# Widget details and specifics DCC, Data Collection Cloud

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## **Revision History**

Revision	Date	Author(s)	Description
1.0	22.01.04	MWB	Document created
1.1	06/08/2019	MWB	Initial version, layout etc.
2.0	06/08/2019	MWB	Added Icons, pdf export fixed, changed exam- ple from thermometer to graph for added con- text
2.1	06/08/2019	MWB	Changed icons to correct ones with a higher resolution, finished graph explanation and added all illustrations
2.2	07/08/2019	MWB	Wrote last overview text chunks, added images and examples
2.3	08/08/2019	MWB	Updated text to reflect newest version
3.0	09/08/2019	MWB	Completely finished and up to date as of this version, pdf compatibility and export, needs review
3.1	12/08/2019	MWB	Fixed .docx word compatibility and formal spelling
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4.1	19/12/2019	MWB+AB	Proofread, fixed spelling and consistency
4.3	11/03/2020	AB	Added OEE descriptions
5.0	03/04/2020	MWB	Added new widgets and updated map, minor fixes to layout.
5.1	23/04/2020	AB	Added, updated and rearranged several wid- gets.
5.2	23/07/2020	AB	Converted documentation report to latex
5.3	09/10/2020	AB	Added new widgets(Symbol and Text Format- ter)

Further notes not added to document history: -Document should be kept updated to reflect the most up to date version of the DCC widget functions as it is due to change with time -This document has been linked from origin document, 'Using the Dashboard Function'. -The index hereunder is set up for easy addition of widgets, it may currently be a bit clunky but helps with keeping everything easy and simple long term.

# Chapter 1 Introduction

This document serves to explain and go in depth with each widget's operation, configuration and application; Including how to use the widget configurator and how it may change depending on which widget is being edited.

The document is set up in sections, the first of which is the introduction, where this text is currently located, the second section will go over how to access and configure widgets, it will detail how to use the configurator and sidebar, if further information on widget usage is needed or how the widget configurator works for an exact widget please consult section 3, in which there are detailed accounts of all widgets currently available on the dashboard. To find a specific widget please consult the above index.

## Chapter 2

# How to access and configure widgets

This section will go through how to access and configure widgets, that includes the sidebar and widget configurator, this section does not contain specifics on widgets but rather generalizations to show the general operation of these functions, please go to section 3 for specific details on widgets.

## 2.1 Sidebar Access

The sidebar is the main toolbox for adding, saving and navigating the dashboard.

Figure 2.1:

The sidebar is located in the top left corner of the browser window as seen above.

 Clocks

 Clocks

 Clocks

 Clocks

 Gauges

 Gauges

 Thermometers

 Tables

 Tables

 Text Widget

 Remote Access

 Date Range

 Date Range

 Layout

 Translation

Figure 2.2:

To activate the sidebar, click the button that is to the right of the Secomea logo (pictured above left).

After the sidebar is opened it will present the function buttons and access to widgets.

#### 2.1.1 Function buttons

The sidebar has its main function buttons located at the top of the sidebar.



Figure 2.3:

The Function buttons are as follows: Close sidebar (Left). Save the dashboard (Middle). Mobile view (Right).

#### 2.1.2 Mobile view

While the other function buttons are quite self-explanatory, the mobile view is a bit more finicky at first glance, but make no mistake, it is a powerful tool, it allows a desktop user to create a dashboard for a mobile device and see how it will look beforehand, simulating a phone screen, mobile view takes out a lot of guesswork and back & forth from creating the dashboard to be mobile compatible.



Figure 2.4: Mobile view button pictured right of the function buttons.



Figure 2.5: Enabling the mobile view turns the workspace into a phone model simulating the space and look of a mobile dashboard.

sectimed version0.12.4.3	-			DASHBOARDS	USAGE	PLATFORM	DATA VIEWER	CUSTOMER SETUP	IOT ADMINISTRATION	LOG OUT
ccourt: Magnus Wede Brandt	Role: SuperAdmin @ Airgate	E-mail: magnus@wede.dk	Server: Development server							
				• <u>•</u>						
			000 mm		_					
			18	Potteo system emperato	20					
			16							
					E I					
			10		_					
			8	10/28/45 10/000 10/015	10/030					
			1002101	18 <sup>6</sup> W TEMP TIST 2	2.1					
			10	100 C*	20.04					
				00 C* 50.0	0.04					
				00 C+ 0.00	C**					
					- ×					

Figure 2.6: Here a dashboard can be designed with mobile usage in mind.

## 2.1.3 Dashboard Setup

The dashboard setup provides options for changing various settings regarding the dashboard.

Background image:	DCM Replacement Tool	
Import Clear	From:	
Fill Horizontally Static Width [px]:	Select	Ŧ
1024	To:	
1024	Select	*
Fill Vertically Static Height [px]:	Replace	
1024		
146 dester		
Widgets: Shadow Header Frame		
Widgets: Shadow Header Frame Transparent background		
Widgets: Shadow Header Frame Transparent background Title:		
Widgets: Shadow Header Frame Transparent background Title: test		
Widgets: Shadow Header Frame Transparent background Title: test Description:		

Figure 2.7:

It is possible to add a background image which can be either a fixed or dynamic size in height or width. If the dashboard has been duplicated from another dashboard, it is possible to change all sample points under "DCM Replace e Tool" if the new DCM has the same setup (Collector name and samplepoint) as the existing DCM.

## 2.1.4 Adding a widget

Adding a widget is a simple three clicks, first open the sidebar, for this example a graph will be created, second, click the drop down that is needed, a standard graph falls under graphs.

← 🖬		← 🕞		
WIDGETS		WIDGETS		
Clocks	<	Clocks	<	
Graphs	~	Graphs	~	
Graph		Graph		
Gauges	<	Gauges	<	
Thermometers	<	Thermometers	<	
Maps	<	Maps	<	
Tables	<	Tables	<	
<u>A</u> OEE	<	OEE	<	
Ad Text Widget		Ad Text Widget		
Remote Access		Remote Access		
Date Range		Date Range		
Picture		Picture		
Layout		<ul> <li>Layout</li> </ul>		
A 2 Translation		A Translation		
CONFIGURATOR - GRAPH				
Aemoces GM	iget title			6
(amd) gatemanagerieu) Number of DCMs: 1 airgate-gm (airgate-gm secomes.com) Number of DCMs: 14 DCMs who configuration: 10 6	eal-time® Batch selection e span of the graph in sec	n ◎ Time interval onds		
AirgateGM (airgate-gm.secomes.com/) Number of DCMs: 2 DCMs who configuration: 1				
GM12-GRAM-Domain     Igm12.secomes.com/) Number of DCMs: 1     IfM GM08				
Iem08.secomes.com/1. Number of DCMs: 2		1	0:12:30 10:12:45	10:13:00 10:13:15

Figure 2.8:

Third, click the blue graph in the drop down, this will create a graph and open it with a widget configurator.

## 2.2 Widget Configurator; configure

The next step of the process is to configure the recently created graph, for this, the widget configurator is used. The widget configurator is the essential tool to make and edit widgets, it functions as a design interface allowing for easily implementation of graphs, tables etc.

in production1	Widget title
temp_sensor1 cycles	<ul> <li>Real-time</li> <li>Batch selection</li> <li>Time interval</li> <li>The span of the graph in seconds</li> </ul>
strokes_min power_consumption status total_count	60
failures runtime isim counter	
	power consumption

Figure 2.9: Widget Configurator pictured above.

## 2.2.1 Widget Configurator Breakdown

Here the different parts of the widget configurator will be broken down, the aforementioned graph created earlier will be used as an example.

💽 pr	oduction1	
(	batch_number	
	temp_sensor1	
	cycles	
	pressure_valve1	
	strokes_min	
	power_consumption	
	status	
	total_count	
	failures	
C	runtime	
💽 sir	n	
C	counter	
	sawtooth	

Figure 2.10:

This is the input selection window, here DCMs and their respective outputs can be selected to be used as input.

Dot: 2 Line: 1	power_consumption	
----------------	-------------------	--

Figure 2.11:

Once the input has been selected, such as Power Consumption for this example, it appears as an Input Line, here it can be given a name, color or deleted. Different types of widgets have different options on the Input Line.

Widget title	
●Real-time <sup>©</sup> Batch selection <sup>©</sup> Time interval	
The span of the graph in seconds	
60	

Figure 2.12:

This is the value inputs; here it is available to specify: The name of the widget and whether it updates real-time, a time interval or in relation to a batch selector widget, and how long the graph should be in seconds.

Close	Apply

Figure 2.13:

Lastly there are the function buttons of the widget configurator, 'Close' to close the configurator and 'Apply' to apply changes (Remember to apply before closing).

# Chapter 3 Widgets

In this section a generalization of the widgets, a breakdown of the widget configurator and a more detailed breakdown of each widget and how to use them will be found.

## 3.1 Generalization

This section will be a generalization of widgets, how to add them and use them, further along section 3 there will be a detailed description of each widget that goes a lot further in depth about how each widget operates and their example implementation.



Figure 3.1:

Widgets have a head and a body.

In the header, the name of the widget and top-level function buttons such as edit and delete can be found (left icon and right icon respectively), the header is also draggable such that the widget can be moved around, it indicates this by turning dark when dragged. Underneath the header, the body is found, here the graph, table, map ect. will be located. In the bottom right corner there is a small icon, this icon can be dragged to make the widget larger or smaller depending on need.

## 3.2 Individual widgets

This section will go in depth with individual widgets and provide a detailed description of each widget that will aid in operation, configuration and application; This section includes how to use the widget configurator and how it may change depending on which widget is being edited.

This section is set up with widgets appearing as they do in the sidebar, including dropdown, such that in the future if an widget is added under one of these dropdowns it can easily be added into the document.

## 3.3 Charts

Charts, Diagrams, Lines etc.

#### 3.3.1 Line Chart

The chart serves to visualize data over time.

It has the ability to track multiple DCM sample inputs at once by color coding each line such that it grants easy overview.

The graph's input is the most versatile of all widgets currently available for use in the dashboard.

Taking the graph's input from the top:

1st input is a title for the widget, this input is universal with all widgets.

