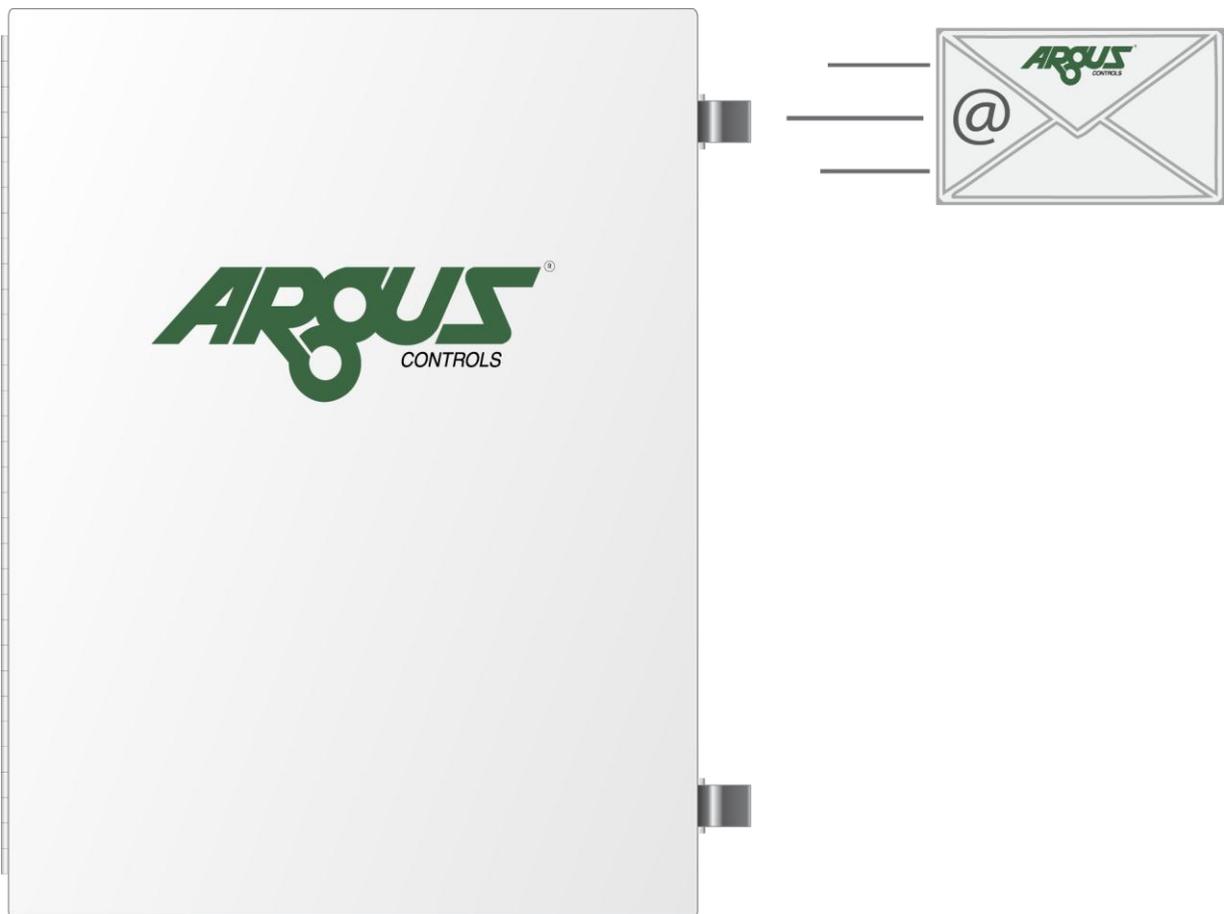




Cloud Notification Service

User Guide



Rev. July 2012

Argus Cloud Notification Service - User Guide

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Introduction

This document describes the **Cloud Notification Service** available for Argus Titan control systems. This flexible service enables users to configure and receive email status reports from their Argus systems. These notifications can include any user-specified control information generated at user-selectable frequencies. In addition, incident-based email reports can be configured based on changes in the general system alarm states.



Note: although alarm notifications can be sent via email, **they should never be used as your primary means of alarm annunciation and notification**, particularly for critical alarm events. Email delivery is not sufficiently reliable for critical alarm response. Your primary means of alarm annunciation should include on-site visual/audible alarms and a reliable telephone auto-dialer for remote notification.

