Start-Up

Beijer ELECTRONICS

Alarm Distributor in iX Developer 2.0

KI00357 2013-12

1 Function and area of use

This document explains how an iX Developer application can be configured in order to send e-mail, SMS and printouts when alarms occur in the system.

2 About the Start-up document

This Start-Up document should not be considered as a complete manual. It is an aid to be able to start up a normal application quickly and easily. For further information we refer to the iX Developer reference manual and User guide.

- MAxx831x (Reference manual)
- MAxx832x (User Guide)

This document and other Start-Up documents can be downloaded from www.beijerelectronics.com.

Please use the address manuals@beijerelectronics.com for feedback on our Start-Up documents.

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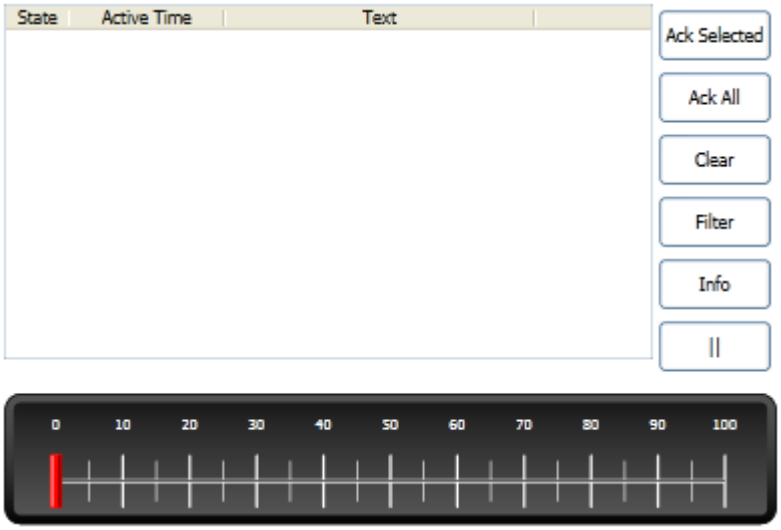
3 Configuring an alarm

The first step is to configure alarms in the applications, when the alarms are configured we will add the Alarm Distributor service to the application. This service listens for alarm events that could be sent from either another panel/pc but also from an “internal” alarm server.

- Create a new application and click on the ***Alarm Server*** icon in the project explorer

- Add an alarm condition, e.g when Tag1 is greater than 90

- Open Screen1 and add an ***AlarmViewer*** object to the screen. Additionally, add a ***slider*** and connect it to Tag1.



- ***Simulate*** the application and make sure that an alarm is triggered when the slider is changed to 91 or greater.

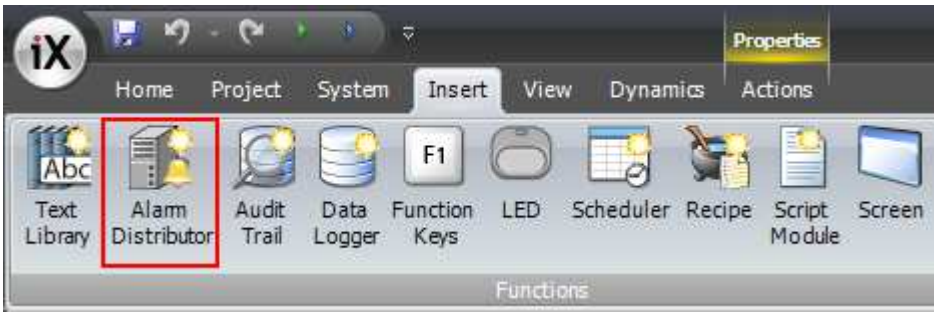
4 The Alarm Distributor service

The Alarm Distributor makes it possible to send alarm notification via printer, SMS or e-mail. The function can be enabled internally in a project, or in another operator panel that acts as a server towards several connected clients. Regardless of acting as server or client, distributed alarms are saved temporary in the local project database to ensure that information is not lost in case of e.g. interrupted power. After receiving alarms from client, the server will send a confirmation to the client. The alarms will then be removed from the client's database.

4.1 Adding and configure a internal Alarm Distributor service

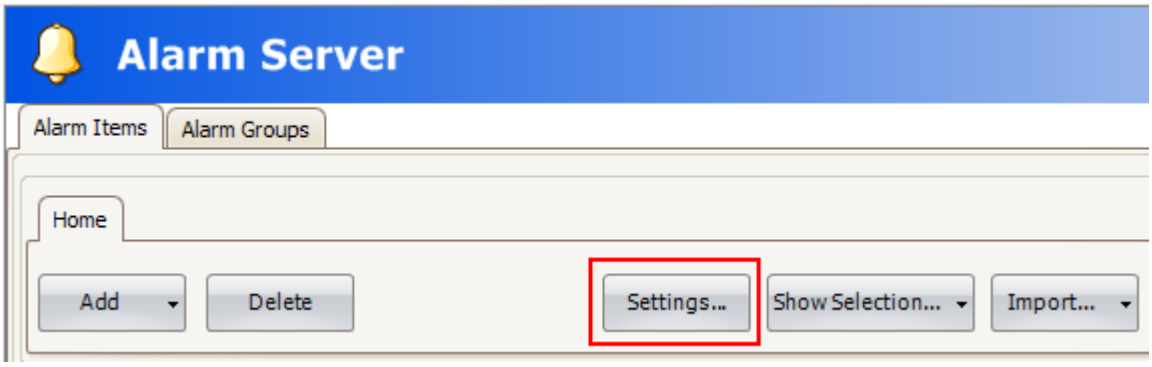
When you congfigure a internal Alarm Distributor it will act as Client and Server in the target that will run the application

- Change to the ***Insert*** Ribbon tab and click on the ***Alarm Distributor*** icon to insert it in the project.

