

ION™ Meter Alerts

PowerLogic™ ION meters can send alerts to indicate a user-specified power system condition such as a power quality problem (including surges, sags, and swells), changes in relays, or required equipment maintenance. With ION meter alerts, you can automatically advise key people of problems to allow quick remedial action, notify software so logs can be uploaded from the site that initiated the alert, or service equipment on schedule.

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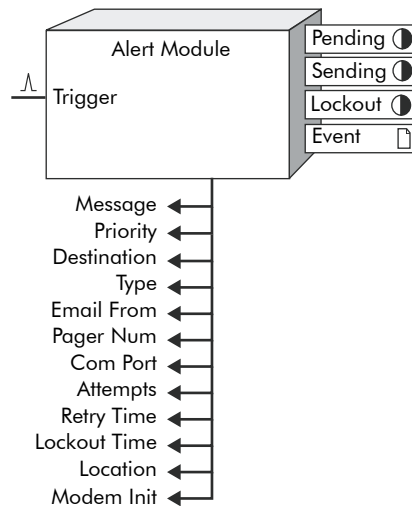
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Overview of ION Meter Alerting

This section gives a brief overview of ION meter alerting.

The Alert Module

ION meter alarming is set up by configuring and linking an Alert module. Alert modules reside in the meter firmware of most ION meters, and can be accessed and configured using ION Setup or the Designer component of ION Enterprise.



The Alert module sends an alert whenever its *Trigger* input is pulsed. You can connect this input to any module that produces a pulse output and that monitors alarm conditions such as changes in relay status and power quality problems (surges, sags, and swells). For example, you can connect the *Trigger* input to the output of a Setpoint module, causing the Alert module to send an alert when a setpoint condition is reached.

The Alert module requires access to either a modem or Ethernet, and can be configured to deliver the following types of alerts:

- ◆ Email
- ◆ Numeric Pager
- ◆ Alphanumeric Pager
- ◆ PEGASYS (for alerts to PEGASYS software)
- ◆ ION Alert (for alerts to ION Enterprise software)
- ◆ MV90 ION (for alerts to MV90 software)
- ◆ ASCII

Alerts can be sent from a single meter, or from multiple meters connected to a single meter that forwards the multiple meter alerts to their final destinations. These applications are discussed in this section. For detailed information on the Alert module, see the *ION Reference*.

Alert Module Setup Registers

Below is a list of the setup registers for the Alert Module. The registers you need to configure vary depending on the type of alert you are setting up. See the sections that describe the types of alerts for more information on what registers to configure and how to configure a particular register for that option.

- ◆ *Message*: This register contains the text you want to include in the alert message.

Values and names from registers linked to the module's *Source* inputs can be included in the message by referencing them in the message string. To include the name of the output register linked to the *Source* input, use the form %Nn, where N is the label of the output register linked to the *Source* input, and n is the *Source* input number. Similarly, to include the value from the linked output register, use the form %Vn, where V is the value from the linked output register, and n is the *Source* input number.

In the following example, the message will indicate the value that the Power Meter module output *kW tot* linked to the Alert module *Source* input #2 provides. The string in the *Message* register looks like this:

```
Alert %N2 = %V2
```

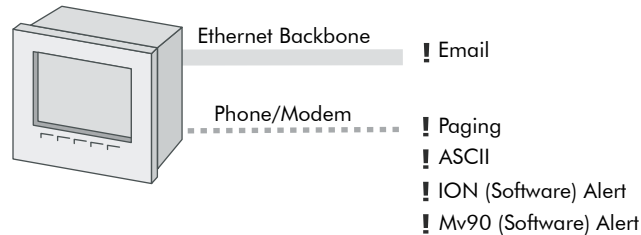
The above string results in an outgoing message that looks like this:

```
Alert kW tot = 147.10
```

- ◆ *Priority*: This register contains the priority of the alert, from 0 (lowest) to 255 (highest).
- ◆ *Destination*: This string identifies the alert's destination.
- ◆ *Type*: This register specifies the type of destination you want to alert.
- ◆ *Pager Number*: This register contains the pager access number provided by your paging company.
- ◆ *Com Port*: This register specifies the meter COM port that sends the alert.
- ◆ *Attempts*: This register specifies the number of times that you want the module to attempt to connect.
- ◆ *Retry Time*: This register specifies the amount of time (in seconds) that the module waits before attempting re-dial after a failed attempt.
- ◆ *Lockout Time*: For successfully sent alerts, the *Lockout Time* specifies a period (in seconds) that all Alert modules wait before another alert transmission can begin.
- ◆ *Modem Init*: This register contains the modem's initialization string.
- ◆ *Location*: This string register identifies the meter that is sending the alert.
- ◆ *Email From*: This string register specifies the email address that appears in the "From" field of an email alert.

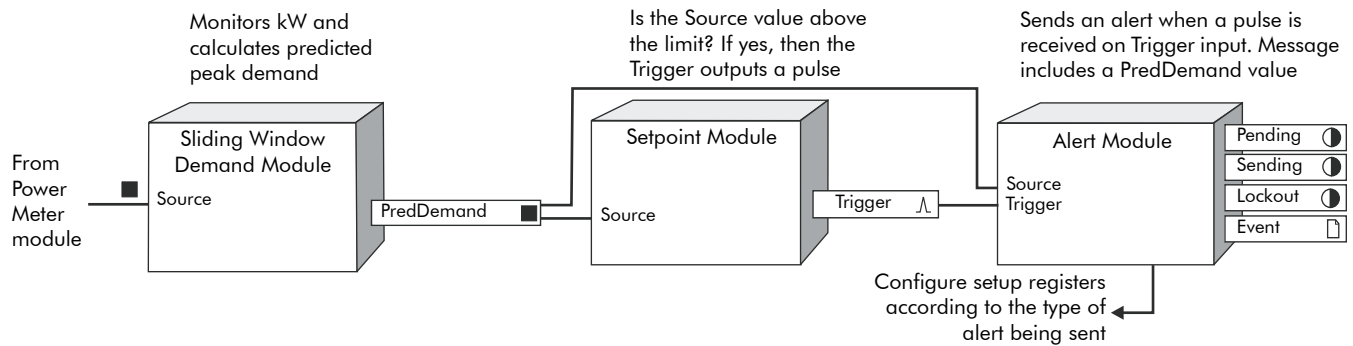
Alerts from a Single ION Meter

A single meter can have multiple Alert modules configured for different conditions. A meter can also be configured so that a single event triggers notification of more than one person at the same time, using a combination of contact methods.



