



System Overview

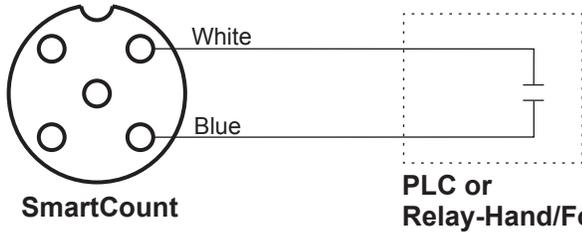
Factrac® iMAAX™ Event Manager allows you to maximize operation efficiencies proactively by intelligently monitoring, alerting, and taking action. Monitor events throughout your facility and manage them proactively by sending text messages and emails. Keep your vendors notified when you need more product, keep your maintenance team notified when a machine needs scheduled maintenance or service, and so much more.

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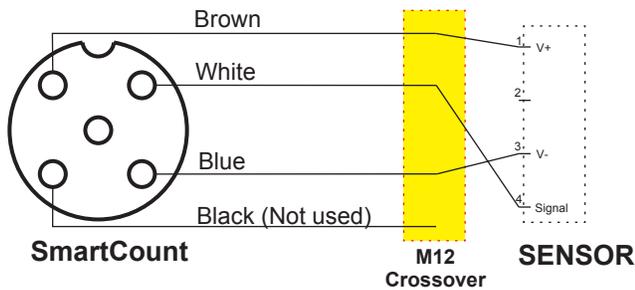
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1. Connections

M12-A SmartCount Input Options

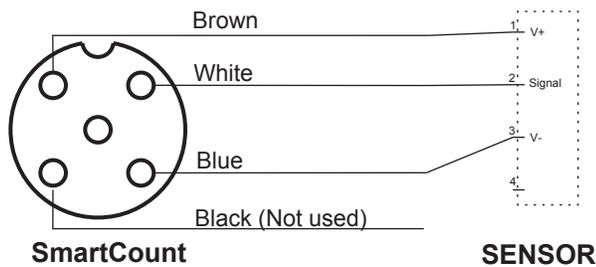


Dry contact:
Closing pin 2 to pin 3 registers a count



NPN Sensor; where signal return is found on pin 4 of the M12 connector:

These type of sensors will require a M12 crossover adapter



NPN Sensor; where signal return is found on pin 2 of the M12 connector:

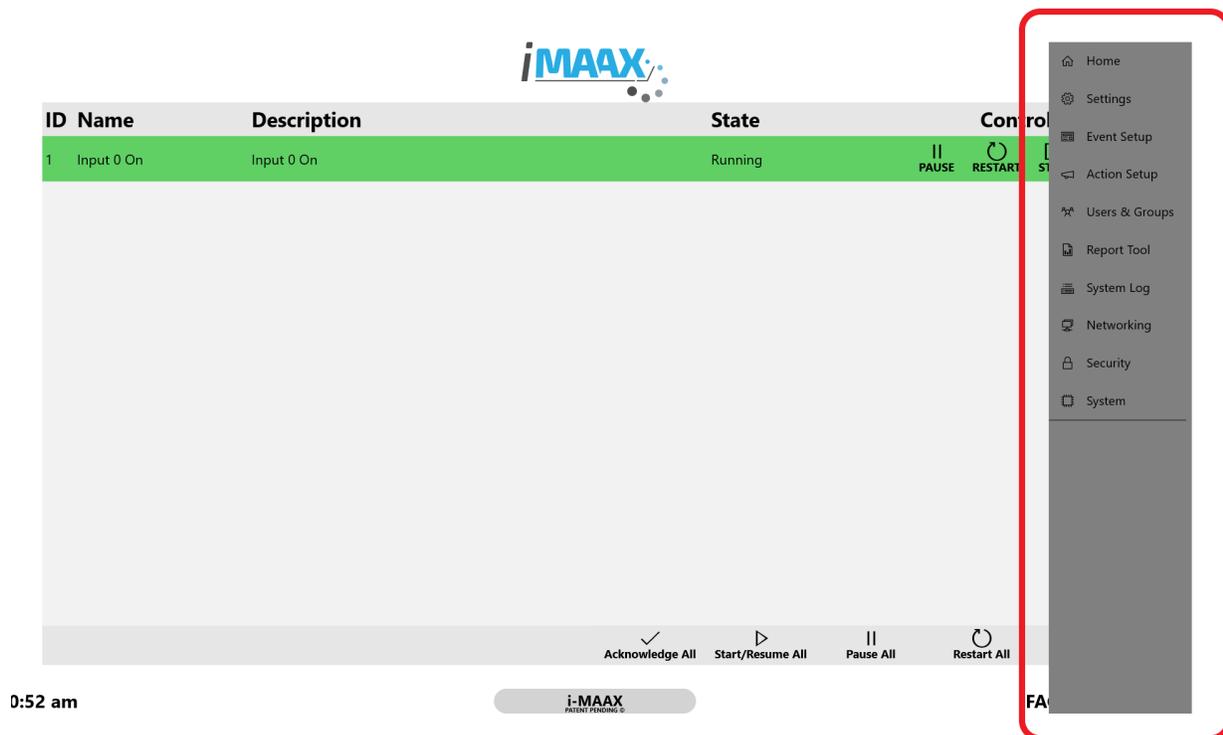
There are various sensors that will output on pins 2 and 4 for different signal options. (i.e -PNP and NPN, Light ON and DARK on)

Note: If using open lead cable, do not twist open wires together if plugged into SC Controller. Brown is live 12 Volts, and it will short power supply to SC Controller.

2. Sidebar

The side bar provides access to all of the system menus. Click in the upper right corner of the screen to enter and exit. Pressing any of the sidebar's 10 options will open a new page.

- a. **Home:** The Events that are running can be interacted with and viewed on the home page.
- b. **Settings:** Set the date, time, and SMS Account Number from the Settings page.
- c. **Event Setup:** View, Edit, and Create Main and Sub Events to make logic sequences.
- d. **Action Setup:** View, Edit, and Create Actions for the events to trigger.
- e. **Users & Groups:** View, Edit, and Create Users and Groups to be notified by certain actions that occur.
- f. **Report Tool:** View and Email the event entries.
- g. **System Log:** View each event in sequential order. This feature is typically used to view events for troubleshooting.
- h. **Networking:** Configure various Network details such as the SMTP Email Client, Scoreboard functionality, and Device Name.
- i. **Security:** Turn on/off the Security function of the device. Forces users to login as: Manager, Operator, or Guest with different levels of access for each.
- j. **System:** Provides information about the device and network setup. Also allows for system updates from this page.



3. Home

The HOME screen displays the list of main events. This is the screen where you would start, stop, pause, and acknowledge main events. You can also view the protocol of the event (up to 15 lines) and view all of the event history (up to 30 days).



ID	Name	Description	State	Control
1	Input 0 On	Input 0 On	Running	PAUSE RESTART STOP VIEW
3	Input 1 On	Input 1 On	Stopped	START VIEW
4	Input 2 On	Input 2 On	Paused	RESUME RESTART STOP VIEW
5	Input 3 On	Input 3 On	Triggered	ACK RESTART STOP VIEW
6	Input 4 On	Input 4 On	Triggered + Acknowledged	RESTART STOP VIEW

3:46 pm

Acknowledge All Start/Resume All Pause All Restart All Stop All



If “USB RIO INTERFACE NOT CONNECTED” appears at the bottom of this page, be sure to check the cable going to the USB RIO Interface and make sure the USB RIO Interface is turned on.

USB RIO INTERFACE NOT CONNECTED

- a. **Home:** The Events that are running can be interacted with and viewed on the home page.
 - i. **Green:** Running, the event is currently going through the event sequence and is reading inputs.
 - ii. **White:** Stopped, the event is turned off and no inputs are being collected.
 - iii. **Yellow:** Paused, the event is temporarily frozen. Once resumed the event sequence will start exactly where it left off with all the data it had before being paused.
 - iv. **Red:** Triggered, the event sequence is done with the events and is going through the Action’s logic.
 - v. **Blue:** Triggered and Acknowledged, the event has been triggered, but an operator has clicked the acknowledge button to stop certain Action outputs.

b. **Controls:** Depending on the state the event is in, there will be different controls for the event. These controls allow for Acknowledging, Pausing, Restarting, Resuming, Starting, Stopping, or Viewing of an event.