Major Features of the Argus Cloud Notification Service

Cloud-Based Notifications	Using a cloud server greatly simplifies the 'email out' configuration: there is no email sender account to configure. Works on any system configured for standard secure Internet access (port 8080).
'Heartbeat' Monitoring	You can configure your control system to send a 'heartbeat' message to the Argus Cloud Server at specified intervals. Heartbeat monitoring provides constant evaluation of the health of the cloud link and the current availability of the Argus control system to generate alarms.
Master Recipient List	You only need to enter recipient email addresses once and thereafter select them as needed for inclusion in each notification.
Multiple Reports	Configure as many custom email reports as you require. These can include non-critical updates of system information and current conditions sent at user specified intervals, as well as critical event-based alarm notifications sent the moment they are triggered.
Multiple Parameters	You can include any number of selectable control system values in each notification such as readings, equipment states, and current setpoints.
Selectable Reporting Frequency	Set a reporting frequency or specify designated times of the day for custom email reports to be generated.
Event-Based Email Options	Any change in the built-in alarm bell states can be used to trigger an event-based email detailing the current alarm status of your system. In addition, you can configure low priority 'management' level alarms to notify you of changes in specified conditions.
Multiple Recipient Lists	You can quickly select the "cc" recipients for each type of notification. All recipients will see who else has been sent the notification.
Enable/Disable Controls	You can preconfigure and save multiple email notifications and then implement them or disable them as required.
Email Frequency Limits	Set a limit to the number of emails that can be generated per hour. This helps prevent too many emails from being generated due to an incorrect email frequency configuration or by failure events that might cause a cascade of other alarm conditions.

How Email Notification Works

The notification service is an optional add-on feature for your Argus system that can be enabled for your system. Once enabled, you can set up any number of email notifications using our Argus cloud server. Using a cloud server greatly simplifies the 'email out' configuration. It also provides constant monitoring of the health of the cloud link and the current availability of the Argus control system to generate alarms such as failures in the control system, the Internet link, and the cloud application (**however, it does not and cannot directly confirm final delivery of the email or interpretation by the correct person**).

All you need to do is ensure that your Argus Server PC is connected to a standard Internet connection as required for remote access. The Argus program uses Port 8080 to send out emails. This port is normally open and available unless your system administrator has specifically closed it.

At present you can configure three types of email notifications:



