmf, then, it is also possible to select Image layout and transparent options.



From File browser: It is to select image from required location

From Basic Symbol: It is to select images from free basic symbols (*.wmf format) available in Recorder editing software.

From symbol factory: It allows to select symbol from symbol factory in wmf format

Image layout: None, center and Stretch options are available. Stretch means, selected bitmap will be fixed to the size of the button.

Note: If bitmap is with poor resolution, when stretch is used, it may show low quality image in screen.

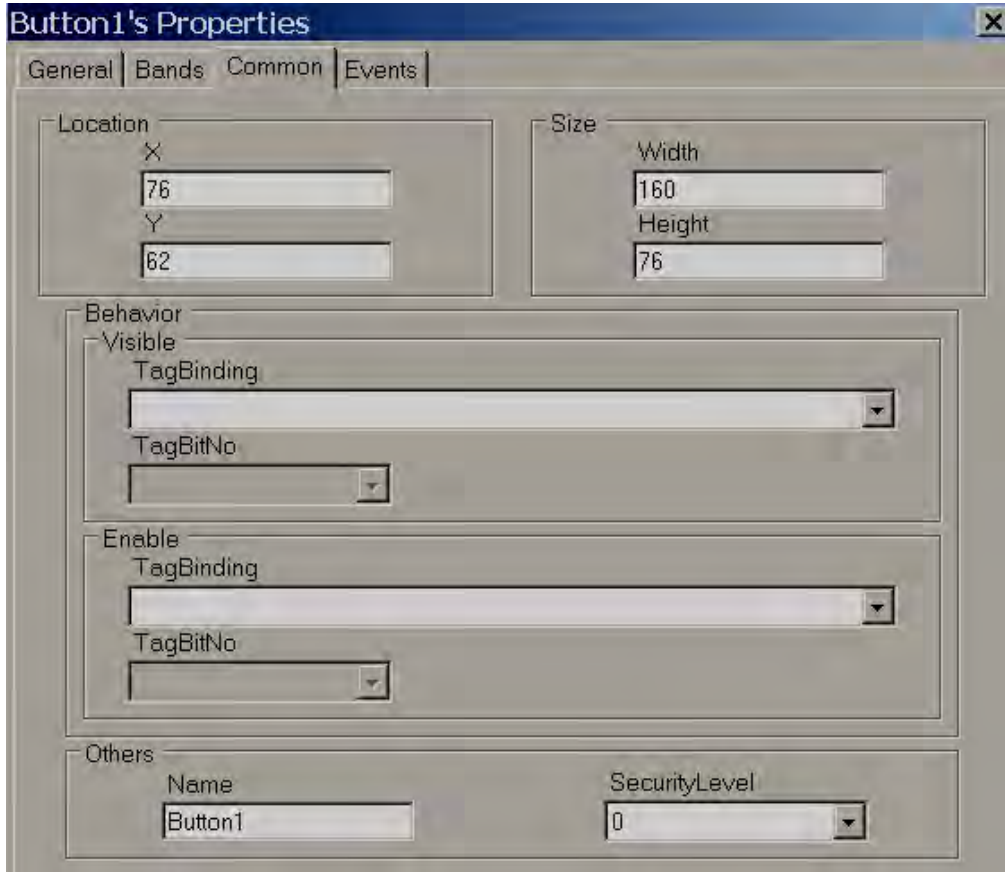
Flip: It is to flip button and needs to be configured at design time. Available options include None, Horizontal, Vertical and Both.

Rotation: It is to rotate button in predefined angles and need to be configured at design time. Available options include 0°, 90°, 180° and 270°

Value: Define maximum range of selected band. Low range will be value defined at previous band. There is no need to enter any value for band 1 as its value is 0 which is low range.



If button is linked with Digital Tag, then, in the band editor, it shows only two bands for value 0 and 1. When, button is linked with Analog tag, it is possible to configure up to 32 bands for showing different states of button based on value of tag and then, it shows status similar to word lamp.



Security control: Define security level for button. It allows user to operate the button only when operator security level is equal to or more than security level defined here.

Please refer section %Security+at Project explorer for more information about security features.

Events

Clicked: Define the action when user presses button in Run time. If required, it is possible to configure holding time for this action.



Holding time is a very useful function. If PLC has a large scan time, some times, operator click action will be not detected by the PLC. In this case, it is possible to have a hold time for click event such that operator

action will be continuously present for time defined at holding, such that PLC will receive operator action properly.



Practically once operator touches button and releases finger instantly, it is called as a Clicked action. During this time, a total of three actions will be executed. Click, Pressed and Released



Case-1

Holding time = 0

In above example, Tag1 value becomes 3

Case-2

Holding time = 5000 m sec

In above example, if scan time for Tag1 is 1000 m sec, then, Tag1 value becomes approximately 8.