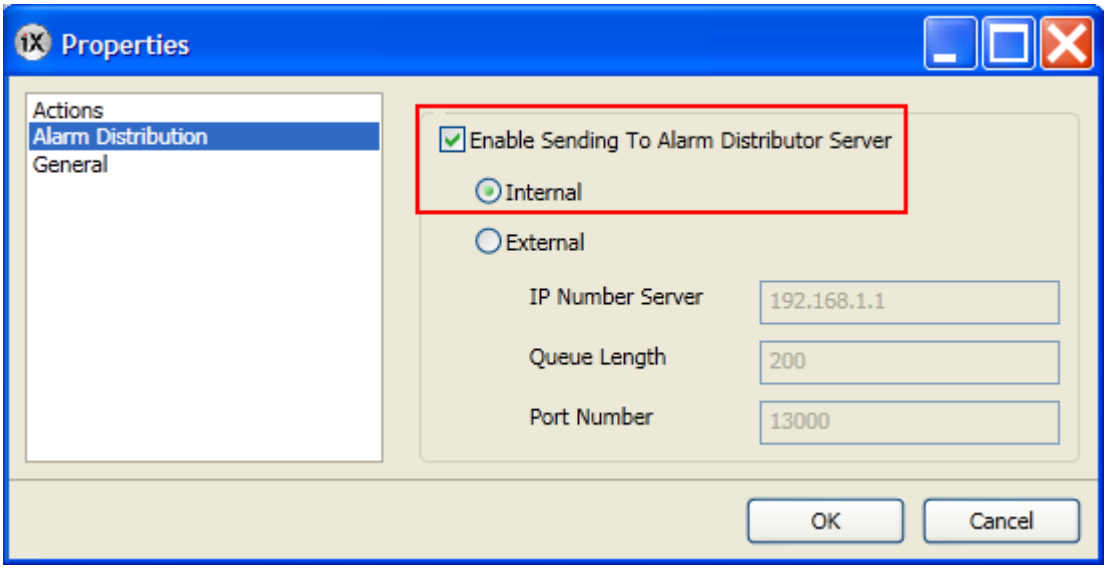


- Open the ***Alarm Server*** tab by clicking on the icon in the project explorer

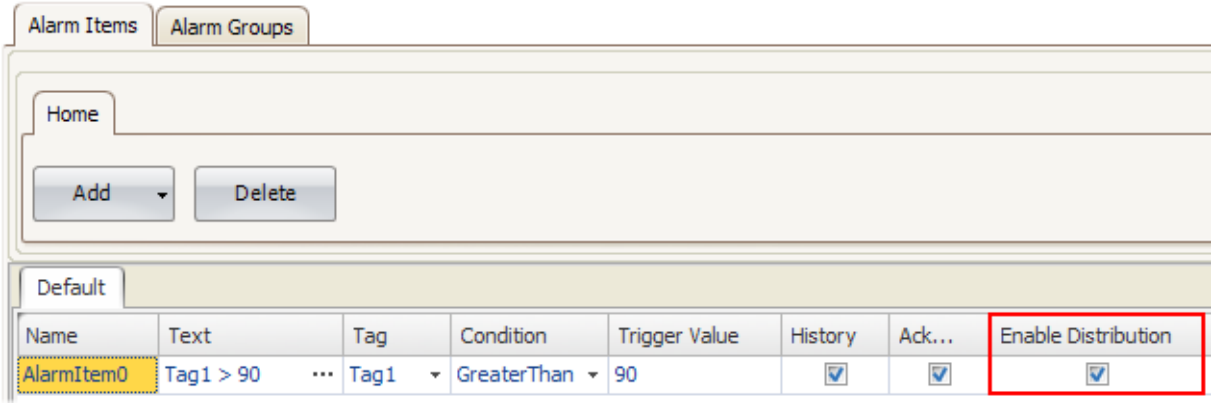
- Enabling internal distribution of alarms by clicking on the ***Settings*** button.



- Then enable ***Sending To Alarm Distributor Server*** and select ***Internal.*** Accept the settings by click on the **OK** button



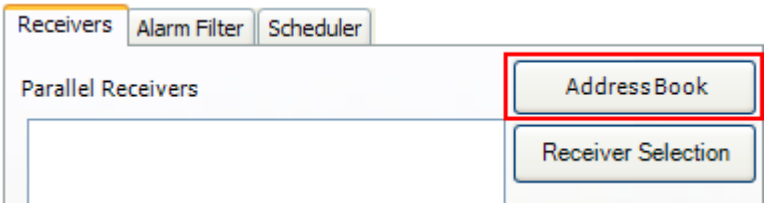
- Next step is to enable distribution of those alarm groups or invidual alarms you want to distribute by either open the alarm Items tab or open the Alarm Groups and then enable Distribution for the wanted alarm item or alarm group



- Next step is to add one or several routes in the Alarm Distributor to make it possible to send different kinds of notifications to various receivers. Begin by click on the Alarm Distributor icon in the project explorer

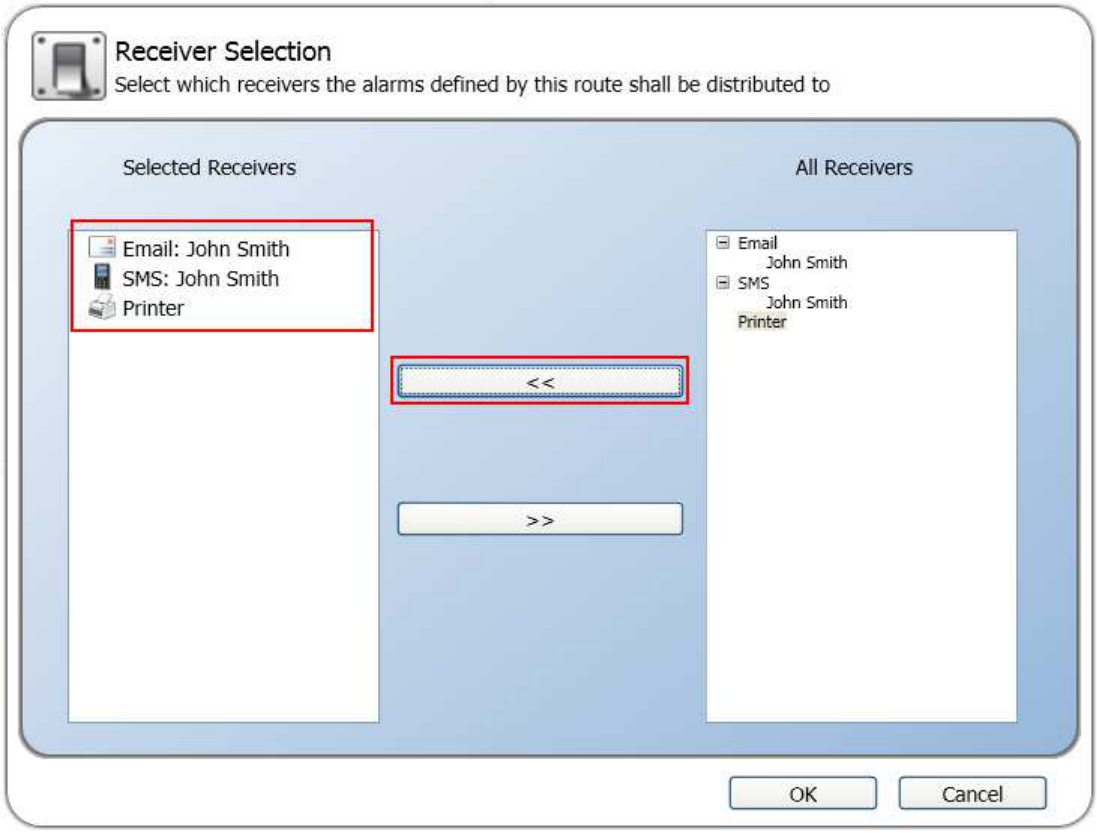
- Click on the ***Add*** button, a route will be added to the Alarm Distributor. A route acts as a rule, for an example it's possible to use the scheduler function to configure the route so that certain users receive alarms during daytime and other users receives the alarms during nighttime