WIDGET CONFIGURATOR - GRAPH					
CPULoadBool CPULoadBool production1 batch_number temp_sensor1 cycles pressure_valve1 strokes_min power_consumption status total_count failures runtime	Widget title   Graph Test   Legend placement:   Top   ● Real-time   Batch selection   Time interval   The span of the graph in seconds   60   □Enable sampling ●				
<b>Dot:</b> 2 Line: 1 cyc	les				
<b>Dot:</b> 2 Line: 1 pre	essure_valve1				
Dot: 2 Line: 1 str	okes_min				
	Close Apply				

Figure 3.2:

2nd input indicates location of Legend



Figure 3.3:

3rd input is the selection is various functions, such as Real-Time view, link to Batch Selector and a defined Time Interval.

😥 InternalCollector Widget title		
SystemTemperature Graph Test		
CPULoad     Real-time     Batch selection     Time interval	GRAPH TEST	B,
FreeMem	• cuclar • procrum value1 • straker min	
CPULoadbool The span of the graph in seconds	Cycles - pressure_valver - stokes_mm	
batch number	500	
temp_sensor1	500	٦
✓ cycles	400	
pressure_valve1		
Strokes_min	300	
power_consumption		
Status	200	
( ) total_count		
Dot: 6 Line: 1 cycles	100	-
Dot: 6 Line: 1 pressure valve1		1
	-100	
Dot: 6 Line: 1 strakes min	10:35:32 10:35:45 10:36:00 10:36:15 10:3	5:30
and a second second		

Figure 3.4: Example of Real-time

			WIDGET CONFIGURATOR - GRAPH	
BATCH TEST		Cr 🗐 Update	Widget title     Graph Test     Graph Test	GRAPH TEST Gr 🖬
LINE	START TIME STOP TIME	NAME	DCMs w/o configuration: 10 Batch Test V	500
	2020-02-20, 2020-02-20, 10:46:25 10:46:31	a3dbc2fddd'	AirgateGM     Miximum Samples per samplepoint:	400
solid	2020-02-20, 2020-02-20, 10:45:30 10:46:24	f9e2eee45c	DCMs w/o configuration: 1	
	2020-02-20, 2020-02-20, 10:44:31 10:45:29	, d5cc72354d	Secomes 🔐 Ubuntu 14303 (secomea-	300
	2020-02-20, 2020-02-20, 10:43:21 10:44:30	'c9cf8cb2c1'	Ubuntu] (No installed configuration)  v 🔊 3529_2734_JHS	200
	2020-02-20, 2020-02-20, 10:42:23 10:43:20	bb74818d91'	Dot 3 Line 1 cycles	100
	2020-02-20, 2020-02-20, 10:41:32 10:42:22	68debd575d'	Dot 3 Line 1 Pressure value1	0
	2020-02-20, 2020-02-20, 10:40:38 10:41:31	8d71b98ba2'		-100
	2020-02-20, 2020-02-20, 10:39:25 10:40:37	27cf0ea275'	Une 1 strokes_min	0 10 20 30 40 50 53 Time offset [s]
	2020-02-20, 2020-02-20,			

Figure 3.5: Example of link to Batch Selector

m production1	Widget title	
batch_number	Graph Test	GRAPH TEST
velocity (univer)     velocity (univer)     vydes     vydes     vydes     vydes     vydes     versoure_valve1     versoure_valve1     versoure_valve1     versoure_valve1     total_count     falures     vuntime     counter     counter	GReal-time® Batch selection ® Time Interval     From: [20-02-2020, 09:10]     To: [20-02-2020, 09:20]     Maximum samples per samplepoint:     10000	400
Dot: 2 Line: 1	cycles	
Dot: 2 Line: 1	pressure_valve1	
Dot: 2 Line: 1	strokes_min	09:10 09:15 02-20 02/200

Figure 3.6: Example of Time-Interval

4rd input designates what the span of the graph is in seconds, for example, an input of 60 is 60 seconds or 1 minute, therefore it shows data back 1 minute, if instead the input is 120 it shows data back 120 seconds or 2 minutes.

WIDGET CONFIGURATOR - GRAPH			
InternalCollector     System Temperature     CPULoad     FreeMem     CPULoadBool     PruLoadBool     DruLoadBool     DruLoadBool     cput_con1     batch_number     temp_sensor1     cycles	Widget title Graph Test ® Real-time® Batch selection ® Time Interval The span of the graph in seconds 60	GRAPH TEST 	් 1 ට ට
pressure_valve1     strokes_min     power_consumption     status     total_count		200	
The second secon	ycles	100	- 1
<b>     Dot:</b> 6     Line:	pressure_valve1	0	- 1
<b>i</b> Dot: 6 Line: 1 s	strokes_min	-100	55
	Close Apply		_

Figure 3.7: Input of 60, shows data 1-minute back

5rd input provides the ability to enable sampling. Sampling improves performance by showing a plot. Will maximize the visual similarity to the original data. Samples contained in the plot are present in the original data.

<b>Q</b> Search	Widget title
CPULoadBool production1 batch_number temp_sensor1 cycles pressure_valve1 strokes_min power_consumption status total_count failures runtime	Graph Test Legend placement: Top Real-timeO Batch selection O Time interval The span of the graph in seconds 60 Enable sampling <b>O</b>
Dot: 2 Line: 1	cycles
<b>Dot:</b> 2 Line: 1	pressure_valve1
Dot: 2 Line: 1	strokes_min
	Class Analy

Figure 3.8:

#### Sample Point Selection in Graph

Choosing a Sample Point, use the DCM selection window, wherein a selection of sample input occurs in the form of choosing a sample from a DCM.

For example, the addition of Power Consumption Sample Point from our SiteManager, here are the steps:

WIDGET CONFIGURATOR - GRAPH	GRAPH TEST	
<ul> <li></li></ul>	11.12.00 11.12.30 11.13.00 11.13.30	11:13:50

Figure 3.9:

First, find GateManager with desired SiteManagers and Sample. Second, expand until reached SiteManagers and samples. Third, select desired sample point from DCM, in this case, Power Consumption from SiteManager, and it will appear as an input line

temp sensor1	Widget title		GRAPH TEST	ß
cvcles	Graph Test			1
pressure_valve1	Real-time     Batch se	election  Time interval		
strokes_min power_consumption status	Power consumption [A] (Data 1 double)	Туре:		
total_count				
failures				
O runtime				
counter				
Sawtooth				
oscillator				
Dot: 2 Line: 1	power_consumption			

Figure 3.10:

Image: Consumption         Image: Constree         Imad		Widget title				
betch, number       Usg/n Tesc.         usg/n Tesc.       Usg/n Tesc.         usg/n Tesc.       Usg/n Tesc.         sydes       The span of the graph in seconds         sydes       The span of the graph in seconds         sydes       Total_count         failures       Total_count         failures <td>i production1</td> <td>Graph Test</td> <td></td> <td></td> <td></td> <td>+</td>	i production1	Graph Test				+
Close       Apply	batch_number					-
The span of the graph in seconds pressur_valve1 strues pressur_valve1 strues true	outles	Real-time     Batch selection     Time interval				
strokes,min power_consumption status total_count failures runnime end Dot 2 Line 1 Power Consumption Close Apply 11:20:30 11:21:00 11:21:30 11:22:00	pressure valve1	The span of the graph in seconds				
Ø power_consumption         status         total_count         failures         runnime         Sim         counter         Dot 2         Line: 1         Power Consumption         11:20:01         11:20:03         11:21:00         11:22:03	strokes min	120				
status total_count filives runstme i sim counter Dot 2 Line 1 Power Consumption Liose Apply 11:20:01 11:21:00 11:21:00 11:21:00 11:22:00	power_consumption					
total_count failures runnime e 9 im counter Dot 2 Line 1 Power Consumption Liose Apply 11:20:30 11:21:00 11:21:30 11:22:00	Status	•				
failures         runnime         i counter         i counter         Dot:       2         Line:       1         Power Consumption         Inc.       1         Power Consumption         Inc.       1         Power Consumption         Inc.       11:20:00         Inc.       11:21:30         Inc.       11:21:30         Inc.       11:21:30         Inc.       11:21:30         Inc.       11:21:30	total_count					
Image: Construction         Image: Construction	failures					
Image: Counter         Image: Counter           Dot: 2         Line: 1           Power Consumption         Image: Close           Apply         11:20:01           11:20:01         11:21:00           11:20:01         11:21:00	runtime					
Counter Dot: 2 Line: 1 Power Consumption Close Apply 11:20:01 11:20:30 11:21:00 11:21:30 11:22:00	💽 sim					
Dot:         2         Line:         1         Power Consumption           Close         Apply         11:20:01         11:20:30         11:21:30         11:22:00	counter					
Close Apply 11:20:01 11:20:30 11:21:00 11:21:30 11:21:30 11:21:30						
Close Apply 11:20:30 11:21:00 11:21:30 11:22:00	Dot: 2 Line: 1	Power Consumption				
Close Apply 11:20:01 11:21:00 11:21:30 11:22:00	0					
ciose "spiny		Close	11:20:01	11:20:30 11:21:00	11:21:30	11:22:00
		close Apply				
	#423FEF					
4423FEF						

Figure 3.11:

Fourth, give the sample point a name and a color that is distinct from others Fifth, press apply and close the widget configurator





Figure 3.12:

## Supported data types for Line Chart:

- double
- bool
- float
- int16
- uint16
- int32
- uint32
- int64
- uint64
- byte
- sbyte

## 3.4 Gauges

Visual representation of a gauge, could be used for visualizing pressure, rotations per minute etc.

#### 3.4.1 Simple Gauge

The simple gauge is a visual gauge representing

that of which would be found on machinery, being able to, for example, show pressure effectively at a glance, or revolutions per minute.

While the gauge does technically support multiple inputs at once it is not recommended as it becomes very hard to understand what the gauge shows as each needle overlaps, not to mention that, depending on data type, the input may have wildly differing values making it inconvenient to effectively have a max and min value.

Simple gauge has 6 inputs not counting line input.

#### Gauge Input Functions

1st input is a title for the widget, this input is universal with all widgets.

2nd and 3rd is the minimum and maximum value which defines how low the gauge goes, incl negative values, so for example, -50-100.

TEMP CAUCE 22 40 -5 55 -20 70- -35 65 -50 temp_sensor1_100 81	WIDGET CONTIGURATOR - SIMPLE CAUGE         InternalCollector         SystemTemperature         CPULoad         FreeMem         CPULoadBool         InternalCollector         Production1         back_number         etamp_sensor1         opties         pressure_valve1         strokes_min         pressure_valve1         strokes_min         coal_count         failures         total_count         failures	Widget title         Temp Gauge         Minimum value         -50         Maximum value         100         Gauge low range [%]         20         Gauge high range [%]         80         Number of decimals:         2
		Close Apply

Figure 3.13:

4th input is the low range of the gauge in percent, this determines what section of the gauge is green and how much is blue.