When, button is clicked, Clicked and Pressed event action occurs and Tag1 value becomes 2. Since holding time is 5 sec, for next 5 seconds, Tag1 value is incremented by 1 for each 1 sec, so, it Tag1 value becomes 7. When button is released, Tag1 value incremented by 1 again, so it becomes 8.

The above example is for illustration only to understand about events for button object.

Pressed: Define the action when user continuously presses on button. If required, it is possible to configure Auto repeat and interval time for this action.



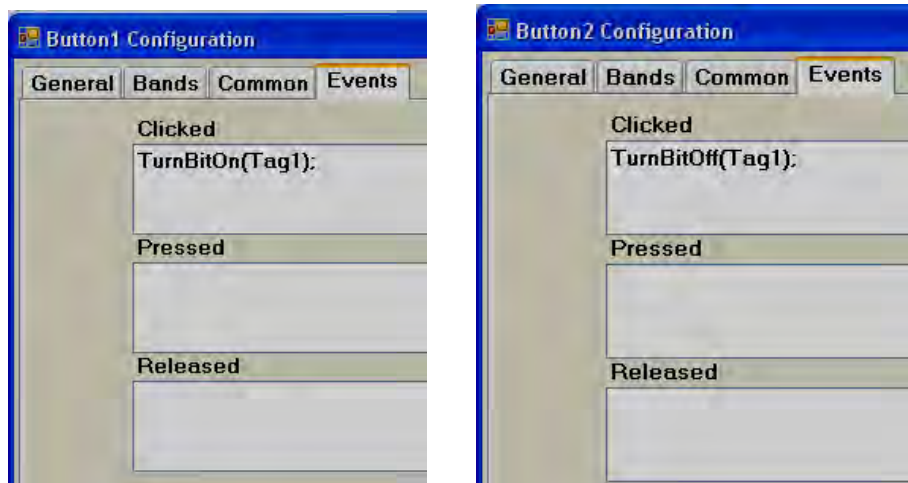
Practically once operator touch button, clicked event will be executed first and when operator keep pressing button continuously, then, pressed action will keep on being executed. When operator releases the finger on button, released action will be executed.

Auto repeat: On, Time interval=1000 m sec. In this case, Tag1 value first increment by 1, then, keep on incrementing by 1 once in 1000 m sec. as long as operator presses the button and increment by 1 when operator releases the button.

Released: Define the action when user release press on button

Switch Function

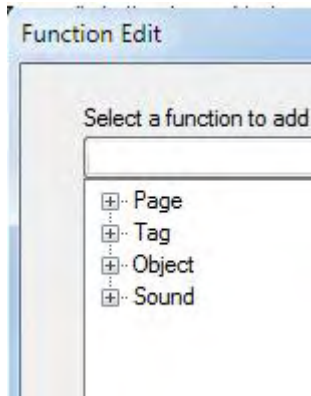
In this case, it requires using two buttons. One button to turn ON Tag and another button to turn OFF Tag



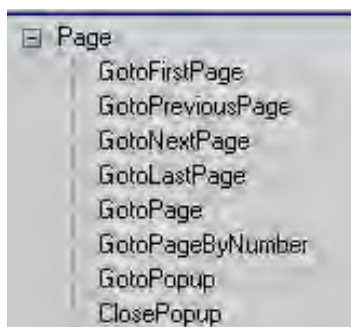
When operator clicks Button1, Tag1 = 1. Now, Tag1 = 1 even after operator releases button and it continues to maintain earlier state. When operator clicks Button2, Tag1 = 0

5.3.17.16 Function editor

This is very useful to select different functions to execute based on operator action . in Run time and this provides an easy way for application developer to use a ready made macro instead of writing scripts. Insert Button in any screen and configure events. The following functions are supported.



Page Control functions



Every screen has a screen number and pointer will be screen number for navigation in.

GotoFirstPage: It is to navigate from current screen to first screen

GotoPreviousPage: It is to navigate from current screen to previous screen

GotoNextPage: It is to navigate from current screen to next screen

GotoLastPage: It is to navigate from current screen to Last screen

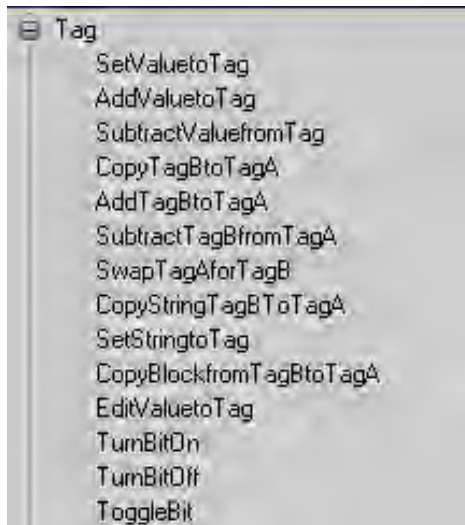
GotoPage: It is to navigate from current screen to specific screen by name