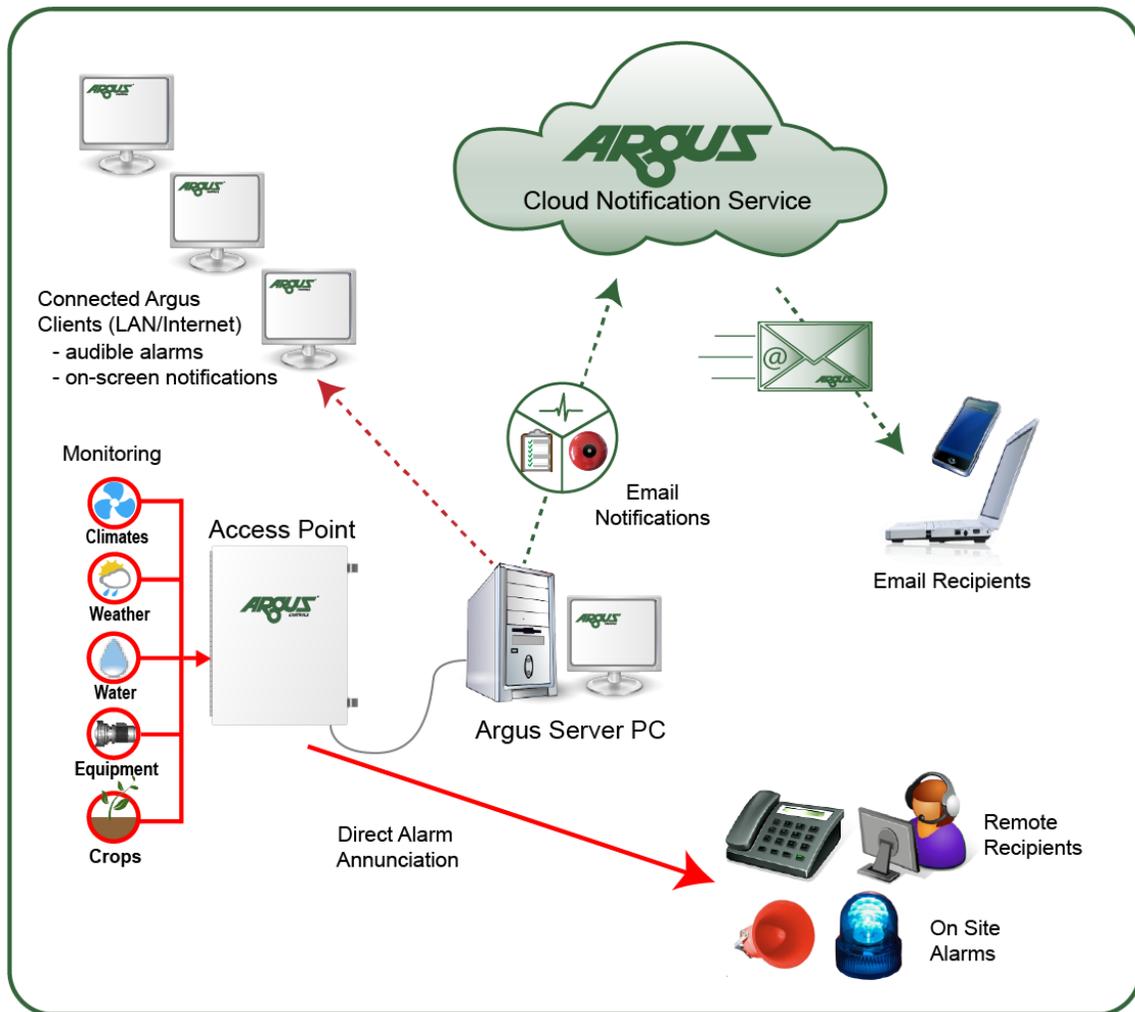
Heartbeat – this is a user configurable signal sent at specified frequencies to the Argus Cloud server. If the cloud server stops receiving these signals it will send an email notification to your designated recipients. This advises you to find and rely on other notification mechanisms until this link is restored.



Alarm bell - this notification is set to generate an email based on the change of the alarm bell states on your systems.



Custom email reports - these are user-configured and can consist of a single parameter or the entire contents of a window. They can be generated at any frequency up to every 240 minutes or at several designated times of day. There is no limit to how many custom email reports you can configure but we suggest you try to limit them for housekeeping and administrative reasons (don't bury yourself in your own email traffic!).



The above illustration shows the Cloud Notification Service as well as the standard 'hard-wired' method of direct alarm annunciation triggered by the alarm contacts on the Access Point. Notice that direct alarm annunciations originate from the alarm contacts inside the **Access Point** while email notifications and on-screen alarm notifications are sent from the Argus Server PC.



Email notifications via the Argus Server PC can be used in addition to direct alarm annunciation but should never be used as a substitute!

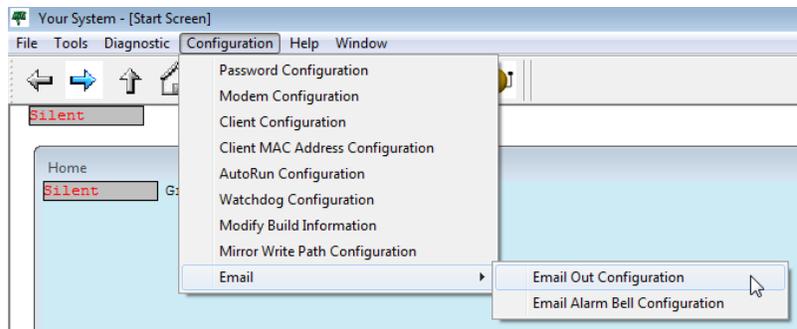
Setup and Configuration

Requirements:

- 1 There is an annual fee for this notification service. Argus must first enable the Email Notification before it will operate on your system. You will also need Titan Build 705 or higher.
- 2 You need a persistent connection to the Internet for your Argus Server PC.
- 3 Your system administrator must allow Internet access from the Argus Server PC.

Email Out Configuration

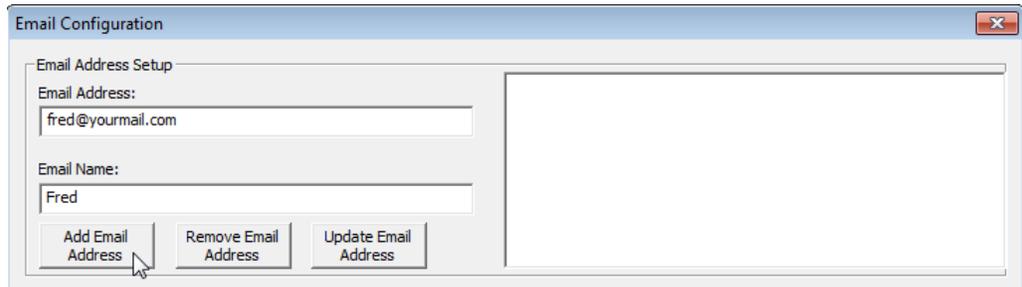
- 1 Select the **Email/Email Out Configuration** from the Argus Operator Program **Configuration** menu:



- 2 The following Dialog appears:

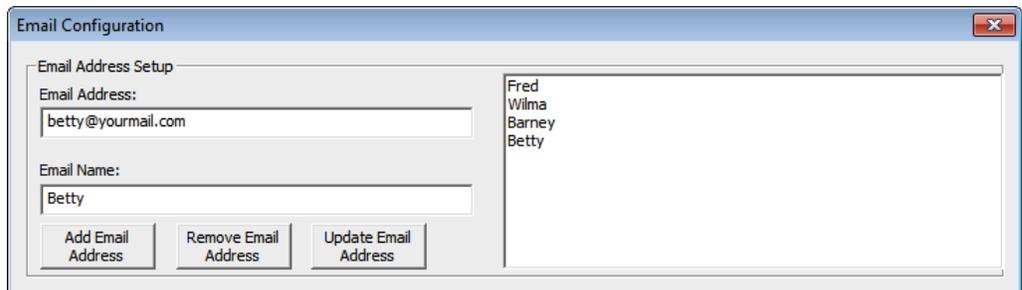
A screenshot of the 'Email Configuration' dialog box. The dialog has a title bar with 'Email Configuration' and a close button. It is divided into several sections: 'Email Address Setup' with fields for 'Email Address:' and 'Email Name:', and buttons for 'Add Email Address', 'Remove Email Address', and 'Update Email Address'; 'Heartbeat Configuration' with a field for 'Email to Send if Heartbeat stops:', and input fields for 'Number Of Missing Heartbeats to indicate stopped:' (set to 0) and 'Frequency of Heartbeat Messages' (set to 0); and 'Maximum Emails per Hour' with a text box explaining the setting and a 'Time Interval' dropdown set to 60. At the bottom are 'OK' and 'Cancel' buttons.

- 3 Use the **Email Address Setup** section to enter the names and email addresses of all recipients who will receive emails. This is a master list that you will select recipients from as needed to receive specific emails:



The screenshot shows a window titled "Email Configuration" with a sub-section "Email Address Setup". It contains two text input fields: "Email Address:" with the value "fred@yourmail.com" and "Email Name:" with the value "Fred". Below these fields are three buttons: "Add Email Address", "Remove Email Address", and "Update Email Address". A mouse cursor is pointing at the "Add Email Address" button. To the right of the input fields is a large empty rectangular area.

You can add as many recipients as you need:



The screenshot shows the same "Email Configuration" window. The "Email Address:" field now contains "betty@yourmail.com" and the "Email Name:" field contains "Betty". The "Add Email Address" button is highlighted. The large rectangular area on the right now contains a list of names: "Fred", "Wilma", "Barney", and "Betty".



Configuring the Heartbeat Notification

If the cloud server stops receiving heartbeat messages from your system it will send an email notification to the recipients you designate. To designate recipients, select them with your mouse to highlight them with a blue background:

Heartbeat Configuration

Please indicate which emails to use by highlighting each one.