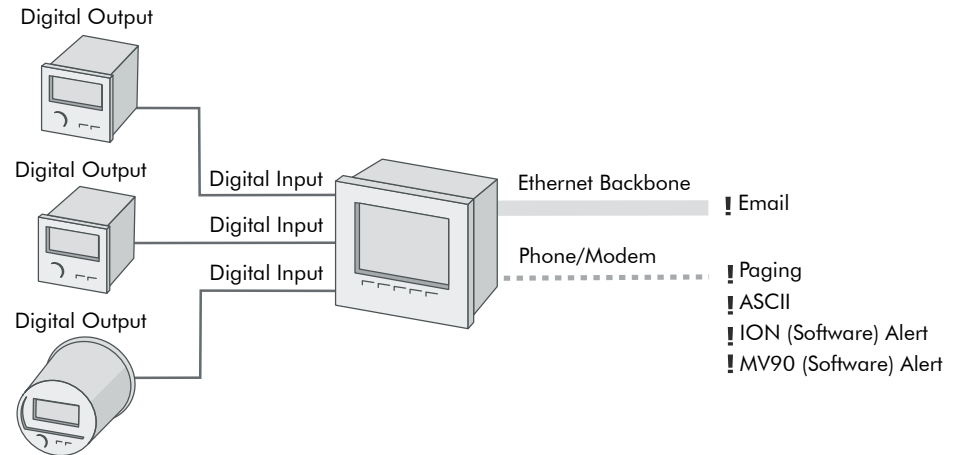
Detailed Operation

In the following example framework, a Sliding Window Demand module's output is monitored so that an alert is sent when the predicted demand value goes above a specified limit. A Setpoint module is required to determine when the high limit condition is met and to send a pulse to trigger the Alert module. When the pulse is received, the alert message is sent according to the Alert module's setup register values. In this example, the predicted demand value is included in the alert message, because the Alert module *Source* input is linked to the Sliding Window Demand module *Predicted Demand* output.



Alerts from Multiple ION Meters via Digital Pulses

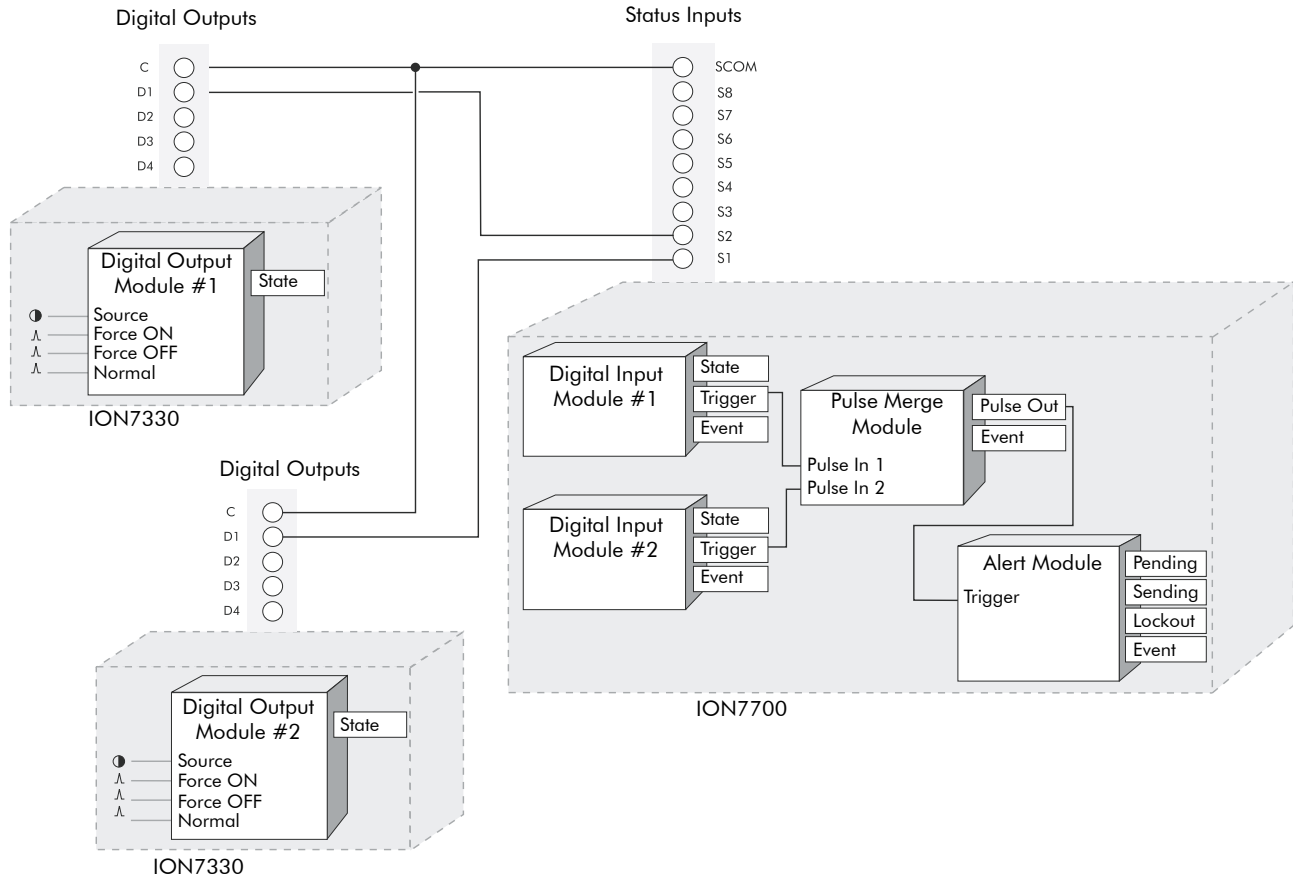
In this application, the digital outputs of meters that have the ability to trigger setpoints (e.g., ION7550/ION7650 or ION8600 meters) are wired to the digital pulse inputs of a meter designated to send alerts from those meters to the final destinations.