GotoPageByNumber: It is to navigate from current screen to specific page by number

GotoPopUp: It is to open specific pop up screen by name

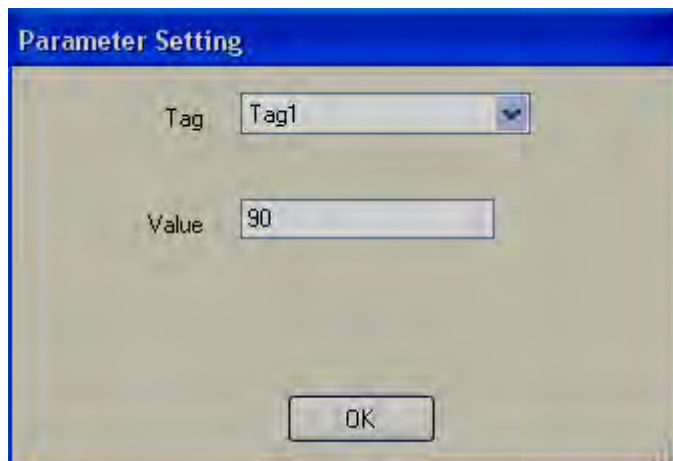
ClosePopUp: It is to close pop up screen by name

Tag functions



SetValueetoTag: It writes value to a tag

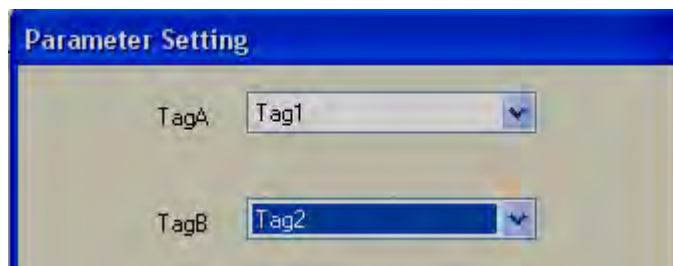
Example: Set 90 to TagA when operator presses on a button in run time



AddValueetoTag: It is add value to Tag

SubtractValuefromTag: It is to subtract value from Tag

CopyTagBtoTagA: It is to copy TagB value to TagA



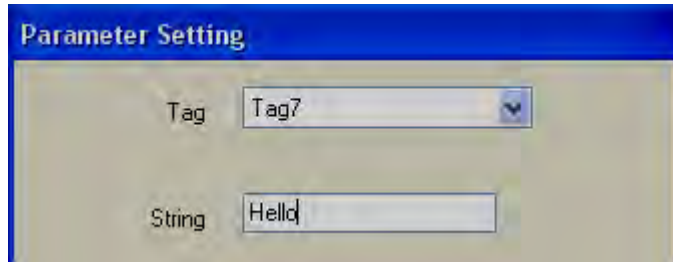
AddTagBtoTagA: It is to add TagB to TagA and store result in TagA

SubtractTagBfromTagA It is to subtract TagB from TagA and store result in TagA

SwapTagAforTagB It is to swap TagB and TagA

CopyStringTagBtoTagA It is to copy string type TagB to TagA

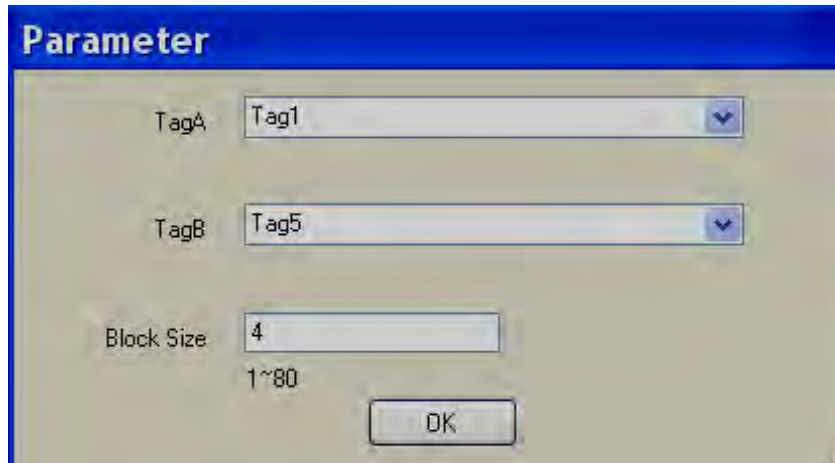
SetStringtoTag: It is to write string to String type Tag



CopyBlockfrom TagBtoTagA: It is to copy block of tags from TagB to Tag1

For example: Copy 4 contineous tags from Tag5 to target location starting from Tag1. Now, Tag5 is copied to Tag1, Tag6 is copies to Tag2 and so on.

