ConsoliDator+

MasterClass

Week 8 – Intermediate Configuration

Today's Key Topics

- How to Program "Soft Keys" on a Screen
- How to Configure "Alarms"
- How to Create a New "Color Scheme"
- How to Create Timers
- How to Tie a Physical Relay Output to a configured "Alarm"

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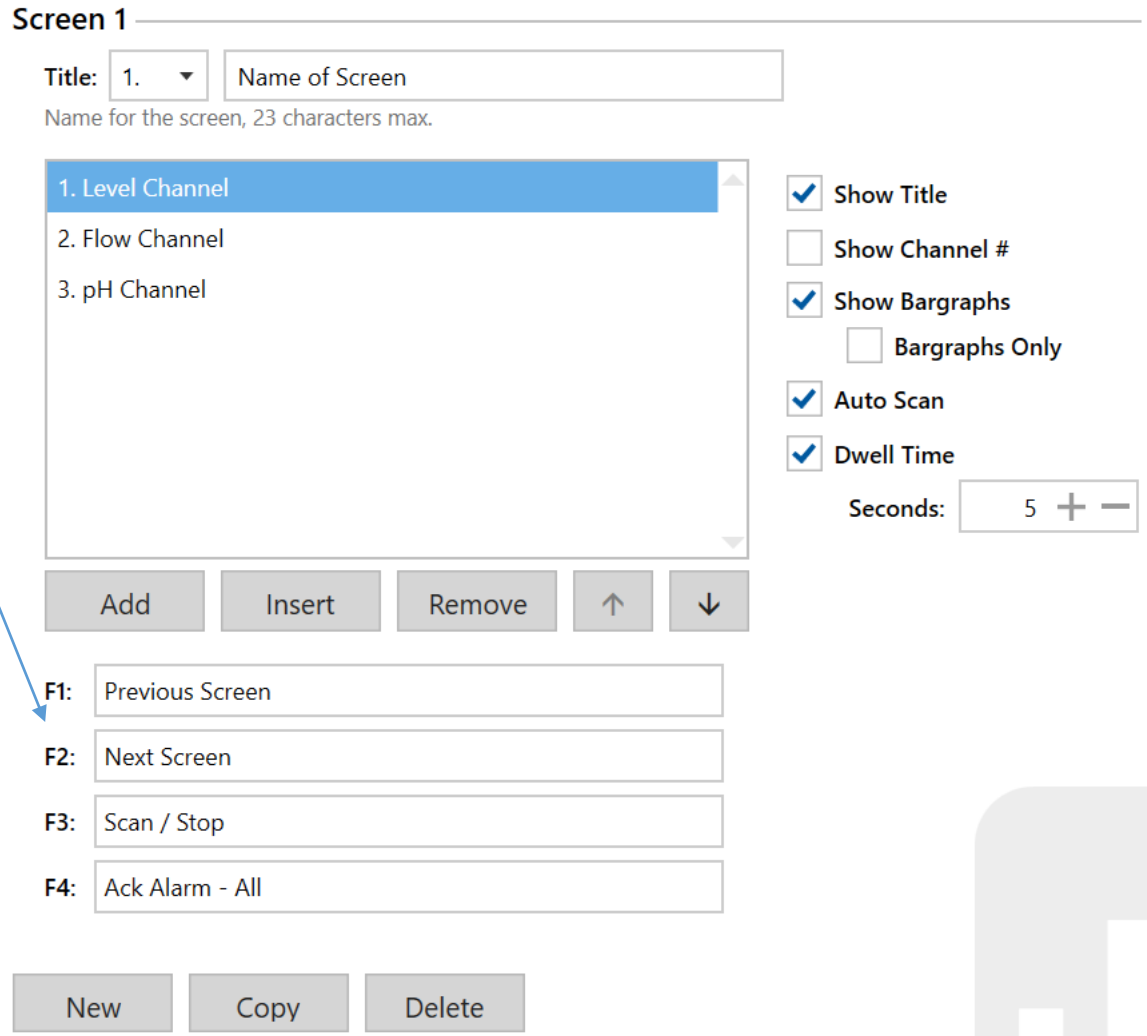
MasterClass

Configuring “Soft Keys” on a Screen

You can see at the bottom of this window a list of “Function Keys” (I call them “Soft Keys”)

Each Soft Key can be totally customized to perform various events

You see the default settings here. This is how EVERY screen will look unless they are changed

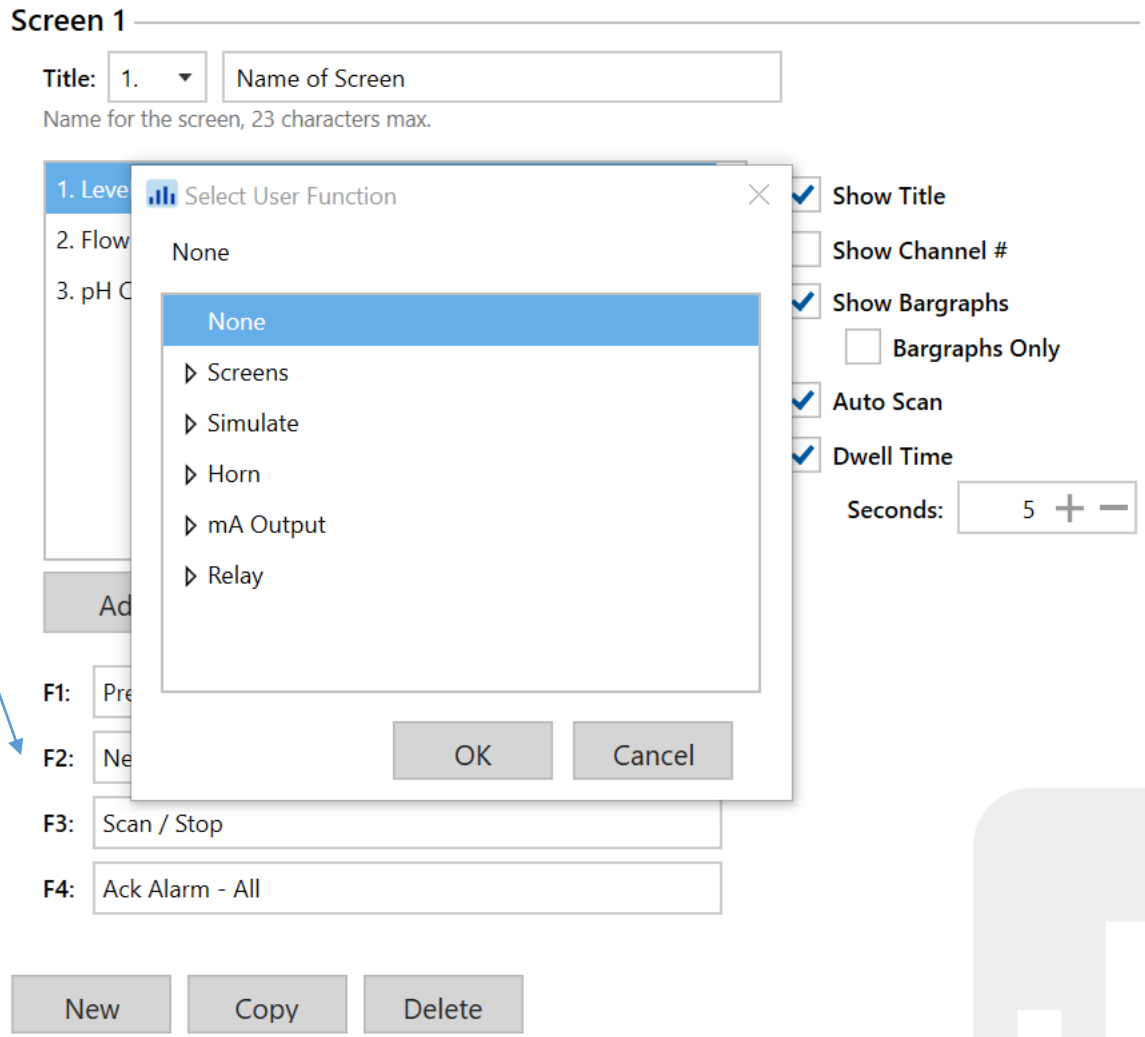


Configuring “Soft Keys” on a Screen

When you select a Soft Key to edit, you will see this window.

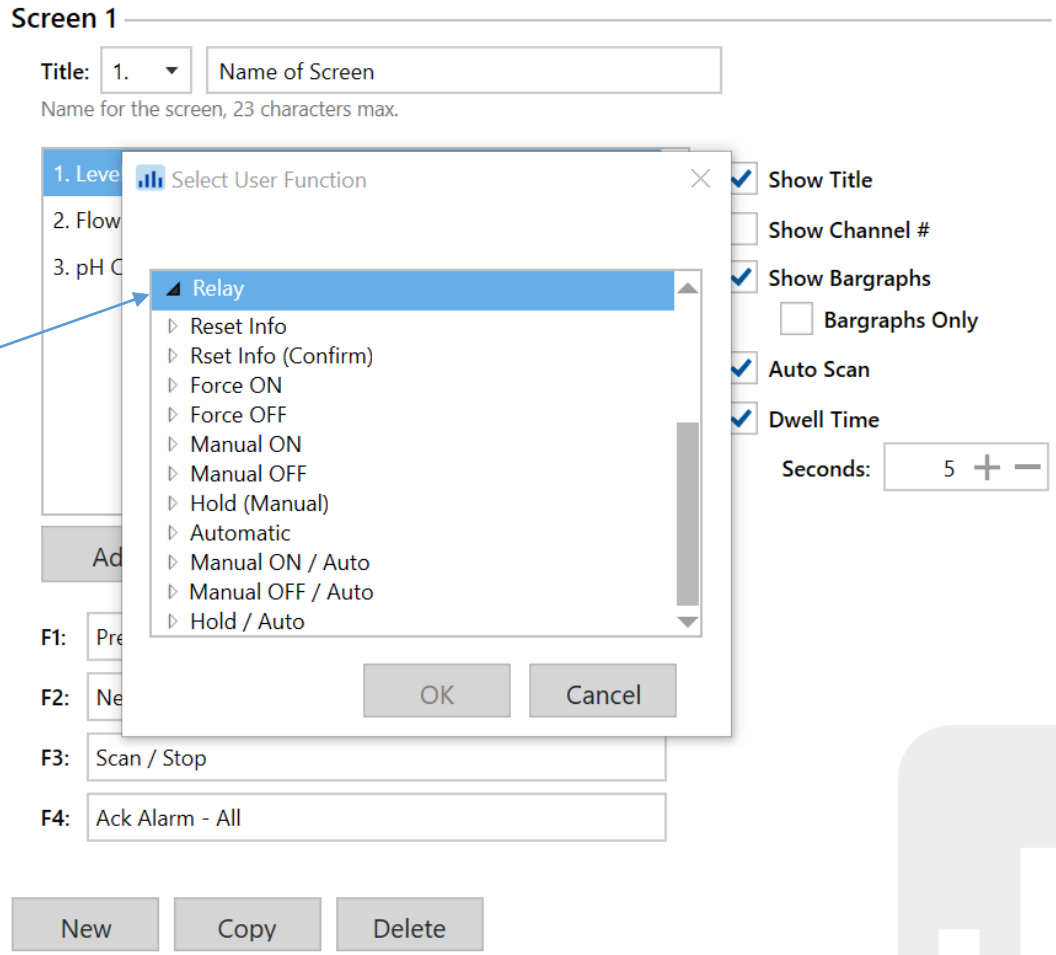
You are looking at a list of different “Function Categories”

Each “Category” has a list of sub-categories from which you can choose

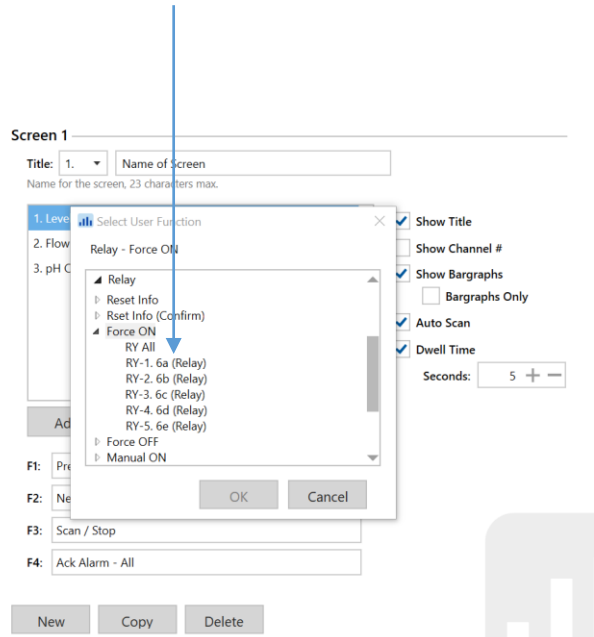


Configuring “Soft Keys” on a Screen

For example, this image shows you all of the available sub-categories within the “Relay Category”



Once you select which function (in this case, “Force ON”) you want, you simply choose which physical relay you want to control/configure

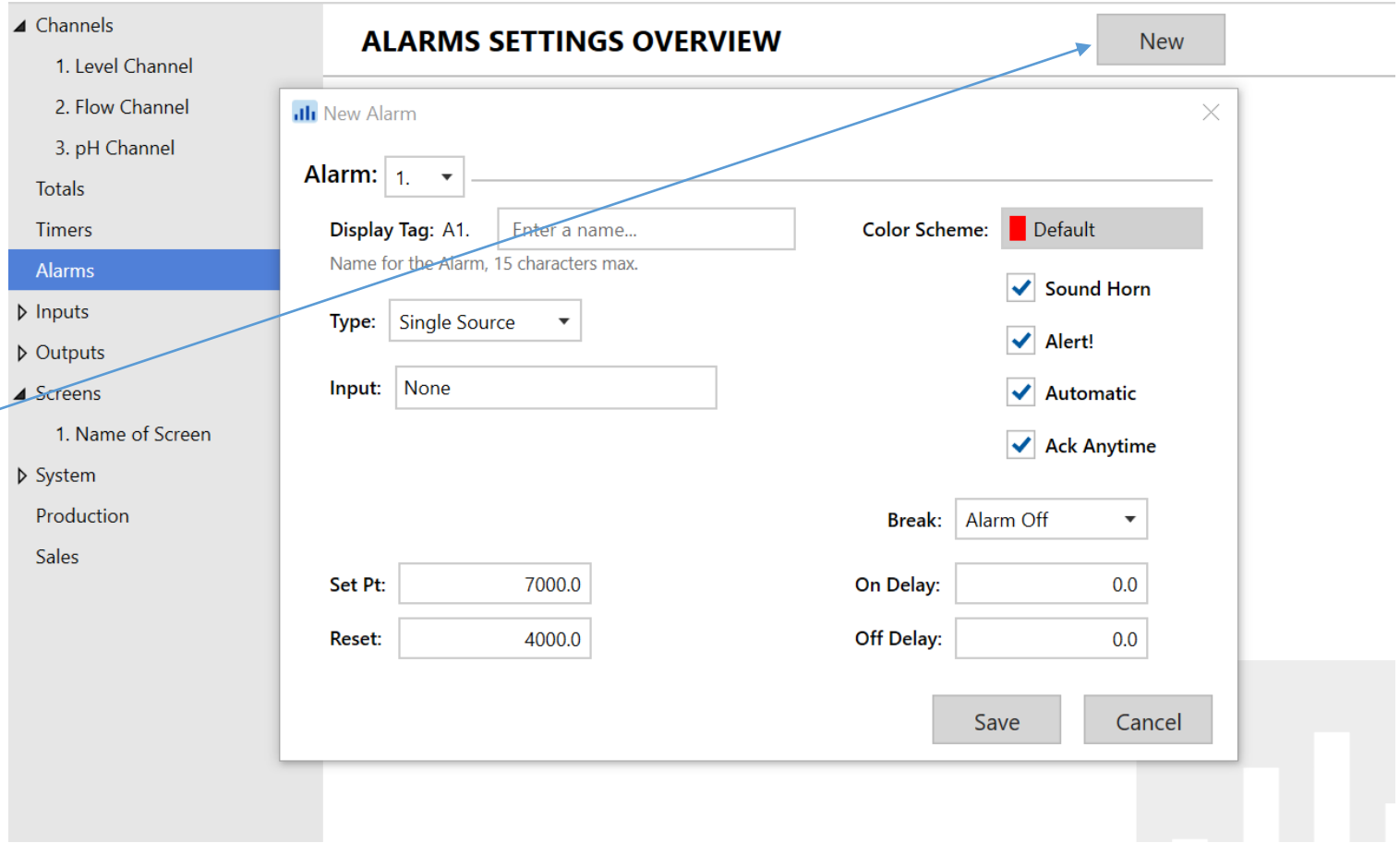


NOTE: *for a detailed explanation of these functions, please refer to the “Study Guide” for this week.*

How to Configure an “Alarm” (the BEST way)

Find “Alarms” on the right side of the window

Then press “New” and this window will appear



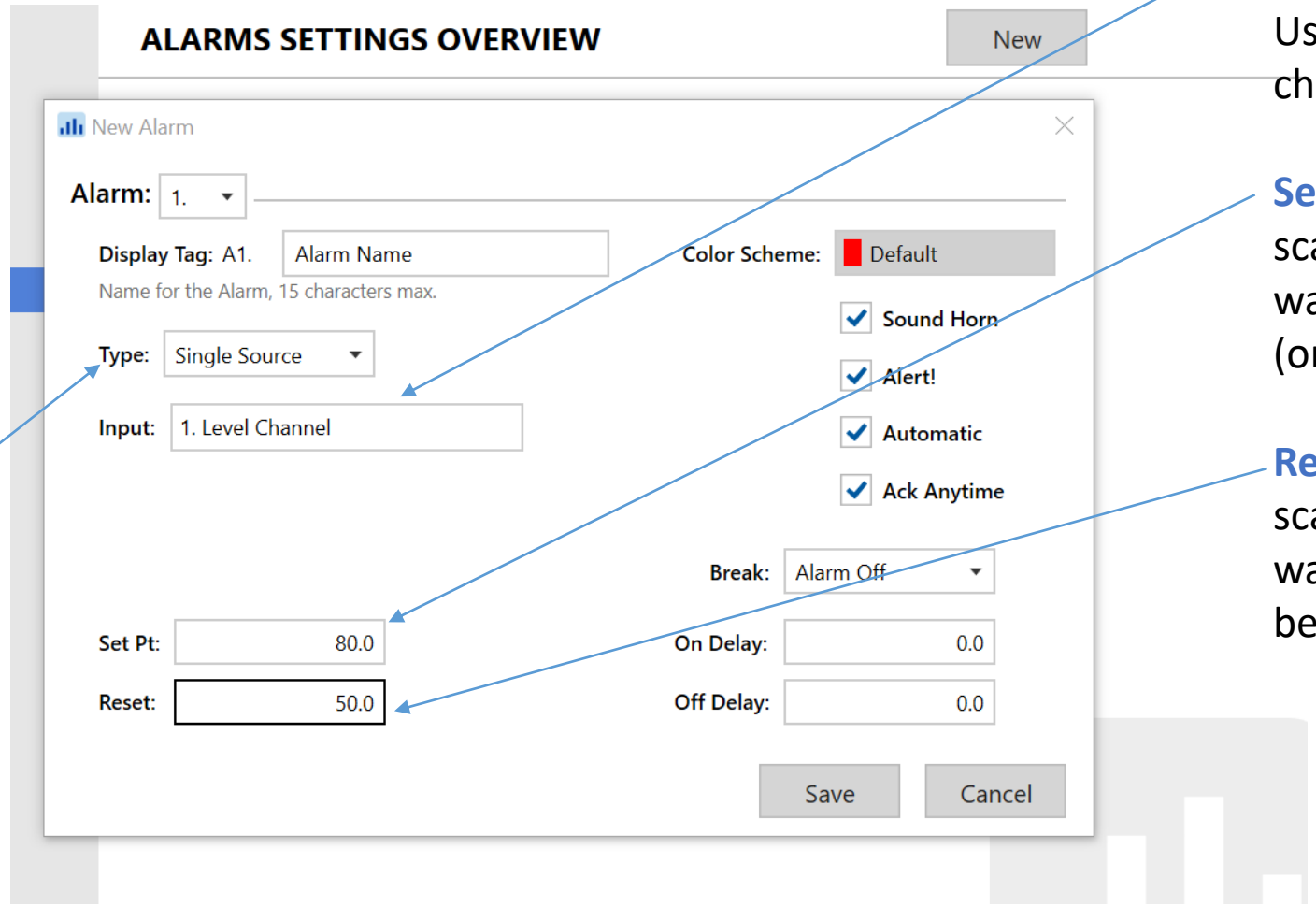
NOTE: *the “Set Pt” and “Reset” are automatically filled out with those numbers, and they are meant to be edited.*

How to Configure an “Alarm” (the BEST way)

After that, you should…
NAME THE ALARM

Type – which type of alarm do you want to configure?

Single Source
Multi-Source
Interval
Alarms OR
Alarms AND
Day & Time



Input – What is going to be the input to this alarm? Usually it’s going to be a channel, like in this example.

Set Pt – At which point in the scale of your “Input” do you want the alarm to be active (or, “true”).

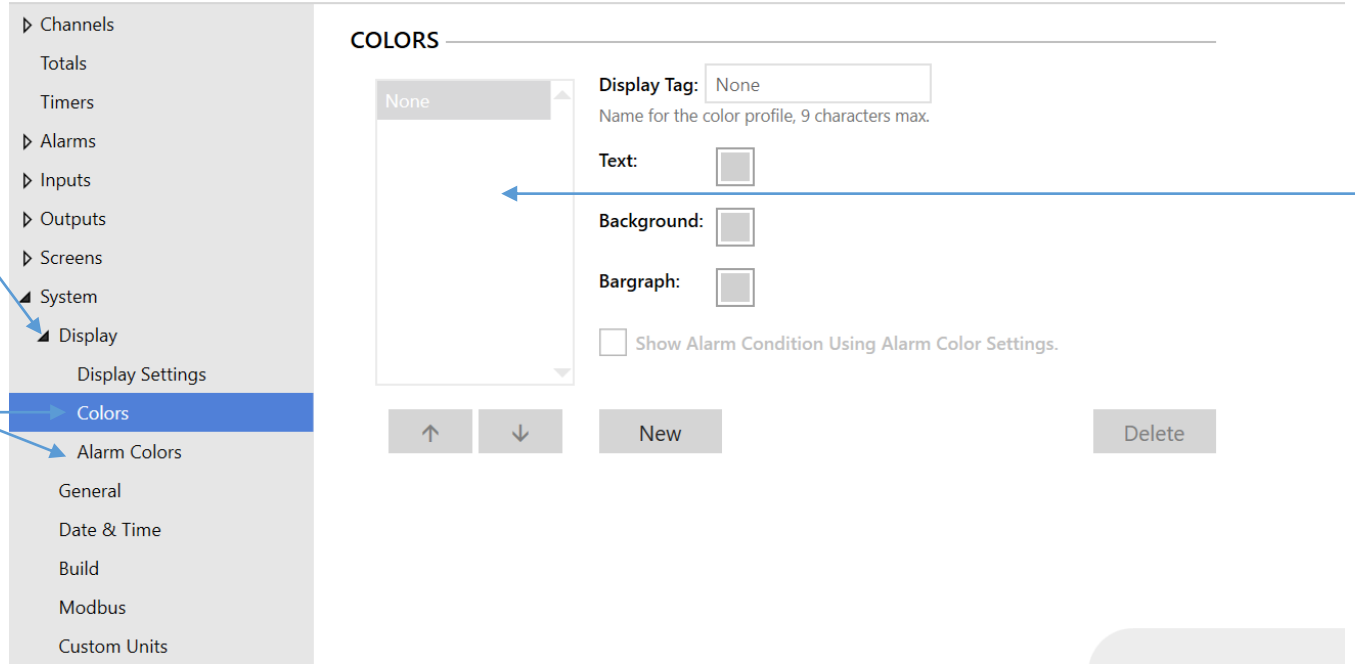
Reset – At which point in the scale of your “Input” do you want the alarm to reset, or become “False”.

NOTE: *This is a single source alarm based off my “Level Channel”. When the tank is 80% full, my alarm is true. When the tank reaches 50% capacity, the alarm returns to “False” or “Inactive”*

How to Create a New “Color Scheme”

On the left of the software window, find the “Display” option.

Within the “Display” option, you will see “Colors” and “Alarm Colors”



If you have any custom “Color Schemes” created on your unit, they will appear in this list

However, this is how the window appears when you are creating your first “Color Scheme”

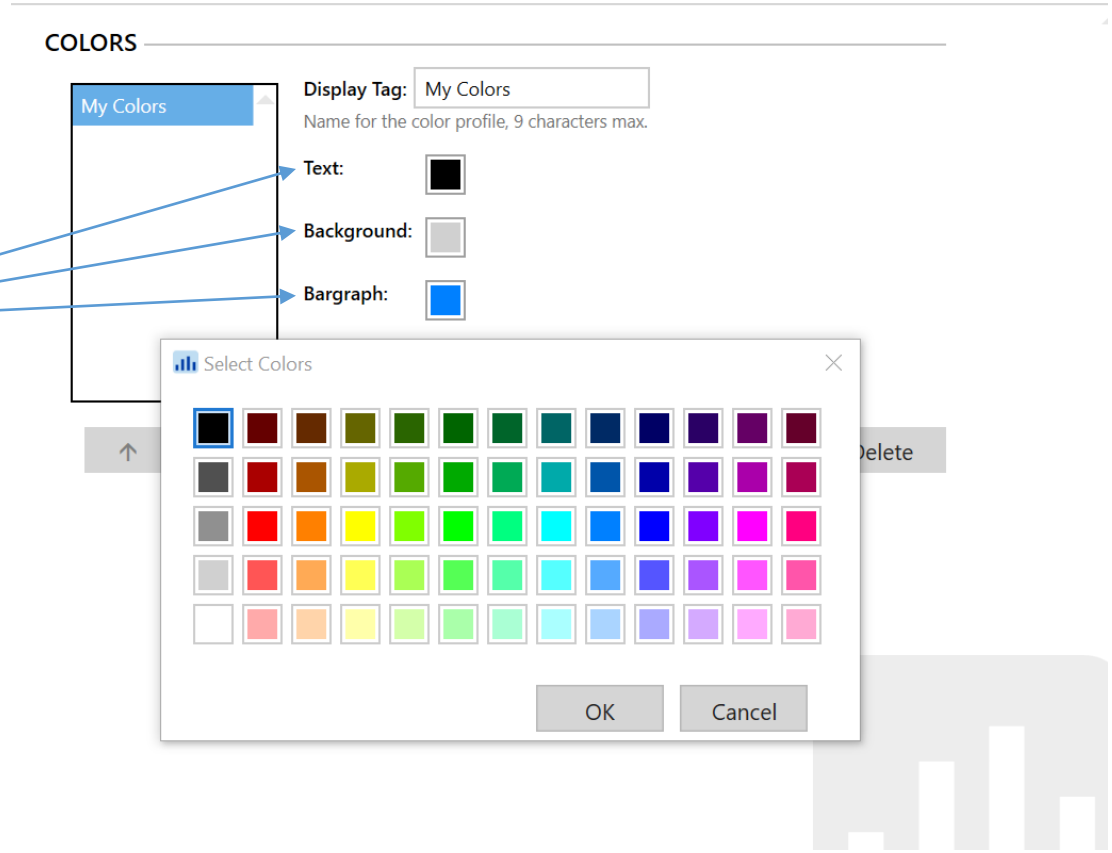
NOTE: *The same process will work for both “Colors” (Channel colors) and “Alarm Colors”. They are simply stored in separate places*

How to Create a New “Color Scheme”

You can edit the color of THREE things within a “Channel”.

Text
Background
Bargraph

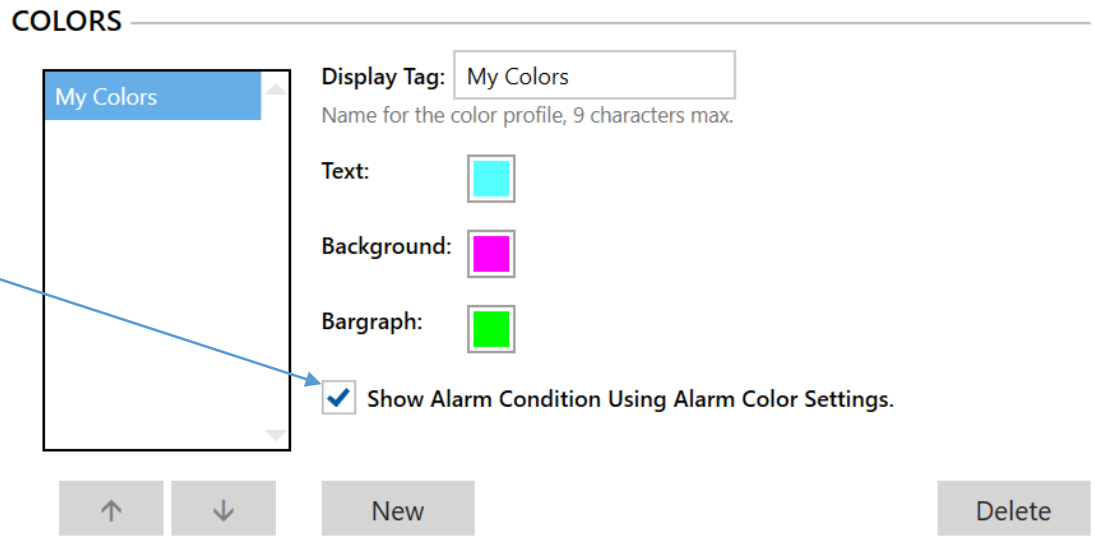
(*you see the default color selection is* ***black text****, grey background,* ***and blue bargraph***)



NOTE: *There are a total of 62 colors from which you can choose.*

How to Create a New “Color Scheme”

The last thing to do before finishing your color scheme, is to make sure this check box is “correct” for you particular application



With that box checked, the channel will change color on alarm (you’ve seen this in almost every class) which is usually what folks want.

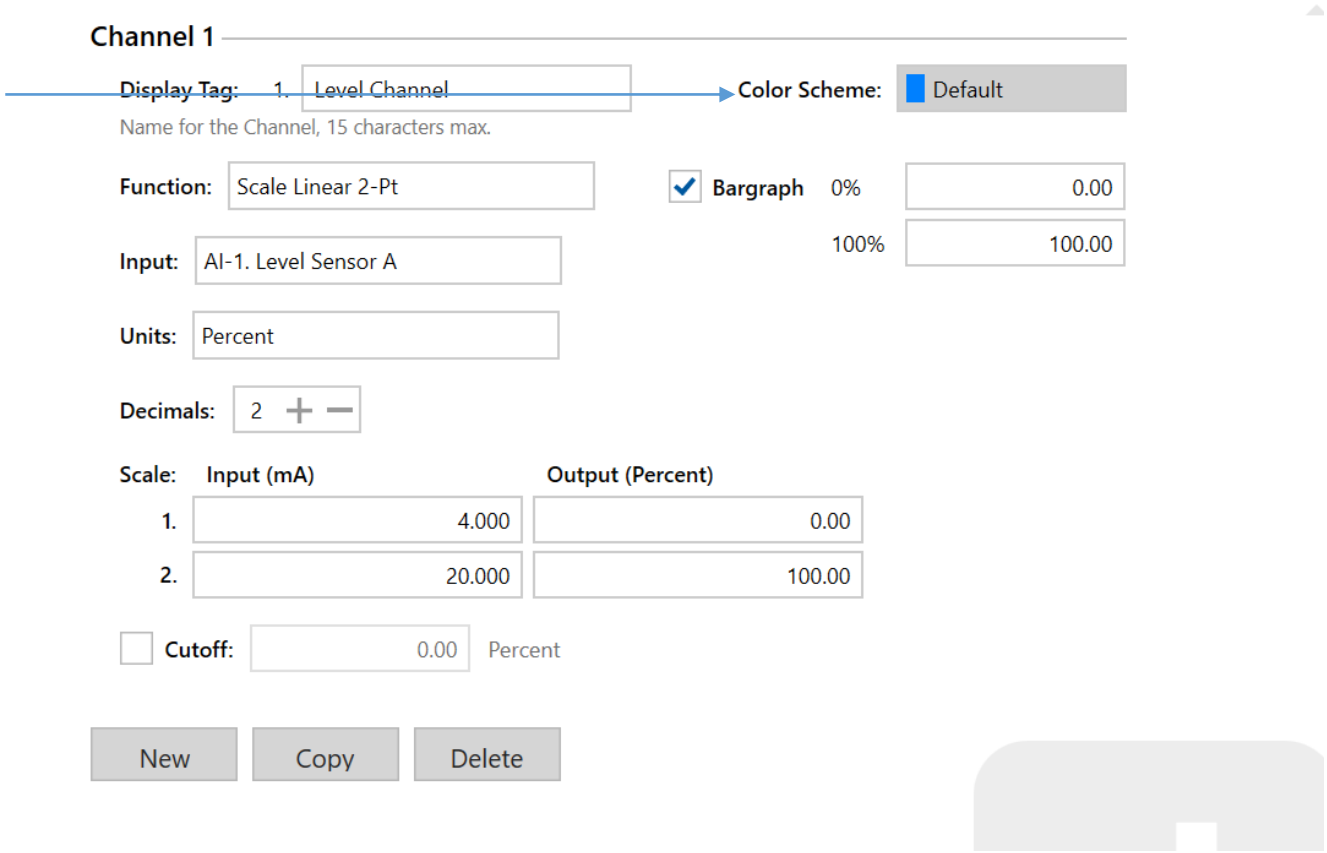
However, you do have the option to NOT have the channel change color on alarm.

To accomplish that, make sure the checkbox is NOT active.

NOTE: *MOST of the time folks want the channel to change color on alarm, so the default setting is to have the checkbox active*

How to Apply a Custom “Color Scheme”

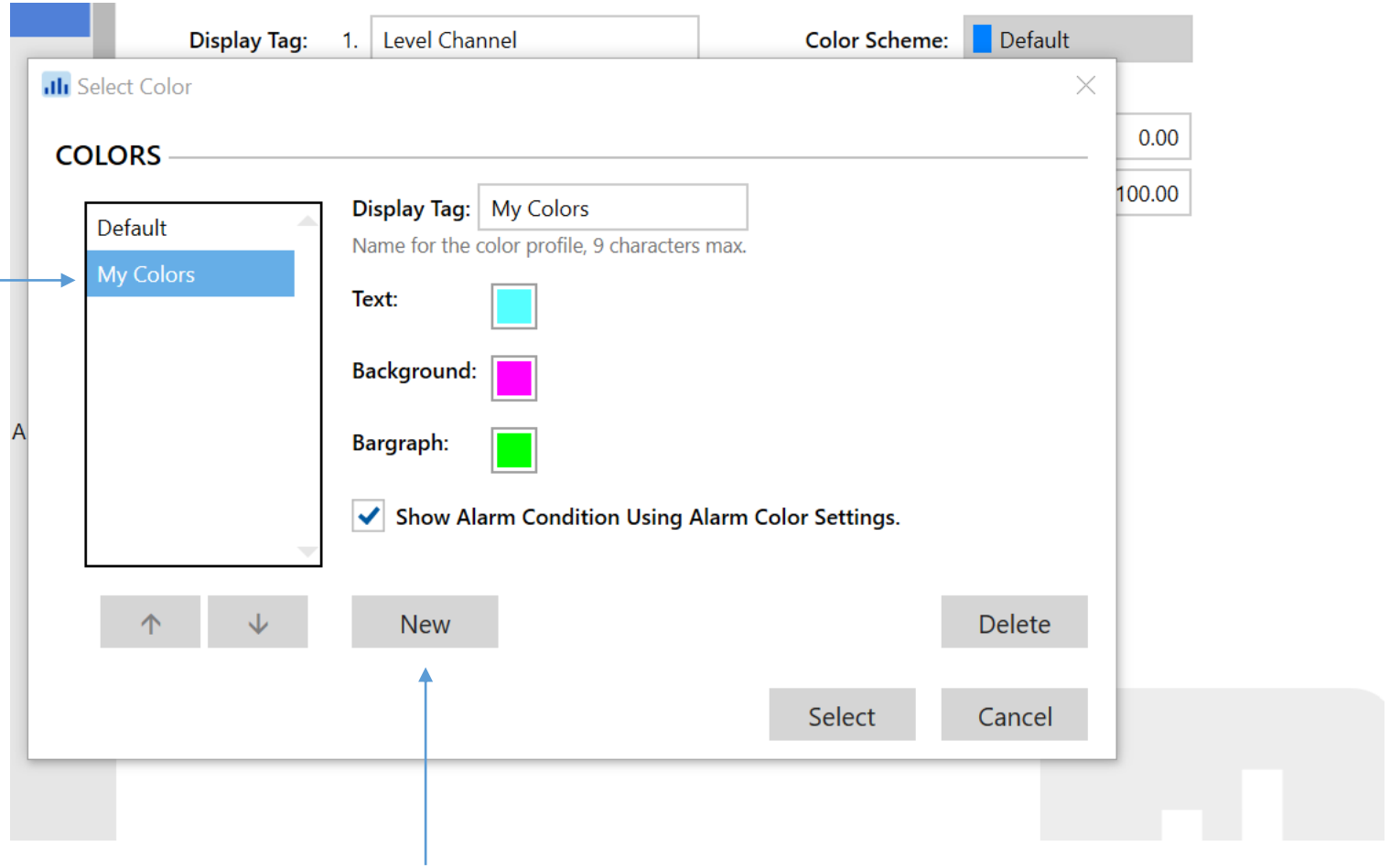
On any “Object”, such as a Channel, simply click on the “Color Scheme” box to change the color scheme from default, to any custom color scheme you have created.



How to Apply a Custom “Color Scheme”

When you click on the “Color Scheme” button, the following screen appears.

You will notice that “My Colors” is now an option to choose!

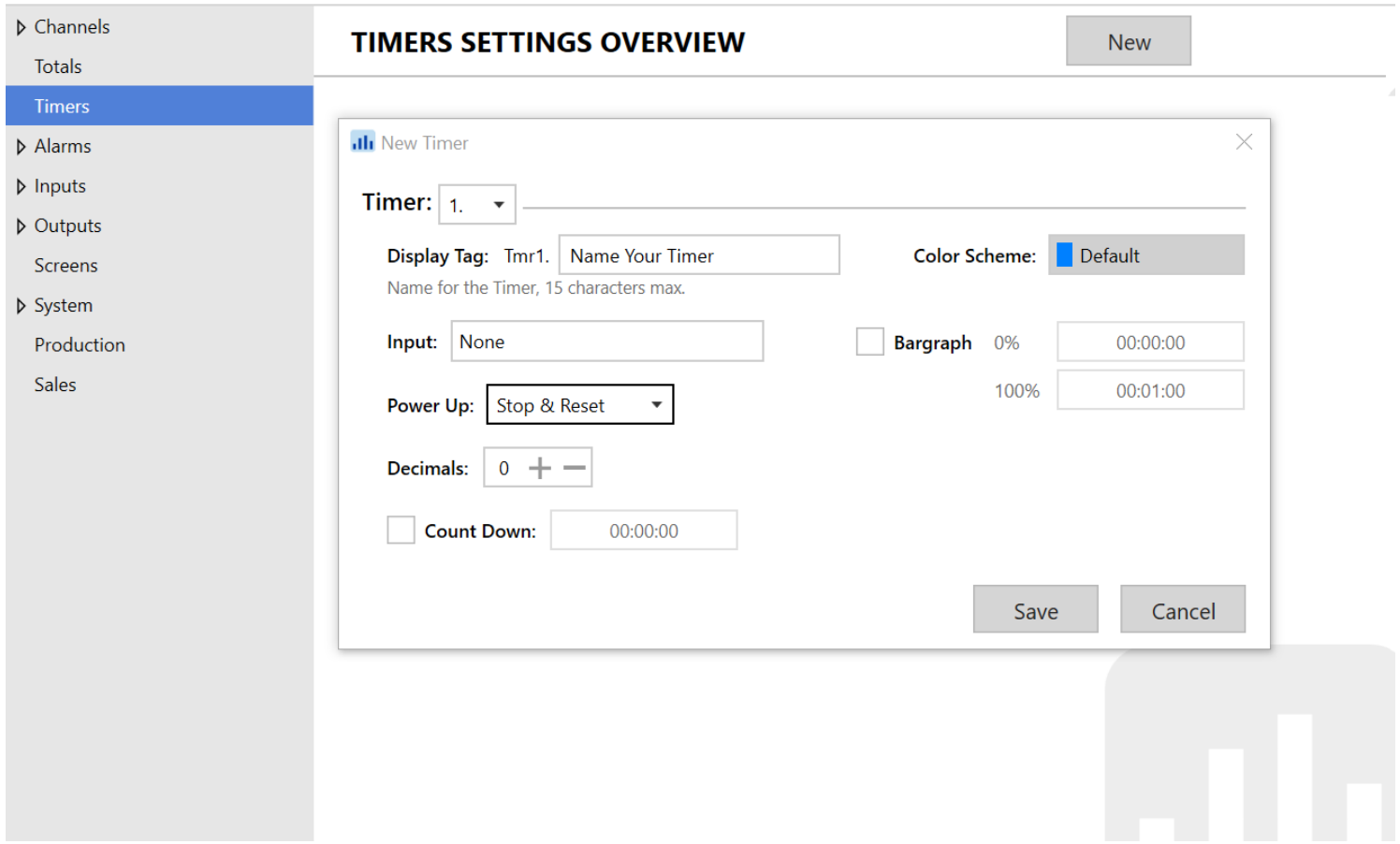


NOTE: *You can also create new color schemes directly from this screen if you are so inclined.*

How to Create Timers!

As always, find “Timers” on the left of the software window, and then press “New”

The New Timer configurator will appear, and it will change DRASTICALLY depending on what you choose for an input to the timer

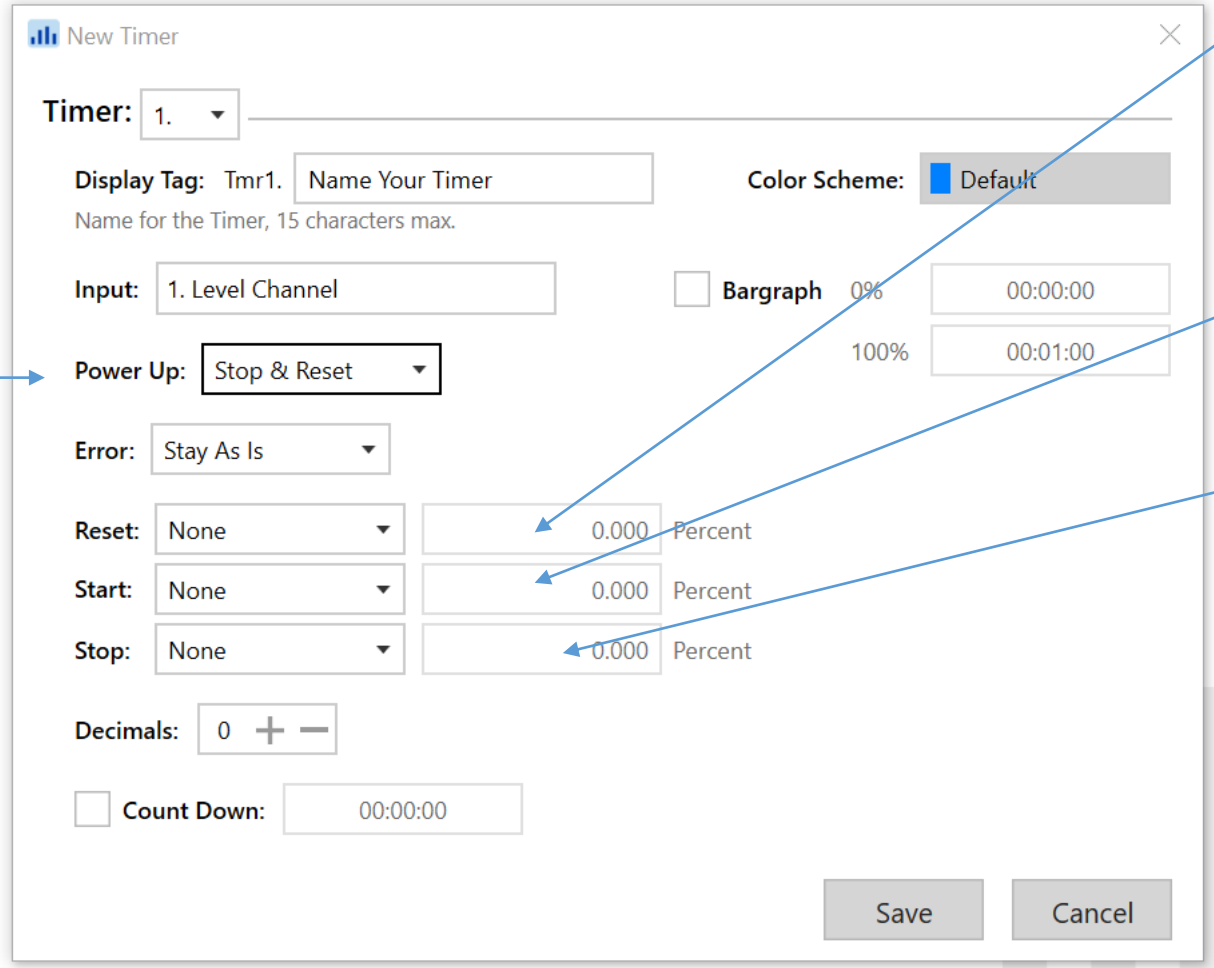


How to Create Timers!

For this example, we will just our trusty, “Level Channel” as the input to this timer

Power Up: this allows you to tell the timer how to behave when power to the unit is restored. Your options are:

Stop & Reset
Stop W/o Reset
Reset & Start
Start W/o Reset



Reset: Tells the timer at which point in your “Level Channel” scale to reset the timer

Start: Tells the timer at which point in the scale to start the timer

Stop: Tells the timer at which point in the scale to stop the timer

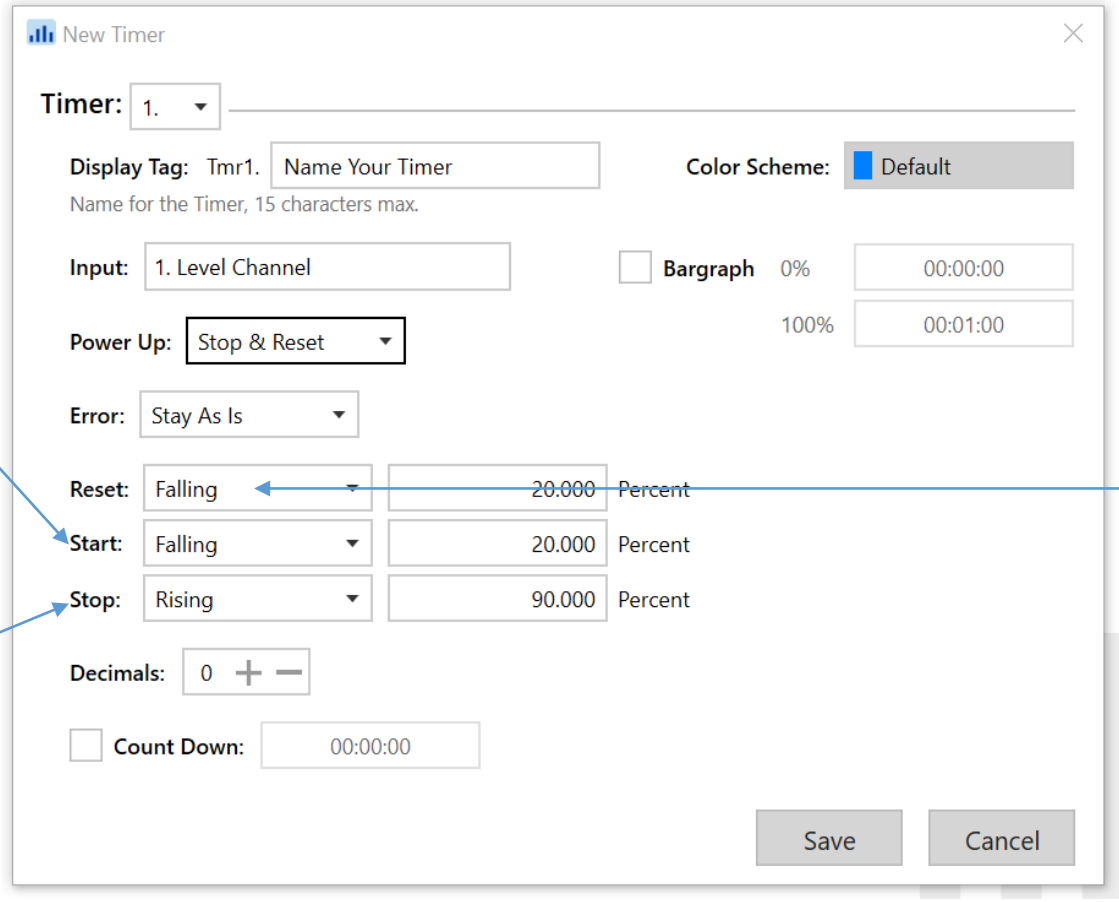
The choices are:
None
Rising
Falling
Rising AND Falling

How to Create Timers!

How this timer would work…

As our tank empties to 20% (*FALLING*) capacity, we want a timer to begin counting.

The timer will count continuously until our tank is filled to 90% capacity (*RISING*) at which point the timer will STOP, and display the amount of time that has elapsed



Coincidentally, the "Reset" point (when the timer returns to 00:00:00) is the same as our "Start" point, but it doesn't have to be.

As our tank empties to 20% again (*FALLING*) our timer will reset.

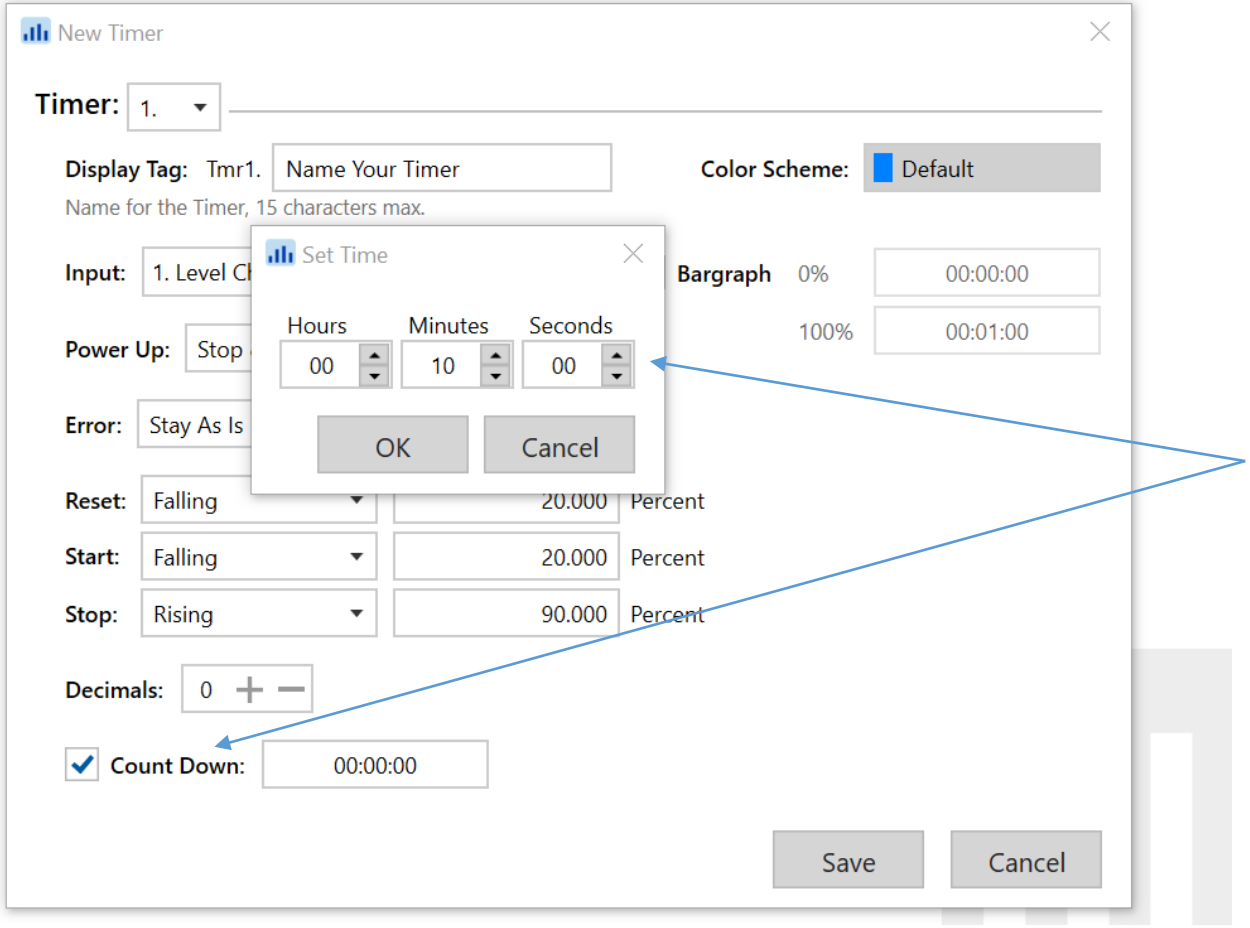
So, it will actually reset AND start at the same exact time!

NOTE: *This type of timer could be used to keep track of how long it takes to fill a tank. These times can also be data logged or could be added to another timer that keeps track of all your fill times!*

How to Create Timers!

We can also have our timer count DOWN from a preset time

For example, instead of keeping track of fill time, let's say you want to make sure the tank gets filled within 10 minutes of being "empty"



You simply check the "Count Down" checkbox, and then click on the editable field.

A window will pop up which will allow you to choose the starting point of our timer!

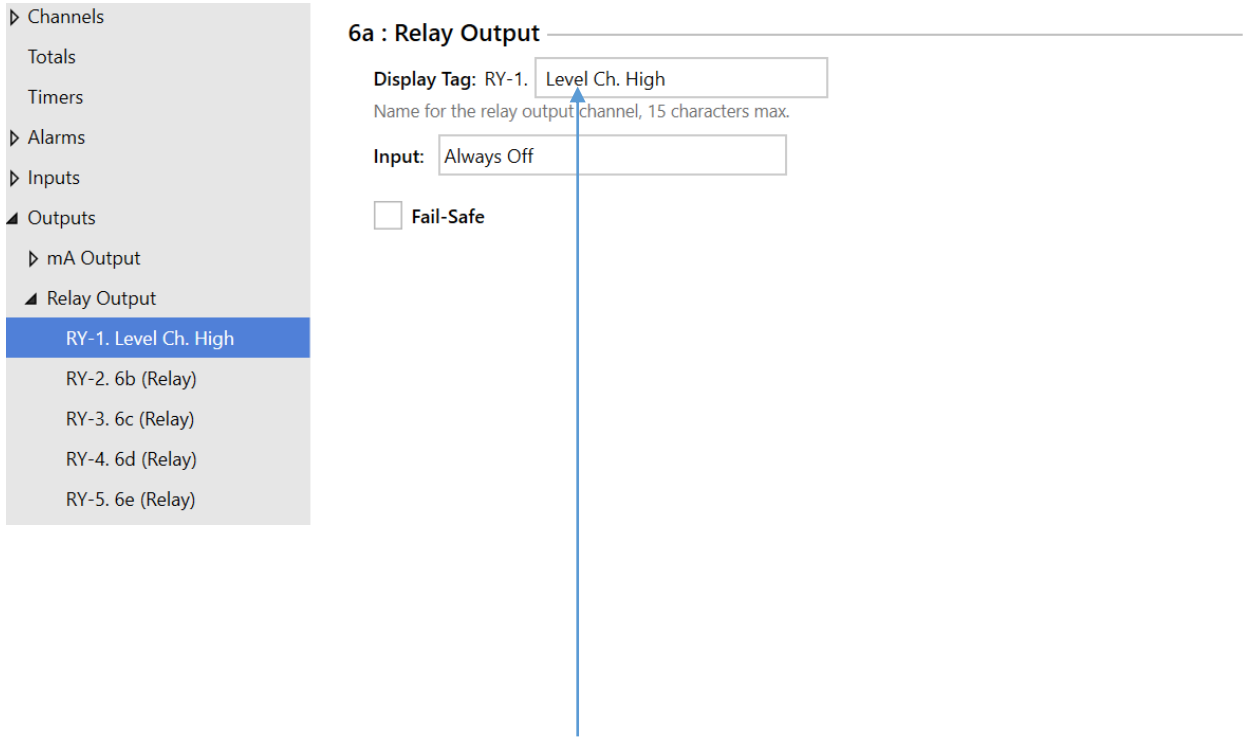
Maximum: 999:59:59

NOTE: *You can make this timer the input to an alarm so that when the timer reaches "00:00:00" it can let an operator know it has taken too long to fill the tank*

How to Tie a Relay Output to an Alarm

On the left side of the software window, look for “Outputs” and then for “Relay Output”

Select which physical relay you would like to tie to your alarm

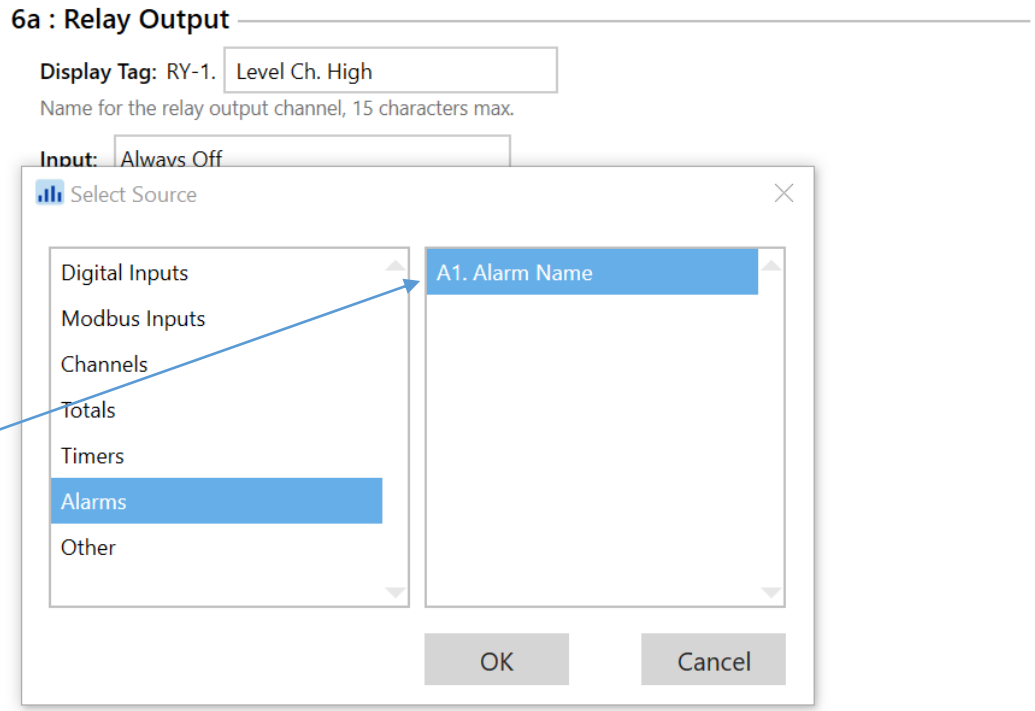


NOTE: *Yup… I even recommend naming your relay outputs with something meaningful. For this one, I chose “Level Ch. High” so that I know it’s for my High Alarm on my “Level Channel”*

How to Tie a Relay Output to an Alarm

You see all the different “Objects” which can be used as the input for a relay

Since I want this tied to my alarm, I am going to select the alarm we created earlier from this list of possibilities



You may be wondering, *“why don’t we just tie the relay to the ‘Level Channel’ itself instead of the alarm?!?”*

In fact, there is nothing WRONG with doing it that way. However, let’s say you did it that way, and totally forget to even setup an alarm.

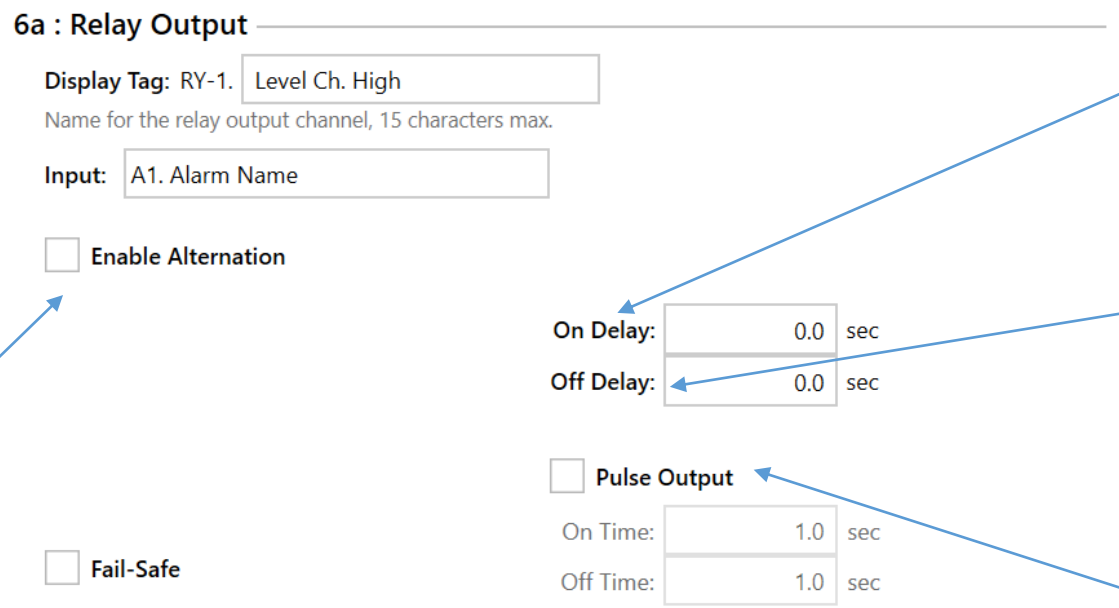
Well, then your customer would have no visual indication of the alarm occurring on the screen!

How to Tie a Relay Output to an Alarm

Once you select the input to the relay, a few other options appear!

Enable Alternation: This is for configuring duplex pump controllers, which will be covered in the next session

Fail-Safe: Inverts the operation of a relay in case of power failure



On Delay: The period of time the relay waits before it energizes when the setpoint is reached.

Off Delay: The period of time the relay waits before de-energizing (returning to its "normal state") once the reset point has been reached

Pulse Output: You are able to create a pulsed square wave with the ConsoliDator+ relay which is USUALLY used for flow

NOTE: *These relays are Form C mechanical relays, and the pulse output is meant for a very slow, occasional pulse output. Mechanical relays CAN get burned out after too many cycles in a short period of time*