Detailed Operation

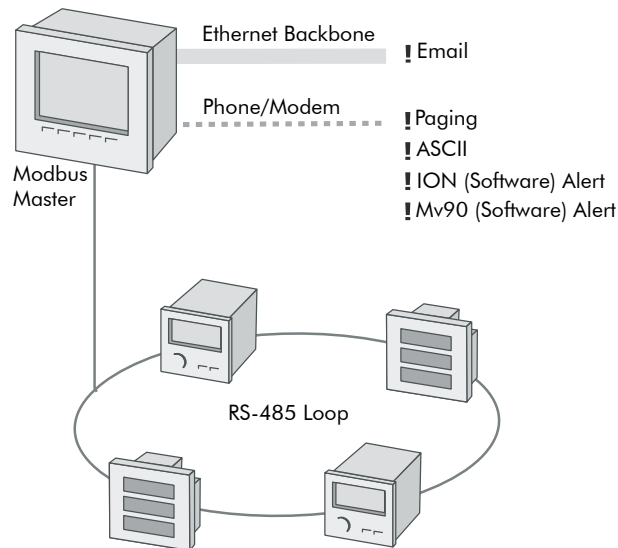
Alerting can be implemented in a group of meters linked together via meter I/O. An alert trigger can originate from any device in the group, provided that those devices have the ability to produce a digital signal.

In the following diagram, the ION7330 meters are monitoring setpoint conditions. The ION7700 meter Digital Input modules receive digital data. A Pulse Merge module processes the pulses produced by the two Digital Input modules. The output of the Pulse Merge module then triggers the ION7700 meter Alert module. This configuration sends an alert whenever the setpoint condition on either ION7330 meter is met.



Alerts from a Modbus Master

An ION meter acting as a Modbus Master can send alarms from several connected meters, reducing the number of communications links required. A Modbus Master has other meters connected to it serially using RS-485 or digital outputs, and can forward alarms from all of the connected meters to the appropriate destinations via a modem or Ethernet.

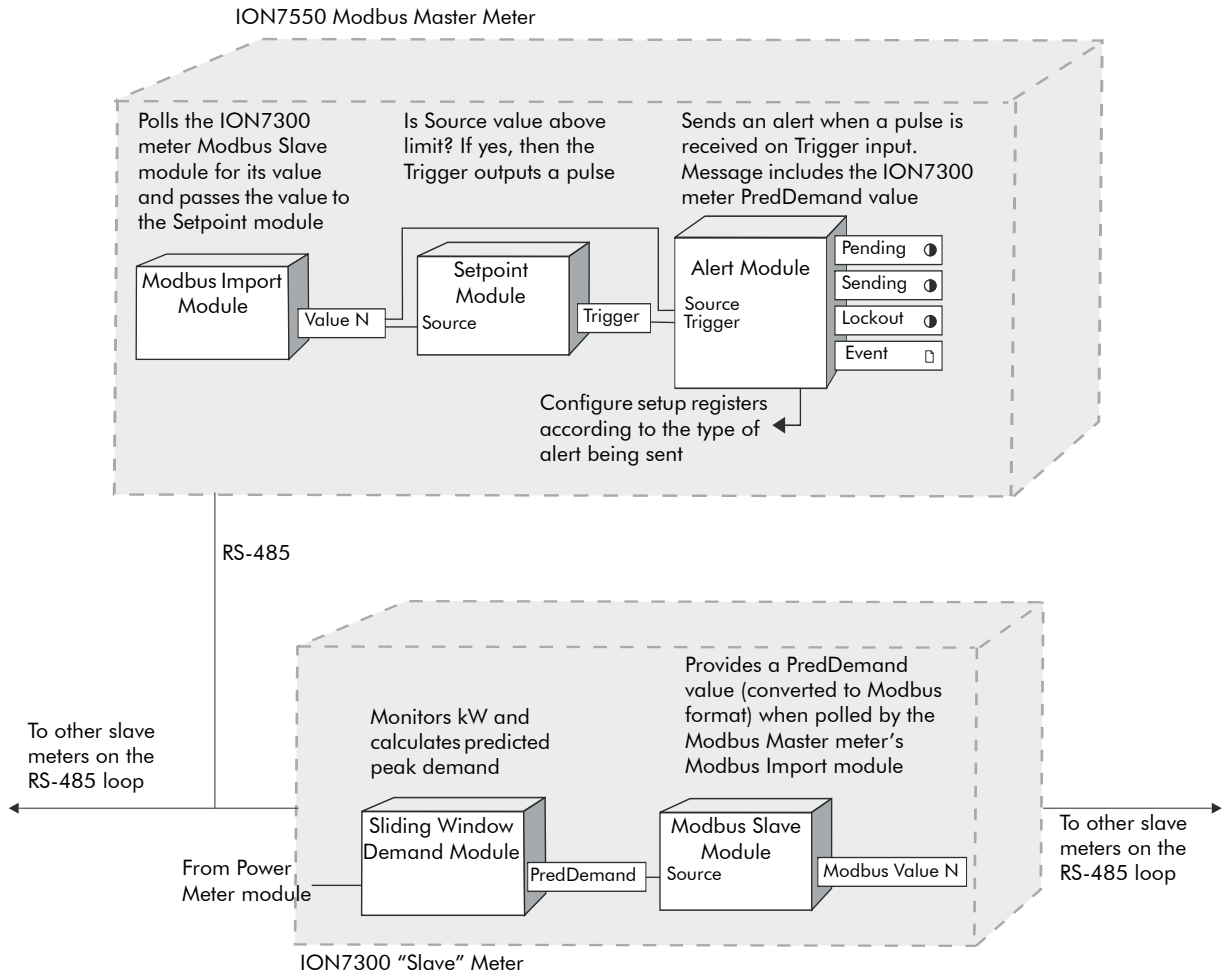


Special Consideration for RS-485 Communications

Some limitations apply when using Alert modules with RS-485 communications. You can have multiple Alert modules in a single device, but only one device in an RS-485 loop can use these modules; RS-485 does not provide for reliable collision detection, and multiple alerts from different meters may fail.

