



User Manual: Channel(s) Monitoring with Email Alerts

Version 1.0

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User Manual : Channel(s) Monitoring With Email Alerts



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Purpose of this document

The purpose of this document is to describe the functioning of the developed plugin. This manual will explain how, through the application, prepare, configure, parameterize, visualize, exploit a test.

1 Software dependencies

To be able to use the plugin, it is required to use FlexLogger 2019 R4 or newer.

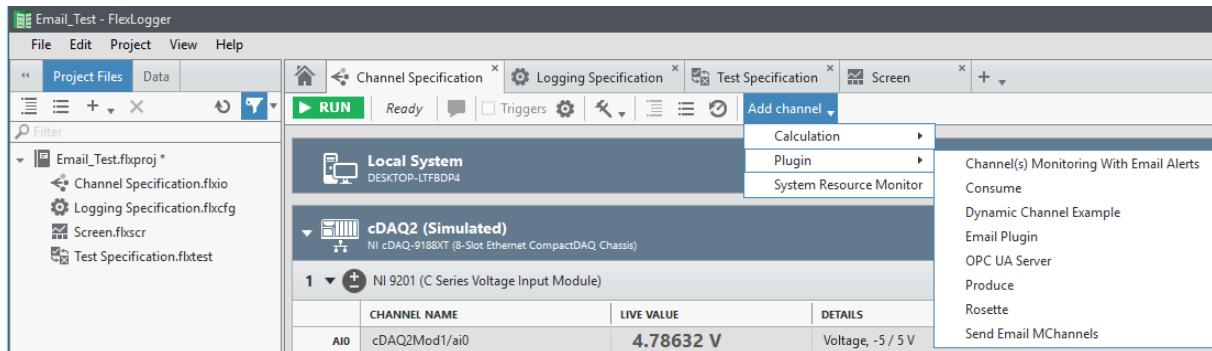


2 Description of the plugin

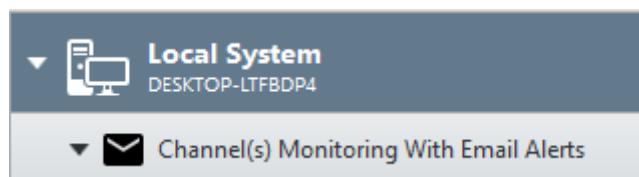
This plugin can be used to monitor one or multiple channels and then, send an email to one or more recipients if one of the selected channels reach a predetermined threshold.

2.1 The Plugin in FlexLogger

First of all, you have to create a new project, or you can open an existing one. After that, you need to click on "Add channel" -> Plugin -> Channel(s) Monitoring with Email Alerts



Once you have selected the plugin, you will be able to see it in FlexLogger.



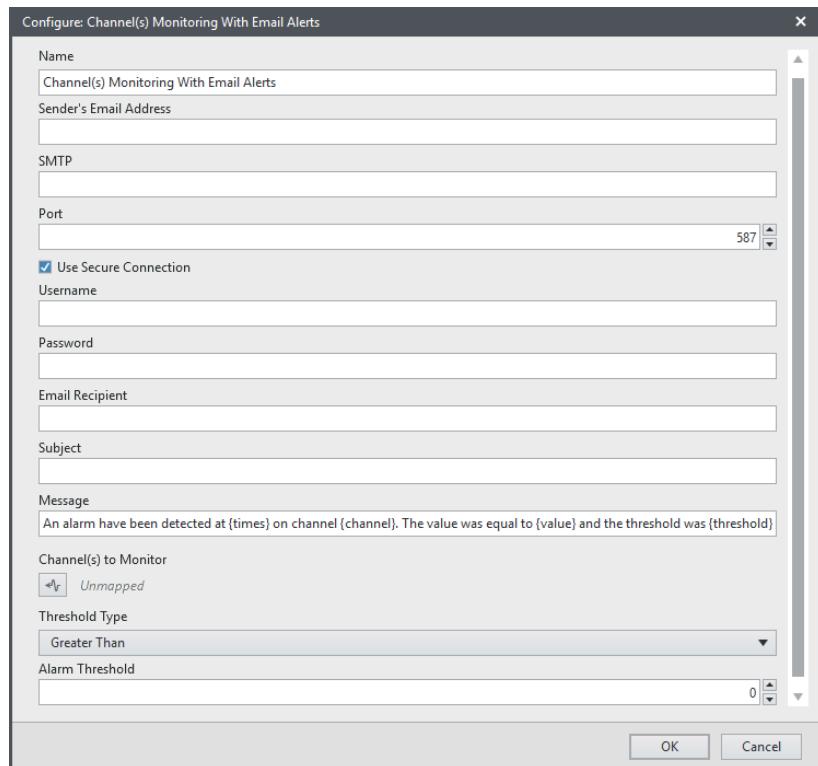


2.2 How to use the plugin

This section will describe how to use the plugin and send email based on a defined threshold.