5th is the high range, it is the opposite to the low range, it determines the size of the red section.

It works opposite that of the low range when typing in the size, with the low range the user sets the percentage where it stops, with 30% being 30%, with the high range it is reversed, with 70% typed being 30% coverage.

Those are all the inputs and how to use them, the line input only has name selection so it should not be covered in depth, but it will quickly be shown how the name appears.

TTMP GAUGE INTERNACIAL CONTROL OF	ature         Widget title           Temp Gauge         Minimum value           -50         Maximum value           100         Gauge low range [%]           30         Gauge high range [%]           70         Number of decimals:           2         1
--	--





Figure 3.15:

Both names have same sample input but can have their name changed regardles. Supported data types for Simple Gauge:

- double
- bool
- float
- int16
- uint16
- int32
- uint32
- int64
- uint64
- byte
- sbyte

#### 3.4.2 Thermometer

The thermometer is a great tool to show heat, for example, system temperature. The thermometer does not support more than one sample point at each given moment and will automatically replace the sample point if another is chosen while one already exists. 1st

KAMPLE       Image: Constraint of the system and the sys	Widget title Temp Example Minimum value -20 Maximum value 50 Unit °F Height in nivels	
Ubuntu 14303 [secomea- Ubuntu] (No installed configuration)	200 Number of decimals: 2	

Figure 3.16: Standard thermometer setup for system temperature with Unit set as °F (Fahrenheit)

input is a title for the widget, this input is universal with all widgets. 2nd and 3rd input is min/max value, this decides the value on the thermometer from bottom to top.

	Aemoces GM	Widget title
	(ams01.gatemanager.eu/) Number of DCMs: 1	Temp Example
500.00 °C	airgate-gm	Minimum value
	(airgate-gm.secomea.com/) Number of DCMs: 14	-20
240.00.05	DCMs w/o configuration: 10	Maximum value
240.00 °C	AirgateGM	500
	(airgate-gm.secomea.com/) Number of DCMs: 2	Unit
-20.00 °C	DCMs w/o configuration: 1	°C
	V Secomea	Height in pixels
	Ubuntu 14303 [secomea-	200
	Ubuntu] (No installed configuration)	Number of decimals:
	▼ <u>4</u> 3529_2734_HS ( InternalCollector	2
		Close

Figure 3.17: Maximum value set at 500 with Unit set as °C (Celsius)

3rd input is the unit of measurement, it can be set as anything as it is currently just a text input, in this example it is set as Celsius.

4th input controls thermometer height in of itself, meaning that a height of 200 pixels would

be standard, 400 would be stretched and 100 compressed, one might decide to use this input to limit size usage or get more specific details from the thermometer.

5th input is the number of digits, or more accurately the number of decimals, so for example, set it to 5 and the measurements will be XXX.00000, if set to 2 it would be XXX.00 instead. Supported data types for Thermometer:

- double
- bool
- int16
- uint16
- int32
- uint32
- int64
- uint64
- byte
- sbyte

## 3.5 Tables

## 3.5.1 Batch Selector

The batch selector is used to import and display batch numbers, it is normally used in conjunction with a graph to display a single, or several, batches over a period of time. The batch selector is in of itself not very advanced, it only has two inputs and takes only

one type of data, Batch IDs.

arch		Update	InternalCollector	Widget title
LINE START TIME	STOP TIME	NAME	CPULoad	Batch Test
			FreeMem	200
			bach_pymber temp_sesort ycycles pressure_valve1 strokes_min power_consumption status total_count	e batch ID (Data Type: string)
			Sample point: batch_number	

Figure 3.18: Standard batch selector setup before updating the IDs, to do that simply click the 'Update' button in the batch selector's body

This is how the batch selector will look after clicking update, it can be sorted by line, name,

arch			Update	💽 Inter	nalCollector	Widget title				
				8	SystemTemperature	Batch Test				
LINE	START TIME	STOP TIME	NAME	8	Crocoad	Height in pixels				
0	2020-02-20, 13:02:09	2020-02-20, 13:02:21	' 3858b86073'	8	CPULoadBool	200				
1	2020-02-20, 13:00:58	2020-02-20, 13:02:07	' cea9f81530'	i prod	uction1 batch_number	Enable custom batches				
1	2020-02-20, 12:59:53	2020-02-20, 13:00:57	' 5791c482ca'	8	temp_sensor1 cycles					
1	2020-02-20, 12:58:54	2020-02-20, 12:59:52	'0d391e153d'	<u> </u>	pressure_valve1					
1	2020-02-20, 12:57:50	2020-02-20, 12:58:53	' 2fa1f7b876'	l l õ	power_consumption					
1	2020-02-20, 12:56:51	2020-02-20, 12:57:49	' 2c4535b99b'		total_count					
0	2020-02-20, 12:55:51	2020-02-20, 12:56:50	'713215613f	Sample point:	batch_number					

Figure 3.19: Batch selector after clicking update and adding Batch IDs to the table

start and stop time.

The batch selector can also be used in conjunction with a graph to display a batch over time, a single graph can actually display the output of multiple batch selectors at once.

To display the batch selector's data on a graph, first open a graph.

Then click batch selection instead of Real Time and select the batch selector that was created before.

Annoes SM     Annoes SM     and J annoparies () Monter (2004 / annoparies) Monter (2004 / annoparies) Monter (2004 / CON or or (2004 / CON or or (2004 / CON or or (2004 / CON or or (2004 / CON	Widge © Rea Sel Ba mi	e tille Annelli Ratch selection () Time interval ect this graph to this Balch wigget ext than selector wigger that the selector of the selector of the selector that the selector of the selector of the selector of the selector the selector of the selector of the selector of the selector of the selector that the selector of t	116230	130245	1303500 13	dð:15
eddoff CoverCalLation - Calleri Production 1 back_runder ords ords back_runder production 1 back_runder production 1 back_runder back_rund	rs nystion	Widget tille © Read-beneff Batch selection © There interval Constructions and the selection of the selection Constructions and the selection of the selection Selection of the selection of the selection of the selection Selection of the selection of the sel		_		t
EXPERIENCE CLARK      Expension     Expensin     Expension     Expension     Expension     Expension     Expe	ryson	Widget Bile UR Ball Melleton D There Internal Context Tile graph D is And widget: Mark Them 201 State				t

Figure 3.20:

After the batch selector has been selected, choose what to display, to create a visual graph choose something which is numeric and not text based, press apply to save changes, then go back to the batch selector and click which batches are to be displayed.

BA	TCH TEST			B, B
Se	earch			Update
	LINE	START TIME	STOP TIME	NAME
		2020-02-20, 13:07:01	2020-02-20, 13:07:25	'61dc211c91'
•	dashed	2020-02-20, 13:06:10	2020-02-20, 13:07:00	' 859f6dcf43'
•	dotted	2020-02-20, 13:05:04	2020-02-20, 13:06:09	'd2a576841d'
•	solid	2020-02-20, 13:03:54	2020-02-20, 13:05:03	'f254241a15'
		2020-02-20, 13:02:59	2020-02-20, 13:03:53	' 1fad9948ae'
		2020-02-20, 13:02:09	2020-02-20, 13:02:58	' 3858b86073'
		2020-02-20, 13:00:58	2020-02-20, 13:02:07	' cea9f81530'

Figure 3.21: This is how it will look after graphics has been applied.

Supported data types for Batch Selector:

- double
- bool
- float
- int16
- uint16
- int32
- uint32
- int64
- uint64
- byte
- sbyte
- string

## 3.5.2 Two Column Table

The two column table or just column table is a simpler version of the batch selector, instead of importing batches it shows all data types in a text format instead of graphically like the graph, it automatically updates the data shown and there can be set a low and high region like the gauge where a row appears in either blue for low or red for high.

The two column table has 4 inputs, much akin to the gauge, it has a high and low regions that can be set, it also has an input for how many rows of data should be shown at once, it

Timestamp	Value		And down with a
2020-02-20, 12:17:48 T+01:00	6	Aemoces GM	widget title
2020-02-20, 12:17:49 T+01:00	9	(ams01.gatemanager.eu/) Number of DCMs: 1	Two Column Table Test
2020-02-20, 12:17:50 T+01:00	12		Low region
2020-02-20, 12:17:51 T+01:00	12	in airgate-gm	25
2020-02-20, 12:17:52 T+01:00	15	(airgate-gm.secomea.com/) Number of DCMs: 14	
2020-02-20, 12:17:53 T+01:00	18	DLMs w/o configuration: 10	High region (red background)
2020-02-20, 12:17:54 T+01:00	18	AirgateGM	35
2020-02-20, 12:17:55 T+01:00	21	(airgate-gm.secomea.com/) Number of DCMs: 2	Number of rows
2020-02-20, 12:17:56 1+01:00	24	DCMs w/o configuration: 1	20
2020-02-20, 12:17:57 1+01:00	27		20
2020-02-20, 12:17:58 1+01:00	2/	Secomea	
2020-02-20, 12:17:59 1+01:00	30	Ubuntu 14303 [secomea-	
2020-02-20, 12:18:00 T+01:00	36	Ubuntu] (No installed configuration)	
2020-02-20, 12:18:07 T+01:00	39	V 🖉 3529_2734_H5	
2020-02-20, 12:18:03 T+01:00	42		
2020-02-20, 12:18:04 T+01:00	45	Sample point: total_count	
2020-02-20, 12:18:05 T+01:00	45		
2020-02-20, 12:18:06 T+01:00	48		
2020-02-20, 12:18:07 T+01:00	51		Close Apply

Figure 3.22: Standard setup of a two-column table

currently has a set limit of 500 to keep it snappy and reduce load.

The 1st input is a title for the widget, this input is universal with all widgets.

The 2nd input is the low region, this decides under what value the rows get designated as low, turning them blue.

The 3rd input is high region; this is the input that designates rows as high and turns them red over a certain amount.

The 4th input is the number of rows, this input has a range from 0 to 500, any input above 500 will just be set to 500, 200 rows is the standard amount.

Supported data types for Two Column Table:

- double
- bool
- float
- int16
- uint16
- int32
- uint32
- int64
- uint64
- byte
- sbyte

## 3.6 Historic Widgets

Historic widgets serve to show data over a longer interval of time.

#### 3.6.1 Date Range

The Date Range widget is used to control several different widgets in relation to a specific time.