Note: Maximum block size is limited to 80 tags



EditValuetoTag: It is to edit tag value in run time from keypad. For example, if this function is called from button click event, then, keypad will open in run time and user can enter set point

TurnBitOn: It is to turn on bit.

If momentary Turn on is required, then in %Click+action, select Turn On, then, in %Released+action, select %Turn OFF+

TurnBitOFF: It is to turn off bit

Togglebit: It is to toggle the bit

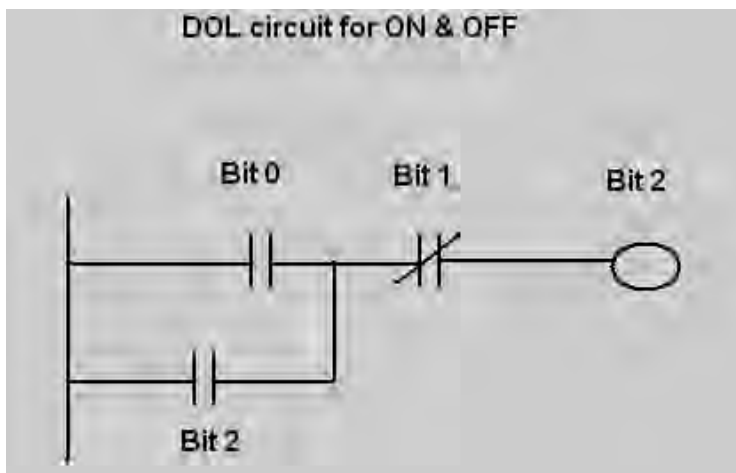


Fig: Ladder logic in PLC



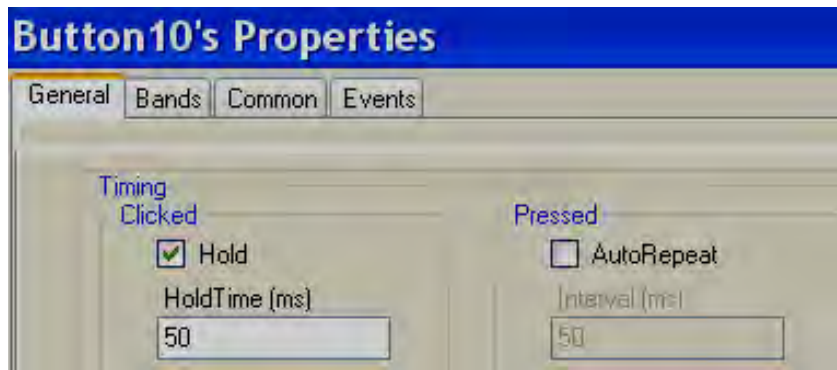


Fig: On button configuration



If button is not switching properly at PLC, then, in General Tab, select ~~Hold~~ Hold+check box and enter the hold time. Default value is 50 msec. If required, adjust this to 100 msec. and check again.