- Click on the ***Address Book*** button

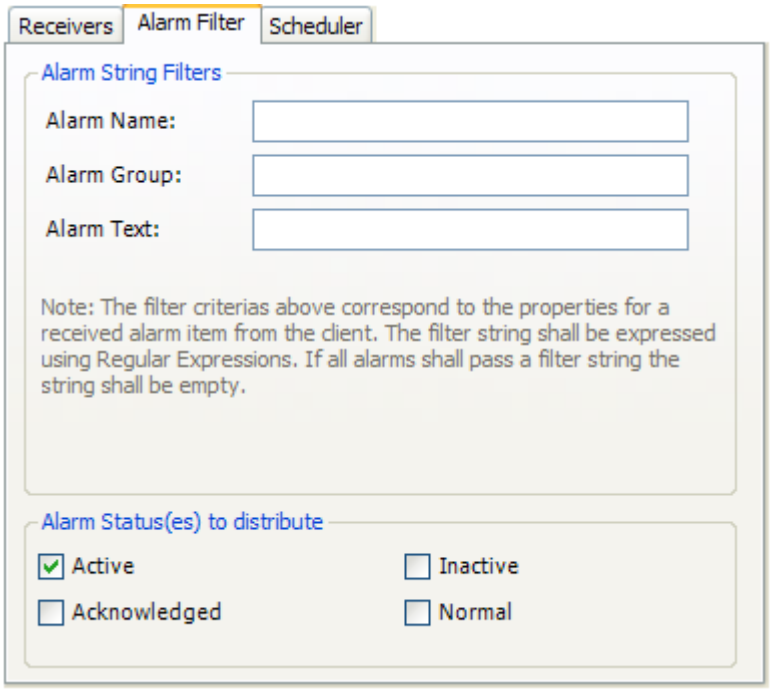


- ***Add*** an user to the Address book

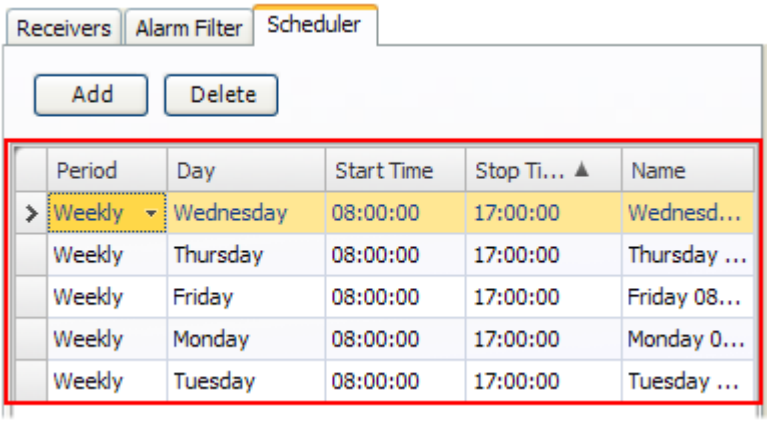
- Close the Address book, and click on the ***Receiver Selection*** button. In the Receiver selection dialog it's possible to choose which users that should receive e-mails, SMS and if a printout should be triggered. Choose recivers and click **OK** button



- Click on the ***Alarm Filter*** tab, here it's possible to filter which alarms that should be sent. An easier approach is to select which individual alarms that should be distributed (this is configured in the Alarm Server and have alredy been explained in this chapter. In this tab it's also possible to select when the alarms should be distributed. By default they are distributed only when the alarms become active.



- Click on the ***Scheduler*** tab. In this tab it's possible to configure intervals when this route shall be active. The configuration below means that this route will be active Monday to Friday, 8.00 to 17.00. Only alarms that occurs between the start and stop time will be distributed.

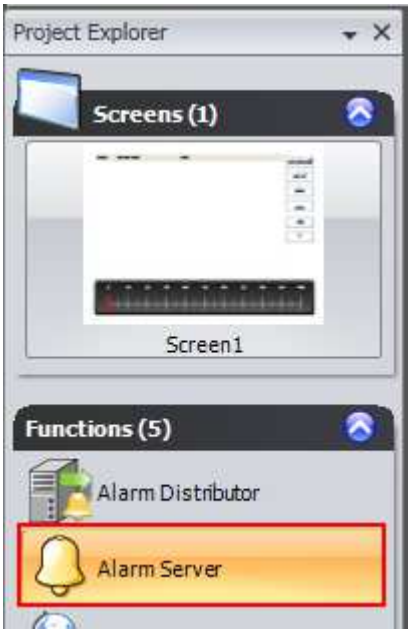


4.2 Adding and configure a external Alarm Distributor service

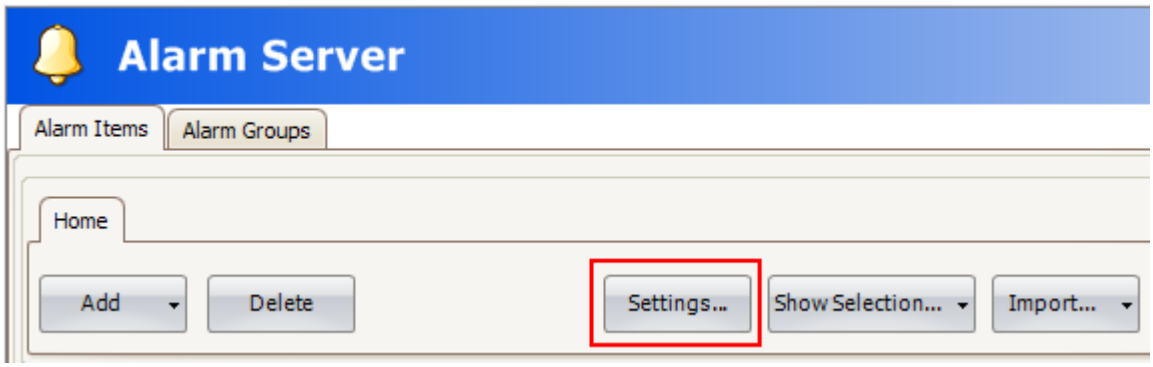
When you configure an external Alarm Distributor it will in the target that will run the application act as a Server towards several Clients. This means that you only need to configure the distribution devices in one operator panel or PC.