- i.  **Ack:** Short for Acknowledge. Some events will repeat an output until Acknowledged so this will stop some actions.
- ii.  **Pause:** Freezes the event at its current state until Resumed, Restarted, or Stopped.
- iii.  **Restart:** Clears all of the data from the event and begins it from the first step.
- iv.  **Resume:** Starts the event from where it was Paused.
- v.  **Start:** Begins the event from the first step.
- vi.  **Stop:** Shuts down the event deleting the data stored in the event.
- vii.  **View:** Opens up the event's Event View Page.

Along the bottom there are the same controls, but they affect all events instead of an individual event.



4. Event View

View the details about the event sequence that corresponds to the Main Event you are viewing. The Event View shows exactly what order the Main and Sub Events need to be completed in as well as the current state of each event. The Event View has an Event History which logs any changes to the event and when they occurred.

[← Back to Event Overview](#)


Event Sequence Monitor

Sequence	Event ID	Event Type	Name	State	Logic	Value
1	3	Main	Input 1 On	Complete	Input 1 OFF	OFF
2	9	Combine	Count 0 > 100	Running Logic	Input 0 Count > 100.0	0.0
3	7	Preceding	Input 3 Latched	Waiting on Permissives	Input 3 ON	
4	8	Combine	Actual Rate 0	Waiting on Permissives	Input 0 Rate == 0.0 per hour	
5-1	2	Combine	Event Delay 5 Minute	Waiting on Permissives	Elapse Time >= 5.0 minutes	
5-2	11	OR	Delay 1 minute	Waiting on Permissives	Elapse Time >= 60.0 seconds	
6	10	Combine	One Shot 2	Waiting on Permissives	Event OneShot Count >= 2.0	

Event History

Date	Time	Entry
2019-08-13	10:33:34.903 AM	User performed an Event configuration change. Event has reset.
2019-08-13	10:20:19.302 AM	User performed an Event configuration change. Event has reset.
2019-08-13	10:19:57.187 AM	User Started or Resumed the event.
2019-08-13	10:19:53.78 AM	User performed an Event configuration change. Event has reset.
2019-08-13	10:19:41.296 AM	User performed an Event configuration change. Event has reset.
2019-08-13	10:19:19.999 AM	User performed an Event configuration change. Event has reset.
2019-08-13	10:16:55.0 AM	User performed an Event configuration change. Event has reset.
2019-08-13	10:15:12.271 AM	User performed an Event configuration change. Event has reset.

 Clear History

- a. **Event Sequence Monitor:** Shows the Sequence of subevents and main events. Every event will go in turn down the sequence. Once Sequence event 1 is done then sequence event 2 starts, etc. No data will be collected for an event that is not currently running logic or completed. Some Sequence numbers will have a “1-1” or “1-2” instead of just a “1”. This means it has an “OR event” attached to it. Meaning either “1-1” or “1-2” needs to be completed to go to step 2.



Event Sequence Monitor

Sequence	Event ID	Event Type	Name	State	Logic	Value
1	3	Main	Input 1 On	Complete	Input 1 OFF	OFF
2	9	Combine	Count 0 > 100	Running Logic	Input 0 Count > 100.0	0.0
3	7	Preceding	Input 3 Latched	Waiting on Permissives	Input 3 ON	
4	8	Combine	Actual Rate 0	Waiting on Permissives	Input 0 Rate == 0.0 per hour	
5-1	2	Combine	Event Delay 5 Minute	Waiting on Permissives	Elapse Time >= 5.0 minutes	
5-2	11	OR	Delay 1 minute	Waiting on Permissives	Elapse Time >= 60.0 seconds	
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Event History

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2019-08-13	10:15:12.271 AM	User performed an Event configuration change. Event has reset.

 Clear History

- i. **Sequence:** The order that events will be ran. If two events are OR events then either of the events need to be completed to go on to the next step.
- ii. **Event ID:** The unique identifier for each event.
- iii. **Event Type:** Can be one of four types: Following, Main, OR, Preceding. See Event Setup for more information about event types.
- iv. **Name:** The name given to each event.
- v. **State:** Shows whether or not an event is currently complete, paused, running, stopped, or waiting.
 - **Completed:** This event has been finished and it has gone to the next step in the sequence. Some event sequences might go back to a completed event if the value is not latched and the value changes to something that makes the logic false.
 - **Paused:** The Event has been paused and will not update any values until the event is either resumed or restarted. Once resumed it will begin from where it was paused.
 - **Running Logic:** The current step of the sequence. The values for this event can be triggered.
 - **Stopped:** The event has been stopped. No information will be recorded and the only option is to start the event sequence from the beginning.
 - **Waiting on Permissives:** This step is currently on hold. Values for this event will not be updated until it becomes Running Logic.

State	State	State
Complete	Stopped	Paused
Running Logic		
Waiting on Permissives		

- vi. **Logic:** The Logic column of the Event Sequence Monitor gives a brief description of what each event requires to allow the sequence to proceed to the next event. For example if the logic is that Input 0 Count > 10 and Input 0's count is 11. Then the event will be considered true, and it will switch to completed.

Logic

Input 1 OFF

Input 0 Count > 100.0

Input 3 ON

Input 0 Rate == 0.0 per hour

Elapse Time >= 5.0 minutes

Event OneShot Count >= 2.0

- vii. **Value:** The value corresponding to the event. Depending on the type of event it can be a timer, a count, an ON/OFF value, or a rate. Once this value is within the logic's parameters the sequence will go to the next event. This value will only update if the event is in either the running logic or completed state.

- b. **Event History:** Shows the date and time of all the changes that happened to the event with a brief description of what happened. Entries can consist of: Started, Stopped, Paused, Resumed, Triggered, or Acknowledged. The entry also includes who was the operator or manager logged-in that used one of the controls on the main page, if security is enabled. Otherwise it defaults to User.

Event History		
Date	Time	Entry
2019-08-13	10:43:30.50 AM	User Started or Resumed the event.
2019-08-13	10:43:28.284 AM	User Stopped the event.
2019-08-13	10:43:26.540 AM	User Restarted the event.
2019-08-13	10:43:24.464 AM	User Started or Resumed the event.
2019-08-13	10:43:22.700 AM	User Paused the event.
2019-08-13	10:33:34.903 AM	User performed an Event configuration change. Event has reset.
2019-08-13	10:20:19.302 AM	User performed an Event configuration change. Event has reset.
2019-08-13	10:19:57.187 AM	User Started or Resumed the event.

Clear History

5. Settings

- a. **Date:** Enter the Month, Day, and Year. Click the checkmark to save changes. This is only necessary to set if the Time Sync Server is not set in the Networking page.
- b. **Time:** Enter Hour, Minute, and AM or PM. Click the checkmark to save changes. This is only necessary to set if the Time Sync Server is not set in the Networking page.
- c. **Time Zone:** Select appropriate time zone from the drop down selection.
- d. **SMS Account Number:** Enter your SMS account number for text notifications. A unique SMS account number will be supplied to you allowing for SMS messages to be sent to cell phones as part of an action.

Time of Day

Date

August	14	2019
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Time

10	21	AM
----	----	----

Time Zone

(UTC-06:00) Central Time (US & Canada) ▼

SMS Account Number

5555555555	⌨
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6. Event Setup

The Event Setup page is where you can see all of your Main and Sub Events listed out as well as create, edit, and delete events. This is where events get linked together in order to make an event sequence.

The screenshot shows the iMAAX Event Setup interface. At the top, there is a header with the iMAAX logo and a hamburger menu icon. Below the header, a large grey box contains the text "(Select an event below or press + to create new event)". Underneath this box are two columns of event lists. The left column is titled "Main Events" and contains a table with 6 rows. The right column is titled "Sub Events" and contains a table with 6 rows. At the bottom of each column is a button with a plus sign and the text "Add New Main Event" and "Add New Sub Event" respectively. The page footer shows the time "11:37 am", the page title "EVENT SETUP", and the website "FACTRACPRO.COM".

Main Events			Sub Events		
ID	Name	Description	ID	Name	Description
1	Input 0 On	Input 0 On	8	Actual Rate 0	Actual Rate of Input 0
3	Input 1 On	Input 1 On	9	Count 0 > 100	Count on input 0 is greater than 100
4	Input 2 On	Input 2 On	11	Delay 1 minute	1 minute delay
5	Input 3 On	Input 3 On	2	Event Delay 5 Minute	Event Delay 5 Minute
6	Input 4 On	Input 4 On	7	Input 3 Latched	Input 3 with latch
			10	One Shot 2	Event Active One Shot Count
			12	input 0 < 10	Input 0 has not exceeded 10 before timer ends

- a. **Main Event:** Required to make an event sequence. It's where all of the logic for the sequence starts from. Once its preceding event is done the event logic will begin as well as its OR event if it has one. Once either the main event or the OR event trigger the following event will begin. Once the Following event is done then whatever Action is tied to the Main Event will trigger.

The screenshot shows the iMAAX Event Setup configuration form. At the top, there is a header with the iMAAX logo and a hamburger menu icon. Below the header, there is a form with several fields. The "Event Name" field is set to "Input 0 On". The "Event Type" dropdown is set to "Input State". The "Event Description" field is set to "Input 0 On". The "Preceding Event" dropdown is set to "None". The "Event Type" dropdown is set to "Input State". The "Input Number" dropdown is set to "0". The "Input State" dropdown is set to "Off". The "Latch On Completion" dropdown is set to "False". The "Retain Data Until Reset" dropdown is set to "False". The "Following Event" dropdown is set to "None". The "Action" dropdown is set to "(IDF1) Digital Output 0". At the bottom of the form are "Save Event" and "Cancel Edit" buttons. Below the form are two columns of event lists, identical to the ones in the previous screenshot. The page footer shows the time "12:15 pm", the page title "EVENT SETUP", and the website "FACTRACPRO.COM".

- i. **Main Event Name:** A tag for keeping track of which event is which when putting events into a sequence. Also displayed on the Home page to display this event. This can be anything up to 20 characters.
- ii. **Main Event Description:** A brief summary of what the event is for. This can be anything up to 45 characters. Helps quickly identify the purpose of the Main event. This description is shown on the Main Events list of the Event Setup page. As well as the Home page. It is also included in emails that the action related to this event sends.
- iii. **Preceding Event:** Main events may or may not include preceding sub events. If a preceding event is set for this event then the preceding event will have to be completed before the logic inside this event will begin.

iv. **Event Type:** Can be one of six different types:

Input State: Activates on each input signal. While the Input on the Input Number is the same as the Input State the event will be considered complete. Has fields: Input Number and Input State. The values correspond to P0 through P7 on the RIO Interface.

Input Count: Increments a count for each input signal and compares it using an operator to a comparison value. While the count creates a true statement with regard to the Comparison Instruction and Comparison Value this event is complete. Has fields: Input Number, Conversion Factor, Comparison Instruction, and Comparison Value.

Actual Rate: Specify seconds, minutes, hours and "Timeout" value. When the rate creates a true statement with regard to the Comparison Instruction and Comparison Value this event will be considered true. Has the fields: Input Number, Rate Specifier, Zeroing Timeout, Conversion Factor, Comparison Instruction, and Comparison Value.

Distance: Used to measure distance of consumable, film, tape, etc. When this distance is creates a true statement with the Comparison Instruction and Value the event will be considered complete. Has the fields: Input Number, Conversion Factor, Comparison Instruction, and Comparison Value.

Time: A timer that can be compared to a value using a Comparison Instruction and Comparison Value so it will either output a true or false value. While true it will be considered a done event. Has fields: Time Specifier, Comparison Instruction, and Comparison Value.

Event Active One-Shot: Requires a preceding event (input). Each time this once shot event gets activated a counter will go up. When the counter value is true with regards to the comparison instruction and value the event will be considered complete. Has fields: Conversion Factor, Comparison Instruction, and Comparison Value.

v. **Input Number:** Select which input is to be monitored for this event. Ranges from 0-7.

vi. **Input State:** Sets what state the input should be in to create a completed statement. Select On to monitor when a signal goes active. Select Off to monitor when a signal turns off.

vii. **Conversion Factor:** Value to multiple each signal pulse by. If set to 3 and the Event Type is set to Input Count, then everytime there is a new signal the count will increase by 3 instead of 1.

viii. **Comparison Instruction:** Select the logical operator to compare the Input Count/Actual Rate/Distance/Time/Event Active One-Shot values to the Comparison Value. These values can be:

- **= Equal:** when the value of the event is equal to the Comparison value this event will be true.
- **!= Not equal:** when the value of the event is not the same as the comparison value this event will be true.
- **> Greater than:** when the value of the event is strictly greater than the comparison value this event will be true.
- **>= Greater than or equal:** when the value of the event is more than or the same as the comparison value this event will be true.
- **< Less than:** when the value of the event is strictly less than the comparison value this event will be true.
- **<= Less than or equal:** when the value of the event is fewer than or the same as the comparison value this event will be true.

ix. **Comparison Value:** The number to compare to the Count/Actual Rate/Distance/Time/Event Active One-Shot value using the Comparison Instruction operator.

x. **Rate Specifier:** What time frame the rate should be based on: Counts Per Millisecond/Second/Minute/Hour.

xi. **Zeroing Timeout:** How long after the last input should the event wait before zeroing out the actual rate. If this value is set to 10, then if 10 seconds pass without an input being recorded the rate for this event will be automatically set to 0.

xii. **Latch On Completion:** select true if this input needs to latch when asserted. Select false if no latch is required. Latching makes it so that once the event is completed then the event stops calculating new information and will always be considered true until a restart of the event occurs.

- xiii. **Retain Data Until Reset:** select True or False. This makes the event keep any data it has collected even if it is no longer the current running event. When false the event will lose all data it attained during its run time if it no longer is the running event. For example, if this value is set to True and the event is a timer that has ran for 1 minute. If the event before it becomes the running event, but then completes again this timer will still have the 1 minute from the previous time it ran. If this value was set to false it would have to start the timer all over again.
 - xiv. **OR Event:** Allows for a subevent to be running at the same time as this event. Once either this event or the subevent finish the following event or the action (if there is not a following event) will begin. Not requiring both of them to finish in order to continue in the event sequence.
 - xv. **Following Event:** A subevent that must be completed after this event. The following event will need to complete before this event will start the action associated with it.
 - xvi. **Action:** Select the Action you want initiated for this event. This action will only be started when the following event is complete or the main event completes (if there is not a following event for this event). See Action Setup for more information about actions.
- b. Sub-events are identical to main events except they require a main event or another sub event to start initiate them. Sub-events also don't have an action associated with them. They are mainly for adding extra steps to a Main Event allowing for more complex configurations of an event sequence. Sub-events can be used as main event's Preceding Event, OR Event, or Following Event. A Sub-event can also have it's own Preceding Event, OR Event, or Following Event sub-events.

Save Event Cancel Edit

Event Name Event Delay 5 Minute	Event Type Time	Comparison Instruction >=	Latch On Completion False	Following Event None
Event Description Event Delay 5 Minute	Time Specifier Minute	Comparison Value 5	Retain Data Until Reset False	
Preceding Event None			OR Event (ID#11) Delay 1 minute	

Main Events		
ID	Name	Description
1	Input 0 On	Input 0 On
3	Input 1 On	Input 1 On
4	Input 2 On	Input 2 On
5	Input 3 On	Input 3 On

Sub Events		
ID	Name	Description
8	Actual Rate 0	Actual Rate of Input 0
9	Count 0 > 100	Count on input 0 is greater than 100
11	Delay 1 minute	1 minute delay
2	Event Delay 5 Minute	Event Delay 5 Minute

- i. **Sub Event Name:** This can be anything up to 20 characters. This is one of the identifiers used for the event in the Event View page. As well as the drop downs for the Preceding Event, OR Event, or Following Event selection fields. Shows in the Sub Events list on the Event Setup page.
- ii. **Sub Event Description:** This can be anything up to 45 characters. Used to help quickly identified the purpose of the sub event. Shows in the Sub Events list on the Event Setup page.
- iii. **Preceding Event:** Sub events may or may not include preceding sub events. This would be a sub event that needs to go active before the current sub event starts. If there is a preceding event, please refer to Main Event Setup:Preceding Event.

iv. **Event Type:** The event type is based on the input assigned.

Input State: Activates on each input signal. While the Input on the Input Number is the same as the Input State the event will be considered complete. Has fields: Input Number and Input State. The values correspond to P0 through P7 on the RIO Interface.

Input Count: Increments a count for each input signal and compares it using an operator to a comparison value. While the count creates a true statement with regard to the Comparison Instruction and Comparison Value this event is complete. Has fields: Input Number, Conversion Factor, Comparison Instruction, and Comparison Value.

Actual Rate: Specify seconds, minutes, hours and "Timeout" value. When the rate creates a true statement with regard to the Comparison Instruction and Comparison Value this event will be considered true. Has the fields: Input Number, Rate Specifier, Zeroing Timeout, Conversion Factor, Comparison Instruction, and Comparison Value.

Distance: Used to measure distance of consumable, film, tape, etc. When this distance is creates a true statement with the Comparison Instruction and Value the event will be considered complete. Has the fields: Input Number, Conversion Factor, Comparison Instruction, and Comparison Value.

Time: A timer that can be compared to a value using a Comparison Instruction and Comparison Value so it will either output a true or false value. While true it will be considered a done event. Has fields: Time Specifier, Comparison Instruction, and Comparison Value.

Event Active One-Shot: Requires a preceding event or to be the following event to another event. Each time this once shot event gets activated a counter will go up. It will only count once until the event leading to it resets and then triggers again. When the counter value is true with regards to the comparison instruction and value the event will be considered complete. Has fields: Conversion Factor, Comparison Instruction, and Comparison Value.

- i. **Input Number:** Select which input is to be monitored for this event. Ranges from 0 through 7.
- ii. **Input State:** Sets what state the input should be in to create a completed statement. Select On to monitor when a signal goes active. Select Off to monitor when a signal turns off.
- iii. **Conversion Factor:** Value to multiple each signal pulse by. If set to 3 and the Event Type is set to Input Count, then everytime there is a new signal the count will increase by 3 instead of 1.
- iv. **Comparison Instruction:** Select the logical operator to compare the Input Count/Actual Rate/Distance/Time/Event Active One-Shot values to the Comparison Value. These values can be:
 - = **Equal:** when the value of the event is equal to the Comparison value this event will be true.
 - != **Not equal:** when the value of the event is not the same as the comparison value this event will be true.
 - > **Greater than:** when the value of the event is strictly greater than the comparison value this event will be true.
 - >= **Greater than or equal:** when the value of the event is more than or the same as the comparison value this event will be true.
 - < **Less than:** when the value of the event is strictly less than the comparison value this event will be true.
 - <= **Less than or equal:** when the value of the event is fewer than or the same as the comparison value this event will be true.
- v. **Comparison Value:** The number to compare to the Count/Actual Rate/Distance/Time/Event Active One-Shot value using the Comparison Instruction operator.
- vi. **Rate Specifier:** What time frame the rate should be based on: Counts Per Millisecond/Second/Minute/Hour.
- vii. **Zeroing Timeout:** How long after the last input should the event wait before zeroing out the actual rate. If this value is set to 10, then if 10 seconds pass without an input being recorded the rate for this event will be automatically set to 0.

- viii. **Latch On Completion:** select true if this input needs to latch when asserted. Select false if no latch is required. Latching makes it so that once the event is completed then the event stops calculating new information and will always be considered true until a restart of the event occurs.
- ix. **Retain Data Until Reset:** select True or False. This makes the event keep any data it has collected even if it is no longer the current running event. When false the event will lose all data it attained during its run time if it no longer is the running event. For example, if this value is set to True and the event is a timer that has ran for 1 minute. If the event before it becomes the running event, but then completes again this timer will still have the 1 minute from the previous time it ran. If this value was set to false it would have to start the timer all over again.
- x. **OR Event:** Allows for a subevent to be running at the same time as this event. Once either this event or the subevent finish the following event or the action (if there is not a following event) will begin. Not requiring both of them to finish in order to continue in the event sequence.
- xi. **Following Event:** A subevent that must be completed after this event. The following event will need to complete before this event will start the action associated with it.

7. Action Setup

The finale of the event sequence. This is where the iMAAX sends out a signal to a device or a message to a specific group or groups that the event sequence has finished. Can send out an email or sms or can trigger an output on any of the 8 outputs (K0 through K7) or flash a signal repeatedly to an output. Allows for continuous, repeated or a one time action to occur.

- a. **Action Name:** A brief identifier for this action. This can be anything up to 20 characters. This value is displayed in the selection options for a Main Event's action and in the action list on the Action Setup Page.
- b. **Action Description:** A brief summary of what is to occur when this action is triggered. This can be anything up to 74 characters. This value is displayed on the action list in the Action Setup page.
- c. **Action Reset Types:** Sets the conditions that the action will stop and reset. The three different conditions are "Auto Reset with Event Conditions," "Latch and Auto Reset Entire Event on Action Complete," and "Latch Until Event Restart."
 - i. Auto reset with Event Conditions: Whenever the events leading to this action are no longer complete this action will stop its output.
 - ii. Latch and Auto Reset Entire Event on Action Complete: Once the action has completed the allotted tasks the entire event sequence will be reset and start from the beginning.
 - iii. Latch Until Event Restart: The action will stay active until manually forced to restart by an operator.

Action Name		Action Output	
Digital Output 0		None	
Action Description			
Digital Output 0			
Action Reset Type			
Latch Until Event Restart			
Action Notification			
None			

ID	Name	Description
1	Digital Output 0	Digital Output 0

- d. **Action Notification:** Sets whether a notification will be sent out to a group. An action's notification can be an SMS or an email. A notification can also be sent more than once or until a condition is completed.
 - i. **None:** Selecting this will turn off the notification setting.
 - ii. **Send Notification Once:** Selecting this will send a single notification to the selected group(s). Select the appropriate Group(s) that the message should be sent to. The notification options will become visible if this is set.
 - iii. **Repeat Notification at Set Amount of Times:** Selecting this will allow you to repeat notifications by quantity with delay (in minutes) in between each notification. Select the appropriate Group(s) that the message should be sent to. The notification and notification repeat options will become visible if this is set.
 - iv. **Repeat Notification Until Acknowledged:** Selecting this will allow you to repeat notifications every "X" minutes until the event has been acknowledged. Select the appropriate Group(s) that the message should be sent to. The notification and notification repeat options will become visible if this is set.
- e. **Repeat Notification Until Event Reset:** Selecting this will allow you to repeat notifications every "X" minutes until the event has been Reset. Select the appropriate Group(s) that the message should be sent to. The notification and notification repeat options will become visible if this is set.

The screenshot shows a configuration form for an action notification. It includes fields for Action Name, Action Description, Action Reset Type, Notification Groups, Notification Subject, and Notification Message. The 'Morning Shift' group is selected, and the notification message is 'There is a jam on machine 0.'

- f. **Action Output:** Sets whether an output signal should be set over the USB RIO Interface device. This can be a solid signal or a repeated on and off of a signal. The signal can be for a set period of time or until a certain condition is met. Some things an action output can be used for is to turn on a light or sound a horn.
 - i. **None:** selecting this will cause no signal output to occur when the action is called.
 - ii. **Turn On Outputs Until Acknowledged:** Selecting this will turn on selected outputs until the event has been acknowledged by the operator. Selecting this will cause the Output and Flash selection options to appear.
 - iii. **Turn On Outputs Until event Reset:** Selecting this will turn on selected outputs until the event has been Reset. Reset options can be set for the action in the Action Reset Type field. Selecting this will cause the Output and Flash selection options to appear.
 - iv. **Turn On Outputs for a Duration:** Selecting this will turn on the selected outputs for the amount of time (seconds) entered for the duration and then outputs will return to previous state(s). Selecting this will cause the Output and Flash selection options to appear.
 - v. **Outputs:** Select which connections will have a signal outputted on. Options are 0-7. Corresponding to K0 through K7 on the RIO Interface.
 - vi. **Flash:** Select flash or no flash for each output. To enable flash for an output the Output option must first be selected and then select the Flash option that corresponds to the Output. Selecting a flash option will cause the Output Flash Duration options to appear.

- g. **Output Duration (Seconds):** This value sets how long (in seconds) an output will be sent to one of the outputs (K0 through K7 on the RIO Interace). This is only visible when Turn On Outputs for a Duration is selected.
- h. **Output Flash On Duration (Seconds):** Used to create the looping signal along with Output Flash Off Duration. This value sets how long a signal will remain on the output before turning off. This option is only visible when a Flash has been selected.
- i. **Output Flash Off Duration (Seconds):** Used to create the looping signal along with Output Flash On Duration. This value sets how long a signal will remain off before the signal will be turned back on for the output. This option is only visible when a Flash has been selected.

Action Output	Outputs	Flash
Turn On Outputs Until Acknowledged	<input checked="" type="checkbox"/> 0	<input checked="" type="checkbox"/>
Output Flash On Duration (Seconds)	<input type="checkbox"/> 1	<input type="checkbox"/>
2	<input type="checkbox"/> 2	<input type="checkbox"/>
Output Flash Off Duration (Seconds)	<input type="checkbox"/> 3	<input type="checkbox"/>
2	<input type="checkbox"/> 4	<input type="checkbox"/>
	<input type="checkbox"/> 5	<input type="checkbox"/>
	<input type="checkbox"/> 6	<input type="checkbox"/>
	<input type="checkbox"/> 7	<input type="checkbox"/>

Solid Output on 0		Periodic Output on 0	
Outputs	Flash	Outputs	Flash
<input checked="" type="checkbox"/> 0	<input type="checkbox"/>	<input checked="" type="checkbox"/> 0	<input type="checkbox"/>
<input type="checkbox"/> 1	<input type="checkbox"/>	<input type="checkbox"/> 1	<input type="checkbox"/>
<input type="checkbox"/> 2	<input type="checkbox"/>	<input type="checkbox"/> 2	<input type="checkbox"/>
<input type="checkbox"/> 3	<input type="checkbox"/>	<input type="checkbox"/> 3	<input type="checkbox"/>

8. Users & Groups

The Users & Groups page is where you add in the people that should be notified, their shifts, type of notifications they should receive and create groups for them to be assigned to actions. The groups are selected by actions to choose who should be notified and a selection of users are needed to populate the group.

(Select a user or group below, or press + to create new user or group)

Users			Groups		
ID	Name	Description	ID	Name	Description
1	Sample User	Sample User	1	Sample Group	Sample Group
2	Carl	Operator	2	Morning Shift	Morning Shift
3	Kelsey	Operator	3	Afternoon Shift	Afternoon Shift
4	Bryan	Manager	4	Night Shift	Night Shift
5	Clarissa	Manager			
6	Patrick	Operator			
7	Paisley	Operator			
8			

+ Add New User
+ Add New Group

USERS

Users are typically individuals that will receive email or text notifications when events or actions have occurred. To enter a new user, click on “Add New User.” Enter User name and description. Enter Cell Phone Number. Enter Email Address. Select whether notifications will be sent via email, text or both. Select Notification Type from the drop down options. When wanting to edit a current User, click on the user in the Users list. Then in the upper right click the Edit button. Alter whatever information you’d like, then click Save in the upper right.

- a. **User Name:** This can be anything up to 20 characters. User Name will be what is selected to add a User to a Group in the Group Members section.
- b. **User Description:** A brief description of the user. The user’s description will be displayed in the Users list on the Users & Groups page and the Group Members section.
- c. **Cell Phone Number:** A 10 digit number (1234567890 format). Required if Notification Location is set to “Cell Phone” or “Both.”
- d. **Email Address:** The email address that will be used to notify the user. Required if Notification Location is set to “Email Address” or “Both.”
- e. **Notification Location:** Pick how the user is notified by the iMAAX system. Can be set to send sms when set to either Cell Phone or Both. Also can send emails when set to either Email Address or Both.
- f. **Notification Type:** Can be set to Always Notify or Notify During Shift. If set to Always Notify, if the user is included in a group to be notified they will always get a notification whether or not they are on duty. When set to Notify During Shift the Shift options will appear and it will only send a notification to the user if an action is triggered during their shift.

The screenshot shows a user edit form with the following fields and options:

- Notification Type:** A dropdown menu currently set to "Notify During Shift".
- Shift Start:** A time selection field with values 6, 00, and AM.
- Shift End:** A time selection field with values 2, 00, and PM.
- Shift Days:** A list of days with checkboxes: Monday (checked), Tuesday (unchecked), Wednesday (checked), Thursday (checked), and Friday (checked).
- Buttons:** "Save" and "Cancel Edit" buttons in the top right corner.

- g. **Notification Type:** Can be set to Always Notify or Notify During Shift. If set to Always Notify, if the user is included in a group to be notified they will always get a notification whether or not they are on duty. When set to Notify During Shift the Shift options will appear and it will only send a notification to the user if an action is triggered during their shift.
- h. **Shift Days:** Only visible when Notification Type is set to Notify During Shift. The days of the week that a user is on duty.

GROUPS

Groups can be set up by shift, by department, by supervisors, and more. To create a group, click “Add New Group.” Enter a group name and description. Select True or False for Notifications Abide By Member Shifts. This would be used for creating “on call” groups for example that would allow the user to receive alerts outside of their predetermined shift times. Then select the users that will be associated with this group. To Edit a Group, click on a Group in the Group list than click Edit in the upper right. Change the fields that need altering then click Save in the upper right corner. To Delete a Group, click on the Group in the Groups list and click Delete in the upper right corner.

9. Report Tool

The report tool sends an email to the specified email, containing a CSV file with all of the information from the selected events inside. This CSV will have the format: Date, Time, Event, Event Description, Entry. The contents of the CSV will also be inside the body of the email to allow for a quick view of the information.

Event Records			
Date	Time	Event	Entry
2019-08-13	12:30:30.349 PM	Input 0 On	User performed an Event configuration change. Event has reset.
2019-08-13	12:30:17.334 PM	Input 0 On	User performed an Event configuration change. Event has reset.
2019-08-13	12:28:36.678 PM	Input 4 On	User Stopped the event.
2019-08-13	12:28:30.712 PM	Input 4 On	User Acknowledged the event.
2019-08-13	12:28:28.176 PM	Input 0 On	User Acknowledged the event.
2019-08-13	12:28:25.904 PM	Input 3 On	Event has been triggered.
2019-08-13	12:28:25.880 PM	Input 3 On	User Restarted the event.
2019-08-13	12:28:24.295 PM	Input 4 On	Event has been triggered.
2019-08-13	12:28:24.232 PM	Input 4 On	User Restarted the event.
2019-08-13	12:28:20.79 PM	Input 0 On	Event has been triggered.

Email Address

Event Filter			
ID	Name	Description	Include
1	Input 0 On	Input 0 On	<input checked="" type="checkbox"/>
3	Input 1 On	Input 1 On	<input type="checkbox"/>
4	Input 2 On	Input 2 On	<input type="checkbox"/>
5	Input 3 On	Input 3 On	<input checked="" type="checkbox"/>
6	Input 4 On	Input 4 On	<input checked="" type="checkbox"/>

Start Date End Date

a. To send the report:

- i. Select the Events you'd like to retrieve by clicking the checkbox in the Include column or click the Select All option to quickly select every event.
- ii. Click on the Search button at the bottom of the screen to get all of the entries for the selected events. The entries will then appear in the Event Records section and be ready to be emailed.
- iii. Type in the email to send the information to in the Email Address field.
- iv. Click Email Report.



Email Address

b. **Start Date:** The date that is used to begin the data search.

c. **End Date:** The date that is used to finish the data search.

d. **Search:**  Retrieves and prepares the information about the selected events. Then displays the contents in the Event Records section.

e. **Clear:**  Unselects all the events and hides the information that has been previously retrieved.

f. **Select All:**  Quickly selects all of the events in the Include selector.

g. **Email Address:** The field to enter the email address that the selected information will be sent to when Email Report is pressed.

h. **Email Report:**  Click to send the selected event entries to the email address stated in the Email Address field.

10. System Log

The System Log provides each event in sequential order until all events are cleared. This feature is typically used to view events for troubleshooting. The System Log will be cleared every time the iMAAX device is restarted or the Clear Log button is pressed.

Date	Time	Entry
8/13/2019	12:28:39.451 PM	Input 1 On (ID#3) has been paused
8/13/2019	12:28:36.680 PM	Input 4 On (ID#6) has been stopped
8/13/2019	12:28:25.919 PM	Input 3 On has been triggered
8/13/2019	12:28:25.901 PM	Input 3 On (ID#5) has started
8/13/2019	12:28:25.882 PM	Input 3 On (ID#5) has been restarted
8/13/2019	12:28:24.310 PM	Input 4 On has been triggered
8/13/2019	12:28:24.295 PM	Input 4 On (ID#6) has started
8/13/2019	12:28:24.263 PM	Input 4 On (ID#6) has been restarted
8/13/2019	12:28:21.923 PM	Input 1 On (ID#3) has started
8/13/2019	12:28:21.903 PM	Input 1 On (ID#3) has been restarted
8/13/2019	12:28:20.95 PM	Input 0 On has been triggered
8/13/2019	12:28:20.77 PM	Input 0 On (ID#1) has started
8/13/2019	12:28:20.51 PM	Input 0 On (ID#1) has been restarted
8/13/2019	12:06:43.1 PM	Input 0 On has been triggered
8/13/2019	12:06:42.986 PM	Input 0 On (ID#1) has started
8/13/2019	12:06:42.892 PM	Input 0 On (ID#1) has stopped due to a configuration change
8/13/2019	11:39:42.948 AM	Input 1 On (ID#3) has started
8/13/2019	11:39:42.881 AM	Input 1 On (ID#3) has stopped due to a configuration change
8/13/2019	10:43:30.50 AM	Input 1 On (ID#3) has started

 Clear Log

- a. **Clear Log:**  Deletes all the Entries from the System Log.

11. Networking

The networking page allows for adjusting of the information the iMAAX device sends over the network as well as what server to use for Emailing and where to position it on the Scoreboard.

a. Networking

- i. **Device Name:** The default name is EventManager. To change the device name select the on screen keyboard and enter your desired name. Select Save to apply the change.
- ii. **Time Sync Server:** When connected to the internet and System Time is enabled. The iMAAX will sync the time with time.windows.com. To change the Time Sync Server, select the on screen keyboard and enter your desired internal or external network time server. Select Save to apply the change.
- iii. **DHCP Configuration:** DHCP (automatic addressing) is Enabled is the default and is used to provide quick, automatic, and central management for the distribution of IP addresses within a network from the router. If you want a Static IP Address, change the setting to Disabled and enter the appropriate data for your network.
 - IP address
 - Subnet Mask
 - Default Gateway
 - Preferred DNS Server
 - Alternate DNS Server

Networking

Device Name

Time Sync Server

DHCP Configuration

SMTP Email Client

Server Address

Server Port

Server SSL

Server Username

Server Password

Scoreboard

Enabled

Unit ID

- b. **SMTP Email Client:** Only change these values if you have your own SMTP emailing client you wish to use.
- i. **Server Address:** The default address is smtp.sendgrid.net. To change the server address select the on screen keyboard and enter your desired address. Select Save to apply the change.
 - ii. **Server Port:** The default port is 465. To change server port select the on screen keyboard and enter your desired name. Select Save to apply the change.
 - iii. **Server SSL:** Select whether the email server is SSL or not. Default value is Yes.
 - iv. **Server Username:** The default username is apikey. To change the server username select the onscreen keyboard and enter your desired address. Select Save to apply the change.
 - v. **Server Password:** There is no password by default. To change the server password select the onscreen keyboard and enter your desired address. Select Save to apply the change.
- c. **Scoreboard:** The default is Disabled. To Enable place a Check in the box next to Enabled. When enabled, you will see Unit ID, and you can select from ID 1-10. Each ID can display up to 16 iMAAX for a total of 160. On the Scoreboard you can select the number of iMAAX that can be viewed per screen; 2, 4, 6, 9, 12 or 16 per ID. The Position Index selection will direct which position on the ID that this iMAAX will display within. An individual iMAAX reports to one ID.

ScoreBoard
 Enabled
 Unit ID

 Position Index

12. Security

To enable Security, check the box next to “Enable Security”.

- 1) To Enable Login on Startup, check the box next to “Show Login on Start-up”
- 2) There are three User levels. Guest, Operator and Manager.
 - a) Guest can view the run screen.
 - b) Operator can engage with the Run Screen and Sidebar fields.
 - c) Manager has full access to all fields and settings.

Security
 Enable Security
 Show Login on Startup

Operator
 Password
 
 Enable Auto Logout

Manager
 Password
 
 Enable Auto Logout

When Show Login on Start-up is enabled there will be an option to Disable Guest User.

The iMAAX stores one four digit numerical password for each user level. You can choose to have a password for the “Operator and Manager” or the “Operator or Manager”. The Guest account does not have a password. If you have not set-up a password for the Operator or Manager accounts, simply click on “Sign In”. When Security has been enabled you will see “Switch User” and the User Level that is currently logged in on the sidebar. A Security bypass can be triggered with a USB keyboard by holding CTRL and P on startup when you see the factrac logo on the screen, this disables security. When activated you will see the “Security feature disabled -Release Keys to Continue” message, you have bypassed Security. If the password has been forgotten, you will need to reset the iMAAX to its factory image to reset the device and the software.

13. System

View the networking and hardware information for the iMAAX unit. This page is also used for doing System Updates when supplied with a USB update.

- a. **Device Name:** This field displays the Device Name as entered in the Networking Tab.
- b. **Version:** This is the current version of software.
- c. **Internet:** This field will show Not Connected or Connected (if it can reach the Time Sync Server)
- d. **MAC Address:** This units unique MAC Address.
- e. **Networking Data:** These fields show the current status of your device.
 - i. IP Address
 - ii. Default Gateway
 - iii. Subnet
 - iv. Preferred DNS
 - v. Alternate DNS
 - vi. Time Sync Server
- f. **USB RIO Interface:** Should show “Connected” if the cable to the USB RIO Interface is connected properly. Otherwise it will show “Not Connected” if the cable is loose or disconnected or the USB RIO Interface is not turned on.
- g. **Hourly SMS Message Usage:** How much of the hourly usage limit (250 SMS per hour) has been used.
- h. **Refresh:** This update the network settings of your device
- i. **System Information:** System screen provides software version number and SC Controller MAC Address.
- j. **Update:** If SC Controller requires an update or new model number upgrade. You will be sent a USB drive. Leave controller powered on and insert USB drive in any of the 4 USB ports on the SC Controller. Press the “Update” button on the System Screen. Controller will auto load the update or upgrade. Screen will go black, then the controller will restart. When done restarting, the update or upgrade will be active.
- k. **Reset Device to Factory settings:** To reset your iMAAX to the original factory image you will need a USB keyboard connected to your iMAAX. This will wipe all saved settings and languages. The activation and unit version is retained. Restart the iMAAX by power cycling the device with the power switch. When you first see the FacTrac logo, hold down the CTRL and W key until the following message is displayed “Data Clear Successful -Release Keys to Continue”. If no confirmation is displayed, power-cycle the unit and try again.



```
Device Name EventManager
Version 2.0.0.0
Internet Connected
MAC Address FCAAI4758BA6
IP Address 192.168.0.1
Default Gateway 0.0.0.0
Subnet Mask 255.255.255.0
Preferred DNS Server 0.0.0.0
Alternate DNS Server 0.0.0.0
Time Sync Server time.windows.com
USB RIO Interface Connected
Hourly SMS Message Usage 0/250
```

Refresh

Perform System Update

Caution! Only perform a system update when instructed to do so by the Output Technology Support Team.
Updates can only be performed when the proper USB Flash Drive is present.
Your system may reboot automatically during the update process.
Do NOT power off the device until the update is complete.

Update

14. Walkthrough 1: Signal Output

In this tutorial we will create a basic event that triggers an output signal such as a light when an input such as a button being pressed is sent to the iMAAX.

- First we need to create the action that this new event will trigger. On the home page press the tab in the upper right corner.



- Select "Action Setup" from the now open window on the right.



- Press the Add New Action in the bottom right.



- d. For this tutorial we will have the action turn on an output for Output 0. In “Action Name” put in whatever identifier you’d want. We will go with “Tutorial Action.” Using either a USB plugged in keyboard or the onscreen keyboard button next to the field.
- e. In the Action Description put in a brief summary of the Action. We will go with “Turns on Output 0 until Acknowledged”. Using either a USB plugged in keyboard or the onscreen keyboard button next to the field.
- f. Set Action Reset Type as “Latch and Auto Reset Entire Event on Action Complete” This will set it so the entire event will restart from the beginning once the action has been finished.
- g. Set Action Notification as “None” since this tutorial will not be sending an email or SMS.
- h. Set Action Output to “Turn On Outputs Until Acknowledged” This makes it so once we manually acknowledge the action has triggered and since Action Reset Type is “Latch and Auto Reset Entire Event on Action Complete” the event will restart from the beginning.
- i. Select Output 0 in the Outputs list.
- j. Click “Save Action” in the upper right.

iMAAX:

Save Action Cancel Edit

4 **Action Name**
Tutorial Action

5 **Action Description**
Output 0 until Acknowledged

6 **Action Reset Type**
Latch and Auto Reset Entire Event

7 **Action Notification**
None

8 **Action Output**
Turn On Outputs Until Acknowledged

9 **Outputs**

Outputs	Flash
<input checked="" type="checkbox"/> 0	<input type="checkbox"/>
<input type="checkbox"/> 1	<input type="checkbox"/>
<input type="checkbox"/> 2	<input type="checkbox"/>
<input type="checkbox"/> 3	<input type="checkbox"/>
<input type="checkbox"/> 4	<input type="checkbox"/>
<input type="checkbox"/> 5	<input type="checkbox"/>
<input type="checkbox"/> 6	<input type="checkbox"/>
<input type="checkbox"/> 7	<input type="checkbox"/>

ID	Name	Description
1	Digital Output 0	Digital Output 0
2	Tutorial Action	Turns on Output 0

- k. Click the tab in the upper right and select Event Setup. We will now setup the conditions that will activate the action we just created.

iMAAX:

(Select an Action below or press + to create new action)

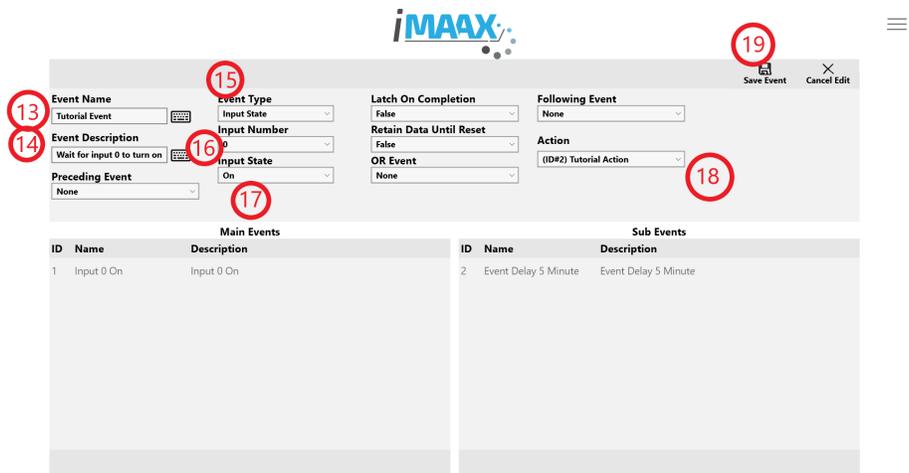
ID	Name	Description
1	Digital Output 0	Digital Output 0
2	Tutorial Action	Turns on Output 0 until Acknowledged

- Home
- Settings
- Event Setup
- Action Setup
- Users & Groups
- Report Tool
- System Log
- Networking
- Security
- System

- I. On the Event Setup Page click the Add New Main Event. Main Events are where every event is required to start.



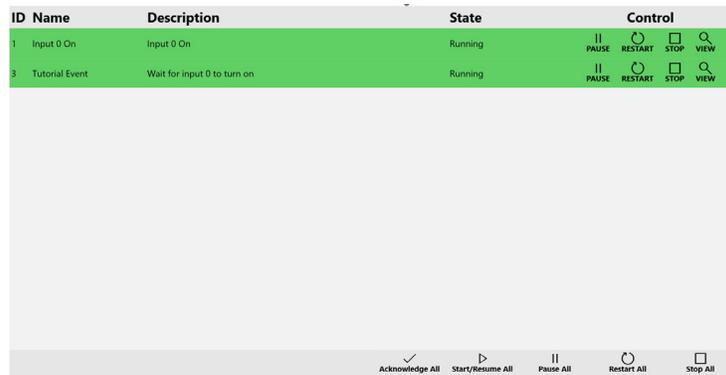
- m. Pick an Event Name. We will go with “Tutorial Event.” Using either a USB plugged in keyboard or the onscreen keyboard button next to the field.
- n. Pick an Event Description. We will go with “Wait for input 0 to turn on.” Using either a USB plugged in keyboard or the onscreen keyboard button next to the field.
- o. Set Event Type to be Input State.
- p. Set Input Number to 0.
- q. Set Input State to On.
- r. Choose our action (Tutorial Action) in the Action selector.
- s. Click Save Event in the upper right.



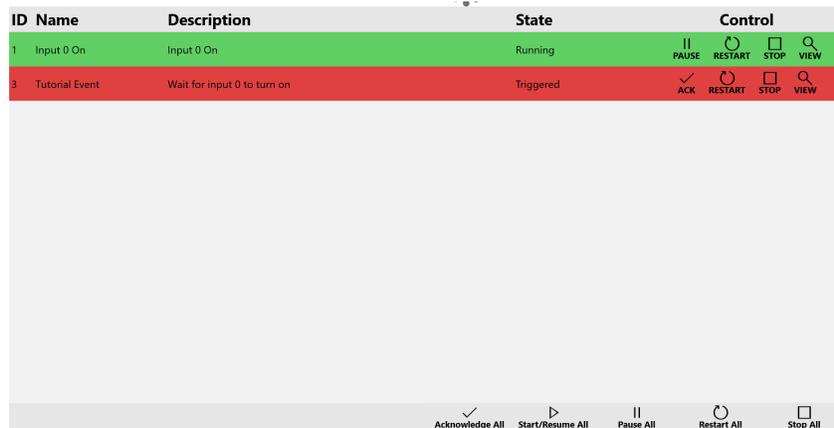
- t. Select the Home option from the tab on the upper right.



- u. The Tutorial Event should now appear in the Home page.



- v. Now we just need to connect an input, such as a push button or a switch to P0 on the RIO Interface and an output, such as a light to K0 on the RIO Interface.
- w. When the button or switch gets turned on the Light should turn on and the Tutorial Event on the home page should turn red. Note: the light will require power to run through the output contacts of the iMAAX.



- x. To restart the event simply click the  ACK button. If the event stays red, make sure the switch or button isn't still on otherwise it will have instantly completed the event when reset.

15. Walkthrough 2: Email Notification

In this tutorial we will walk through creating a simple event from scratch that when completed sends an email notification.

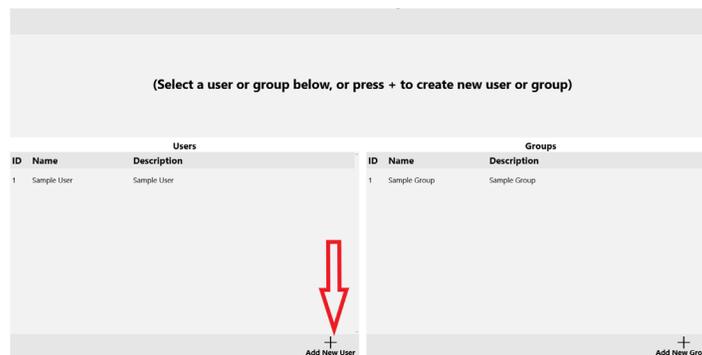
- First we need to create a group of people that will receive the email. On the home page press the tab in the upper right corner.



- Then select “Users & Groups” from the window that has been pulled open.



- On the Users & Groups page press the “Add New User” button at the bottom middle of the screen.



- d. Type in a User Name, for this example we will use “Tutorial Person.” Using either a USB plugged in keyboard or the onscreen keyboard button next to the field.
- e. Give the User a quick description in the User Description section. We will use “Example Employee.” Using either a USB plugged in keyboard or the onscreen keyboard button next to the field.
- f. Change the Notification Location to “Email Address.”
- g. Type in your email in the Email Address field. Using either a USB plugged in keyboard or the onscreen keyboard button next to the field.
- h. Make sure Notification Type is set to “Always Notify.”
- i. Click the “Save” button in the upper right. To finalize the User.

The screenshot shows a user creation form with the following fields and values:

- User Name:** Tutorial Person
- Email Address:** example@email.com
- Notification Type:** Always Notify
- User Description:** Example Employee
- Notification Location:** Email Address
- Cell Phone Number:** Enter Cell Phone Number...

At the bottom, there are two tables:

Users			Groups		
ID	Name	Description	ID	Name	Description
1	Sample User	Sample User	1	Sample Group	Sample Group

- j. Now the Tutorial Person should appear in the list of Users. Next we’ll make a group for the user by pressing the “Add New Group” button in the bottom right.

The screenshot shows the user and group management screen with the following tables:

Users			Groups		
ID	Name	Description	ID	Name	Description
1	Sample User	Sample User	1	Sample Group	Sample Group
2	Tutorial Person	Example Employee			

Buttons at the bottom: Add New User (with a plus icon) and Add New Group (with a plus icon and a red arrow pointing to it).

- k. Type in a Group Name, for this example we will use “Tutorial Group.” This can be done either using a USB plugged in keyboard or the onscreen keyboard button next to the field.
- l. Give the Group a quick description in the User Description section. We will use “Group to receive tutorial email.” Using either a USB plugged in keyboard or the onscreen keyboard button next to the field.

m. Press Save in the upper right to finalize the Group.

The screenshot shows the 'Group' configuration interface. At the top right, there is a 'Save' button circled in red with the number 14. On the left side, the 'Group Name' field contains 'Tutorial Group' (circled in red with 11) and the 'Group Description' field contains 'up to receive tutorial email' (circled in red with 12). In the center, the 'Notifications Abide By Members Shifts' dropdown is set to 'True'. On the right, the 'Group Members' table has 'Tutorial Person' selected (circled in red with 13). Below these are two tables: 'Users' and 'Groups'.

Users			Groups		
ID	Name	Description	ID	Name	Description
1	Sample User	Sample User	1	Sample Group	Sample Group
2	Tutorial Person	Example Employee			

Both the Group and the User can be edited by clicking on the respective one and pressing Edit in the upper right.

n. Select the navigation tab in the upper right then select Action Setup.

The screenshot shows the 'Group' configuration page with a navigation menu open on the right side. A red arrow points from the 'Edit' button in the top right to the 'Action Setup' option in the navigation menu. The 'Groups' table below has 'Tutorial Group' selected.

ID	Name	Description
1	Sample Group	Sample Group
2	Tutorial Group	Group to receive tutorial email

o. Press the Add New Action in the bottom right.

The screenshot shows a dialog box for adding a new action. At the top, it says '(Select an Action below or press + to create new action)'. Below this is a table with one row: 'Digital Output 0'.

ID	Name	Description
1	Digital Output 0	Digital Output 0

At the bottom right of the dialog, there is a button with a plus sign and the text 'Add New Action', which is circled in red.

- p. In “Action Name” put in whatever identifier you’d want. We will go with “Tutorial Action.” Using either a USB plugged in keyboard or the onscreen keyboard button next to the field.
- q. In the Action Description put in a brief summary of the Action. We will go with “Sends an email to Tutorial Group”. Using either a USB plugged in keyboard or the onscreen keyboard button next to the field.
- r. Set Action Reset Type to Latch Until Event Restart.
- s. Set Action Notification to “Send Notification Once.” This will make it so the Notification options appear.
- t. Select Tutorial Group in the Notification Groups.
- u. Enter a title for the email in the Notification Subject field. Using either a USB plugged in keyboard or the onscreen keyboard button next to the field. We will set it to: “Tutorial Email.”
- v. Enter the body of the email by filling out the Notification Message. Using either a USB plugged in keyboard or the onscreen keyboard button next to the field. We will set it to: “Successfully Completed the Tutorial for the iMAAX Email Action.”
- w. Click Save Action in the upper right to finalize the Action.

The screenshot shows the iMAAX configuration interface. The top navigation bar includes the iMAAX logo and a menu icon. The main content area is divided into several sections:

- Action Name:** A text input field containing "Tutorial Action".
- Action Description:** A text input field containing "Sends an email to Tutorial Group".
- Action Reset Type:** A dropdown menu set to "Latch Until Event Restart".
- Action Notification:** A dropdown menu set to "Send Notification Once".
- Notification Groups:** A list of groups with checkboxes. "Tutorial Group" is selected.
- Notification Subject:** A text input field containing "Tutorial Email".
- Notification Message:** A text input field containing "Successfully Completed the Tutorial for the iMAAX Email Action." Below the field, it says "61 Characters remaining".
- Action Output:** A dropdown menu set to "None".
- Buttons:** "Save Action" and "Cancel Edit" buttons are located in the top right corner.

Below the configuration fields is a table with the following data:

ID	Name	Description
1	Digital Output 0	Digital Output 0

- x. Click Save Action in the upper right to finalize the Action.

The screenshot shows the iMAAX configuration interface with the list of actions. The top navigation bar includes the iMAAX logo and a menu icon. The main content area displays a message: "(Select an Action below or press + to create new action)". Below this message is a table with the following data:

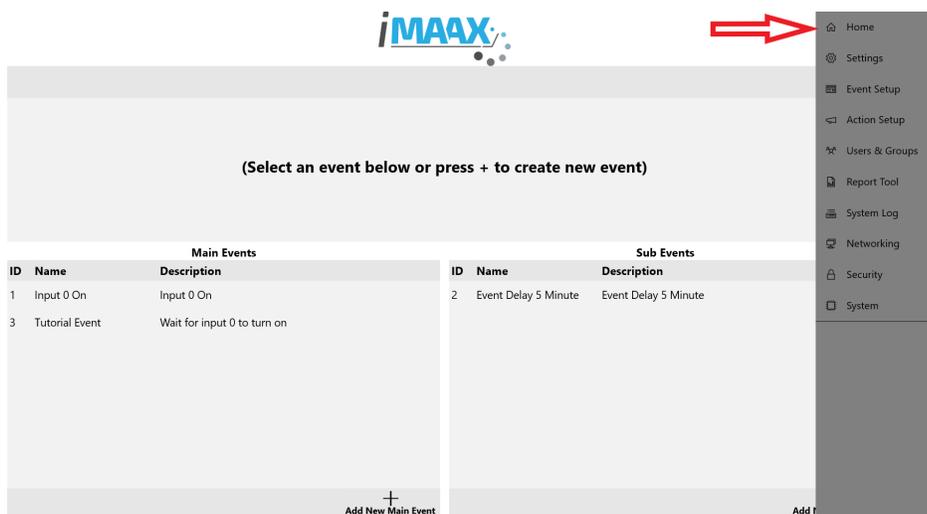
ID	Name	Description
1	Digital Output 0	Digital Output 0
2	Tutorial Action	Turns on Output 0 until Acknowledged

The right-hand navigation sidebar is visible, with a red arrow pointing to the "Event Setup" menu item. The sidebar includes the following items: Home, Settings, Event Setup, Action Setup, Users & Groups, Report Tool, System Log, Networking, Security, and System.

- y. On the Event Setup Page click the Add New Main Event. Main Events are where every event is required to start.



- z. Pick an Event Name. We will go with “Tutorial Event.” Using either a USB plugged in keyboard or the onscreen keyboard button next to the field.
- aa. Pick an Event Description. We will go with “Wait for input 0 to turn on.” Using either a USB plugged in keyboard or the onscreen keyboard button next to the field.
- ab. Set Event Type to be Input State.
- ac. Set Input Number to 0.
- ad. Set Input State to On.
- ae. Choose our action (Tutorial Action) in the Action selector.
- af. Click Save Event in the upper right.



ag. The Tutorial Event should now appear in the Home page.




ID	Name	Description	State	Control
1	Input 0 On	Input 0 On	Running	PAUSE RESTART STOP VIEW
3	Tutorial Event	Wait for input 0 to turn on	Running	PAUSE RESTART STOP VIEW

✓ Acknowledge All
▶ Start/Resume All
|| Pause All
🔄 Restart All
☐ Stop All

ah. Now we just need to connect an input, such as a push button or a switch to P0 on the RIO Interface.

ai. When the button or switch gets turned on an email should be sent to the Tutorial User's email address that we setup on the Users & Group page.




ID	Name	Description	State	Control
1	Input 0 On	Input 0 On	Running	PAUSE RESTART STOP VIEW
3	Tutorial Event	Wait for input 0 to turn on	Triggered	ACK RESTART STOP VIEW

✓ Acknowledge All
▶ Start/Resume All
|| Pause All
🔄 Restart All
☐ Stop All

aj. To restart the event simply click the  Restart button. If the event stays red, make sure the switch or button isn't still on otherwise it will have instantly completed the event when reset.