Detailed Operation

In the following example, an ION7550 meter acting as a Modbus Master sends alerts to the appropriate destinations from several meters connected via RS-485. A Modbus Slave module in a slave meter (ION7300) receives predicted peak demand values calculated by a linked Sliding Window Demand module. The Modbus Import module in the Modbus Master meter (ION7550) polls the ION7300 meter Modbus Slave module for the predicted demand values. The ION7550 meter Modbus Import module passes the predicted demand values to a linked Setpoint module, which determines whether a high limit condition is met. If a setpoint condition is reached, the Setpoint module pulses the Alert module Trigger input, and an alert is sent. The ION7300 meter predicted demand value is included in the alert message since the Alert module *Source* input receives the predicted demand value from the Modbus Import *Value* output.



Alphanumeric Pager Alerts

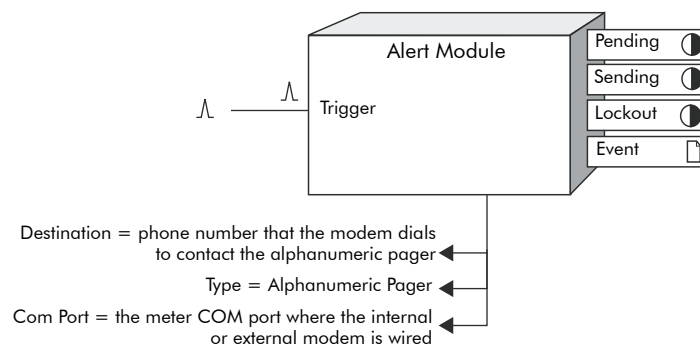
When an alphanumeric pager alert is sent, an alphanumeric paging service receives a message consisting of text and values from the ION meter.

Once the modem at the paging service is contacted, the meter transmits the following information:

- ◆ Pager identification number
- ◆ Local time (year, month, date, hours, minutes, seconds)
- ◆ Remote site identification
- ◆ Priority of the alarm
- ◆ Alert message, with text strings and realtime measured values

The following section gives a brief overview of how to configure Alert module setup registers for alphanumeric paging using ION Setup advanced mode or the Designer component of ION Enterprise.

Configuring a Meter for Alphanumeric Paging



The following steps provide an overview of how to set up an Alert module for alphanumeric paging alerts.

1. Create an Alert module.
2. Create an ION module that produces a pulse on one of its output registers when the exceptional event occurs (e.g., a Setpoint module pulses its *Trigger* output when the setpoint condition is reached). For examples of ION meter alert frameworks, refer to “Overview of ION Meter Alerting” on page 2.
3. Link the Alert module’s *Trigger* input register to a pulse output register on the module created in step 2.
4. Configure these Alert module setup registers as indicated (for more information on these setup registers, see “Alert Module Setup Registers” on page 3):

Message: Type the text for the alert pager message; you can use 120 characters maximum.

Priority: Type the priority number of the alert.

Destination: Type in the dialing string that the modem dials. The Destination register contains your modem access number for the paging service provider and is what is dialed out first. If you are not using a direct line you may need to enter "9," before the destination number.

Type: Select Alphanumeric Pager.

Pager Number: Type the pager access number provided by your paging company.

Com Port: Select the meter COM port where the internal or external modem is wired.

Attempts: Type the number of times that you want the module to attempt to connect.

Retry Time: Type the amount of time (in seconds) that the module waits before attempting re-dial after a failed attempt.

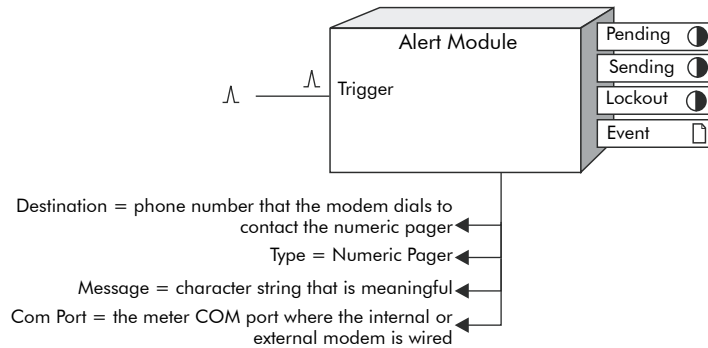
Lockout Time: Type the amount of time (in seconds) that all Alert modules wait (after a successfully sent alert) before another alert transmission can begin.

Modem Init: Type the modem's initialization string.

5. Save. When the *Trigger* input is pulsed, an alert is sent via modem to an alphanumeric pager.

Numeric Pager Alerts

When a numeric pager alert is sent, a numeric paging service receives a message from the ION meter. Because of the inherent limitations in numeric paging, the meter can only send a string of digits to the paging service. The Alert module then waits a specified time (determined by the number of commas inserted after the phone number in the *Pager Num* setup register). Finally, the Alert module dials the message digital string.



You must consider two important factors when setting up the Alert module for numeric paging: first, be sure to specify a string of digits that is meaningful to you, such as a coded message; second, be aware that there is no way to ensure that a message was successfully transmitted. Instead, there may be a busy signal or an answering machine may take the call. The number of commas that you add to your dial string is an estimate of how long the modem at the remote site should wait before it transmits numbers.

NOTE

In the following destination-setting example: 1-250-555-6666,,,,,999#, the pager number is 1-250-555-6666 and the message string that displays on the pager is 999. You may need to insert 9,,, before the destination number if the line you are using is not a direct line. In this case the destination number is 9,,1-250-555-6666,,999#

Email Alerts

An email alert can be sent to any address that you specify. You can set only one email address per Alert module. If you want to send an alert to more than one email address, then you can set up a distribution list email address that contains the individual email addresses to be notified. For email alerts to operate, the SMTP Server address must be configured correctly. Brief instructions for setting up the SMTP Server and an Alert module for email alerts follow. For details such as network setup instructions for email alerting, see the *ION MeterM@il* technical note.

The alert email shows the following:

- ◆ Alert message details
- ◆ Date and time of the event
- ◆ Event priority level
- ◆ Owner of the meter
- ◆ Additional user-defined meter identification information labelled “Tag1” and “Tag2”

 **NOTE**

Tag1 and Tag2 are meter settings for information of your choice.