4.2.1 Settings for a Client

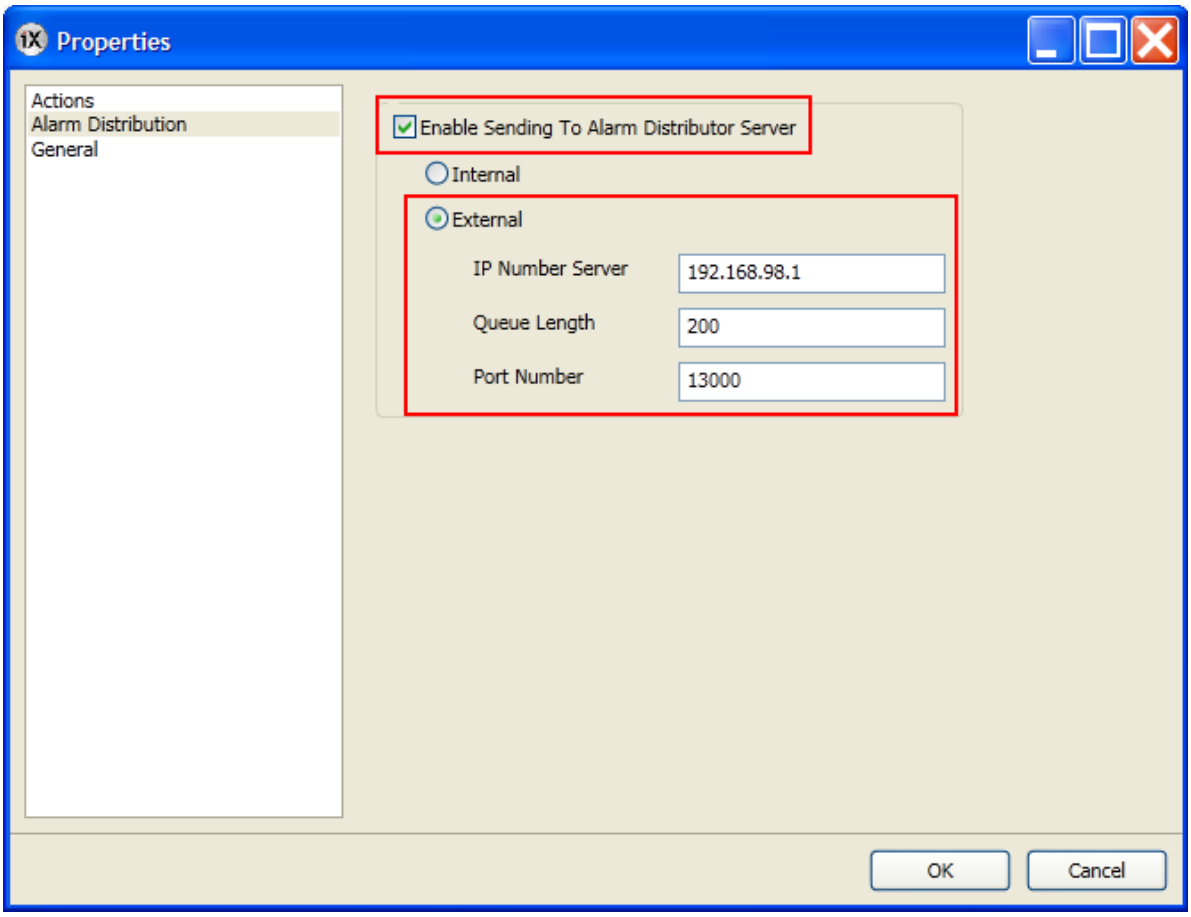
- Open the ***Alarm Server*** tab by clicking on the icon in the project explorer



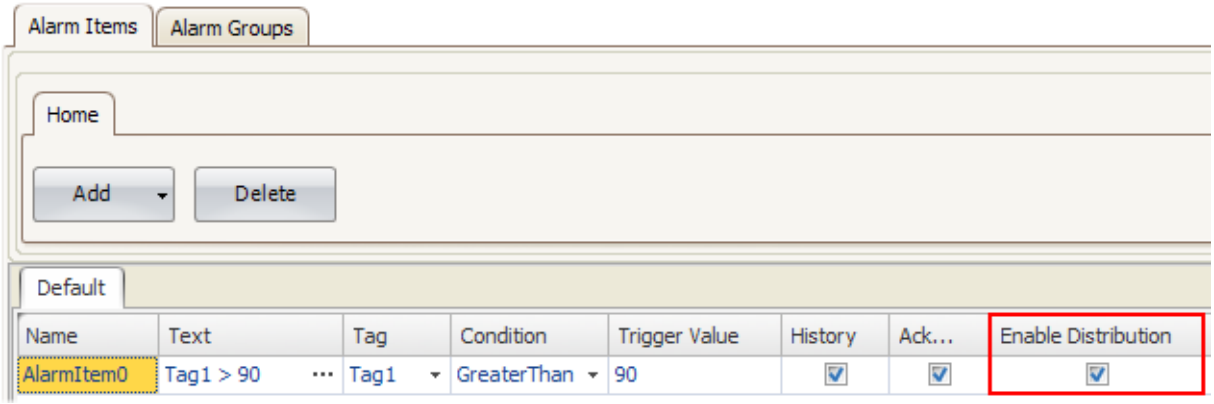
- Enabling internal distribution of alarms by click on the settings



- Then enable ***Sending To Alarm Distributor Server*** and select ***External.*** Enter the IP address and the port number of the the target the Alarm Distributor Server is configured on in the ***IP Number Server*** and the ***Port Number*** fields.
  Queue length is set to 200 by default and are the numbers of alarms to be kept in queue for the external alarm distributor.
  Accept the settings by click on the **OK** button



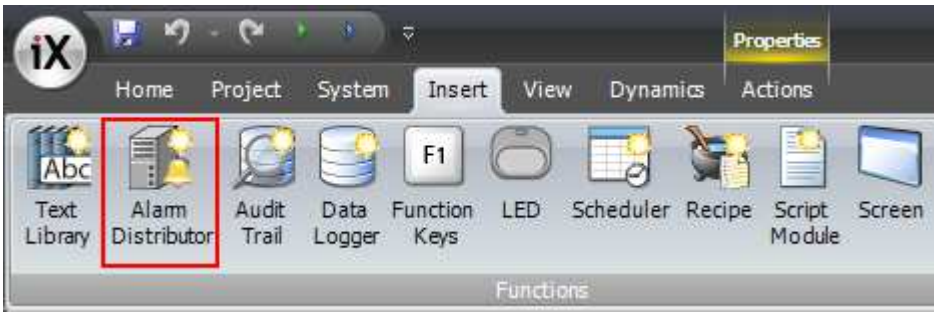
- Next step is to enable distribution of those alarm groups or invidual alarms you want to distribute by either open the alarm Items tab or open the alarm groups and then ***Enable Distribution*** for the wanted alarm item or alarm group



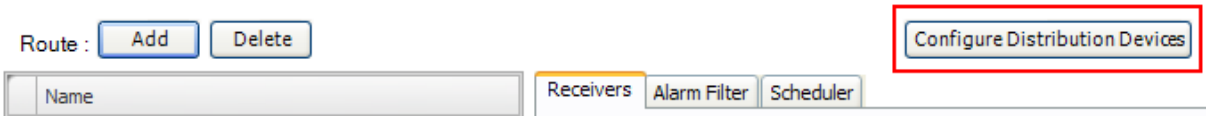
- The client is now configured.