2.2.1 Configuration of the plugin

To monitor one or more channels, just click on the gear icon located beside the bin, at the right of the plugin display.



Here is a description of the different parameters of the window.

Name: It is possible to rename the plugin section so the user can add the plugin more than one time in the project and rename the different instances according to what they are used for.

Sender's Email Address: The email that will be used to send a message when a threshold has been triggered.

SMTP: Address of the SMTP server used.
Example: smtp.office365.com

Port: Port of the SMTP server.
Example: 587



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Use Secure Connection: If the sender account uses a password or not. In most cases, let it check.

Username: Correspond to the Sender's Email Address.

Password: Password of the email account that will send the email. ***Note that for now, Flexlogger doesn't permit to hide passwords***

Email's Recipient(s): Email address to which the email will be sent. It is possible to send the email to more than one address. If there is more than one address, they have to be separated by a comma.

Example: email01@mail.com, email02@gmail.com

Subject: Subject of the email.

Message: Message of the email. The message per default use 4 parameters that the user can put anywhere in a custom message and decide the format.

{times} = The time when the trigger occurred

{channel} = Name of the channel that went over or under the threshold

{value} = Value recorded by Flexlogger when the plugin detected the trigger

{unit} = Unit corresponding to the data monitored

{threshold} = Value of the threshold

Example: An alarm has been detected at {times} on channel {channel}.

The value was equal to {value} {unit} and the threshold was

{threshold}{unit}

Channel(s) to Monitor: The user can select the channel(s) to monitor

Threshold Type: The user can select when an email will be sent. Two choices are possible. Greater or less than a value.

Alarm Threshold: It is the value that will trigger the alarm and the email sender.

Once all the parameters have been entered, the plugin will start to monitor the selected channel(s) and if one or more of them reach the threshold, an email will be sent to the email recipient. If the recorded value of the channel stays over the threshold, not another email will be sent. For the plugin to send another email, the channel(s) has to return under the threshold first.

Also, there will be an additional channel named Email Sent. This channel tracks the number of times a trigger activated how many times an email has been sent.

The counter won't restart if the selected channel(s) change. To restart the counter, the plugin will have to be reloaded.



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The screenshot shows a software interface titled 'Local System' with the sub-section 'Channel(s) Monitoring With Email Alerts (cDAQ2Mod1/ai0)'. A table displays monitoring details:

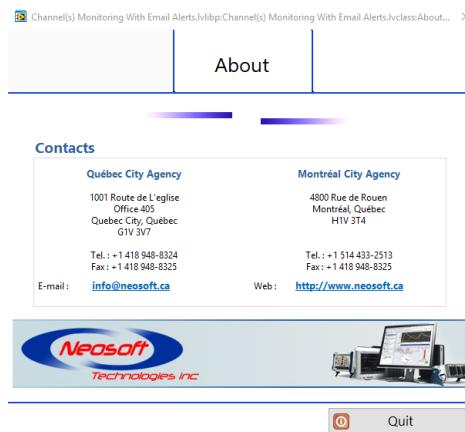
	CHANNEL NAME	LIVE VALUE	DETAILS
R 1	cDAQ2Mod1/ai0 Republish	4.89377	
Email...	Count	0.00000	Usage: Show how many emails have been sent

To stop using the plugin, the user only has to press on the bin icon, located beside the gear (settings) icon.