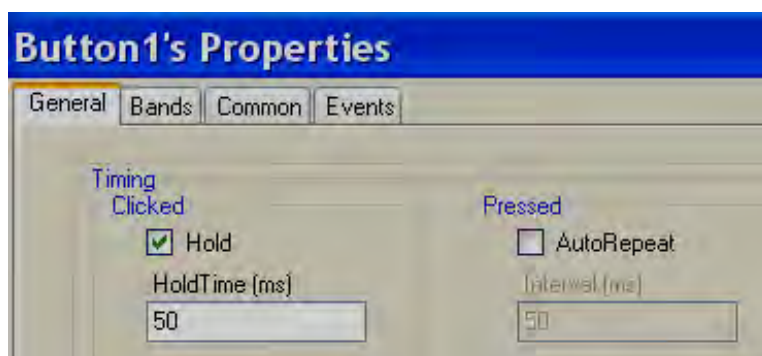
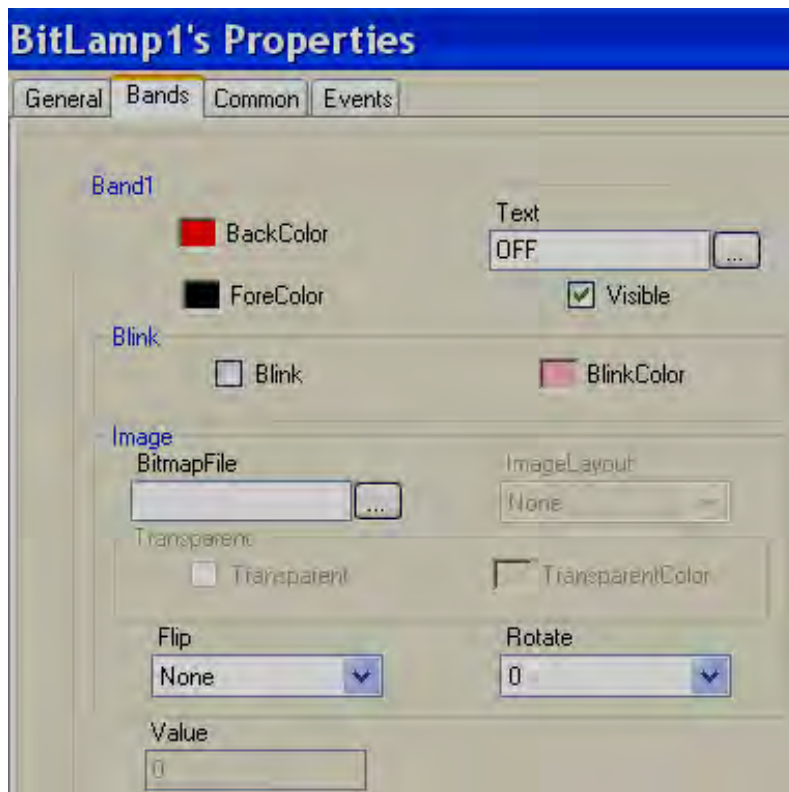
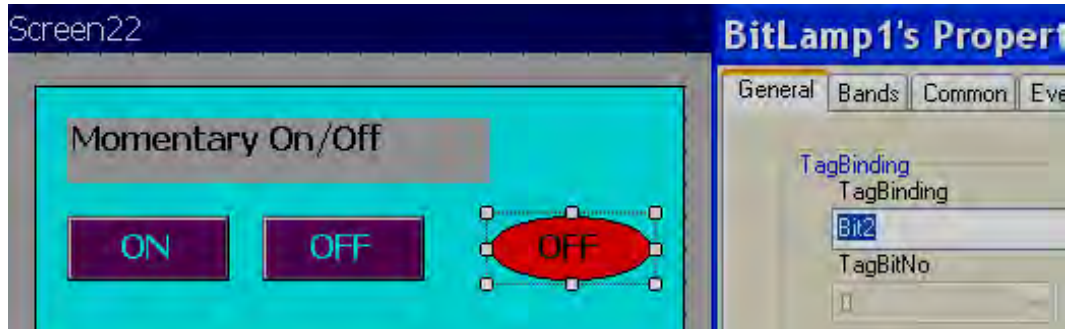


Fig: Off Button configuration



If button is not switching properly at PLC, then, in General Tab, select %Hold+check box and enter the hold time. Default value is 50 msec. If required, adjust this to 100 msec. and check again.