		WIDGET CONFIGURATOR - DATE RANGE		
			Widget title	
			☐ Hide export button?	
Start	2020-07-23, 15:46			
Stop	2020-07-23, 16:46			
	Apply			
	Export			Close Apply

Figure 3.23:

When the date range is added to a dashboard, it becomes possible to select the Date Range as input for Line chart under Time interval in the editor

Vidget title			
egend placement:	Select	•	
⊖Real-time⊖ Batch	selection 回 Ti	me interval	
🗹 Use Date Range	e Widget		
Maximum samples	per samplepoi	nt:	
500			
Enable sampling 🛛			

Figure 3.24:

Please note that if the export function is used in the Date Range, only data presented in the dashboard will be exported.

#### 3.6.2 Report Generator

Generates an excel report in .csv format, it takes data from all selected sample points within the date range specified.

1st input specifies the title for the widget, this may be used such that a dashboard can have multiple report generators while keeping them distinct and descriptive at a glance.

2nd input is the font size of the above described title, see image below for visual description. 3rd input is for subtext; this may be used to describe in detail the function of that individual

	Widget title				
AVGOTEPUEGAd	Test				
TestDB1200D0	Font size of title [p>	(]:			
SM1149_EMC	50				
InternalCollector	Subtext:				
CPULoad	Sub-Test				
€ <b>9</b> s7	Font size of subtext [px]:				
TestDB1200D0	15				
SM1149_TRA_ADC	Default time range:				
Vent temp	1	Week(s)	Ŧ		
GM08 IFM					
Sample point: Temp					
Sample point: TestDB1200D0					

Figure 3.25: Widget configurator for the report generator.

#### report generator.

4th input is for the font size of the above described subtext, see image below for visual description.

	Widget title					
AvgutLPULoad	Test					
TestDB1200D0	Font size of title [p	)x]:				
🔻 💣 SM1149_EMC	50					
internalCollector	Subtext:	Subtext: Sub-Test				
CPULoad	Sub-Test					
€ s7	Font size of subter	xt [px]:				
TestDB1200D0	15					
V SM1149_TRA_ADC	Default time range	Default time range:				
💓 temp	1	Week(s)				
GM08 IFM		Minute(s)				
		Hour(s)				
Sample point: Temp						
		Day(s)				
Sample point: TestDB1200D0		Week(s)				
		Month(s)				
		Manufal (				



The next input is the default time range of sample points, this changes the default From and To range within the widget without having to manually change the range, this input can be changed to specify time ranges between minutes to years.

	Te	st	
	Sub-T	est	
From:	17-03-2020, 07:52	To:	24-03-2020, 07:52
1	Maximum number of	samp	lepoints:
	10000		
	Options:		
	Include header row	?	
	Combine all sample	points	to a single file?

Figure 3.27: Report generator widget.

The 1st input is the From and To, if the default time range has not been changed within

the widget configurator then it can be manually changed here.

2nd input is the maximum allowed sample points within the date range, if the amount of sample points exceeds the amount specified as max, then the latest samples will be prioritized. In addition to the above described inputs, there are two options.

"Include header row?", if selected it will use the selected sample point from the widget generator as the header for the row.

"Combine all samplepoints to a single file?", if selected it will combine all selected sample points from the widget configurator into a single file, if not selected an individual report will be generator for every sample point selected.