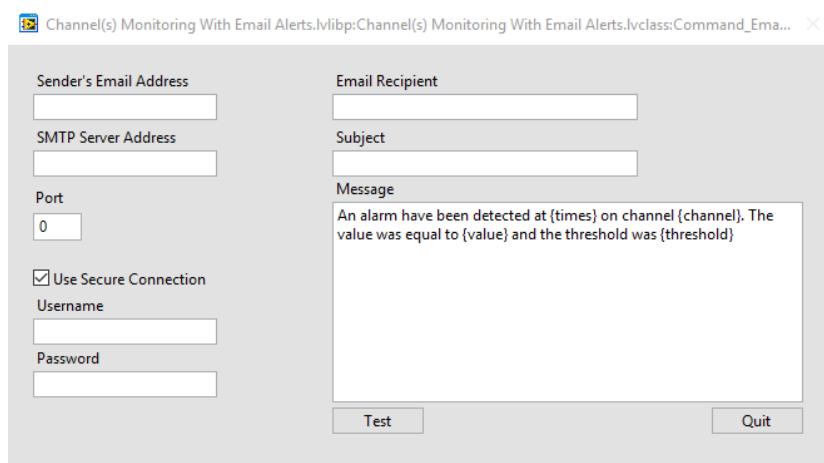
2.2.2 Commands

This section will describe the use of two commands buttons.

About: This button is used to show the information about the creators of the plugin



Test Email: The Test Email button can be used to test the different parameters chosen using the gear (Settings) icon. By doing that, it is possible to validate that an email will be sent without errors when there will be a trigger detected.





2.3 Complete Example

- 1) Open FlexLogger
- 2) Add channel(s) in FlexLogger

cDAQ2 (Simulated) NI cDAQ-9188XT (8-Slot Ethernet CompactDAQ Chassis)			
1	NI 9201 (C Series Voltage Input Module)		
	CHANNEL NAME	LIVE VALUE	DETAILS
AI0	cDAQ2Mod1/ai0	-0.58608 V	Voltage, -5 / 5 V
AI1	cDAQ2Mod1/ai1	-0.40537 g	Acceleration, -10 / 10 g
AI2	cDAQ2Mod1/ai2	0.10745 g	Acceleration, -10 / 10 g
AI3	cDAQ2Mod1/ai3	1.05495 N m	Torque, -10 / 10 N m
AI4	cDAQ2Mod1/ai4	2.15385 N m	Torque, -10 / 10 N m
AI5			Not Configured
AI6			Not Configured
AI7			Not Configured

- 3) Load the plugin "Channel(s) to Monitor with Email Alerts"
- 4) Verify that the license is what it should be

Channel(s) Monitoring With Email Alerts		
	CHANNEL NAME	LIVE VALUE
License	Activated	---

- 5) Press on the gear (settings) icon
- 6) Enter the parameters. In this case, only one channel is chosen with a threshold greater than 3.

Channel(s) Monitoring With Email Alerts (cDAQ2Mod1/ai0)			
	CHANNEL NAME	LIVE VALUE	DETAILS
R1	cDAQ2Mod1/ai0 Republish	-2.64713	
Email...	Count	0.00000	Usage: Show how many emails have been sent

No email sent because the value is below the threshold of 3.

Local System DESKTOP-LTFBDP4			
Channel(s) Monitoring With Email Alerts (cDAQ2Mod1/ai0)			
	CHANNEL NAME	LIVE VALUE	DETAILS
R1	cDAQ2Mod1/ai0 Republish	1.68010	
Email...	Count	8.00000	Usage: Show how many emails have been sent

After a couple minutes, we can see the threshold has been reached 8 times.



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Local System			
Channel(s) Monitoring With Email Alerts (cDAQ2Mod1/ai0)			
	CHANNEL NAME	LIVE VALUE	DETAILS
R1	cDAQ2Mod1/ai0 Republish	-4.11233	
Email...	Count	9.00000	Usage: Show how many emails have been sent

The channel went over 3, so now 9 emails has been sent

Local System			
Channel(s) Monitoring With Email Alerts (cDAQ2Mod1/ai0)			
	CHANNEL NAME	LIVE VALUE	DETAILS
R1	cDAQ2Mod1/ai0 Republish	4.74237	
Email...	Count	10.0000	Usage: Show how many emails have been sent

The channel went over 3 again, so a 10th email has been sent.

The message sent was the default one:

An alarm has been detected at 2019-11-01 4:57:41 PM on channel cDAQ2Mod1/ai0. The value was equal to 3.028083 V and the threshold was 3.000000V.

It is possible to see and confirm that the plugin only sent 1 email and it was when the value of the channel being monitored was of 3.02V.



3 Detailed Plugin Features

This section will give more detail about using the plugin features.

3.1 Sampling Rate

The plugin resamples the channel(s) to 100Hz. Be cautious that the plugin can miss a peak while monitoring.

3.2 Threshold

It is recommended that the user monitor the channel(s) for a small period of time after selecting the parameters, because if the signal oscillates around the threshold, it is possible that a large amount of emails will be sent. By doing that, the user will be able to see if the threshold value is good or if it needs to be modified.