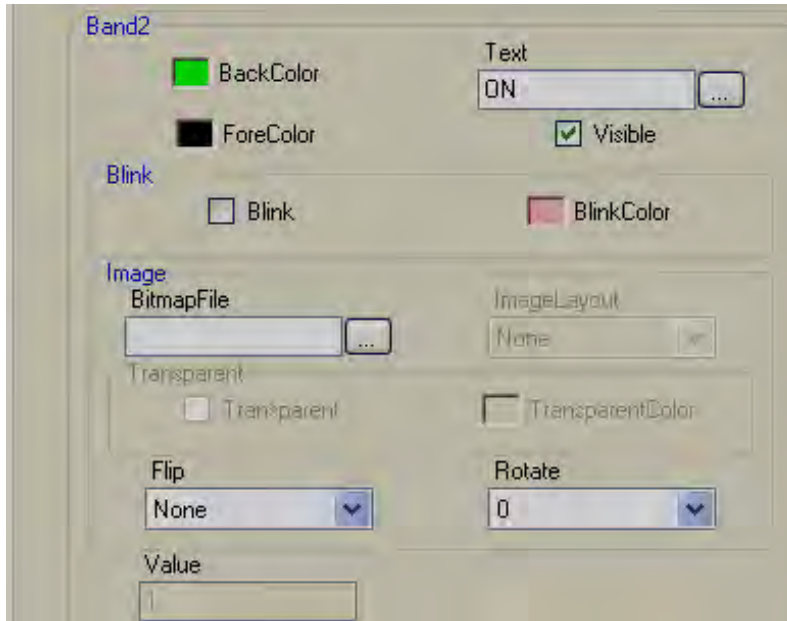


Fig: Bit lamp status

5.3.17.17 Bit lamp

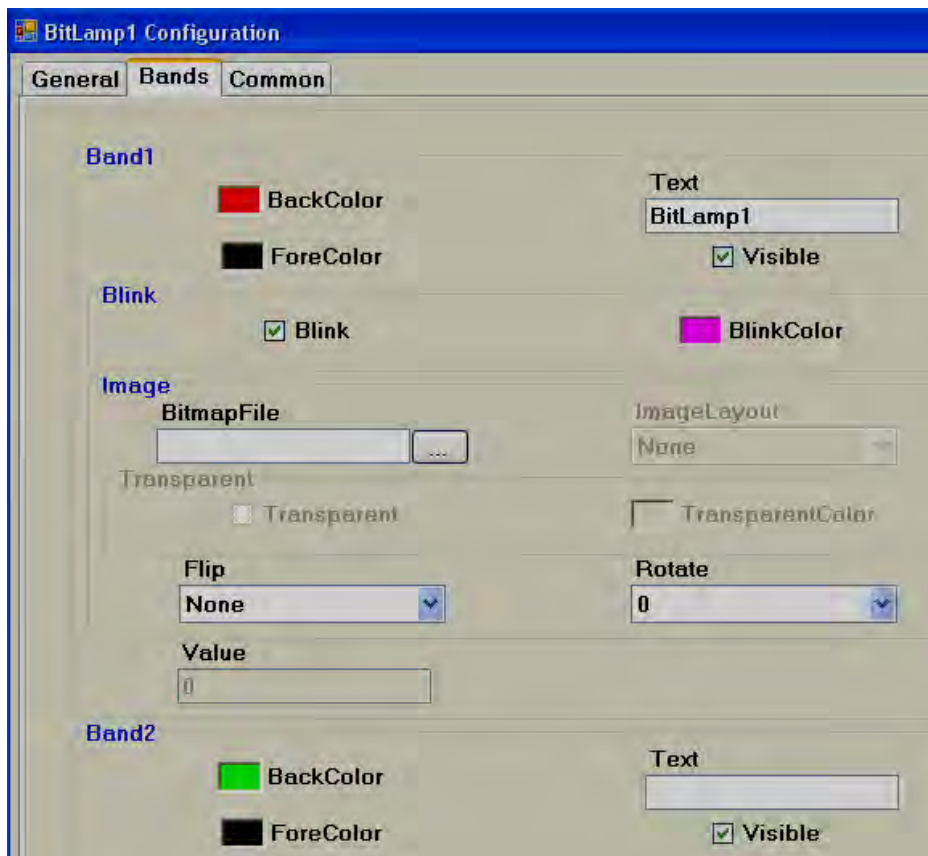
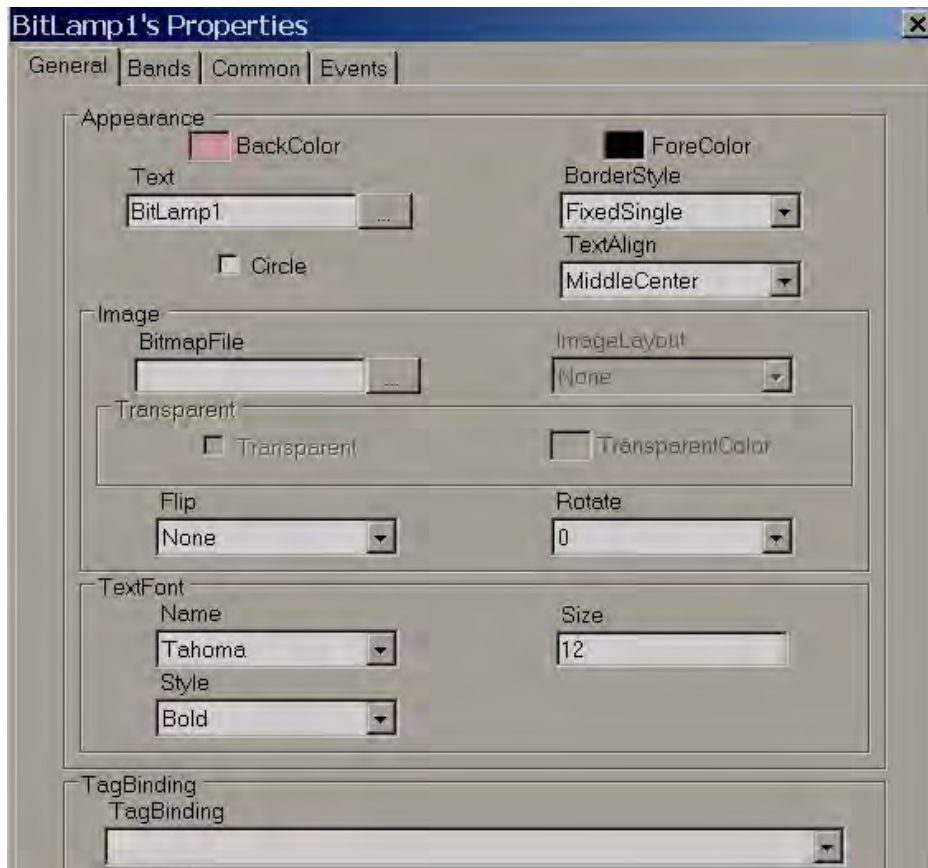
It is used to show Digital input status for operator. It is linked with either Digital input type tag or Analog input type tag. By using band editor, it is possible to display different foreground color, different background color, different text, different symbols, different Blink color, and control visibility when Tag value is 0 or 1.

When Bit lamp is linked with Digital type Tag, it has only two bands, by default, Band1 value is 0 and Band 2 value is 1.

For example: If Tag1 = 0, show Red color back ground with Orchid color blink. If Tag9=1, show green color back ground.



GUI Wizard

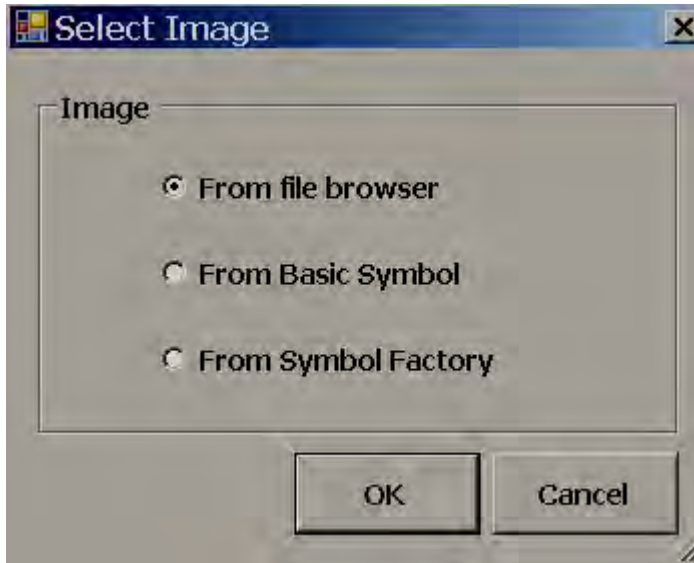


Bitmap file: Select the image to be displayed when tag value reaches this band in run time.

For example: When Tag1=0, show Red color motor symbol
When Tag1=1, show Green color motor symbol

Note: Two different symbols are required for the above

Bmp, wmf, jpg, gif and png types are supported. If selected file is other than wmf, then, it is also possible to select Image layout and transparent options.



From File browser: Allows to select images in formats of bmp, wmf, jpg, gif and png

From Basic Symbol: Allows to select wmf format images from basic symbols

From symbol factory: It allows selecting symbol from symbol factory in wmf format

Image layout: None, center and Stretch options are available. Stretch means, selected bitmap will be fixed to the size of the bit lamp

Note: If bitmap is with poor resolution, when stretch is used, it may show low quality image in screen.

Flip: It is to flip bit lamp and needs to be configured at design time. Available options include None, Horizontal, Vertical and Both.

Rotation: It is to rotate bit lamp in predefined angles and need to be configured at design time. Available options include 0°, 90°, 180° and 270°

Circle: By default, bit lamp object shape is in Rectangle. Select this if you wish to change shape to circle. It is more useful to show status of digital inputs for the operator in Run time

How to show status of individual bit in Analog type tag

Some times, you will get 16 bit/32 bit tag from PLC with different diagnostic information and you would like to show 16 bit/32 bit lamps in Recorder screen.

When Bit lamp is linked with Analog tag example: Int16/Int32, then also it has two bands, by default, Band1 value is 0 and Band 2 value is 1. In this case, using each bit lamp, it is possible to show status of each individual bit status with in 32 bits as per configuration available at band editor.



In above fig, Tag2 is analog type (4 byte), so, TagBitNo combo box will appear for selection of required bit with in 32 bits (0 to 31).

If Tag2 is Digital type tag, then, TagBitNo. Combo box is not visible.

5.3.17.18 Word lamp



It is similar to Bit lamp but linked with Analog type tag only. It can have many bands. By using band editor, it is possible to display different foreground color, different background color, different text, different symbols, different Blink color, and control visibility when Tag value change values in Run Time.