I date (UTC)         coulter         date (UTC)         source         date (UTC)         source         date (UTC)         source         date (UTC)         source           1         1/03/200 10:24         20         1/03/200 10:24         388040         1/03/200 10:24         388041	1	A	В	С	D	E	F	G	н	1	J	K	L		M
1         11/03/2020 10:24         22         11/03/2020 10:24         398304         11/03/2020 10:24         398304         11/03/2020 10:24         398304         11/03/2020 10:24         398304         11/03/2020 10:24         398304         11/03/2020 10:24         398304         11/03/2020 10:24         398304         11/03/2020 10:24         398304         11/03/2020 10:24         398304         11/03/2020 10:24         7.25E+14         10/03/2020 0:25         0.058532 test string and with 996583 dta           1         11/03/2020 10:24         22         11/03/2020 10:24         398304         11/03/2020 10:24         7.25E+14         10/03/2020 0:25         0.054638 test string and with 946506 dta           1         11/03/2020 10:24         28         11/03/2020 10:24         398304         11/03/2020 10:24         7.25E+14         10/03/2020 0:25         0.064495 test string and with 94491 dta           1         11/03/2020 10:24         28         11/03/2020 10:24         398305         11/03/2020 10:24         398305         11/03/2020 10:24         398306         11/03/2020 10:24         398306         11/03/2020 10:24         398306         11/03/2020 10:24         398306         11/03/2020 10:24         398306         11/03/2020 10:24         398306         11/03/2020 10:24         398306         11/03/2020 10:24         398306         11/0	1	date (UTC)	oscillator	date (UTC)	sawtooth	date (UTC)	counter	date (UTC)	sine	date (UTC)	text				
11/03/20010:24         20         11/03/20010:24         28         11/03/20010:24         388342         11/03/20010:24         388344         11/03/20010:24         6.85E+14         10/03/200020:25         000983281 cetts tring and with 0990588 data           5         11/03/20010:24         20         11/03/20010:24         38         11/03/20010:24         7.25E+14         10/03/200020:25         00045150 text string and with 094058 data           6         11/03/20010:24         21         11/03/20010:24         38         11/03/20010:24         3893044         11/03/20010:24         3.89541         10/03/2000025:         00146150 text string and with 094055 data           8         11/03/20010:24         21         11/03/20010:24         389305         11/03/20010:24         3.89541         10/03/200020:25         00047504 text string and with 094951 data           11/03/20010:24         21         11/03/20010:24         983056         11/03/20010:24         9.51E+13         10/03/20000:26         0005410 text string and with 0947504 data           11/03/20010:24         21         11/03/20010:24         983056         11/03/20010:24         9.51E+13         10/03/20000:26         0005410 text string and with 096050 data           11/03/20010:24         21         11/03/20010:24         21         11/03/20010:24         988064	2	11/03/2020 10:24	22	11/03/2020 10:24	26	11/03/2020 10:24	3983040	11/03/2020 10:24	5.88E+14	10/03/2020 09:24	00952531	text string	and v	vith 0952	531 data
11/03/20010:24         22         11/03/20010:24         32         11/03/20010:24         3283044         11/03/20010:24         7.25F+14         10/03/20000:25         10/03/20000:25           5         11/03/20010:24         22         11/03/20010:24         32         11/03/20010:24         7.25F+14         10/03/20000:25         0005/20000:24         0005/20000:24         0005/20000:24         0005/20000:24         0005/20000:24         0005/20000:24         0005/20000:24         0005/20000:24         0005/20000:25         0005/20000:25         0005/20000:25         0005/20000:25         0005/20000:25         0005/20000:25         0005/20000:25         0005/20000:25         0005/20000:25	3	11/03/2020 10:24	20	11/03/2020 10:24	28	11/03/2020 10:24	3983042	11/03/2020 10:24	6.38E+14	10/03/2020 09:25	00990858	text string	and v	vith 0990	858 data
5         11/03/2020 10:24         20         11/03/2020 10:24         32         11/03/2020 10:24         3383046         11/03/2020 10:24         7.754+14         10/03/2020 00:25         010403/2020 10:24         34         11/03/2020 10:24         34         11/03/2020 10:24         38         11/03/2020 10:24         35         11/03/2020 10:24         36         11/03/2020 10:24         36         11/03/2020 10:24         36         11/03/2020 10:24         36         11/03/2020 10:24         38         11/03/2020 10:24         38         11/03/2020 10:24         38         11/03/2020 10:24         38         380562         11/03/2020 10:24         38         380561         11/03/2020 10:24         38         380561         11/03/2020 10:24         38         380561         11/03/2020 10:24         38         380561         11/03/2020 10:24         38         380561         11/03/2020 10:24         38         380561         11/03/2020 10:24         38         380561         11/03/2020 10:24         38         380561         11/03/2020 10:24         38         380561         11/03/2020 10:24         38         380561         11/03/2020 10:24         38         38561         11/03/2020 10:24         388         380561         11/03/2020 10:24         388         380561         11/03/2020 10:24         388	4	11/03/2020 10:24	22	11/03/2020 10:24	30	11/03/2020 10:24	3983044	11/03/2020 10:24	6.85E+14	10/03/2020 09:25	00985832	text string	and v	vith 0985	832 data
6         11/03/200 10:24         22         11/03/200 10:24         38         11/03/200 10:24         388304         11/03/200 10:24         3005         11/03/200 10:24	5	11/03/2020 10:24	20	11/03/2020 10:24	32	11/03/2020 10:24	3983046	11/03/2020 10:24	7.29E+14	10/03/2020 09:25	01046150	text string	and v	vith 1046	i150 data
1         1         1         1         1         1         3         1         3         1         3         1         3	6	11/03/2020 10:24	22	11/03/2020 10:24	34	11/03/2020 10:24	3983048	11/03/2020 10:24	7.71E+14	10/03/2020 09:25	00916088	text string	and v	vith 0916	i088 data
8         11/03/200 10:24         22         11/03/200 10:24         43         11/03/200 10:25         43         11/03/200 10:25         43         11/03/200 10:25         43         11/03/200 10:25         43	7	11/03/2020 10:24	20	11/03/2020 10:24	36	11/03/2020 10:24	3983050	11/03/2020 10:24	8.09E+14	10/03/2020 09:25	01040495	text string	and v	vith 1040	495 data
9         11/03/200 10:24         20         11/03/200 10:24         40         11/03/200 10:24         42         11/03/200 10:24         40         11/03/200 10:25         40         11/03/200 10:25         40         11/03/200 10:25         40         11/03/200 10:25         40         11/03/200 10:25         40         11/03/200 10:25         40	8	11/03/2020 10:24	22	11/03/2020 10:24	38	11/03/2020 10:24	3983052	11/03/2020 10:24	8.44E+14	10/03/2020 09:25	00944991	text string	and v	vith 0944	991 data
11/03/20010:24         22         11/03/20010:24         21         11/03/20010:24         938065         11/03/20010:24         938075         11/03/20010:25         938075         11/03/20010:25         938075         11/03/20010:25         938075         11/03/20010:25         938075         11/03/20010:25         938075         11/03/20010:25         938075         11/03/20010:25         938075         11/03/20010:25         938075         11/03/20010:25         938075         11/03/20010:25         938075         11/03/20010:25         938075         11/03/20010:25         938075         11/03/20010:25         938076         11/03/20010:25<	9	11/03/2020 10:24	20	11/03/2020 10:24	40	11/03/2020 10:24	3983054	11/03/2020 10:24	8.76E+14	10/03/2020 09:26	00947504	text string	and v	vith 0947	'504 data
11         11/03/200 10:24         20         11/03/200 10:24         20         11/03/200 10:24         20         11/03/200 10:24         21         11/03/200 10:24         21         11/03/200 10:24         21         11/03/200 10:24         21         11/03/200 10:24         21         11/03/200 10:24         21         11/03/200 10:24         21         11/03/200 10:24         21         11/03/200 10:24         21         11/03/200 10:24         21         11/03/200 10:24         21         11/03/200 10:24         21         11/03/200 10:24         21         11/03/200 10:24         23         11/03/200 10:24         23         11/03/200 10:24         23         11/03/200 10:24         23         11/03/200 10:24         23         11/03/200 10:24         23         11/03/200 10:24         23         11/03/200 10:25         23         11/03/200 10:25         23         11/03/200 10:25         23         11/03/200 10:25         23         11/03/200 10:25         23         11/03/200 10:25         23         11/03/200 10:25         23         11/03/200 10:25         23         11/03/200 10:25         23         11/03/200 10:25         23         11/03/200 10:25         23         11/03/200 10:25         23         11/03/200 10:25         23         11/03/200 10:25         23         23         11/03/200 10:25	10	11/03/2020 10:24	22	11/03/2020 10:24	42	11/03/2020 10:24	3983056	11/03/2020 10:24	9.05E+14	10/03/2020 09:26	00954416	text string	and v	vith 0954	416 data
11         11<	11	11/03/2020 10:24	20	11/03/2020 10:24	20	11/03/2020 10:24	3983058	11/03/2020 10:24	9.3E+14	10/03/2020 09:26	01001540	text string	and v	vith 1001	540 data
11         11<	12	11/03/2020 10:24	22	11/03/2020 10:24	22	11/03/2020 10:24	3983060	11/03/2020 10:24	9.51E+13	10/03/2020 09:26	00970124	text string	and v	vith 0970	124 data
11         11<	13	11/03/2020 10:24	20	11/03/2020 10:24	24	11/03/2020 10:24	3983062	11/03/2020 10:24	9.69E+14	10/03/2020 09:26	00967610	text string	and v	vith 0967	'610 data
11         11<	14	11/03/2020 10:24	22	11/03/2020 10:24	26	11/03/2020 10:24	3983064	11/03/2020 10:24	9.82E+14	10/03/2020 09:26	00950017	text string	and v	vith 0950	017 data
11/03/202010:24         22         11/03/202010:24         238         11/03/202010:24         93806e         11/03/202010:25         10/03/202009:27         00060071 text string and with 066071 data           11/03/202010:25         22         11/03/202010:25         32         11/03/202010:25         38807         11/03/202010:25         11/03/202010:25         34         11/03/202010:25         988074 <th>15</th> <th>11/03/2020 10:24</th> <th>20</th> <th>11/03/2020 10:24</th> <th>28</th> <th>11/03/2020 10:24</th> <th>3983066</th> <th>11/03/2020 10:24</th> <th>9.92E+14</th> <th>10/03/2020 09:27</th> <th>00960699</th> <th>text string</th> <th>and v</th> <th>vith 0960</th> <th>1699 data</th>	15	11/03/2020 10:24	20	11/03/2020 10:24	28	11/03/2020 10:24	3983066	11/03/2020 10:24	9.92E+14	10/03/2020 09:27	00960699	text string	and v	vith 0960	1699 data
11/03/2020 10:25         20         11/03/2020 10:25         32         11/03/2020 10:25         34         11/03/2020 10:25         3983070         11/03/2020 10:25         9985141         11/03/2020 10:25         9985141         10/03/2020 10:25         9985144         10/03/2020 10:25 <t< th=""><th>16</th><th>11/03/2020 10:24</th><th>22</th><th>11/03/2020 10:24</th><th>30</th><th>11/03/2020 10:24</th><th>3983068</th><th>11/03/2020 10:24</th><th>9.98E+14</th><th>10/03/2020 09:27</th><th>00960071</th><th>text string</th><th>and v</th><th>vith 0960</th><th>071 data</th></t<>	16	11/03/2020 10:24	22	11/03/2020 10:24	30	11/03/2020 10:24	3983068	11/03/2020 10:24	9.98E+14	10/03/2020 09:27	00960071	text string	and v	vith 0960	071 data
11         11<	17	11/03/2020 10:25	20	11/03/2020 10:25	32	11/03/2020 10:25	3983070	11/03/2020 10:25	1E+15	10/03/2020 09:27	00956929	text string	and v	vith 0956	i929 data
19         11/03/2020 10:25         20         11/03/2020 10:25         20         11/03/2020 10:25         38         38         11/03/2020 10:25         38         38         11/03/2020 10:25         38         38         11/03/2020 10:25         38         38         11/03/2020 10:25         38         38         38	18	11/03/2020 10:25	22	11/03/2020 10:25	34	11/03/2020 10:25	3983072	11/03/2020 10:25	9.98E+14	10/03/2020 09:27	00940593	text string	and v	vith 0940	1593 data
10         10         20         11         10         20         12         10         20         12         10         20         12         10         20         12         10         20         10         20         10         20         10         20	19	11/03/2020 10:25	20	11/03/2020 10:25	36	11/03/2020 10:25	3983074	11/03/2020 10:25	9.92E+14	10/03/2020 09:27	00955044	text string	and v	vith 0955	044 data
11/03/202010:25         20         11/03/202010:25         40         11/03/202010:25         938076         11/03/202010:25         951E-14         10/03/2020 00:25         0005731 text string and with 095231 data           21         11/03/202010:25         20         11/03/2020 10:25         42         11/03/2020 10:25         951E-14         10/03/2020 00:25         00070124 data           21         11/03/2020 10:25         20         11/03/2020 10:25         21         11/03/2020 10:25         938040         11/03/2020 10:25         938104         11/03/2020 10:25         938104         11/03/2020 10:25         938104         11/03/2020 10:25         938104         11/03/2020 10:25         938104         11/03/2020 10:25         938104         11/03/2020 10:25         8764-14         10/03/2020 00:25         00065075 data         81050507 data           21         11/03/2020 10:25         21         11/03/2020 10:25         838084         11/03/2020 10:25         8.64-14         10/03/2020 00:25         00065075 data         81064248 data           21         11/03/2020 10:25         21         11/03/2020 10:25         8.06-14         10/03/2020 00:25         00064248 data           21         11/03/2020 10:25         21         11/03/2020 10:25         8.06-14         10/03/2020 00:25         00064248 data	20	11/03/2020 10:25	22	11/03/2020 10:25	38	11/03/2020 10:25	3983076	11/03/2020 10:25	9.82E+14	10/03/2020 09:27	00955672	text string	and v	vith 0955	672 data
21       11/03/2020 10:25       22       11/03/2020 10:25       22       11/03/2020 10:25       22       11/03/2020 10:25       23       11/03/2020 10:25       23       11/03/2020 10:25       23       11/03/2020 10:25       23       11/03/2020 10:25       23       11/03/2020 10:25       23       11/03/2020 10:25       23       11/03/2020 10:25       23       11/03/2020 10:25       23       11/03/2020 10:25       23       11/03/2020 10:25       23       11/03/2020 10:25       23       11/03/2020 10:25       23       11/03/2020 10:25       24       11/03/2020 10:25       24       11/03/2020 10:25       24       11/03/2020 10:25       24       11/03/2020 10:25       383686       11/03/2020 10:25       36.46+14       10/03/2020 09:28       00666925 text string and with 0666925 data         11/03/2020 10:25       20       11/03/2020 10:25       24       11/03/2020 10:25       383696       11/03/2020 10:25       36.46+14       10/03/2020 09:29       00666925 text string and with 0666925 data         11/03/2020 10:25       20       11/03/2020 10:25       31       11/03/2020 10:25       383696       11/03/2020 10:25       7.76+14       10/03/2020 09:29       00666925 text string and with 0666925 data         11/03/2020 10:25       20       11/03/2020 10:25       34       11/03/2020 10:25       383696 </th <th>21</th> <th>11/03/2020 10:25</th> <th>20</th> <th>11/03/2020 10:25</th> <th>40</th> <th>11/03/2020 10:25</th> <th>3983078</th> <th>11/03/2020 10:25</th> <th>9.69E+14</th> <th>10/03/2020 09:28</th> <th>00952531</th> <th>text string</th> <th>and v</th> <th>vith 0952</th> <th>531 data</th>	21	11/03/2020 10:25	20	11/03/2020 10:25	40	11/03/2020 10:25	3983078	11/03/2020 10:25	9.69E+14	10/03/2020 09:28	00952531	text string	and v	vith 0952	531 data
21         11/03/2020 10:25         20         11/03/2020 10:25         20         11/03/2020 10:25         20         11/03/2020 10:25         20         11/03/2020 10:25         22         11/03/2020 10:25         22         11/03/2020 10:25         22         11/03/2020 10:25         22         11/03/2020 10:25         23         11/03/2020 10:25         23         11/03/2020 10:25         23         11/03/2020 10:25         24         11/03/2020 10:25         23         11/03/2020 10:25         24         11/03/2020 10:25         24         11/03/2020 10:25         383084         11/03/2020 10:25         8.76F+14         11/03/2020 09:28         00065384 tatts tring and with 0695097 data           21         11/03/2020 10:25         22         11/03/2020 10:25         28         11/03/2020 10:25         383096         11/03/2020 10:25         8.86F+14         11/03/2020 09:29         00964284 tatts tring and with 0694284 data           21         11/03/2020 10:25         21         11/03/2020 10:25         383096         11/03/2020 10:25         7.7F+14         10/03/2020 09:29         00964284 tatts tring and with 0694221 data           21         11/03/2020 10:25         21         11/03/2020 10:25         383096         11/03/2020 10:25         7.7F+14         10/03/2020 09:29         00964284 tatts tring and with 0694221 data	22	11/03/2020 10:25	22	11/03/2020 10:25	42	11/03/2020 10:25	3983080	11/03/2020 10:25	9.51E+14	10/03/2020 09:28	00970124	text string	and v	vith 0970	124 data