3.3 Changing channel(s)

The plugin permit to change the channel(s) to monitor when live. So, it is possible to monitor 1 channel and change it to 5 after. It is also possible to modify the threshold type and the value of the threshold while executing.

3.4 Monitor channel(s) of different units

If the user wants to monitor multiple channels of different unit, he can add the plugin as many times as he wants.

▼ Channel(s) Monitoring With Email Alerts		
	CHANNEL NAME	LIVE VALUE
License	Activated	----,----
▼ Channel(s) Monitoring With Email Alerts2		
	CHANNEL NAME	LIVE VALUE
License	Activated_1	----,----



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The screenshot shows the FlexLogger interface with three main sections of configuration:

- Channel(s) Monitoring With Email Alerts2 (cDAQ2Mod1/ai0)**

	CHANNEL NAME	LIVE VALUE	DETAILS
R1	cDAQ2Mod1/ai0 Republish	2.19780	
Email...	Count	3.00000	Usage: Show how many emails have been sent
- Channel(s) Monitoring With Email Alerts (cDAQ2Mod1/ai1)**

	CHANNEL NAME	LIVE VALUE	DETAILS
R1	cDAQ2Mod1/ai1 Republish	3.21368	
Email...	Count_1	1.00000	Usage: Show how many emails have been sent
- cDAQ2 (Simulated)**
NI cDAQ-9188XT (8-Slot Ethernet CompactDAQ Chassis)

	CHANNEL NAME	LIVE VALUE	DETAILS
AI0	cDAQ2Mod1/ai0	1.64591 V	Voltage, -5 / 5 V
AI1	cDAQ2Mod1/ai1	2.47619 g	Acceleration, -10 / 10 g
AI2	cDAQ2Mod1/ai2	1.55311 g	Acceleration, -10 / 10 g
AI3	cDAQ2Mod1/ai3	0.81563 N m	Torque, -10 / 10 N m
AI4	cDAQ2Mod1/ai4	-0.29304 N m	Torque, -10 / 10 N m

3.5 Monitor more than one channel

It is possible to monitor more than one channel using this plugin. Be sure all selected channels need the same threshold and the same unit. Also, one email will be sent by a channel. If you check the next screenshot, it is possible that the plugin will send 5 emails at the same time.

The screenshot shows the FlexLogger interface with a single monitoring configuration for five channels:

	CHANNEL NAME	LIVE VALUE	DETAILS
R1	cDAQ2Mod1/ai0 Republish	-3.06716	
R2	cDAQ2Mod1/ai1 Republish	-5.49472	
R3	cDAQ2Mod1/ai2 Republish	-4.78213	
R4	cDAQ2Mod1/ai3 Republish	-4.15095	
R5	cDAQ2Mod1/ai4 Republish	-3.38838	
Email...	Count	10.0000	Usage: Show how many emails have been sent

3.6 Monitor channels with different threshold

If the user needs to monitor multiple channels with different threshold, he can add the plugin the number of times he needs. Note that the parameters will need to be entered every time a new addition of the plugin is added in FlexLogger.



4 Troubleshooting

This section will describe some errors the user can get and how to solve them

4.1 Errors list

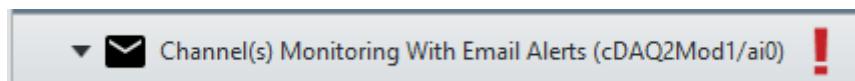
4.1.1 User can't see the licensing type when the plugin is loaded.

Solution: The first time the user loads the plugin, he should have to activate the license. If nothing appears, it is possible that the activation window appeared behind FlexLogger. Once the window is located, activate the license, restart FlexLogger and reload the plugin.

4.1.2 User can't enter the parameters when the plugin is loaded.

Solution: Verify that the plugin is activated. To see the status of the activation, refer to the what is in the channel name when the plugin is activated. The user should be able to see one of those option: Activated, Evaluation, Unlicensed or Error.

4.1.3 Plugin doesn't send email when it should, and an explanation mark appear.



Solution: Verify that the parameters used to send the email are valid. You can use the "Test Email" button to try the settings.

4.1.4 User can't press on "Test Parameters" when in the "Test Email" window

Solution: Verify that every control has something written. If "Use Secure Connection" is not checked, the user doesn't have to enter a username and a password.

4.2 Neosoft support

It is possible to contact Neosoft if support is necessary.

By phone: 1-514-433-2513
By Email: info@neosoft.ca