For example: Tank Level indicator

When Tag1 value is

0 to 10, Text = Low Low Level, Color = Yellow Blinking

11 to 20, Text = Low Level, Color = Yellow Background

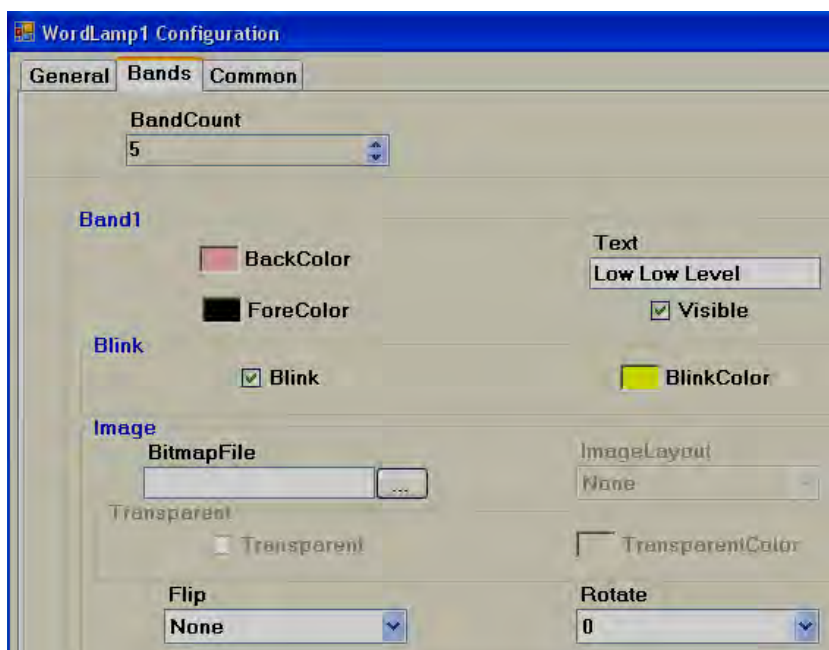
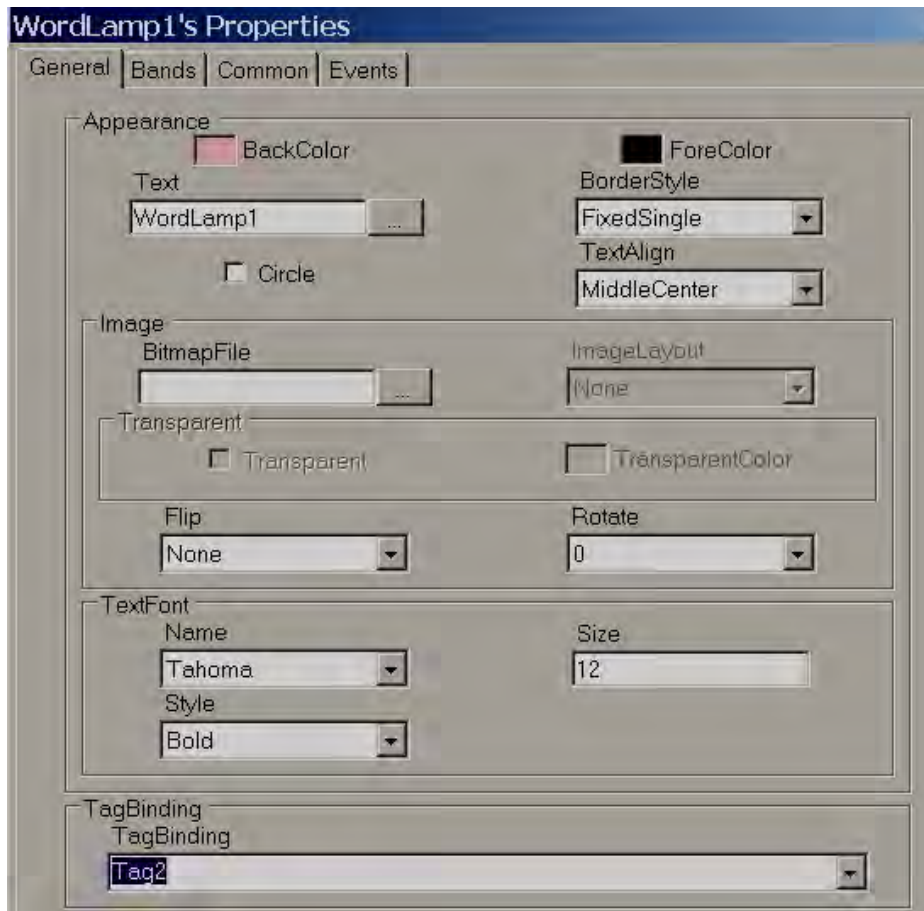
21 to 80, Text = Normal, Color = Green back ground

81 to 90, Text = High level, Color = Red back ground

91 to 100, Text = High High Level, Color = Red blinking

Create 5 bands as shown

GUI Wizard/Dialog



Band1 range = 0 to value defined at band2-1.

i.e., 0 to 10

The screenshot shows the configuration window for Band2. It includes sections for BackColor (yellow), ForeColor (black), Text (Low Level), Visible (checked), Blink (unchecked), BlinkColor (pink), Image (BitmapFile, ImageLayout: None), Transparent (unchecked), TransparentColor (unchecked), Flip (None), Rotate (0), and Value (11).

Band2 range: Band 2 value to Band3 value-1
i.e., 11 to 20

The screenshot shows the configuration window for Band3. It includes sections for BackColor (green), ForeColor (black), Text (Normal), Visible (checked), Blink (unchecked), BlinkColor (pink), Image (BitmapFile, ImageLayout: None), Transparent (unchecked), TransparentColor (unchecked), Flip (None), Rotate (0), and Value (21).

Band3 range: Band 3 value to Band4 value-1
i.e., 21 to 80