41         11/03/2020 10:25         22         11/03/2020 10:25         22         11/03/2020 10:25         23         11/03/2020 10:25         24         11/03/2020 10:25         24         11/03/2020 10:25         24         11/03/2020 10:25         24         11/03/2020 10:25         24         11/03/2020 10:25         24         11/03/2020 10:25         28         11/03/2020 10:25         28         11/03/2020 10:25         24         11/03/2020 10:25         28         11/03/2020 10:25         28         11/03/2020 10:25         24         11/03/2020 10:25         28         11/03/2020 10:25         28         11/03/2020 10:25         28         11/03/2020 10:25         28         11/03/2020 10:25         28         11/03/2020 10:25         28         11/03/2020 10:25         28         11/03/2020 10:25         28         11/03/2020 10:25         7.76+14         10/03/2020 00:25         000667610 data           11/03/2020 10:25         20         11/03/2020 10:25         38         11/03/2020 10:25         388306         11/03/2020 10:25         5.876+14         10/03/2020 00:25         000667610 data           11/03/2020 10:25         20         11/03/2020 10:25         38         11/03/2020 10:25         388306         11/03/2020 10:25         5.876+14         10/03/2020 00:25         00066710 data         0006710 data da	23	11/03/2020 10:25	20	11/03/2020 10:25	20	11/03/2020 10:25	3983082	11/03/2020 10:25	9.3E+14	10/03/2020 09:28	00992115	text string	and v	vith 0992	115 data
25         11/03/2020 10:25         20         11/03/2020 10:25         20         11/03/2020 10:25         24         11/03/2020 10:25         383306         11/03/2020 10:25         8.44E+1         10/03/2020 00:28         00066982 text string and with 096692 data           27         11/03/2020 10:25         20         11/03/2020 10:25         28         11/03/2020 10:25         384306         11/03/2020 10:25         8.44E+1         10/03/2020 09:28         0066982 text string and with 096628 data           27         11/03/2020 10:25         20         11/03/2020 10:25         28         11/03/2020 10:25         8.04E+14         10/03/2020 09:29         00966921 text string and with 096628 data           28         11/03/2020 10:25         22         11/03/2020 10:25         28         11/03/2020 10:25         7.7E+14         10/03/2020 09:29         0096424 text string and with 096428 data           21         11/03/2020 10:25         22         11/03/2020 10:25         38         11/03/2020 10:25         7.7E+14         10/03/2020 09:29         0096424 text string and with 096428 data           21         11/03/2020 10:25         22         11/03/2020 10:25         38         11/03/2020 10:25         5.8E+14         10/03/2020 09:29         0096424 text string and with 096424 data           21         11/03/2020 10:25         23	24	11/03/2020 10:25	22	11/03/2020 10:25	22	11/03/2020 10:25	3983084	11/03/2020 10:25	9.05E+14	10/03/2020 09:28	00962584	text string	and v	vith 0962	584 data
bit         bi	25	11/03/2020 10:25	20	11/03/2020 10:25	24	11/03/2020 10:25	3983086	11/03/2020 10:25	8.76E+14	10/03/2020 09:28	00965097	text string	and v	vith 0965	097 data
11/03/2020 10:25         20         11/03/2020 10:25         20         11/03/2020 10:25         20         11/03/2020 10:25         20         11/03/2020 10:25         30         11/03/2020 10:25         30         11/03/2020 10:25         30         11/03/2020 10:25         30         11/03/2020 10:25         30         11/03/2020 10:25         37.74-14         11/03/2020 00:25         00067400 deta         deta           30         11/03/2020 10:25         20         11/03/2020 10:25         32         11/03/2020 10:25         383809         11/03/2020 10:25         7.75-14         10/03/2020 09:25         00065300 dext string and with 094000 ddata           30         11/03/2020 10:25         20         11/03/2020 10:25         38         11/03/2020 10:25         6.84F+14         10/03/2020 09:25         00066334 text string and with 0966354 ddata           31         11/03/2020 10:25         20         11/03/2020 10:25         388300         11/03/2020 10:25         8.85F+14         10/03/2020 09:25         00066344 text string and with 0966354 ddata           31         11/03/2020 10:25         21         11/03/2020 10:25         388310         11/03/2020 10:25         3.85F+14         10/03/2020 09:25         00066344 text string and with 0964354 ddata           31         11/03/2020 10:25         21         11/03/2020 10:25	26	11/03/2020 10:25	22	11/03/2020 10:25	26	11/03/2020 10:25	3983088	11/03/2020 10:25	8.44E+14	10/03/2020 09:28	00966982	text string	and v	vith 0966	i982 data
81         11/03/2020 10:25         22         11/03/2020 10:25         32         11/03/2020 10:25         32         11/03/2020 10:25         32         11/03/2020 10:25         32         11/03/2020 10:25         32         11/03/2020 10:25         32         11/03/2020 10:25         32         11/03/2020 10:25         32         11/03/2020 10:25         32         11/03/2020 10:25         32         11/03/2020 10:25         32         11/03/2020 10:25         32         11/03/2020 10:25         32         11/03/2020 10:25         32         11/03/2020 10:25         32         11/03/2020 10:25         32         11/03/2020 10:25         33         11/03/2020 10:25         35.87+14         11/03/2020 09:29         00965816 text string and with 0966354 data           31         11/03/2020 10:25         32         11/03/2020 10:25         38.810/3/2020 10:25         38.810/4         11/03/2020 10:25         38.816/4         11/03/2020 00:35         0095816 text string and with 0957035 data           31         11/03/2020 10:25         32         11/03/2020 10:25         38.810/4         11/03/2020 10:25         38.816/4         11/03/2020 00:30         00954416 text string and with 095705 data           31         11/03/2020 10:25         32         11/03/2020 10:25         38.810/4         11/03/2020 10:25         3.8816/4         11/03/2020 00:2	27	11/03/2020 10:25	20	11/03/2020 10:25	28	11/03/2020 10:25	3983090	11/03/2020 10:25	8.09E+14	10/03/2020 09:29	00946248	text string	and v	vith 0946	248 data
91         1/(3/2020 10:25         20         1/(3/2020 10:25         32         1/(3/2020 10:25         338304         1/(3/2020 10:25         32         1/(3/2020 10:25         34 <th>28</th> <th>11/03/2020 10:25</th> <th>22</th> <th>11/03/2020 10:25</th> <th>30</th> <th>11/03/2020 10:25</th> <th>3983092</th> <th>11/03/2020 10:25</th> <th>7.7E+14</th> <th>10/03/2020 09:29</th> <th>00967610</th> <th>text string</th> <th>and v</th> <th>with 0967</th> <th>'610 data</th>	28	11/03/2020 10:25	22	11/03/2020 10:25	30	11/03/2020 10:25	3983092	11/03/2020 10:25	7.7E+14	10/03/2020 09:29	00967610	text string	and v	with 0967	'610 data
01         11/03/2020 10:25         22         11/03/2020 10:25         34         11/03/2020 10:25         383306         11/03/2020 10:25         6.87E+14         10/03/2020 09:29         00941221 text string and with 0961221 data           11/03/2020 10:25         20         11/03/2020 10:25         36         11/03/2020 10:25         6.87E+14         10/03/2020 09:29         00961221 text string and with 096354 data           11/03/2020 10:25         22         11/03/2020 10:25         38         11/03/2020 10:25         6.87E+14         10/03/2020 09:29         00958186 text string and with 0958186 data           11/03/2020 10:25         20         11/03/2020 10:25         388310         11/03/2020 10:25         5.88E+14         10/03/2020 09:30         00958186 text string and with 0958186 data           11/03/2020 10:25         20         11/03/2020 10:25         388310         11/03/2020 10:25         4.82E+14         10/03/2020 09:30         00955416 text string and with 0958186 data           11/03/2020 10:25         20         11/03/2020 10:25         388310         11/03/2020 10:25         4.82E+14         10/03/2020 09:30         00955416 text string and with 0956290 data           11/03/2020 10:25         20         11/03/2020 10:25         24         11/03/2020 10:25         4.8E+14         10/03/2020 09:30         00954515 text string and with 095757 data	29	11/03/2020 10:25	20	11/03/2020 10:25	32	11/03/2020 10:25	3983094	11/03/2020 10:25	7.29E+14	10/03/2020 09:29	00994000	text string	and v	with 0994	000 data
11       11/03/2020 10:25       20       11/03/2020 10:25       30       11/03/2020 10:25       33       11/03/2020 10:25       35       11/03/2020 10:25       35       11/03/2020 10:25       35       11/03/2020 10:25       38       11/03/2020 10:25       38       11/03/2020 10:25       38       11/03/2020 10:25       38       11/03/2020 10:25       38       11/03/2020 10:25       38       38       11/03/2020 10:25       38       11/03/2020 10:25       38       38       11/03/2020 10:25       38       38       11/03/2020 10:25       5       38       11/03/2020 10:25       5       38       11/03/2020 10:25       5       38       11/03/2020 10:25       5       38       11/03/2020 10:25       5       38       11/03/2020 10:25       5       38       11/03/2020 10:25       5       38       11/03/2020 10:25       5       38       11/03/2020 10:25       5       38       11/03/2020 10:25       38       38       38       11/03/2020 10:25       38<	30	11/03/2020 10:25	22	11/03/2020 10:25	34	11/03/2020 10:25	3983096	11/03/2020 10:25	6.84E+14	10/03/2020 09:29	00941221	text string	and v	vith 0941	.221 data
21         11/03/2020 10:25         22         11/03/2020 10:25         38         11/03/2020 10:25         3983100         11/03/2020 10:25         S.8E+14         10/03/2020 09:29         00958186 betxt string and with 0953186 data           31         11/03/2020 10:25         20         11/03/2020 10:25         40         11/03/2020 10:25         S.8E+14         10/03/2020 09:29         00958186 betxt string and with 0957035 data           41         11/03/2020 10:25         22         11/03/2020 10:25         S.8E+14         10/03/2020 09:30         00954415 betxt string and with 0954416 data           11/03/2020 10:25         22         11/03/2020 10:25         22         11/03/2020 10:25         4.8E+14         10/03/2020 09:30         00954415 betxt string and with 0954416 data           11/03/2020 10:25         20         11/03/2020 10:25         22         11/03/2020 10:25         4.8E+14         10/03/2020 09:30         00954416 stext string and with 0954416 data           11/03/2020 10:25         20         11/03/2020 10:25         24         11/03/2020 10:25         4.8E+14         10/03/2020 09:30         00954416 stext string and with 095557 data           11/03/2020 10:25         20         11/03/2020 10:25         24         11/03/2020 10:25         3.0E+14         10/03/2020 09:30         009514895 text string and with 095757 data	31	11/03/2020 10:25	20	11/03/2020 10:25	36	11/03/2020 10:25	3983098	11/03/2020 10:25	6.37E+14	10/03/2020 09:29	00966354	text string	and v	with 0966	354 data
31 $11/03/2020 10:25$ 20 $11/03/2020 10:25$ 30 $11/03/2020 10:25$ 3083102 $11/03/2020 10:25$ 3583102 $11/03/2020 10:25$ 3583102 $11/03/2020 10:25$ 3583102 $11/03/2020 10:25$ 3583102 $11/03/2020 10:25$ 4.850+14 $10/03/2020 00:30 0097305 text string and with 0977035 data         31       11/03/2020 10:25       20       11/03/2020 10:25       20       11/03/2020 10:25       3883104       11/03/2020 10:25       4.850+14       10/03/2020 00:30 009549416 text string and with 0954960 data         31       11/03/2020 10:25       22       11/03/2020 10:25       2.850+14       10/03/2020 00:30 009549416 text string and with 0954960 data         31       11/03/2020 10:25       22       11/03/2020 10:25       2.850+14       10/03/2020 00:30 009549416 text string and with 095757 data         31       11/03/2020 10:25       26       11/03/2020 10:25       3.050+14       10/03/2020 00:30 009549416 text string and with 095757 data         31       11/03/2020 10:25       21       11/03/2020 10:25       2.10/03/2020 10:25       3.050+14       10/03/2020 00:30 009549416 text string and with 095757 data         31       11/03/2020 10:25       21       11/03/2020 10:25       2.10/03/2020 10:25       3.050+14       10/03/2020 00:30 009549416 text string$	32	11/03/2020 10:25	22	11/03/2020 10:25	38	11/03/2020 10:25	3983100	11/03/2020 10:25	5.88E+14	10/03/2020 09:29	00958186	text string	and v	vith 0958	186 data
11/03/2020 10:25         22         11/03/2020 10:25         20         11/03/2020 10:25         983104         11/03/2020 10:25         4.8E+14         10/03/2020 00:35 00054416 text string and with 0594416 data           11/03/2020 10:25         21         11/03/2020 10:25         22         11/03/2020 10:25         4.8E+14         10/03/2020 00:3005490 text string and with 0594416 data           86         11/03/2020 10:25         22         11/03/2020 10:25         4.8E+14         10/03/2020 00:3005490 text string and with 0594590 data           77         11/03/2020 10:25         22         11/03/2020 10:25         383104         11/03/2020 10:25         3.8E+14         10/03/2020 00:30 00555757 text string and with 059757 data           78         11/03/2020 10:25         20         11/03/2020 10:25         23.8E+14         10/03/2020 00:30 0057557 text string and with 059757 data           81         11/03/2020 10:25         23         11/03/2020 10:25         3.0E+14         10/03/2020 00:30 0057557 text string and with 0597180 data           81         11/03/2020 10:25         21         11/03/2020 10:25         3.0E+14         10/03/2020 00:30 0057180 text string and with 0597180 data           81         11/03/2020 10:25         28         11/03/2020 10:25         3.0E+14         10/03/2020 00:30 0057180 text string and with 0597180 data	33	11/03/2020 10:25	20	11/03/2020 10:25	40	11/03/2020 10:25	3983102	11/03/2020 10:25	5.36E+14	10/03/2020 09:30	00977035	text string	and v	with 0977	'035 data
31         11/03/2020 10:25         20         11/03/2020 10:25         22         11/03/2020 10:25         288310         11/03/2020 10:25         2.661:14         10/03/2020 00:30 00982690 dtext string and with 0982690 dtext           80         11/03/2020 10:25         22         11/03/2020 10:25         24         11/03/2020 10:25         3.661:14         10/03/2020 00:30 00957557 ttext string and with 0952597 dtext           71         11/03/2020 10:25         24         11/03/2020 10:25         3.661:14         10/03/2020 00:051:59 7557 ttext string and with 0951897 dtax           81         11/03/2020 10:25         24         11/03/2020 10:25         3.661:14         10/03/2020 00:30 00957557 ttext string and with 0951894 dtax           81         11/03/2020 10:25         24         11/03/2020 10:25         3.681:14         10/03/2020 00:30 00951369 ttext string and with 0951380 dtax           81         11/03/2020 10:25         24         11/03/2020 10:25         3.681:14         10/03/2020 00:30 00951380 ttext string and with 0951380 dtax           81         11/03/2020 10:25         24         11/03/2020 10:25         2.496:14         10/03/2020 00:30 00971380 ttext string and with 0951380 dtax	34	11/03/2020 10:25	22	11/03/2020 10:25	20	11/03/2020 10:25	3983104	11/03/2020 10:25	4.82E+14	10/03/2020 09:30	00954416	text string	and v	vith 0954	416 data
11/03/2020 10:25         22         11/03/2020 10:25         24         11/03/2020 10:25         3983108         11/03/2020 10:25         368:14.1         10/03/2020 09:30 00957557 text string and with 0957557 data           71         11/03/2020 10:25         26         11/03/2020 10:25         308:10.1         11/03/2020 10:25         3.08:14.1         10/03/2020 09:30 00957557 text string and with 095757 data           81         11/03/2020 10:25         26         11/03/2020 10:25         3.08:14.1         10/03/2020 09:30 00957357 text string and with 0951849 data           81         11/03/2020 10:25         2.08:14.1         10/03/2020 09:30 00957357 detts         10/03/2020 10:25         3.08:14.1         10/03/2020 09:30 00957357 detts           81         11/03/2020 10:25         2.08:14.1         10/03/2020 09:30 00957357 detts         11/03/2020 10:25         3.08:14.1         11/03/2020 09:30 00957357 detts	35	11/03/2020 10:25	20	11/03/2020 10:25	22	11/03/2020 10:25	3983106	11/03/2020 10:25	4.26E+14	10/03/2020 09:30	00982690	text string	and v	with 0982	:690 data
37         11/03/2020 10:25         20         11/03/2020 10:25         26         11/03/2020 10:25         3983110         11/03/2020 10:25         3.09E+14         10/03/2020 00:30         00941849 text string and with 0941849 data           38         11/03/2020 10:25         22         11/03/2020 10:25         28         11/03/2020 10:25         3983112         11/03/2020 10:25         2.49E+14         10/03/2020 00:30         00971380 text string and with 0971380 data	36	11/03/2020 10:25	22	11/03/2020 10:25	24	11/03/2020 10:25	3983108	11/03/2020 10:25	3.68E+14	10/03/2020 09:30	00957557	text string	and v	vith 0957	557 data
11/03/2020 10:25         22         11/03/2020 10:25         28         11/03/2020 10:25         3983112         11/03/2020 10:25         2.49E+14         10/03/2020 09:30         00971380 text string and with 0971380 data	37	11/03/2020 10:25	20	11/03/2020 10:25	26	11/03/2020 10:25	3983110	11/03/2020 10:25	3.09E+14	10/03/2020 09:30	00941849	text string	and v	vith 0941	.849 data
	38	11/03/2020 10:25	22	11/03/2020 10:25	28	11/03/2020 10:25	3983112	11/03/2020 10:25	2.49E+14	10/03/2020 09:30	00971380	text string	and v	vith 0971	.380 data