Configuring a Meter for Email Alerts

This section describes how to use Designer to:

- ◆ Set up the meter for your SMTP server.
- ◆ Configure an Alert module for email alerting.

Configuring the Meter for your SMTP Server

Before you program the meter to email alerts, you must set up the meter with your SMTP mail server address and, if required, extend the SMTP connection timeout:

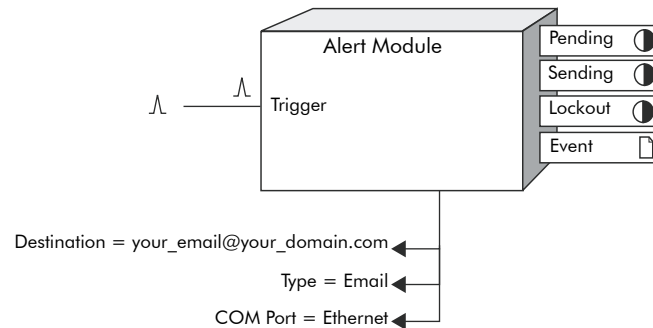
1. Open the meter in Designer and double-click on the **Communications Setup** folder.
2. Right-click on the icon in the center of the Ethernet module. The ION Module Setup screen appears.
3. Double-click the **SMTP Server** setup register and type in the IP address of your SMTP server.
4. If required, double-click the **SMTP Connection Timeout** setup register and increase the timeout period.

NOTE

The *SMTP Connection Timeout* sets the amount of time that the meter waits when establishing a connection to an SMTP mail server. This setting is intended to compensate for situations where it takes some time to establish a connection, such as dial-up access. See the *ION MeterM@il* technical note for more information.

5. Click **Send & Save**.

Configuring the Alert Module for Email



Follow the steps below to learn how to set up an Alert module for email alerts.

1. Create an Alert module.
2. Create an ION module that produces a pulse on one of its output registers when the exceptional event occurs (e.g., a Setpoint module pulses its *Trigger* output when the setpoint condition is reached). For examples of meter alert frameworks, refer to “Overview of ION Meter Alerting” on page 2.
3. Link the Alert module’s *Trigger* input register to a pulse output register on the module created in step 2.
4. Configure the following Alert module setup registers as follows (for more information on these setup registers, see “Alert Module Setup Registers” on page 3):

Message: Type the text of the alert to be emailed. You can use up to 120 alphanumeric characters in the message string.

Destination: Type the destination email address of the alert. A maximum of 50 characters can be used in the following way: “your_email@your_domain.com”.

Type: Select Email.

Com Port: Select Ethernet.

Location: This string register identifies the meter that is sending the alert, and defaults to the network meter name. You can change the default; use 60 characters maximum.

Email From: Type the email address that you want to appear in the “From” field on the email. The default value of this register is ALERT<ALERT MODULE NUMBER>@<METER SERIAL NUMBER> — for example, Alert3@PK-9910A010-00. This register needs to be changed in cases where the receiving

SMTP server only accepts emails from valid Internet domains (i.e., SomeName.COM). This string may be up to 80 characters long.

5. Save. When the *Trigger* input is pulsed, the Alert module establishes communications with the SMTP mail server, and emails the alert message.

Alerting in ION Enterprise

The following sections describe how to send alerts to ION Enterprise.

Using the Alert Monitor Service

The Alert Monitor service is a Windows service (“Alert Monitor”) that replaces the “Alarm Server” program from previous versions of ION Enterprise (for information on using the Alarm Server program, see “Using the Alarm Server” on page 19).

The Alert Monitor service resides on the ION Enterprise workstation, where it receives and processes incoming alarms from the Alert module of a remote ION meter.

The Alert Monitor service:

- ◆ Allows a user to monitor the system for alarm conditions without logging in to ION Enterprise.
- ◆ Can handle incoming calls from multiple communications ports.
- ◆ Uses the ION Connection Management Service to establish a modem connection, rather than the legacy command line executable “conman.exe”.

ION Connection Management Service allows you to set up specific modem connection request properties, such as Minimum/Maximum Connection Time, Disconnect on Caught-up, etc. These properties are set up in the Alert Monitor’s configuration file — see “Configuring the Alert Monitor” on page 16.

NOTE

Alert Monitor does not support TAPI modem drivers for Windows (WinModems).

How It Works

The Alert Monitor responds to alarm messages originating from the Alert module in an ION meter. For example, an alarm message is initiated as a result of a power quality event:

1. An alarm condition prompts the ION module (e.g., Setpoint module) to send a pulse signal to the *Trigger* input of the meter’s Alert module.
2. The Alert module initiates modem communication and calls the phone number specified in the module’s *Destination* setup register.
3. The ION Enterprise workstation answers the modem call from the meter and completes the communication connection. The meter then sends the following information to ION Enterprise: a timestamp indicating when the alarm condition occurred, the node name, and the message (i.e., contents of the Alert module’s *Message* setup register).
4. Alert Monitor receives the alarm data and places it in the queue for processing. When the alarm is processed, the commands specified in the COM port configuration settings are executed. At the same time, a connection request is sent to the node specified in the alarm data.

5. The new connection request is received and placed in the queue. If other connection requests to the same site already exist, the new request is merged with the others.
6. ION Connection Management Service establishes a connection to the meter that originated the alarm, then Log Inserter downloads all outstanding event and data logs.

 **NOTE**

ION Connection Management Service uses a modem (from the modem pool) to establish connection to the remote site.

7. ION Connection Management Service disconnects after the ION Log Inserter Service has finished downloading all outstanding logs. When this has been completed, the status of the site is considered to be caught-up.

Configuring the Alert Monitor

 **NOTE**

This section is intended for advanced users. Contact Technical Support if you need assistance.

The configuration settings for Alert Monitor are stored in a config file that follows the file naming convention "{MachineName}.AlertMonitor.config". An example config file with this name is provided in the \... \... \config \AlertMonitor folder. An XML schema file named "AlertMonitor-Schema.xml" is also provided in the same folder, for your reference. You can use this schema to validate the config file using available XML validation tools.

Use a text editor or XML authoring tool to create and edit the configuration file. Remember to rename the config file to match the machine name (e.g., if the primary server is named "ComputerOne", rename the config file to "ComputerOne.AlertMonitor.config").