Email to Send to if Heartbeat stops: Fred Betty
Wilma
Barney

Number Of Missing Heartbeats to indicate stopped: 10 Speed of Heartbeat Messages (minutes): 3

One way to configure the heartbeats is to have the Argus server send heartbeat messages to the Cloud Service fairly often, and to make the Cloud Service accumulate several consecutive missing messages before sending an email notification. This allows for routine server restarts and momentary network outages without triggering this critical alarm condition. In the above example, both Fred and Wilma will receive an email notification if the Argus Cloud server misses receiving 10 consecutive heartbeat messages from the Argus Server PC. These heartbeat messages are sent from the Argus Server PC to the Cloud service every 3 minutes. Therefore, if the heartbeat is missing for 30 minutes (10 X 3) an email notification will be generated to Fred and Wilma. Betty and Barney are not highlighted so they will not receive any lost heartbeat messages.

Maximum Email Frequency

You can configure the maximum number of emails that can be sent per hour as a means of preventing your recipients from being overloaded with too many emails. This might happen if the frequency of one or more email report notifications has been set too high or if a detected alarm condition is going in and out of an alarm state frequently.

Maximum Emails per Hour

This setting is for the maximum number of emails of this type that will be sent in an hour. This is to prevent the recipients from receiving too many emails while they are trying to deal with a problem. Once the maximum number of emails have been sent, no further emails will be generated.

Time Interval 5 Emails per Hour

Time Interval
Change
Specific Time(s) of Day

OK Cancel

Select the type of method used for generating emails and set the maximum emails per hour for each one.



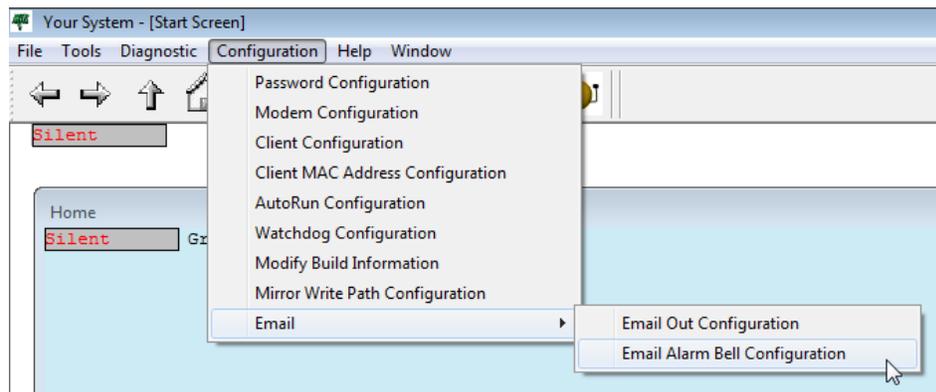
Configuring Event-Based Alarm Bell Notifications

There are four levels of alarm bell notification on the Argus system. Each of these bells has a separate color to denote the current alarm state:

-  **No Active Alarms**
-  **High Priority Alarm Active (Levels1-5)**
-  **Low Priority Alarm Active (Silent or Module)**
-  **Had an Alarm**

You can configure separate email notifications that are generated when one of these alarm states becomes active:

- 1** Select **Email/Email Alarm Bell Configuration** from the Argus Operator Program **Configuration** menu:



2 The following Dialog will appear:

Email Alarm Bell Setup

Green Bell (No Alarm) Criteria is ENABLED

Subject Line:

Text for Body of Email:

Email Recipients: Fred
Wilma
Barney
Betty

Contents of Window To Send (Optional):
Change 'Window To Send'

OK Cancel

3 You can configure a separate email notification for each type of alarm bell state. Normally you may only wish to be notified upon a change to the Red Bell alarm state.

Email Alarm Bell Setup

Red Bell (High Priority) Criteria is ENABLED

Subject Line:

Text for Body of Email:

Email Recipients: Fred
Wilma
Barney
Betty

Contents of Window To Send (Optional):
Change 'Window To Send'

OK Cancel

The example above shows that an email notification has been configured for the Red bell. This will generate an email whenever a high priority alarm is detected on the system. Only Barney and Betty will receive the notification. Notice that the email needs to be Enabled in the **Criteria is ENABLED** checkbox before it will operate. This lets you to preconfigure emails and then simply enable or disable them as required.