Figure 3.28: An example of a report with multiple sample points selected

## 3.7 Misc. Widgets

Widgets in this category are miscellaneous widgets that do not fall into other categories previously specified.

#### 3.7.1 Map

The regular map is used to show where a DCM or SiteManager is located physically. 1st input from the top, is the title for the widget, can be used to specify one map from another if multiple is in use.

2nd and 3rd input is latitude and longitude of the location of a sample point marker, by clicking on the inputs the different selected sample points can be selected, by doing so it will automatically place the marker on top of the SiteManager/Sample point selected.

4th input is for mouseover text of the marker, this can be used as a short summary for the individual marker or just to keep track of multiple markers, if "Dynamic?" is selected, then it will automatically apply the name of the SiteManager/Sample point chosen.

5th input is selecting the colour of markers, a good tip is to use a colour that contrasts to

Airgate-gm		Widget title	
(gm01.airgate.dk/) N	umber of DCMs: 2	Loc-Test	
V 🎁 clh-gm07		Samplepoint for latitude:	
(gm07.secomea.com/	) Number of DCMs: 2	clh-sm-box	Ψ.
T lart		Samplepoint for longitude:	
V CIU		clh-sm-box	*
	-sm-boy	Mouseover text:	
in sim	- Sill Box	Loc-Test	Dynamic
0	Sim_sine	Marker color:	
🔻 📥 SN	13529_ROCK		
😥 sim		Radius of marker:	
	array1_value	10	Dynamic
(demo-gm.secomea.c	om/) Number of DCMs: 1		
Sample point:	h-sm-box		

Figure 3.29: The widget configurator for the map widget.

#### white and grey.

6th input is the size of the marker, this will change the size of the marker on the map, it is highly suggested to have "Dynamic?" on, as otherwise it may be near impossible to find a smaller marker.



Figure 3.30: Visual demonstration of the map widget.

Supported data types for Simple Map:

- double
- float
- int16
- uint16
- int32
- uint32
- int64
- uint64

- byte
- sbyte

## 3.7.2 Clock

The clock is rather simple, it only has two inputs, Widget title and Time Zone selection. The clock has all time zones and a search functionality built into the dropdown.

## 3.7.3 Bool Monitor

The Bool Monitor Widget is quite simple, it can only accept Boolean data, which can only be true or false, and displays this information at a glance.

💽 myself	Widget title
Temperature	Test
CPULoad	Font size of text [px]:
FreeMemory	50
AvailableMemory	Text when true:
Cached	Test True
DigioInput0	Color when true:
DigioInput1	
🔘 rssi	Text when false:
🔘 ber	Test False
currentOperator	Color when false:
connType	
DBCachesize	Font size of subtext [px]:
TotalIngressRate	15
TotalEgressRate	Sub text:
SineIngressRate	Sub-text test

Figure 3.31:

1st input from the top, is the title for the widget, can be used to specify one bool monitor from another if multiple is in use.

2nd input is for the size of the text displayed for True/False outputs, this text can be specified in the 3rd and 5th inputs.

3rd input is for specifying the text displayed if the output is true.

4th is the background color of the widget if the input is true.

5th input is the text displayed if the output is false.

6th is the color if false.

7th is the size of the sub-text which can be specified in the below output.

8th input is the sub-text itself, this can be used to describe the bool monitor in greater detail than the True/False output text.