Configuration File Components

Channels define the communication port and modem that the Alert Monitor uses, while **Actions** define the commands to be carried out in response to an alarm.

A Channel contains the modem definition and configuration settings for the port.

The following table lists the attributes you can assign for a Channel:

Channel attribute	Description
Name	Name of the communications port the modem is connected to.
ModemType	The type of modem. The value entered here must exactly match the displayed value under "Modem Type" property in the "Dial Out Modem Options" dialog.
BaudRate	The modem's baud rate.

Channel attribute	Description
AlertMonitorNodeName	The node name, as it appears in the system log messages. The text specified here defines the value for the %a command parameter (described below).
NoLog	This controls whether all alarms are logged to the ION Enterprise system log. A value of "YES" logs all alarms. A value of "NO" disables all alarm logging.
NumTries	This specifies how many times a connection attempt should be retried if there are communication errors.

**TIP**

Open the example file "{MachineName}.AlertMonitor.config" in a text editor program and refer to it when reading this section to see the proper usage of the elements and attributes in the Alert Monitor configuration file.

Actions are grouped inside **ActionSet** elements, which contain connection requests and/or commands to execute when alarms are received. Specify "ConnectionRequest" to set up an ActionSet to send a connection request; specify "Command" to set up an ActionSet to execute an operating system command when the alert is received. You can specify attributes for ActionSets:

- ◆ If the Channel attribute is used in the ActionSet (for example, <ActionSet Channel="COM1">), then the actions (commands) listed in the ActionSet are executed for all alarms coming through the communications port and modem specified for that Channel (i.e., "COM1").
- ◆ If the Location attribute is used in the ActionSet, then the actions (commands) listed in the ActionSet are executed for all alarms originating from the specified Location (regardless of Channel).
- ◆ If no attribute is specified, then the actions (commands) listed in the ActionSet are executed for all alarms originating from any communication port or location.

If there are two ActionSets (one specifying a Channel attribute, the other specifying Location attribute), then the one that specifies the Location attribute takes priority.

**NOTE**

The value of the "Location" attribute is specified in the *Location* setup register of the Alert module for the meter that is sending the alert. For details, refer to Alert Module description in the *ION Reference*.

Commands (i.e., command lines that run separate applications such as "net send") contained in the ActionSet can include parameters that return data values, as described in the following table:

Command Parameter	Description
%U	Universal time: seconds since January 1, 1970
%u	Universal time: YYYY-MM-DD HH:MM:SS.FFF
%T	Local time: seconds since January 1, 1970

Command Parameter	Description
%t	Local time: YYYY-MM-DD HH:MM:SS.FFF
%n	Node name (e.g., device name)
%g	Gate name (e.g., site name)
%p	Priority name
%P	Priority number
%m	Alarm message without delimiters
%M	Alarm message with " " delimiters
%a	The value of the AlertMonitorNodeName attribute.

The “ConnectionRequest” element contained in the ActionSet has attributes that you can define, as described in the following table:

ConnectionRequest Attribute	Description
MaxConnectTimeSeconds	Maximum time (in seconds) a connection to the site is maintained.
MinConnectTimeSeconds	Minimum time (in seconds) a connection to the site is maintained.
RequestLifetimeHours	Defines how many hours a connection request remains valid before it is discarded (even if attempts to connect to the site fail).
RequestPriority	Priority of the connection request, which ranges from 0 to 2000 (2000 is the highest priority).
DisconnectOnCaughtUp	This specifies to automatically disconnect from the site after Log Inserter has finished downloading all outstanding logs, including event and data logs.
Device	This explicitly defines which specific device to connect to in the site. This attribute overrides data contained in the alarm message.
Site	This explicitly defines which site to connect to. This attribute overrides data contained in the alarm message.

Multi-Station Setup

It is possible to run the Alert Monitor on more than one machine in the ION Enterprise system. However, the configuration files must be stored in the primary server, following the convention “ComputerName.AlertMonitor.config”.

For example, the Alert Monitor running on a secondary server named “ComputerTwo” uses the configuration file named “ComputerTwo.AlertMonitor.config” located on the primary server.

Diagnostics

Diagnostic and error messages are logged in the ION Enterprise system log, with the source “Alert Monitor”.

Starting the Alert Monitor Service

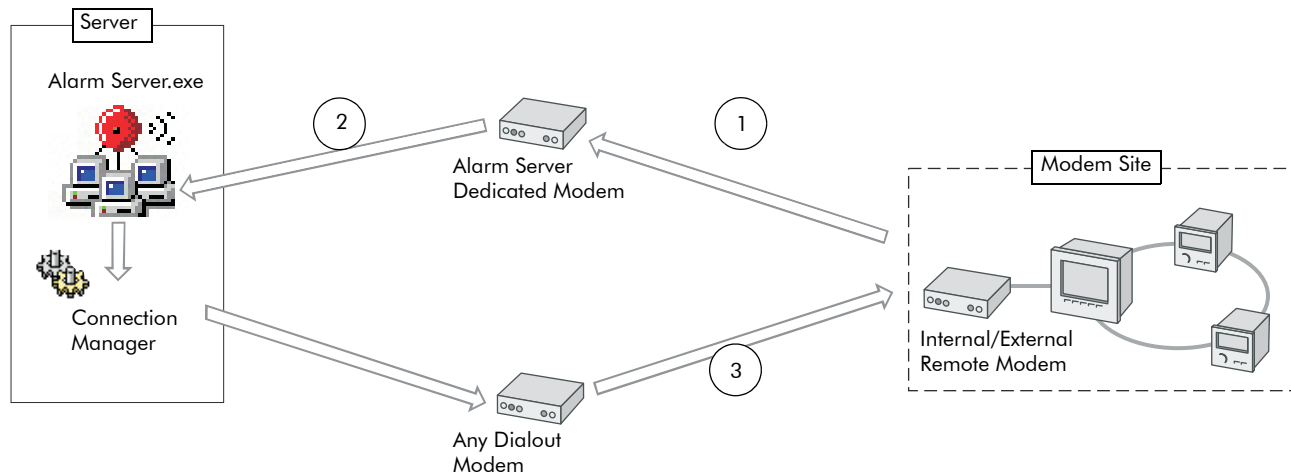
By default, the Alert Monitor service is stopped and set to “Manual” startup type. To automatically start Alert Monitor on Windows startup, change the startup properties of this Windows service to “Automatic”, then start the service. Refer to your Windows documentation for details.

Using the Alarm Server

The Alarm Server is a legacy feature that was commonly used to receive alarms from a remote meter that is not continuously or permanently connected to the ION Enterprise network. The Alarm Server with a dedicated modem and a dedicated phone line monitors a remote site for a priority event, and when it detects that a priority event has occurred, typically launches the ION Connection Management Service to establish communications with the remote meter and upload its data.

Following is a sequence of steps and diagram that outlines the process:

1. A meter at a remote site records a power system priority event, and initiates an alert using a remote-site modem (an internal modem within an ION meter or an external modem) programmed to dial the Alarm Server's dedicated modem phone number.
2. The Alarm Server dedicated modem is contacted and the alert is passed to the Alarm Server.
3. The Alarm Server (which has been monitoring the phone line waiting for a remote meter to announce a priority event) receives the alert, and immediately requests that the ION Enterprise Connection Manager establish communication with the remote meter to upload its records.



The Alarm Server uses a series of command line arguments to specify the actions it takes when a priority event is reported. These commands must be entered on the ION Enterprise Primary or Secondary server computer that is running the Alarm Server utility. Although the Alarm Server is typically configured to launch the Connection Manager which dials up the remote site and retrieves the logs from the devices, the Alarm Server can also be configured to launch other applications. A series of parameter switches are added to the command line to pass information about the event to the application that is launched. More information regarding command lines and command line arguments is presented in the following sections.

Configuring the Alarm Server

The Alarm Server should have a dedicated phone line, modem, and COM port on the ION Enterprise server computer to avoid conflicts with other ION Enterprise components.

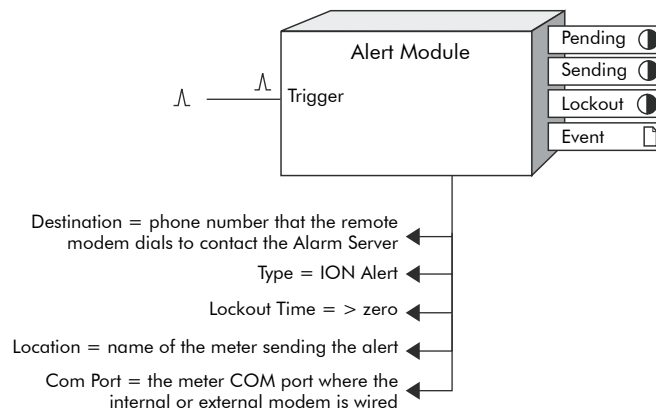
The modem used by the Alarm Server is **not** configured with Management Console—only dialout modems are configured in Management Console. The Alarm Server's executable, `alarmsrv.exe`, is typically located in:
 C:\Program Files\Schneider Electric\ION Enterprise\SYSTEM\bin.

You can run the Alarm Server in a console window, or you can define a shortcut icon that includes all of the command line arguments required. Defining an Alarm Server shortcut is recommended because you type the Alarm Server command line only once, when the shortcut is initially defined (the command line can be modified at any time, however). Alternatively, running the Alarm Server in a console window requires you to type the Alarm Server command line every time that you launch the Alarm Server.

Preparation for Alarm Server Configuration

In addition to setting up your ION Enterprise network in Management Console to model your physical communications network, an Alert module must be set up for each remote meter that will contact the Alarm Server.

Configuring the Remote Meter Alert Module



An Alert module for each meter at the remote site must be configured prior to the Alarm Server configuration, because Alarm Server command line arguments reference the remote meter Alert module information.

You can set up your remote meter for alerts to the Alarm Server the same way you set up your meter for other alerts via modem, except for a few settings particular to Alarm Server alerts indicated in the diagram above, and in the list below (for more information on these setup registers, see “Alert Module Setup Registers” on page 3):

- ◆ *Type*: Select ION Alert.
- ◆ *Destination*: Type the dialing string that the modem dials.
- ◆ *Com Port*: Select the COM port that the remote meter uses to send an alert to the Alarm Server (i.e., the serial COM port where the internal or external modem is wired).
- ◆ *Lockout Time*: Type in the amount of time (in seconds) that all Alert modules wait (after a successfully sent alert) before another alert transmission can begin. For ION Alerts, this register must be set to a value greater than zero. Triggers received by Alert modules remain pending until the lockout expires. The Lockout Time begins after the alert succeeds (lockout will not occur if the messaging attempt fails).
- ◆ *Location*: Enter the meter name into this register, exactly as it appears in the Management Console. The Location setup register only applies to ION Alerts (or PEGASYS alerts) to the Alarm Server.

Configuring an Alarm Server Shortcut with a Command Line

This section describes how to create a shortcut to the Alarm Server that includes the command line arguments required for the Alarm Server to respond to an alert.

You should read the instructions before proceeding, including the section “Defining Alarm Server Command Line Arguments” on page 22, as you need to enter an Alarm Server command line for step 5.

1. Open the ION Enterprise Tools folder, right-click in the folder, and select **New > Shortcut**.

An icon titled “New Shortcut” appears in the folder and the Create Shortcut dialog box prompts you to type the location of the Alarm Server executable that you are making the shortcut for.

2. Click **Browse** and locate alarmsrv.exe. Select alarmsrv.exe and click **OK**.
3. Rename the shortcut, e.g., Alarm Server. The shortcut icon changes to an Alarm Server icon.
4. Right-click on the Alarm Server shortcut, select Properties, then click the Shortcut tab.

To configure the Alarm Server response, command line arguments for the remote meter to be contacted, modem to be used, etc., MUST be added to the information in the Target field.

5. Type the Alarm Server command line arguments following the path information in the shortcut Target field as shown in the example below, and click **OK**.

For example:

```
“C:\Program Files\Schneider Electric\ION  
Enterprise\system\bin\alarmsrv.exe” -m“Generic ION Modem - Hayes/  
GVC/Zoom”-cCOM1 “conman -p1800 %g”
```

See “Defining Alarm Server Command Line Arguments” on page 22 to learn what the Alarm Server command line arguments signify.