4.2.2 Settings for a Server

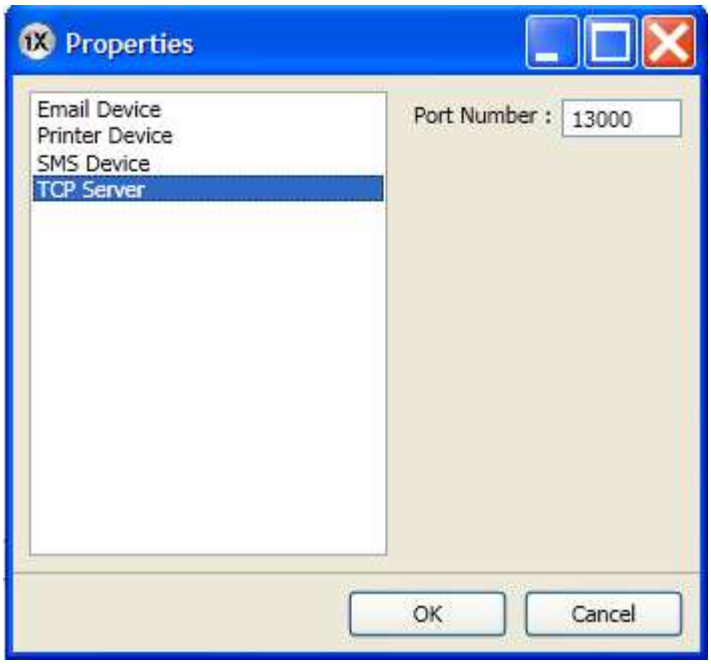
- Change to the ***Insert*** Ribbon tab and click on the ***Alarm Distributor*** icon to insert it in the project.



- Click on the ***Configure Distribution Devices*** button.



- Select TCP Server in the list and then define the TCP server port. This must correspond to the port defined for the Alarm Distribution settings for the alarm server on the targets with an external alarm distributor configured.



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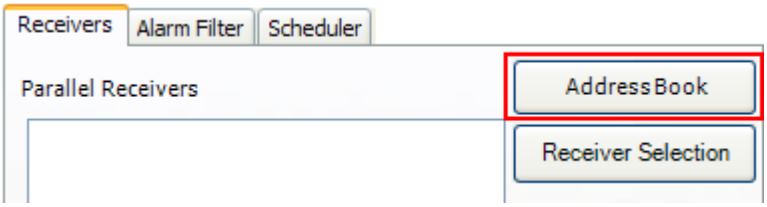

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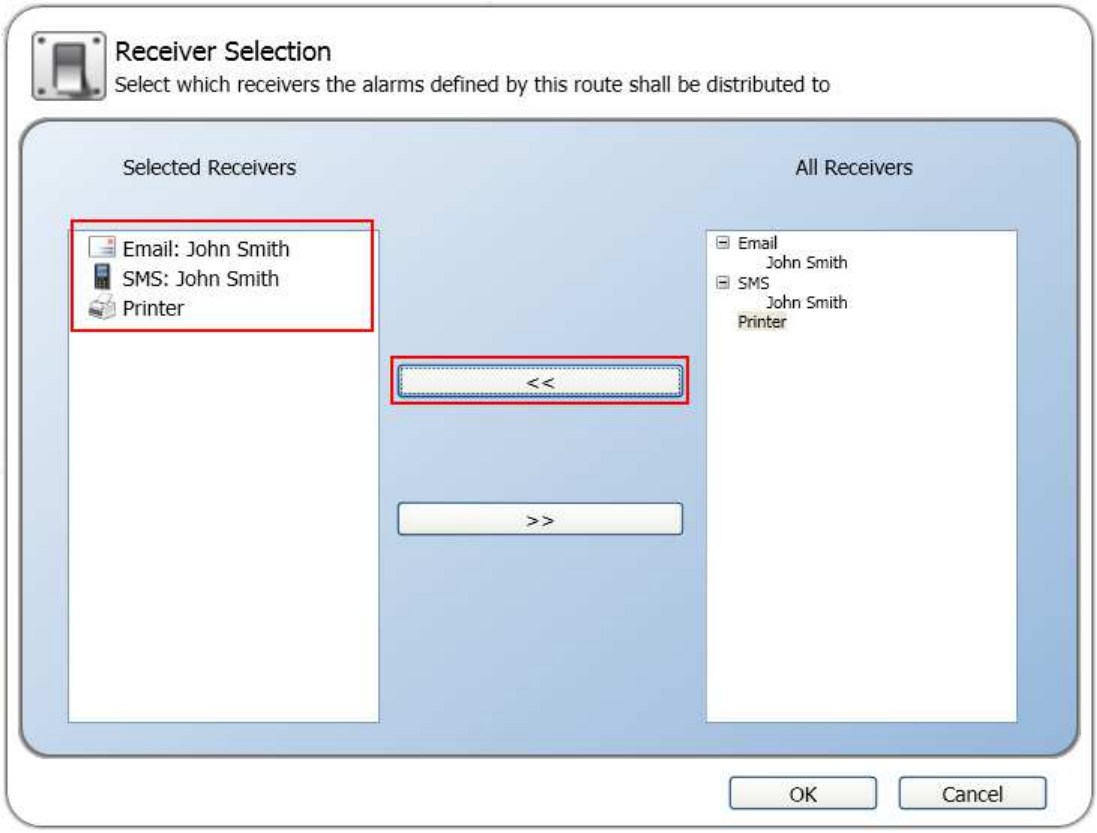
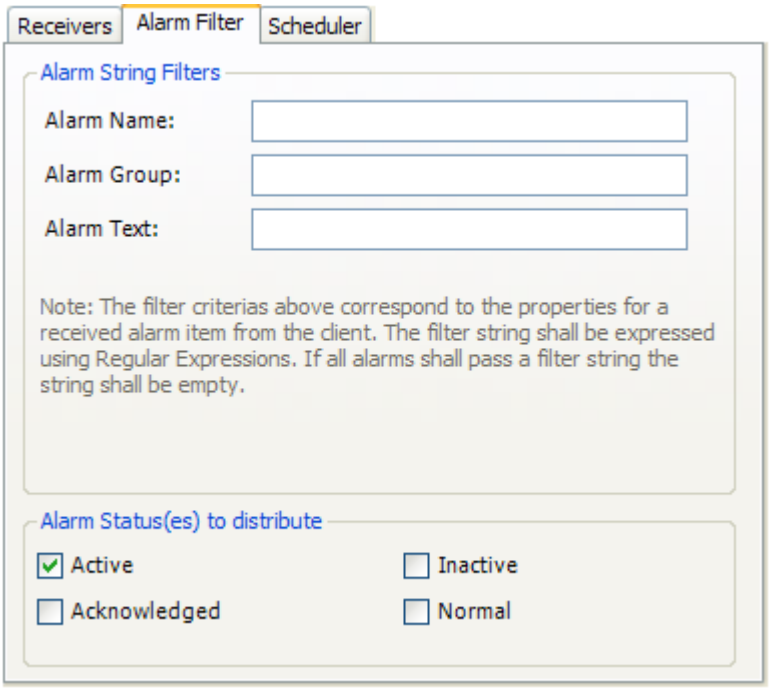
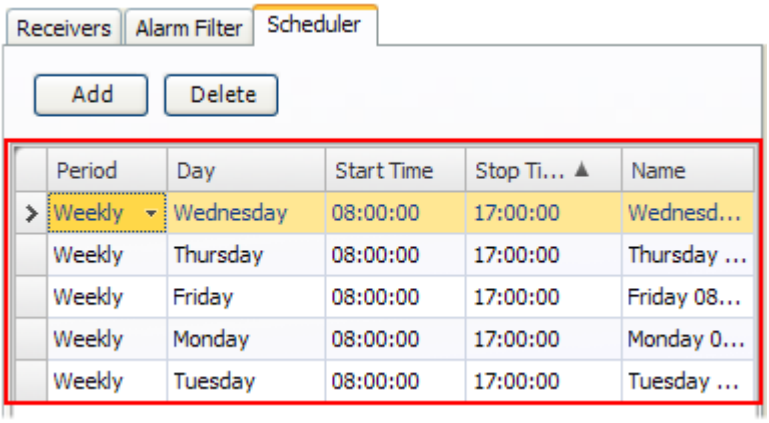


- Click on the ***Alarm Filter*** tab, here it's possible to filter which alarms that should be sent. An easier approach is to select which individual alarms that should be distributed (this is configured in the Alarm Server and have alredy been explained in this chapter. In this tab it's also possible to select when the alarms should be distributed. By default they are distributed only when the alarms become active.



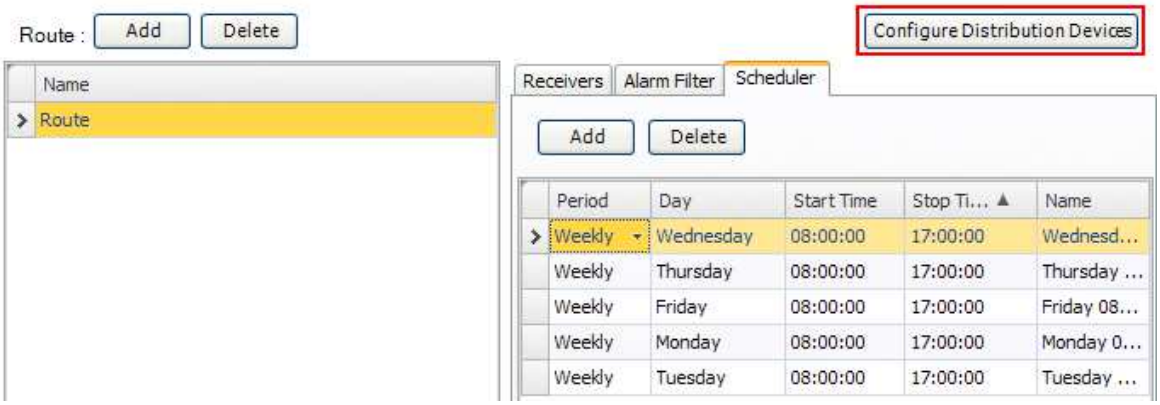
- Click on the ***Scheduler*** tab. In this tab it's possible to configure intervals when this route shall be active. The configuration below means that this route will be active Monday to Friday, 8.00 to 17.00. Only alarms that occurs between the start and stop time will be distributed.



4.3 Configure Distribution Devices

- Click on the ***Alarm Distributor*** icon in the project explorer

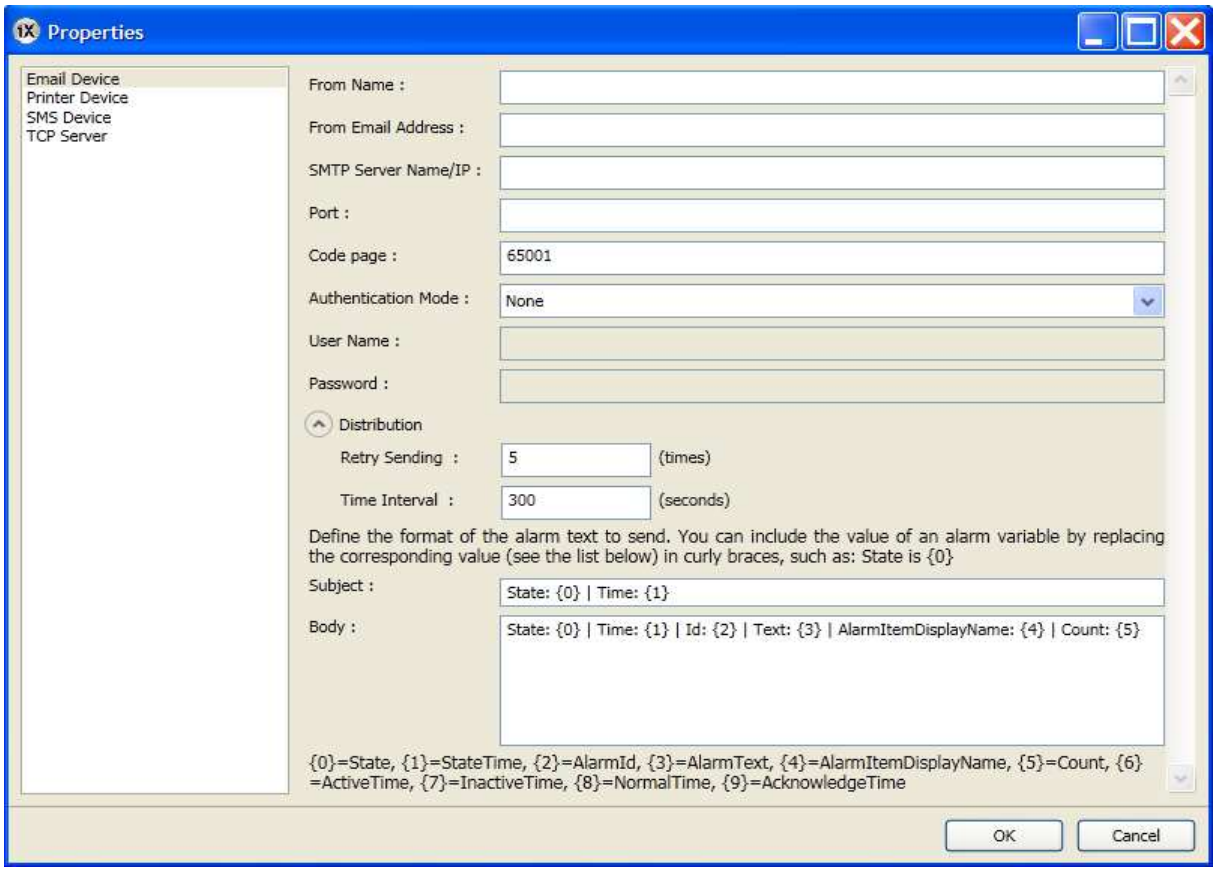
- Click on the ***Configure Distribution Devices*** button. A window of properties of the alarm distributor will open and from here it's possible to configure the distribution devices.



4.3.1 E-mail Device

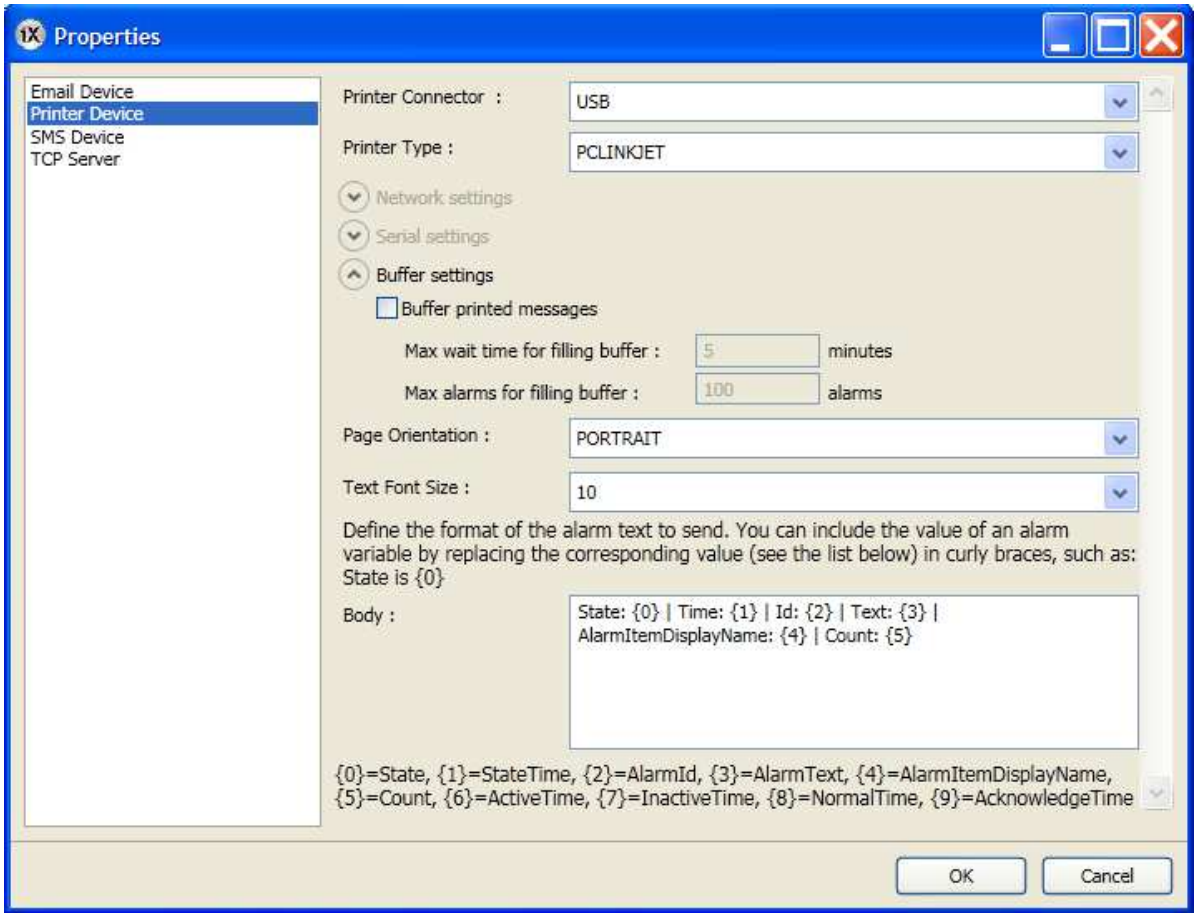
There are a numbers of parameters to configure for a establish connection to an e-mail server. More information about how to setup an e-mail server and sending e-mail from an operator terminal, please refer to the start-up document:

- KI00236, Sending e-mail from the operator terminal using ArGoSoft Mail Server.



Parameter	Description
FromName	The name of the sender of the e-mail
From E-mail Address	The e-mail address of the sender of the e-mail
SMTP ServerName/IP	The name or IP address of the SMTP server for sending e-mail
Port	The port number of the e-mail server
AuthenticationMode	Select **None** or **Authenticated Login**
User Name/Password	User name and password if **Authenticated Login** was selected
Retry Sending	Number of retries if the e-mail cannot be delivered
TimeInterval	Number of seconds between retries
Subject	The e-mail subject; *AlarmVariables* can be used
Body	The e-mail body; *AlarmVariables* can be used

4.3.2 Printer Device



Parameter	Description
Printer Connector	Select USB, Ethernet or serial printer connection
Printer Type	Select printer type
Network settings	Network settings (if Ethernet printer connection was selected)
Serial settings	Serial settings (if serial printer connection was selected)
Buffer settings	Buffer settings (if USB printer connection was selected)
Page Orientation	Portrait or landscape orientation of the printout
TextFontSize	The font sizeof thetext tobeprinted
Body	The body of the printout; *AlarmVariables* can be used

Printouts via Operator Panel

When printing to a serial printer from an operator panel, the printer must support IBM character set (850). When printing to a USB printer from an operator panel, the printer must support the printer classes according to the table below:

Printer type	Printer class requirement	Recommended Printer model
Color laser printer	USB + PCL 5c	HP LaserJet 2700
Monochromelaser printer	USB + PCL 5e	HP LaserJet 1320
Color ink-jet printer USB	USB + PCL 3e	HP Deskjet 5652

When printing via Ethernet from an operator panel, the network printer must be a shared resource in theWindows network.

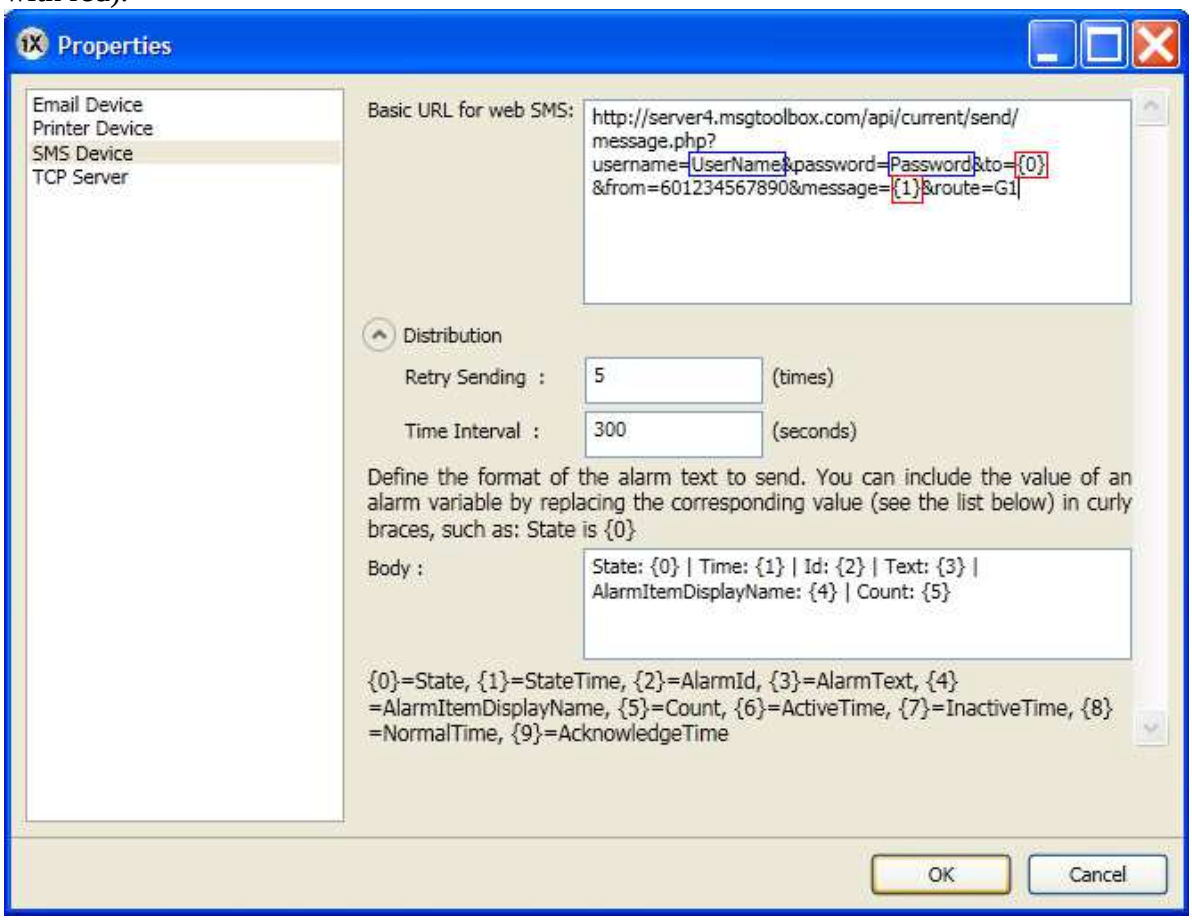
Note:
Connecting a printer via Ethernet requires that a PC is connected between the operator panel and the printer.

Note:
Printing to a color laser printer via Ethernet is not supported for operator panels.

Note:
The printer class PCL6 is not supported at all for connection to operator panels.

4.3.3 SMS Device

To be able to send alarms via SMS, you have to purchase an SMS Gateway Service. You will then get a URL configuration string with a unique username and password (marked with blue) and the service provider also have to include two variables, {0} for telephone number and {1} for SMS body (marked with red).



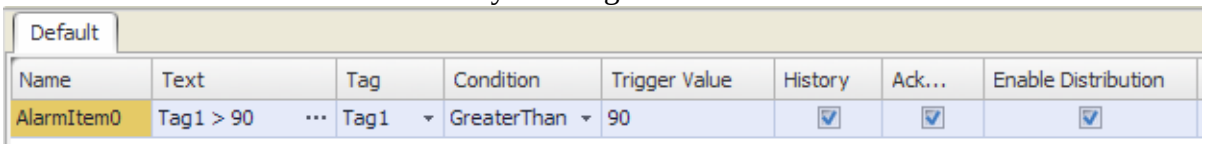
Parameter	Description
BasicURL for web SMS	The URL configuration string according to the SMS Gateway Service supplier that must include two variables: {0} for telephone number and {1} for SMS body
Retry Sending	Number of retries if the SMS cannot be delivered
TimeInterval	Number of seconds between retries
Body	The SMS body; *Alarm Variables* can be used

4.3.4 Alarm Variables

Variables collected from the alarm server definitions can be included in distributed alarm information. Variables are enclosed by curly brackets; for example “Alarm text: {3}”. The following variables can be used:

Number	Variable	Description
0	State	The current state of the alarm
1	StateTime	The time the alarmentered the current state
2	AlarmId	A unique alarm ID
3	AlarmText	Alarm item text
4	AlarmItemDisplay- Name	Alarm item name
5	Count	The number of times the alarm has occurred
6	ActiveTime	The time the alarm became active
7	InactiveTime	The time the alarm became inactive
8	NormalTime	The time the alarm became normal
9	AcknowledgeTime	The time the alarm was acknowledged

For example if you enter following in any subject or body fields of a distributon device:
Alarm notification! | {4} is {0}
{4}: {3}, occurred at {0} and has occurred {5} time/times.
If the alarm item below will be active you will get this information from the distribution device:



Alarm notification! | AlarmItem0 is Active
AlarmItem0: Tag1 > 90, occurred at 2011-07-06 15:09:01 and has occured 1 time/times.