The Email that you receive will contain a descriptive list of all active alarms on your system as well as any additional information you specify in the **'Window to Send'** option.

The **Change 'Window to Send'** button lets you attach the contents of any user window you designate. This might be a window listing the current temperature readings in all zones and other important values. In the above example it has been assigned to send the contents of a user created window named 'E-Mail Report'.



Configuring Custom Email Notifications

Heartbeat and Alarm Bell notifications are both event-based – you only get a notification when something happens. You can also configure one or more predefined reports that are sent out at any frequency you specify. You can select a single parameter to mail or more commonly, the contents of an entire user window that you create for this purpose.

In the preceding alarm bell notification example, we attached a **Window to Send** called 'E-Mail Report'. This is just a user window that we created containing a number of status readings. Whenever an event-based alarm notification is sent, the entire contents of the window will also be emailed. But what if we want to receive this information at other times? Using the custom email reports feature you can easily designate the contents of any user window to be mailed at any frequency you specify:

- 1 Right click on: the window background of a user window to send all the values in that window and select 'Setup Parameter for Email'

The screenshot shows a window titled 'E-Mail Report' with a date and time header: 'Wednesday October 5, 2011 9:08'. The main content area displays a list of environmental parameters in two columns. A context menu is open over the window, with 'Setup Parameter for Email' highlighted by the mouse cursor. The menu also includes 'Erase Current Item' and 'Properties'.

Parameter	Value
Outdoor Temp	54.5 °F
Outdoor Light	71 W/m²
Accum Light	155 Joule
Instant Joules	25 Joule
Wind Dir.	East
Wind Speed	0 mph
Peak Wind Speed	0 mph
Wind Speed	0.000 m/s
Rain Status	Raining
Snow Detection Status	Not Snowing
Zone 1 Humidity	67.0 %RH
Zone 1 PAR Light	702 µmol
Zone 2 Temperature	73.6 °F
Zone 2 Humidity	56.0 %RH
Zone 2 PAR Light	713 µmol
Zone 3 Temperature	75.2 °F
Zone 3 Humidity	69.0 %RH
Zone 3 PAR Light	690 µmol
Zone 4 Temperature	74.7 °F
Zone 4 Humidity	65.0 %RH
Zone 4 PAR Light	705 µmol

2 The following Dialog appears:

Email Criteria Setup

Criteria is ENABLED

Subject Line: E-Mail Report

Text for Body of Email: This is an auto-generated report of the current conditions at the greenhouse. This report was configured by Fred.

Please indicate which emails to use by highlighting each one.

Emails to Send To: Fred
Wilma
Barney
Betty

Type of Change:
Change Criteria Setup
Time Interval 240

OK Cancel

- 3 Make sure to select the **Criteria is ENABLED** box. This is used for quickly enabling or disabling the notification while still maintaining the configuration settings.
- 4 Enter your own **Subject Line** and any optional **Text for the Body of the Email**. The contents of your selection will appear after this text in the body of your email.
- 5 Select the recipients to receive the email.
- 6 Select either **Time Interval** or **Specific Time(s) of Day** for the **Type of Change**:
 - If **Time Interval** is selected, enter the frequency in **minutes** for notifications to be sent.
 - If **Specific time(s) of Day** is selected, enter the times for the email notification to be sent.

Tips on Using Email Notifications

- 1 Keep it simple!** No one likes to be spammed, so why do it to yourself. If you configure too many separate email notifications or send them too frequently, your recipients will inevitably start to ignore them. It's probably better to include **more information** in **fewer emails** and to send them as **infrequently** as possible.
- 2 Create your own email report window.** Chances are the information you would like to review is located on several screens on your system. It may be easiest to create a User Window with all the information in one place so that everything is displayed and sent in a single email.
- 3 Ordering of items.** When you email the contents of a window, the Argus system lists them in the same order that they were originally placed in the window. Therefore, to receive a list of items in an order that makes sense to you, **create the shortcuts in the email report window in the order that you would like them to appear in the body of your email.**
- 4 Create at least one report that goes out at a scheduled time** (say once or twice a day) to provide you with confirmation that email notification is working right for you. While this is the primary function of this Email, you can include useful status information to add more value to the message.



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