Supported data types for Bool Monitor:

• bool

## 3.7.4 Last Value

	Widget title
(i) myself	
Temperature	Test
CPUI oad	Font size of value [px]:
TotalMemory	50
FreeMemory	Font size of subtext [px]:
AvailableMemory	15
Cached	Linit:
Buffers	
DigioInput0	degrees
DigioInput1	Sub text:
🔘 rssi	Temperature
🔘 ber	Samplepoint value:
currentOperator	Temperature
connType	
DBCachesize	Samplepoint controller (show value when true):
DBSize	Select 🔻 Clea
TotalIngressRate	Background color:
TotalEgressRate	
SineIngressRate	
AzureEgressRate	Use conditional background color

The Last value widget is used to display the last known value.

Figure 3.32:

1st input from the top, is the title for the widget, can be used to specify one Last Value from another if multiple is in use.

2nd input is for the size of the text displayed.

3nd input is for the size of the subtext displayed.

4th is the unit of the value.

5th input is the sub-text itself, this can be used to describe the Last Value in greater detail than the output value.

6th is used to select the desired sample point for the value.

The widget can further depend on a boolean that controls whether the last known value is displayed or whether the widget should just be blank if it does not receive data.

7th is used to select the desired sample point for the controlled boolean, if desired.

If you want a changed background color, depending on the value "Use conditional background color" can be used.

Supported data types for Last Value:

- double
- bool
- int16
- uint16
- int32

- uint32
- int64
- uint64
- byte
- sbyte
- string

## 3.7.5 Symbol

The symbol widget allows you to introduce icons, images or GIFs in relation to an incoming value. When x number of sample points is selected it is possible to set up different scenarios. First, the image for default trigger value is added, this image is displayed when no data is received For best results, use an image with a transparent background.

WIDGET CONFIGURATIO	- symbol
Data Style	Settings
	Widget title:
	Trigger:
	Default 👻 🕇
	Name:
	Text:
	Robot 1 idle (no data)
	16
	Import Colorize symbol
	Close Apply

Figure 3.33:

X number of triggers can be added. Specify which sample point and operator trigger should depend on and in which priority. Assign the image to a color and press Apply

WIDGET CONFIGURATION - SYMBOL	WIDGET CONFIGURATION - SYMBOL
Data Style Settings	Data Style Settings
Widget title:	Widget title:
Trigger: Robot 1 running 👻 🕇	Trigger: Robot 1 stopped 🗸 🕇 📱
Name: Robot 1 running Text: Robot 1 running Font size of text [px]: 16 Import 2 Colorize symbol	Name: Robot 1 stopped Text: Robot 1 stopped Font size of text [px]: 16 Import Colorize symbol
Clear Samplepoint: Priority: 1 Status, Machine 1 1 Operator: Threshold: - 1	Samplepoint:     Priority:       Status_Machine1     1       Operator:     Threshold:       •     •
Close App	Close Apply

Figure 3.34:

It is now possible to build a dashboard that can be used across languages and countries, by using symbols and colors



Figure 3.35:

Supported data types for Symbol:

- double
- bool
- float
- int16
- uint16
- int32
- uint32
- int64
- uint64
- byte
- sbyte
- string

#### 3.7.6 Text Formatter

Text Formatter is used to combine static testing with dynamic testing, using one or more sample points.First select the desired sample points

VIDGET CONFIGURATION - TEXT FORMATTER	
Data Style Settings	
Q ubuntu	UBUNTU 14303 [SECOMEA-UBUNTU] [22690] / SIM / 🎤 📋
Airgate GM	
(airgate-gm.secomea.com/) Number of DCMs: 2	UBUNTU 14303 [SECOMEA-UBUNTU] [22690] / SIM / 🥜 📋
Secomea	
counter	
virigger	
min 1m internal	
min_1m	
isim-hrd	
trigger	
degrees	
	Close Apply

Figure 3.36:

Then widgets can be styled according to your own needs.

WIDGET CONFIGURATION - TEXT FORMATTER	
Data Style Settings	
✓ Use custom widget style Reset	
Shadow Frame Header	
Font color:	This is a preview of the widget style
Background color:	
	Close Apply

Figure 3.37:

The position of text, size, and the number of decimals if double or float are defined by the user. Finally, the desired text is defined. To use a sample point in the text, a template is defined.

	WIDGET CONFIGURATION - TEXT FORMATTER		
	Data Style Settings		
	Widget title:	Samplepoint:	Template: 🕄
		Sim sine	%SIN
	Text Alignment:		
	Left 👻		
	Font size of title [px]:		
	50		
	Font size of text [px]:		
	15		
	Number of decimals for float/double values:		
	2		
is a test of Text Formatter which has	Text: This is a test of Text Formatter which has the value		
value -844.21	%SIN		
			Close Apply

Figure 3.38:

Supported data types for Text Formatter:

- double
- bool
- float
- int16

- uint16
- int32
- uint32
- int64
- uint64
- byte
- sbyte
- string

## 3.8 Layout

While these widgets may not directly affect the functions of the dashboard, they nevertheless are important to understand for optimal usage of the dashboard.

#### 3.8.1 Picture

The picture widget does just that, show a picture, it is currently not possible to use the same widget to show video even though it seems possible.

The picture widget is rather simple, only needing two inputs, a name and a picture, simply click 'Import picture', select the picture and press apply, the picture should then be applied into the body of the widget.



Figure 3.39:

Click on "Import button" Import button opens a file viewer window



Figure 3.40:

Click apply to apply picture

## 3.8.2 Text Widget

Text widget displays written text with a chosen background colour.

Test Font size of value [px]: 50 Text Alignment: Center Font size of subtext [px]: 15 Sub text: Hello World! Background color:	Widget title
Font size of value [px]: 50 Text Alignment Center * Font size of subtext [px]: 15 Sub text: Hello World! Background color:	Test
50 Text Alignment: Center Font size of subtext (px): 15 Sub text: Helio World! Background color:	Font size of value [px]:
Text Alignment: Center  Font size of subtext [px]: 15 Sub text: Hello World! Background color:	50
Font size of subtext [px]: 15 Sub text: Hello World! Background color:	Text Alignment: Center 👻
15 Sub text: Helio World! Background color:	Font size of subtext [px]:
Sub text: Hello World! Background color:	15
Hello World! Background color:	Sub text:
Background color:	Hello World!
	Background color:

Figure 3.41: The text widget is very simple to configure.

First, enter a title and sub text to display, the sub text is the main content of the widget.



Figure 3.42: This is how the it will be displayed upon clicking apply

The numerical inputs can be used to change the size of the text and sub text. Text align can be switched between center and left.

The last thing that can be changed is the background colour for the widget.

## 3.8.3 Navigation Widget

Navigation Widget allows you to navigate between multiple dashboards without having to return to the main menu to select a new dashboard.

Widget title
Dashboard 2
Target dashboard URL hash:
e3509cd68a624bbc98cf3f2c9be6b6f6
Font size of text [px]:
50
Background color:
Font color:

Figure 3.43:

The navigation widget is very simple to configure.

1st specify the title of the button to navigate to the new dashboard.

Then add URL hash for the dashboard that you want to navigate to. It is important that it is only the hash value of the URL and not the entire URL that is added.

Finally, colors and font sizes can be changed.



Figure 3.44:

If the user has access to the desired dashboard it will now be possible to go directly to the dashboard via the navigation widget.

# Chapter 4 OEE

In order to use OEE, the following widgets are required and must be added in the same order to the dcc:

- Batch Selector
- Event Browser
- Availability Gauge
- Quality Gauge
- Performance Gauge
- Total OEE Gauge

## 4.1 Batch Selector

The use of batch selector is described in section 3.5.1 please see this section for batch selector setup.

## 4.2 Event Browser

The event browser illustrates the status of that machine over a batch period.



Figure 4.1:

The event browser uses the translation module as input, a sample point (status) and the Batch Selection – thereby it can either be the raw value from the DCM or a translation value from the translation module that is displayed.

FreeMemMB Production1 Batch selection Connect this graph to this batch widget: test - Connect this graph to this batch widget: test - Connect this graph to this batch widget: test - Maximum samples per samplepoint: Status total count: failures runtime Sample point: status	ŐF	reeMem	Widget title
Broduction1     Batch selection     Connect this graph to this batch widget: test      order     pressure, valvet     stokes, min     power, censumption     status     runtime     Sample point: status	ŐF	reeMemMB	test
Sample point: status		tion1 atch_number emp_sensor1 ycles ressure_valve1 trokes_min ower_consumption	Batch selection     Connect this graph to this batch widget: test +     Maximum samples per samplepoint:     500
Sample point: status		tatus otal_count ailures untime	
	Sample point:	status	

Figure 4.2:

If the raw value is selected and has not been assigned a colour in translation module, the event browser will display the different value in a shade of grey.



Figure 4.3:

## 4.3 Availability Gauge

Availability Gauge is used to show the availability of the machine as a percentage within a batch period.



Figure 4.4:

Availability Gauge depends on the batch selection table (which is an input from the user) and event browser which is set up automatically.

In addition, the events that are part of the production time must be defined and marked as "running" in the translation module.

Value 'Or	Translates to tow	#c52121	B Auroing	
-----------	-------------------	---------	-----------	--

Figure 4.5:

## 4.4 Quality Gauge

Quality Gauge shows the quality of a batch production (how many items are approved)



Figure 4.6:

Quality Gauge also depends on batch selection, in addition, Quality Gauge must use total count and failures that can be added in a random order.

batch_umber     Quality Gauge       cycles     test       cycles     test       pressure_statation     storker_min       power_consumption     statas       table     test       sample point:     total_count       failures     total_count	e proc	luction1	Widget tit	de		
Sample point: Total_count	000000000000000000000000000000000000000	batch_number temp_sensor1 cycles pressure_valve1 strokes_min power_consumption status total_count failures runtime	Quality C	Sauge		
Sample point failures	Sample point:	counter sawtooth total_count				
	Sample point:	failures				

Figure 4.7:

## 4.5 Performance Gauge

Performance Gauge deals with losses related to reduced production speed.



Figure 4.8:

Performance Gauge gets its input from batch selection and seconds per unit which is selected by the user. The value from total counts is also used and obtained directly from Quality Gauge.

Widget title
Performance Gauge
test 👻
Seconds per Unit:
3

Figure 4.9:

## 4.6 Total OEE Gauge

Total OEE gauge combines all the above factors to one Key Performance Indicator



Figure 4.10: