

Tile Builder  
Multi Attribute Monitor  
Alpha Version

Revised 6/14/23

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## Tile Builder - Multi Attribute Monitor - Alpha

### Creating a Tile Using Multi Attribute Monitor

Within the **Tile Builder** parent app go to the section called **Create Tile** and select **Add New Multi Attribute Monitor**. The **Multi Attribute Monitor** main screen will be displayed. To begin with you must select the number of **Devices\Attributes** the table will display. In the example below I selected 6.

Select Devices and Attributes ▼

How Many Devices\Attributes?  
6 ▼

Device 1 Click to set	Item Name ?	Prepend Click to set	Attribute * Click to set ▼	Append Click to set	Cleanup None ▼
Device 2 Click to set	Item Name ?	Prepend Click to set	Attribute * Click to set ▼	Append Click to set	Cleanup None ▼
Device 3 Click to set	Item Name ?	Prepend Click to set	Attribute * Click to set ▼	Append Click to set	Cleanup None ▼
Device 4 Click to set	Item Name ?	Prepend Click to set	Attribute * Click to set ▼	Append Click to set	Cleanup None ▼
Device 5 Click to set	Item Name ?	Prepend Click to set	Attribute * Click to set ▼	Append Click to set	Cleanup None ▼
Device 6 Click to set	Item Name ?	Prepend Click to set	Attribute * Click to set ▼	Append Click to set	Cleanup None ▼

Now select the first device, name it using the Item Name column and select the attribute to be displayed. My line looks like this.

Device 1 Bedroom Sensor	Item Name Bedroom Temp	Prepend Click to set	Attribute * temperature ▼	Append Click to set	Cleanup None ▼
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And the table looks like this.

Device	State
Bedroom Temp	74.86

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### Customizing Display Options

**Item Name:** The text in this field will be displayed in the **Device** column. You can use HTML tags like **[b]Bedroom Temp[/b]** to make the text bold as an example.

**Prepend:** You can prepend the attribute value with any text you choose. For example **[b]** would make the value bold. Note that a closing **[/b]** is not required for it to display properly but I usually provide one unless I'm short of space.

**Append:** You can append any text to the attribute value. Units will be common such as °F or lux or kWh.

**Cleanup:** These are special operations that can be used to "clean up" the data. Currently available options are:

- 1) Capitalize: Makes the first letter a capital
- 2) Commas: Adds a comma format to large numbers, 64894 would become 64,896.
- 3) 0 Decimal Places: Sets number of decimal places for floats, 78.54 would become 78.

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- 4) 1 Decimal Places: Sets number of decimal places for floats, 78.54 would become 78.5.
- 5) Upper Case: Sets all alpha characters to uppercase, 'off' would become 'OFF'.
- 6) Apply Format Rule X: See upcoming section of Format rules.

The screenshot below shows the first 5 of these cleanup options in use to create a more attractive table. Other than embedding HTML tags this interface is straightforward. In the next section we cover the use of Format Rules, a new concept for the Multi-Attribute Monitor.

How Many Devices/Attributes?  
5

Device	Item Name	Prepend	Attribute *	Append	Cleanup
Device 1 <a href="#">Circulation Fan</a>	Circ Fan	[b]	switch	[/b]	Capitalize
Device 2 <a href="#">Hub Info</a>	[b]Free Memory[/b]	[/i]	freeMemory	bytes	Commas
Device 3 <a href="#">Bedroom Sensor</a>	Bedroom Temp	Click to set	temperature	°F	1 Decimal Place
Device 4 <a href="#">Basement Sensor</a>	Basement Temp	Click to set	temperature	°F	0 Decimal Places
Device 5 <a href="#">Sunroom Fan</a>	Sunroom Fan Speed	[i]	speed	Click to set	Upper Case

[Design Table](#) ▼

[Refresh Table](#) ☐ Customize Table

► [Display Tips](#)

Device	State
Circ Fan	On
Free Memory	520,508 bytes
Bedroom Temp	74.9 °F
Basement Temp	64 °F
Sunroom Fan Speed	LOW

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### Simple Format Rules

Format Rules are new in the Multi-Attribute Monitor. In regular Attribute monitor all numeric values are of the same type of unit, temperature for example. In Multi-Attribute Monitor 30 might represent a very comfortable humidity, a low temperature or a failing battery. We therefore cannot use Threshold rules to color code values in the same way that we might do in Attribute Monitor.

### Threshold Rules to color code Temperatures

[Show Thresholds](#) ▼

How Many Thresholds?  
3

Operator #6 >=	Comparison Value #6 75	Replacement Text #6 ?	Highlight 6 Cx <div></div>
Operator #7 <=	Comparison Value #7 75	Replacement Text #7 ?	Highlight 7 Cx <div></div>
Operator #8 <=	Comparison Value #8 70	Replacement Text #8 ?	Highlight 8 Cx <div></div>

[Show Format Rules](#) ►

### Result

Device	State
Outdoor Temp	70.0 °F
Basement	64.0 °F
Bathroom	76.1 °F
Attic	73.2 °F
Weather	69.0 °F
Outdoor Humidity	66 %R.H.

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Humidity gets color coded as if it were a temperature.

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<b>Change the cleanup property to Apply Format Rule 1</b>			<b>Change Format Rule 1 to %value%</b>
Attribute * humidity	Append %R.H.	Cleanup Apply Format Rule 1	<div>Show Format Rules ▼</div> Format Rule 1 %value% %R.H.

The table now displays without the Humidity being processed and color coded by the Highlights.

Device	State
Outdoor Temp	70.0 °F
Basement	64.0 °F
Bathroom	76.1 °F
Attic	72.5 °F
Weather	69.0 °F
Outdoor Humidity	66 %R.H.

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An important aspect of MAM to consider is that the order of the cells is static. We can there for apply formatting to a particular cell, knowing it will remain consistent and not be sorted or filtered as device values change.

The following example uses an override called **Highlight a table cell with color** in the **Cell Operations** category available in Tile Builder Advanced.

Device	State
Outdoor Temp	70.0 °F
Basement	64.0 °F
Bathroom	76.1 °F
Attic	72.5 °F
Weather	69.0 °F
Outdoor Humidity	66 %R.H.

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### Advanced Format Rules

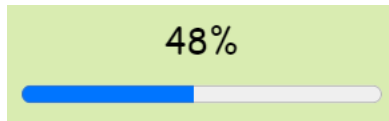
In Format Rules you can use the %value% macro to use the dynamic data value. By embedding this %value% in an HTML control we can create simple meters and progress bars.

#### Progress Bar Example

To use a value within a progress bar you can use this string and change values as necessary.

```
%value%  
[br][progress value=%value% max=100]/progress]
```

A data value of 48 would look like this within the table. The [br] adds the line break between the 48% and the progress bar visual.



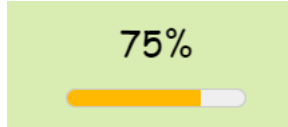
Display of the progress bar might vary depending on your browser.

#### Meter Example

To use a value within a meter you can use this string and adjust as necessary.

```
%value%  
[br][meter low=50 high=80 max=100 optimum=100 value=%value%]/meter]
```

A value of 75 would look like this. In the above configuration <50 will display in red, 50-79 will display in yellow and 80 and above will display in green.



You can find these strings within the app by expanding the [Highlight Notes](#) section as shown below. Here you can also reference the degree symbol, which is otherwise tricky with the keyboard.

**Format Rules:** These are only available in Multi-Attribute Monitor and are used to apply custom formatting to pair  
Progress Bar Example: %value%  
[br][progress value=%value% max=100]/progress]

Meter Example: %value%  
[br][meter low=50 high=80 max=100 optimum=100 value=%value%]/meter]

Common Symbols: °F °C