 **NOTE**

If the default path includes spaces in between the words, then you must surround the path in quotes for the path to be valid.

6. Double-click the Alarm Server icon to start the Alarm Server.

Defining Alarm Server Command Line Arguments

The command line arguments for a typical Alarm Server application look like this:

```
-m"Generic ION Modem - Hayes/GVC/Zoom"-cCOM1 "conman -p1800
%g"
```

where

-m	= the type of dialout modem that Alarm Server uses to contact the remote site
-cCOM1	= the COM port on the server that is used by the Alarm Server dedicated modem
conman	= Connection Manager that contacts the modem site and retrieve priority messages for the ION database
-p	= the time to stay connected in seconds
%g	= the remote site where the meter that sent the alert is located

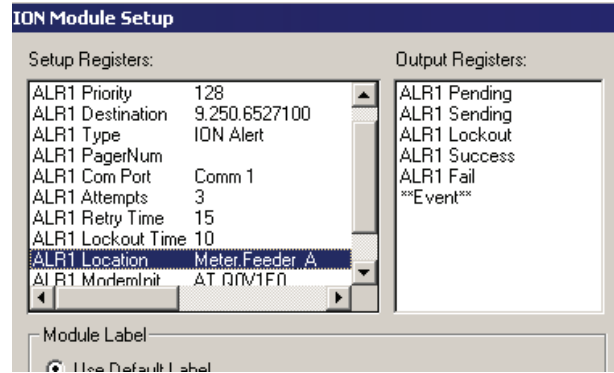
The command line arguments above instructs Alarm Server to use a Generic Hayes/GVC/Zoom dial out modem connected to the server COM 1 to contact the remote site where the meter that sent the alert resides, and to launch Connection Manager for a 1800 second (30 minute) connection to the site so meter data logs can be uploaded.

 **NOTE**

The command line syntax must be exact; a space between characters can cause the command line to fail. The dialout modem and remote site syntax must match the information in ION Enterprise, described in the following paragraphs.

The modem syntax must match exactly what appears in the Modem Type field in Management Console. To view this field, select Dial Out Modems from the System Setup pane in Management Console, then right-click on the modem you want to use and select Configure Device.

As indicated in the preceding formatting example, the syntax %g refers to the remote site where the meter is located that sent the alert to the Alarm Server. This syntax "%g" references the information entered for the remote meter Alert module *Location* register, and is used by the Alarm Server to locate the remote site where the meter that sent the alert resides, so the Alarm Server can upload meter datalogs from that site. In this example, the meter that sent the alert to the Alarm Server is named Meter.Feeder_A.



The remote meter name entered for the Alert module *Location* register must match the meter name exactly as it was originally typed in the Management Console Devices screen.

Alarm Server Command Line Arguments for Launching Windows Net Send

The command line arguments for launching the Windows net program look like this:

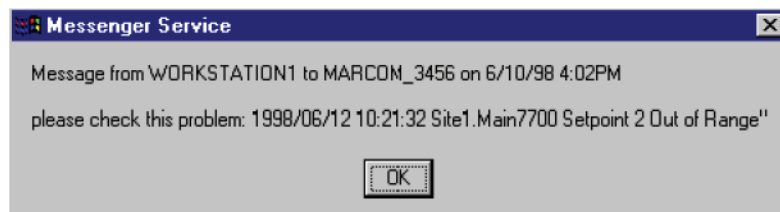
```
Alarmsrv.exe "net send MARCOM_3456 please check this problem: %t %n %m"
```

NOTE

If using the net send command, be sure to enclose the message within single quotation marks (') or no quotes (as in the examples above and below), otherwise the net send command will not work. When specifying the launch of multiple programs, each program is separated by double quotation marks (")—see the example below for details.

This command launches the Windows net program and sends a message to the workstation named MARCOM_3456. The message reads "please check this problem" followed by the timestamp, the name of the node that sent the message, and the event message programmed into the node.

The display on workstation MARCOM_3456 might look like this:



Supported Alarm Server Command Line Arguments

The Alarm Server supports the following command line arguments:

-m "<modem type>"	Specifies the type of dialout modem that Alarm Server uses to contact the remote site. The string must be enclosed in double-quotes, and match the name of the modem as it appears in the Management Console. ¹
-c <port>	Specifies which COM port Alarm Server uses on the server computer.
-b <baud rate>	Specifies the baud rate.
-D	Displays diagnostics.
-l	Indicates that priority event messages are not to be stored in the ION Enterprise system log.
-w	Include -w if both the Alarm Server and the Communications Services share one COM port on the server computer. If you want to use the same modem for both the Alarm Server and for dialing out to a remote site, please contact Technical Support for more information.
"conman %g"	Use "conman %g" to have Alarm Server launch the ION Connection Management Service and connect to the site that issued the priority message. When the %g is passed to the ION Connection Management Service, it is replaced by the name of the site where the meter resides that issued the priority message.
"<program>%<x>"	If you want to launch an executable in response to the priority message (i.e. instead of, or in addition to, launching ION Connection Management Service), enclose the program's name in double-quotes. The program you reference must be available in one of the folders specified by the workstation's PATH variable.

¹ To verify the modem name: Open Management Console and click the Dialout Modems icon. Right-click in the Dialout Modems content window and select New. Examine the drop-down list in the Modem Type field.

You can have the Alarm Server pass information to the launched program by adding different % parameters. The Alarm Server substitutes the corresponding value for each of the % parameters shown below. These parameters must be added after the program name, but within the double-quotes.

Parameter	Value passed to launched program
%T	local timestamp in Unix time (number of seconds since Jan. 1, 1970)
%t	local timestamp in date format (YYYY/MM/DD hh:mm:ss:mmm)
%U	universal timestamp in Unix time (number of seconds since Jan. 1, 1970)
%u	universal timestamp in date format (YYYY/MM/DD hh:mm:Ss:mmm)
%n	node name of priority message source
%P	alarm priority (0 to 255)
%p	alarm priority (text format; "low", "medium", "high", or "urgent")
%M	message, delimited by double-quotes
%m	message without delimiter
%g	site name where the remote meter that sent the alert resides
%%	the percent symbol %