HEALTHY BUILDING EBI SUPERVISOR DASHBOARD

An overview of Healthy Building dashboard and configuration details

DRAFT VERSION

OVERVIEW & CONFIGURATION GUIDE

December 2020

DISCLAIMER

This document is a draft and is provided for information purposes only. The information contained herein is the product of research conducted by third parties and is provided "as is" without any representations or warranties, express or implied. This document is subject to change and nothing contained herein constitutes or is intended to constitute advice of any kind.

This document also contains information that is the proprietary and confidential property of Honeywell Inc. By acceptance hereof, each recipient agrees to use the information contained herein only for the purpose anticipated by Honeywell Inc, and not to disclose to others, copy or reproduce, any part hereof without the written consent of Honeywell Inc.

Honeywell

REVISION HISTORY

Revised Date	Revision Number	Description	Approved By
07th Dec 2020	Draft Version	Initial Release	

TABLE OF CONTENTS

1. EBI SUPERVISOR DASHBOARDS OVERVIEW

Healthy Building supervisor dashboard package for EBI R600 consists of three dashboard (All Key Performance Parameters (KPIs), Air Quality KPIs and Security KPIs Dashboard) for Air Quality and Security.
This package is designed to add on to existing EBI graphics or to run as a standalone solution.

This package helps operator/supervisor to have a consolidated view of various key parameters with respect to Healthy Building standards – The New Normal. Operator can check the Alarms on the KPIs pages and then use an intuitive navigation to drill down to Floorplan and Equipment level. This helps operator to reach the root cause of the Alarm easily and quickly.

This solution makes use of the existing site data along with any newly added IAQ / Security data available for various Healthy Building parameters for showing KPIs of Air Quality and Security.
It can also make use of existing site graphics, provided those are compatible with EBI R600. EBI Healthy Building package consists of graphics & parameters listed in the panel on the right side.

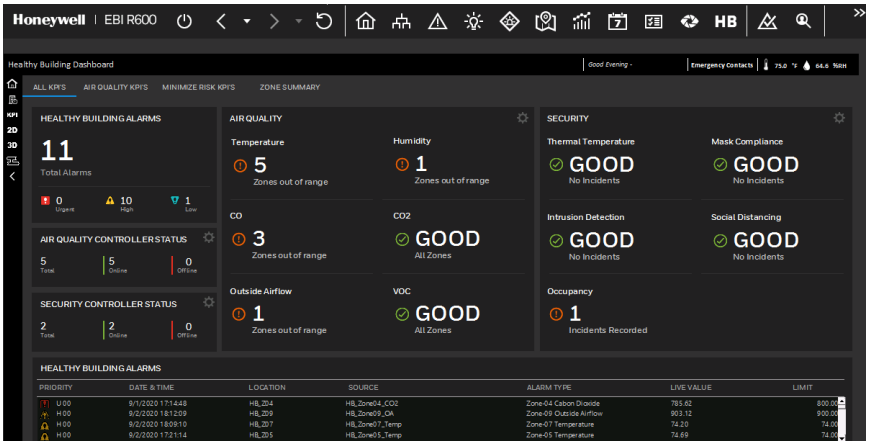
- **ALL KPIs DASHBOARD**
- **AIR QUALITY KPIs**

Temperature | Humidity | CO2
PM 2.5 | TVOC | Outside Airflow

- **SECURITY KPIs**

Elevated Body Temperature | Mask Compliance | | Occupancy | Social Distancing

- **ZONE SUMMARY**
- **HB AIR QUALITY TRENDS**
- **HB SECURITY TRENDS**

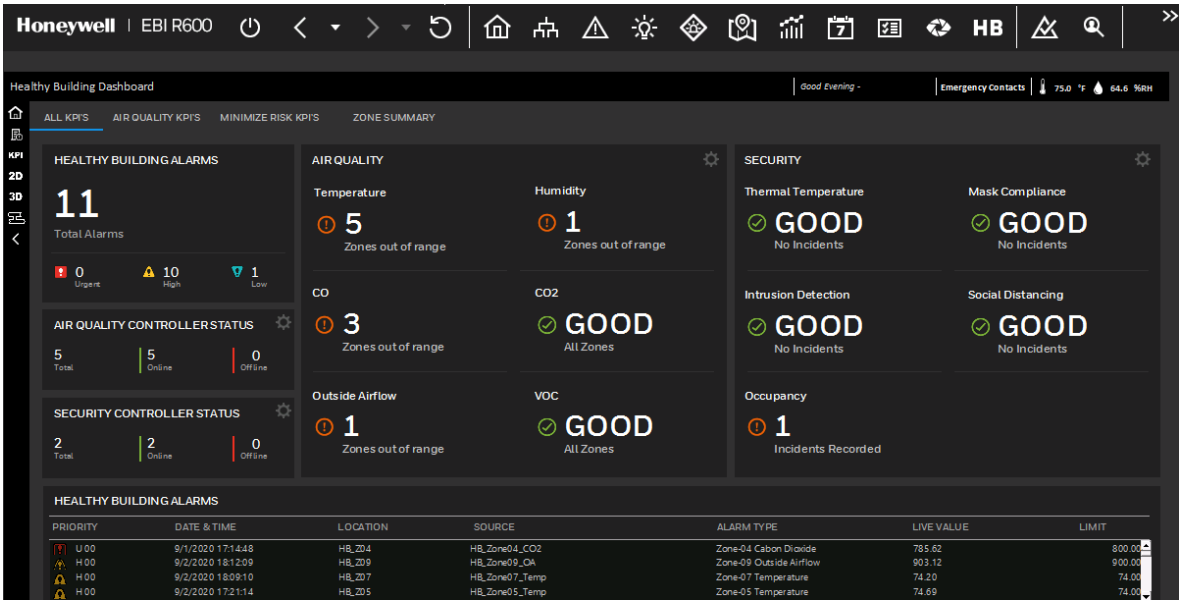


2. EBI CUSTOM GRAPHICS

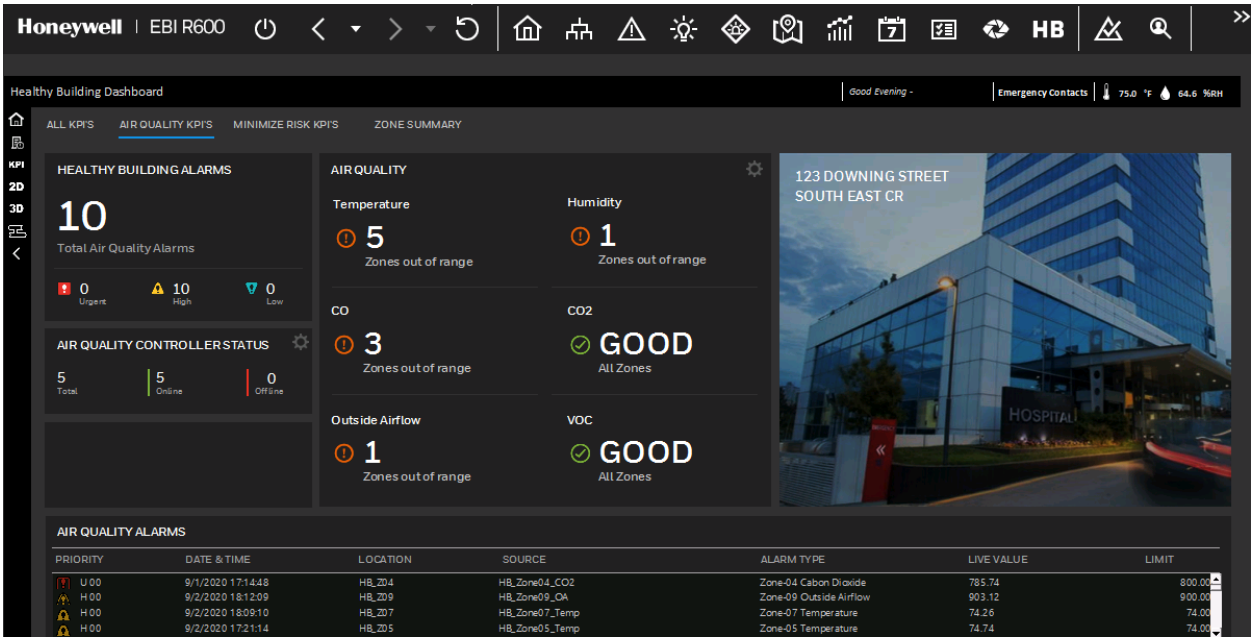
Healthy Building supervisor dashboard package for EBI R600 mainly consists of eleven graphics pages, which can be chosen and customized as per the site requirement. For example, in case of a site having only Air Quality related hardware, software available; there will be five pages in the package and All KPIs and Security KPIs pages will not be available.

All KPIs Dashboard	Air Quality KPIs	Security KPIs	Air Quality Zone Summary	Air Quality Trends
Area-wise Summary	ACS Zone Summary	Area-wise Security Trends	Zone Security Trends	Customized Alarm Summaries

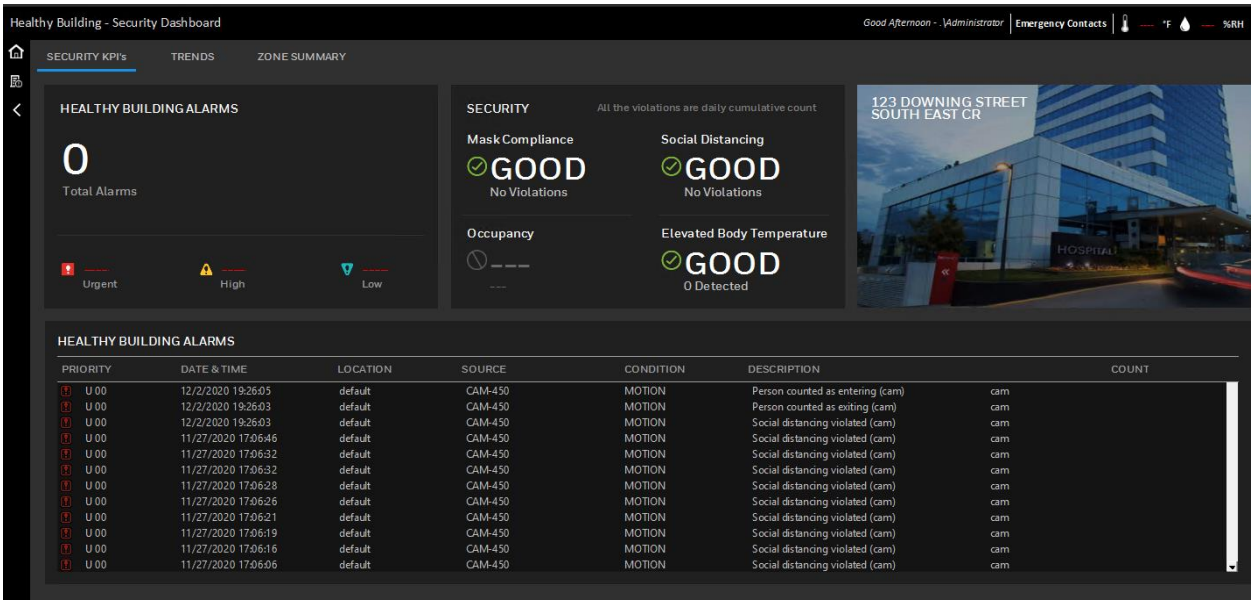
Below are the reference screenshots for all the pages



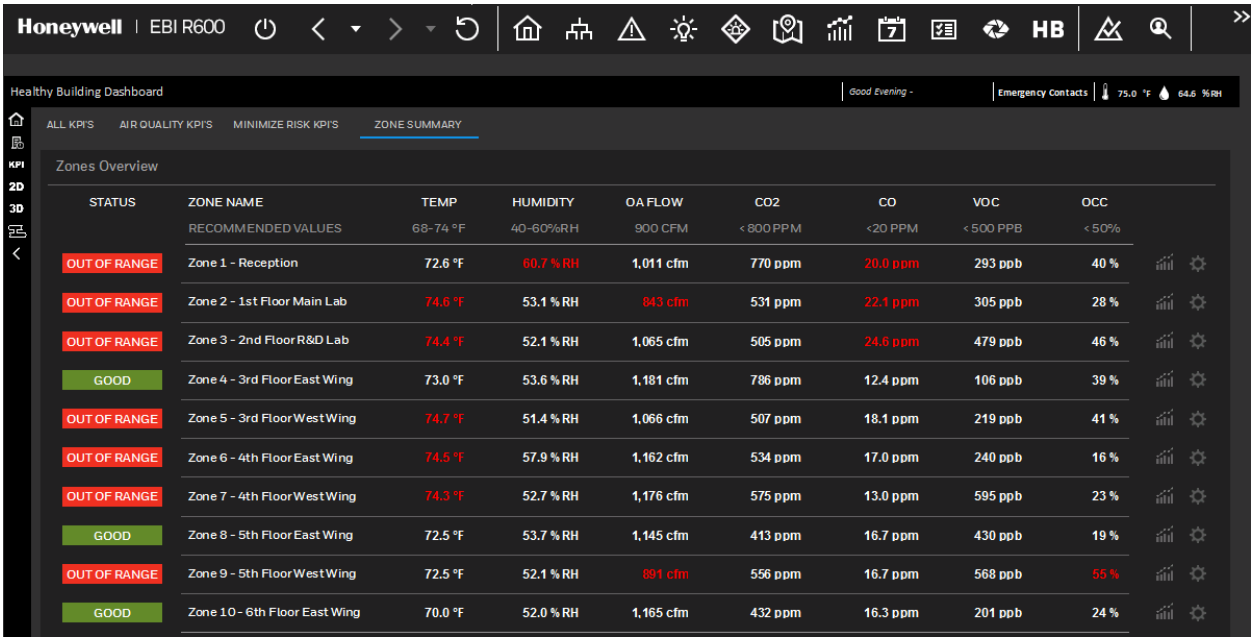
1. All KPIs Dashboard



2. Air Quality KPIs

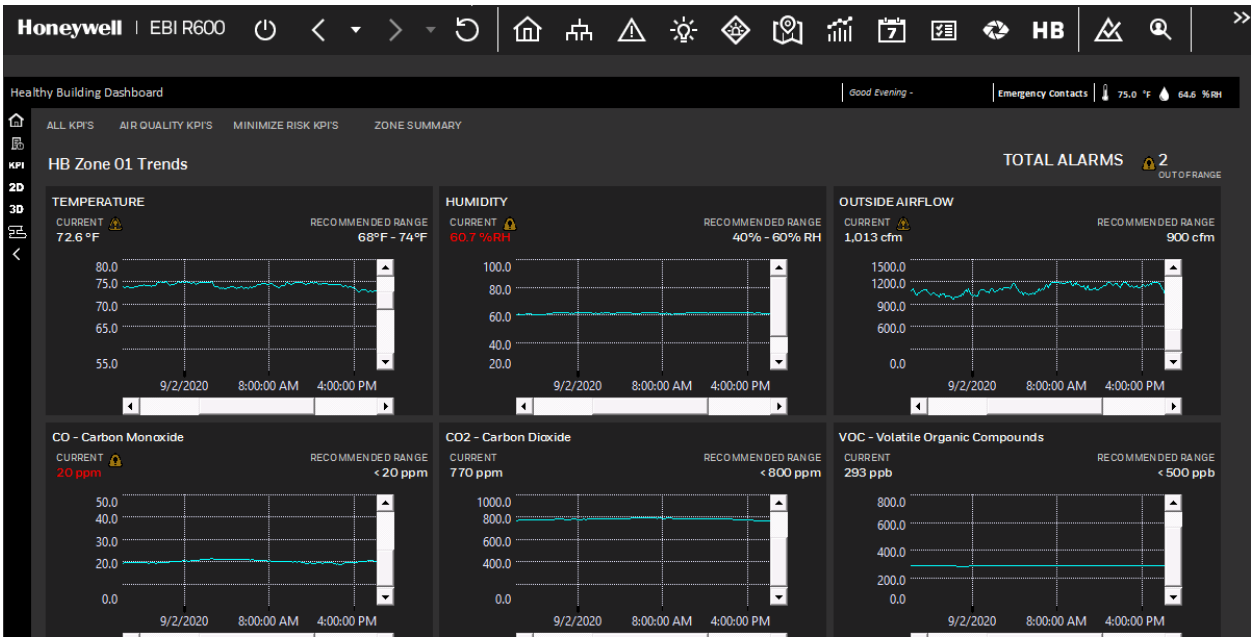


3. Security KPIs

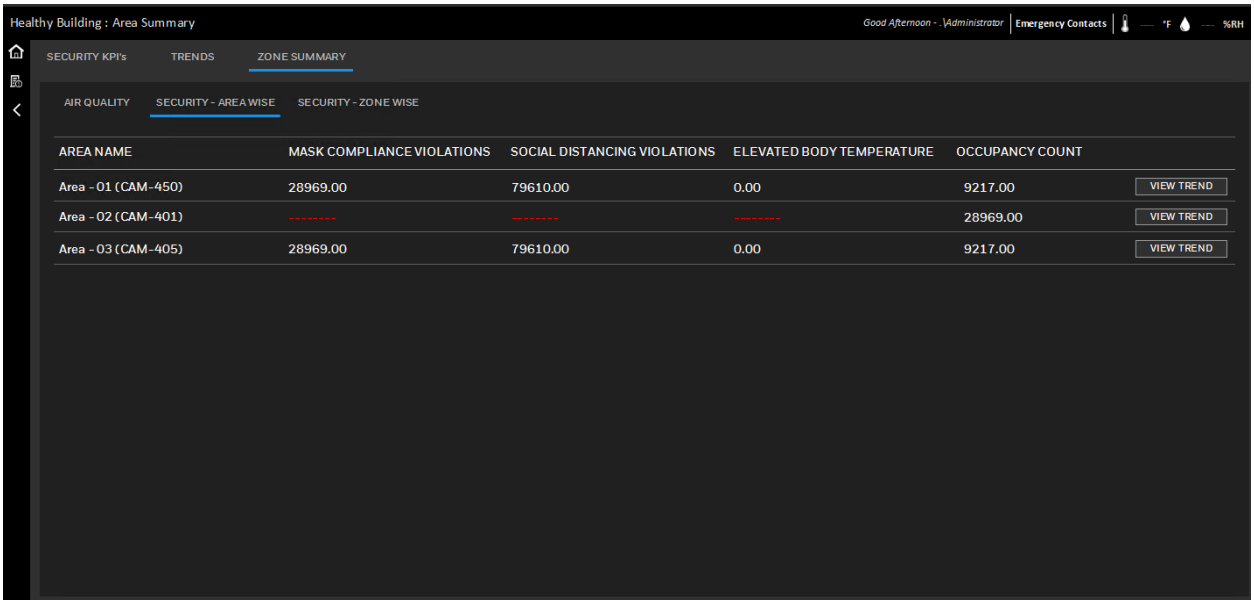


STATUS	ZONE NAME	TEMP	HUMIDITY	OA FLOW	CO2	CO	VOC	OCC
	RECOMMENDED VALUES	68-74 °F	40-60%RH	900 CFM	< 800 PPM	<20 PPM	< 500 PPB	< 50%
OUT OF RANGE	Zone 1 - Reception	72.6 °F	60.7 % RH	1,011 cfm	770 ppm	20.0 ppm	293 ppb	40 %
OUT OF RANGE	Zone 2 - 1st Floor Main Lab	74.6 °F	53.1 % RH	843 cfm	531 ppm	22.1 ppm	305 ppb	28 %
OUT OF RANGE	Zone 3 - 2nd Floor R&D Lab	74.4 °F	52.1 % RH	1,065 cfm	505 ppm	24.6 ppm	479 ppb	46 %
GOOD	Zone 4 - 3rd Floor East Wing	73.0 °F	53.6 % RH	1,181 cfm	786 ppm	12.4 ppm	106 ppb	39 %
OUT OF RANGE	Zone 5 - 3rd Floor West Wing	74.7 °F	51.4 % RH	1,066 cfm	507 ppm	18.1 ppm	219 ppb	41 %
OUT OF RANGE	Zone 6 - 4th Floor East Wing	74.5 °F	57.9 % RH	1,162 cfm	534 ppm	17.0 ppm	240 ppb	16 %
OUT OF RANGE	Zone 7 - 4th Floor West Wing	74.3 °F	52.7 % RH	1,176 cfm	575 ppm	13.0 ppm	595 ppb	23 %
GOOD	Zone 8 - 5th Floor East Wing	72.5 °F	53.7 % RH	1,145 cfm	413 ppm	16.7 ppm	430 ppb	19 %
OUT OF RANGE	Zone 9 - 5th Floor West Wing	72.5 °F	52.1 % RH	891 cfm	556 ppm	16.7 ppm	568 ppb	55 %
GOOD	Zone 10 - 6th Floor East Wing	70.0 °F	52.0 % RH	1,165 cfm	432 ppm	16.3 ppm	201 ppb	24 %

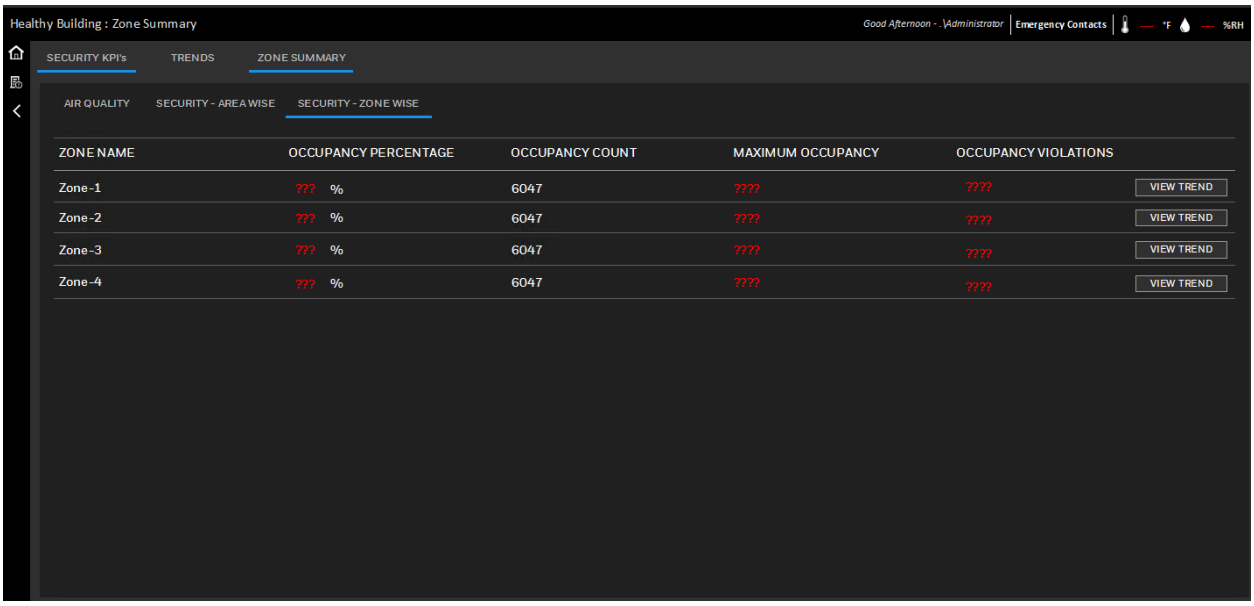
4. Air Quality Zone Summary



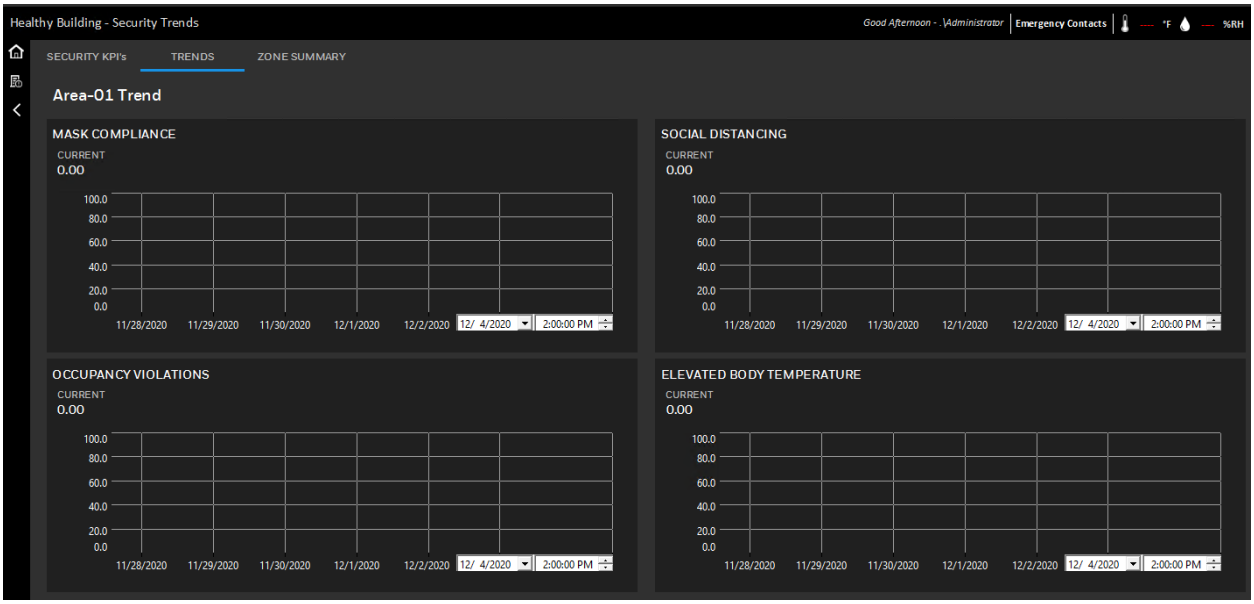
5. Air Quality Trends



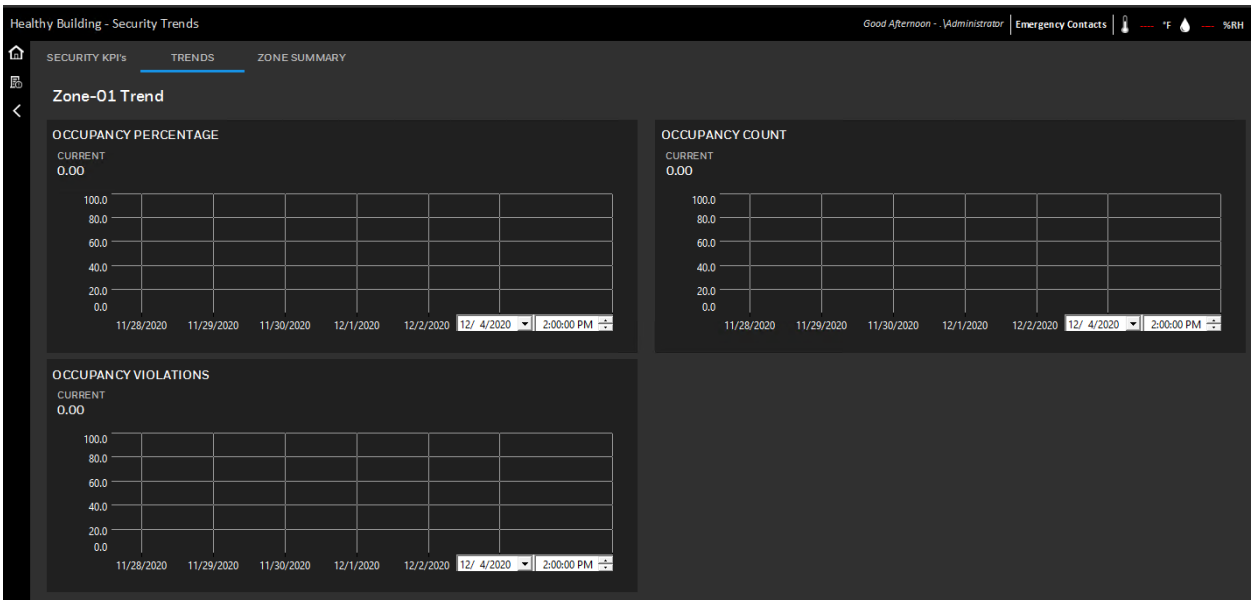
6. Area-wise Summary



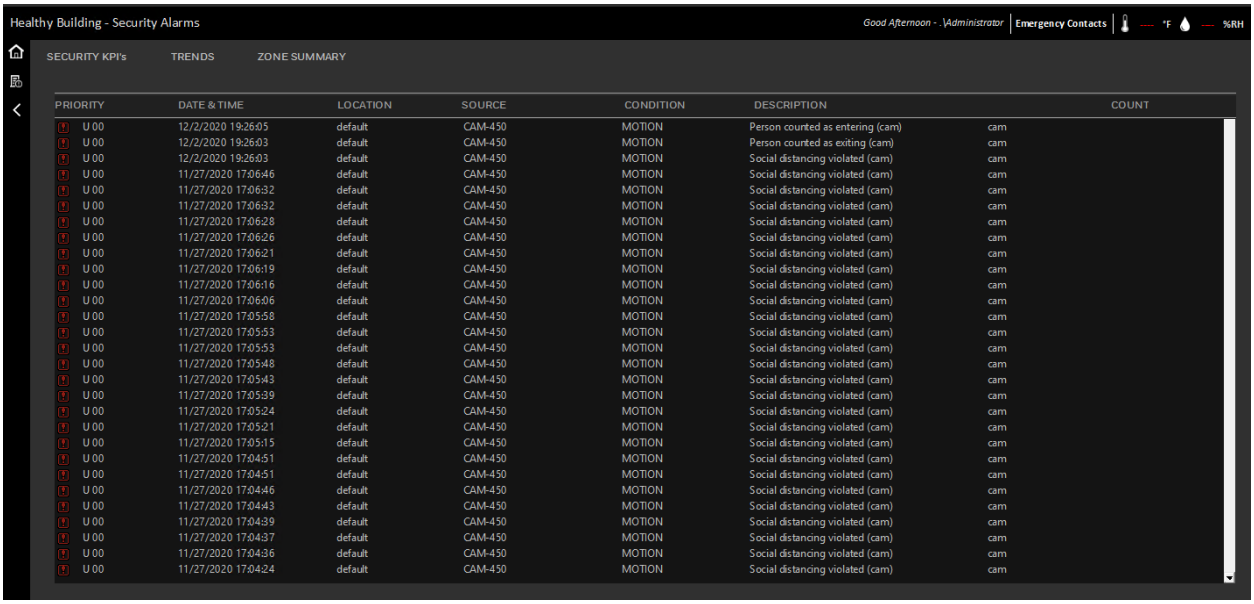
7. ACS Zone Summary



8. Security Area-wise Trends



9 ACS Zone Trends



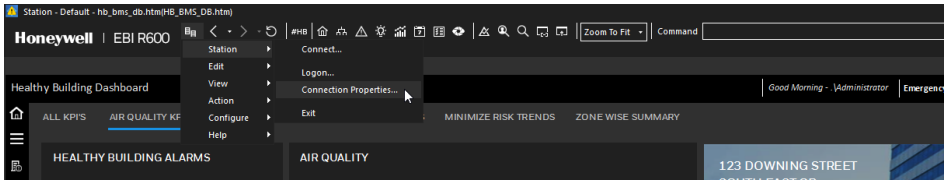
10. HB Custom Alarm Summary

3. EBI HEADER CUSTOMIZATION

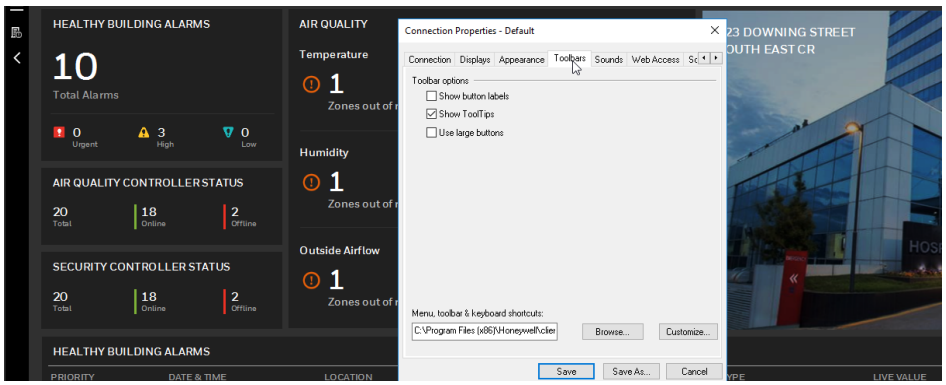
The Healthy Building dashboard package can be installed on top of the existing graphics available at site. To navigate between the Healthy Building graphics and existing site graphics, dedicated shortcut button '**HB'** is added in EBI header toolbar.

Below are the steps to import and configure the EBI toolbar having #HB shortcut button

3. Take the backup of existing EBI Station configuration file where you might have some site-specific configurations done. This needs to be sent to GES as a part of input, so that GES can retain the site-specific customization.
4. Copy the ***'GES_HB_Toolbar.stb'*** file inside ***C:\Program Files(x86) \Honeywell\Client\system\r600*** folder
5. Open EBI Station and browse to Connection Properties



6. This opens a Connection Properties dialog box, select Toolbars tab from top tab selection pane

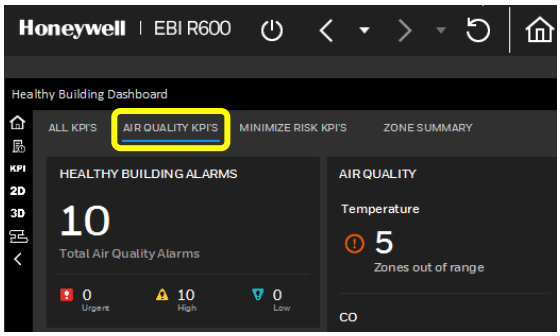


7. Click on Browse button to open File select dialog box and select the ***'GES_HB_Toolbar.stn'*** file from ***C:\ProgramData\Honeywell\EBI\Client\Station*** folder

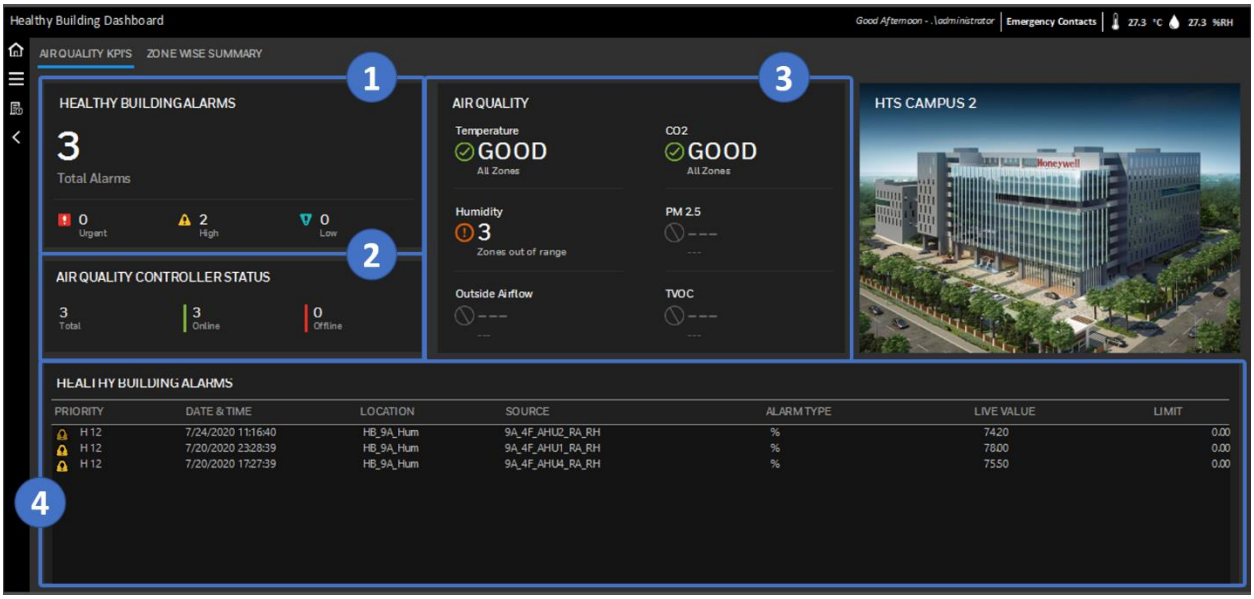
4. AIR QUALITY PACKAGE

4.1 Air Quality Dashboard

- Click the "**Air Quality KPIs**" button on top navigation bar to open the Air Quality KPIs graphics.



- This page shows category wise status of various Air Quality parameters like Temperature, Humidity, Outside Airflow, CO2, CO, VOC, etc. This page has four main sections :



Section 1: Healthy Building Alarms

- This section shows the categorization of HB alarms based on their priorities like Urgent, High and Low.
- This requires the Facility configuration in Quick Builder to show the data.

Section 2: Air Quality Controller Status

- This section shows the controller status for BMS controllers. This requires the Alarm condition enabled

in case of controller going offline.

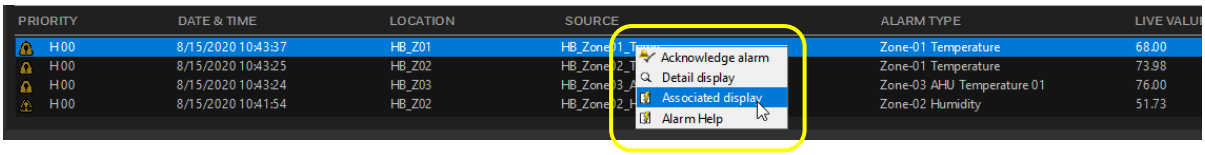
Section 3: Air Quality KPIs

- This section shows various Air Quality parameters like Temperature, Humidity, CO2, CO, PM 2.5 and TVOC.
- These parameters can be customized based on the data available on site. The requirement for these widgets is to have individual Alarm Groups for each of the parameters.
- Each tile will show count of number of zones that are outside the desired range. It will also display the status of All Zone (Good) if all the zones are within the desired range.
- Clicking on any tile redirects to the customized Healthy Building Alarm Page for that AQ parameter. For example, clicking on Temperature tile redirects the user to HB Temperature Alarms page.

- Healthy Buildings Alarm table at the bottom of this pages shows only HB related alarms. This helps operator to focus on healthy building related alarms rather than having hundreds of alarms popping up in the standard alarm summary.

Section 4: Healthy Building Alarms

- This section shows the filtered alarms for Healthy Building. It provides the standard navigation supported by EBI alarm tables like option to Acknowledge the alarm, navigate to associated display, navigate to point detail display.
- This requires point associated with master facility related to Healthy Building.
- Operator can click on the Alarm Row and select option to Acknowledge the Alarm or to go to the associated display for drilling down to further details.



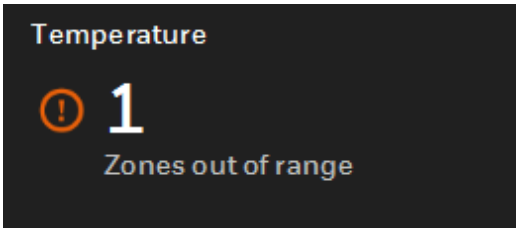
- This navigates to the floorplan graphics from where the Alarm has triggered.

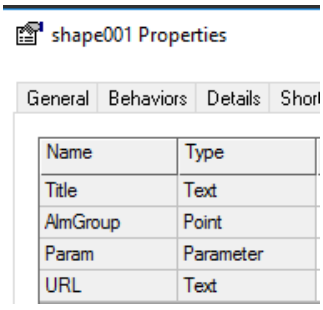
HMI Configuration

In this page we have five sections which consists of dynamic shapes. For six categories there is single shapes which fetches the data based on 4 custom properties (Title, Alarm Group, Parameter, Navigation URL).

Temperature -

- This widget shows temperature in how many zones/ areas are outside the threshold with respect to setpoint. It shows counter for number of Zones out of range and if all the zones are within the range, it shows the text as All Zones are good.
- While configuring this widget, we need to set custom properties as below :





Title – Heading text for the widget

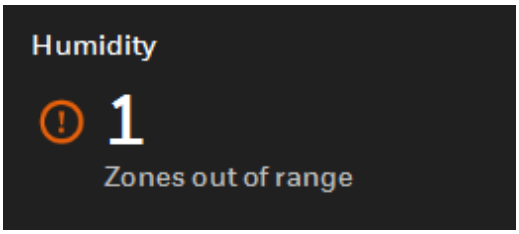
AlmGroup – Alarm Group Point for Temp

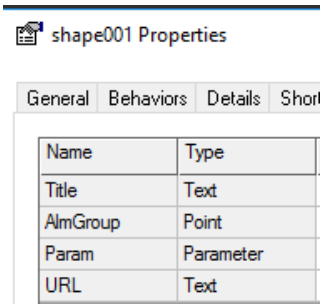
Param – Parameter for Alarm Group Point (Total Alarms, Total Active Alarms, etc.)

URL – HTM file name of the customized alarm summary page for HB Temp Alarms

Humidity -

- This widget shows humidity in how many zones/ areas are outside the threshold with respect to setpoint. It shows counter for number of Zones out of range and if all the zones are within the range, it shows the text as All Zones are good.
- While configuring this widget, we need to set custom properties as below :

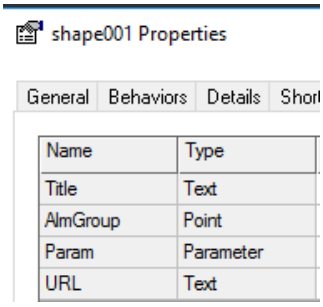




Title – Heading text for the widget
AlmGroup – Alarm Group Point for Humidity
Param – Parameter for Alarm Group Point (Total Alarms, Total Active Alarms, etc.)
URL – HTM file name of the customized alarm summary page for HB Hum Alarms

CO2 -

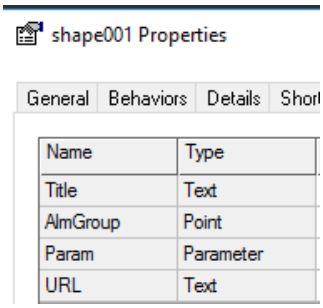
- This widget shows CO2 in how many zones/ areas are outside the threshold with respect to setpoint. It shows counter for number of Zones out of range and if all the zones are within the range, it shows the text as All Zones are good.
- While configuring this widget, we need to set custom properties as below :



Title – Heading text for the widget
AlmGroup – Alarm Group Point for CO2
Param – Parameter for Alarm Group Point (Total Alarms, Total Active Alarms, etc.)
URL – HTM file name of the customized alarm summary page for HB CO2 Alarms

Outside Airflow -

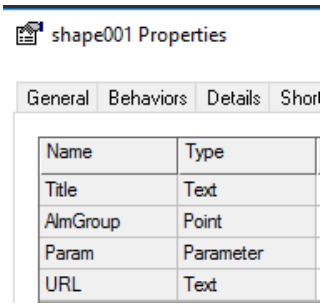
- This widget shows Outside Airflow in how many zones/ areas are outside the threshold with respect to setpoint. It shows counter for number of Zones out of range and if all the zones are within the range, it shows the text as All Zones are good.
- While configuring this widget, we need to set custom properties as below :



Title – Heading text for the widget
AlmGroup – Alarm Group Point for OA
Param – Parameter for Alarm Group Point (Total Alarms, Total Active Alarms, etc.)
URL – HTM file name of the customized alarm summary page for HB OA Alarms

CO -

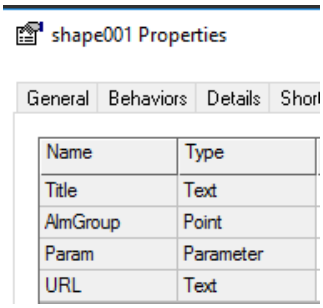
- This widget shows CO in how many zones/ areas are outside the threshold with respect to setpoint. It shows counter for number of Zones out of range and if all the zones are within the range, it shows the text as All Zones are good.
- While configuring this widget, we need to set custom properties as below :



Title – Heading text for the widget
AlmGroup – Alarm Group Point for CO
Param – Parameter for Alarm Group Point (Total Alarms, Total Active Alarms, etc.)
URL – HTM file name of the customized alarm summary page for HB CO Alarms

TVOC -

- This widget shows TVOC in how many zones/ areas are outside the threshold with respect to setpoint. It shows counter for number of Zones out of range and if all the zones are within the range, it shows the text as All Zones are good.
- While configuring this widget, we need to set custom properties as below :



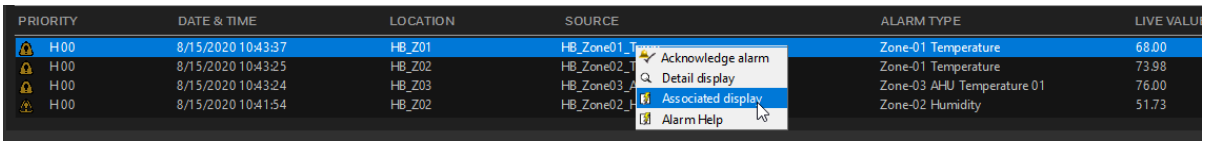
Title – Heading text for the widget

AlmGroup – Alarm Group Point for TVOC

Param – Parameter for Alarm Group Point (Total Alarms, Total Active Alarms, etc.)

URL – HTM file name of the customized alarm summary page for HB TVOC Alarms

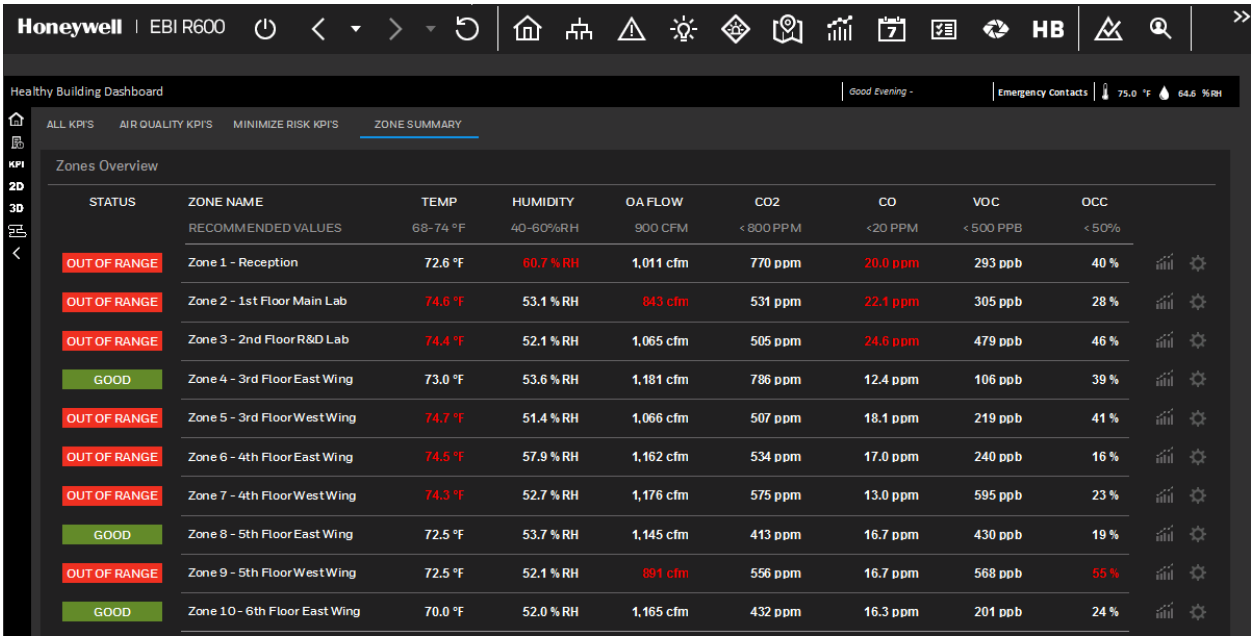
In the Healthy Building Alarms summary section on the bottom, filters should be added in order to get only healthy building related alarms.



It is recommended to do this using Facility model, all the points associated with Healthy Building AQ should be in one facility which should be added in the filter tab, under Location Tag column of the Alarm Table.

4.2 Air Quality Zone Summary

- Click the "**Zone Summary**" button on top navigation bar to open the Air Quality KPIs graphics.
- Zone Summary graphics provides consolidated summary of various zone parameters like Temperature, Humidity, CO2, Outside Air, CO, VOC, and Occupancy. First column shows the Zone status dynamic shape, this shape shows values as **'GOOD'** or **'OUT OF RANGE'** based on the alarms associated with that zone.



STATUS	ZONE NAME	TEMP	HUMIDITY	OA FLOW	CO2	CO	VOC	OCC
	RECOMMENDED VALUES	68-74 °F	40-60%RH	900 CFM	< 800 PPM	<20 PPM	< 500 PPB	< 50%
OUT OF RANGE	Zone 1 - Reception	72.6 °F	60.7 % RH	1,011 cfm	770 ppm	20.0 ppm	293 ppb	40 %
OUT OF RANGE	Zone 2 - 1st Floor Main Lab	74.6 °F	53.1 % RH	843 cfm	531 ppm	22.1 ppm	305 ppb	28 %
OUT OF RANGE	Zone 3 - 2nd Floor R&D Lab	74.4 °F	52.1 % RH	1,065 cfm	505 ppm	24.6 ppm	479 ppb	46 %
GOOD	Zone 4 - 3rd Floor East Wing	73.0 °F	53.6 % RH	1,181 cfm	786 ppm	12.4 ppm	106 ppb	39 %
OUT OF RANGE	Zone 5 - 3rd Floor West Wing	74.7 °F	51.4 % RH	1,066 cfm	507 ppm	18.1 ppm	219 ppb	41 %
OUT OF RANGE	Zone 6 - 4th Floor East Wing	74.5 °F	57.9 % RH	1,162 cfm	534 ppm	17.0 ppm	240 ppb	16 %
OUT OF RANGE	Zone 7 - 4th Floor West Wing	74.3 °F	52.7 % RH	1,176 cfm	575 ppm	13.0 ppm	595 ppb	23 %
GOOD	Zone 8 - 5th Floor East Wing	72.5 °F	53.7 % RH	1,145 cfm	413 ppm	16.7 ppm	430 ppb	19 %
OUT OF RANGE	Zone 9 - 5th Floor West Wing	72.5 °F	52.1 % RH	891 cfm	556 ppm	16.7 ppm	568 ppb	55 %
GOOD	Zone 10 - 6th Floor East Wing	70.0 °F	52.0 % RH	1,165 cfm	432 ppm	16.3 ppm	201 ppb	24 %

- This page shows zone wise details of various Air Quality parameters like Temperature, Humidity, Outside Airflow, CO2, CO, VOC, etc. This page has three main sections :

- **Section 1: Smart Tuples**

  This section shows the actual values for various zone related air quality parameters like Temperature, Humidity, CO2, Outside Airflow, PM 2.5, TVO, etc. Each smart tuple shape shows the current value of the point with engineering unit and it changes the text color of the value and engineering unit to RED based on the Alarm configuration. The alarm indication is fetched based on alarm configuration in the point.

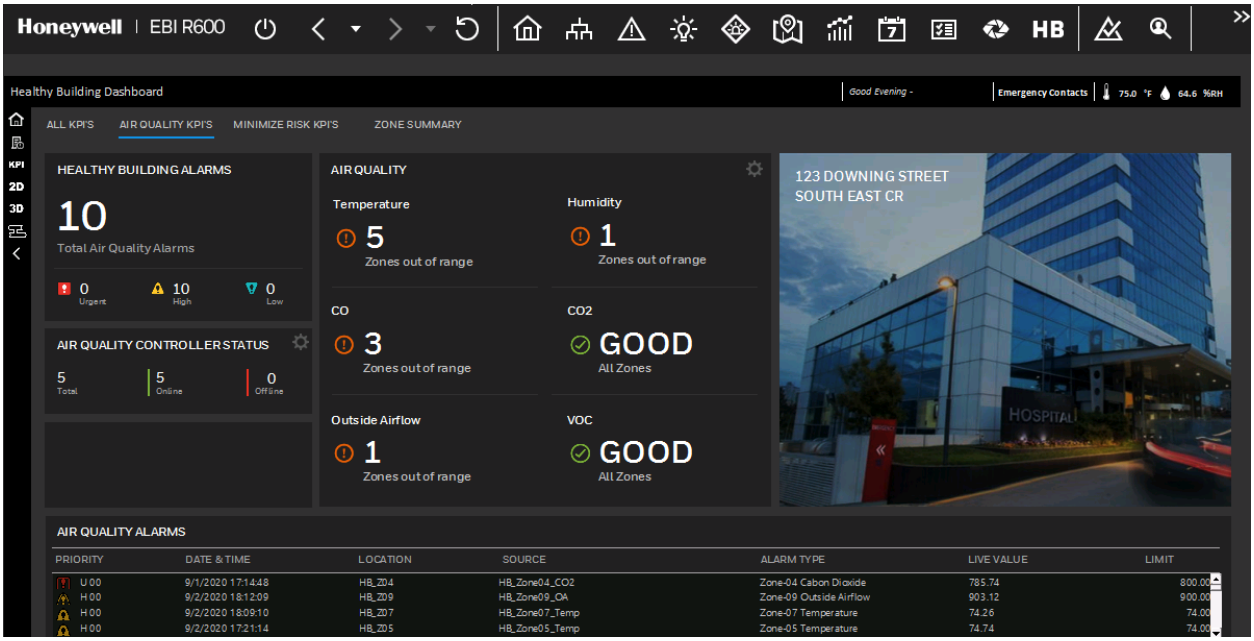
  Categorization of HB alarms based on their priorities like Urgent, High and Low. This needs the Facility configuration in Quick Builder to show the data.

Section 2: Zone Status

This widget shows if the zone is Good or Out of range, with respect to Air Quality parameters listed in that row. If any of the parameter associated with that zone is having an alarm, this widget turns Red and shows text as 'Out of Range' and if all parameters are within the desired range; it turns Green and shows text as 'Good'.

- **Section 3: Zone Trends**

  This button provides a link to trends associated with that zone. This can be customized as per site requirement.

- 

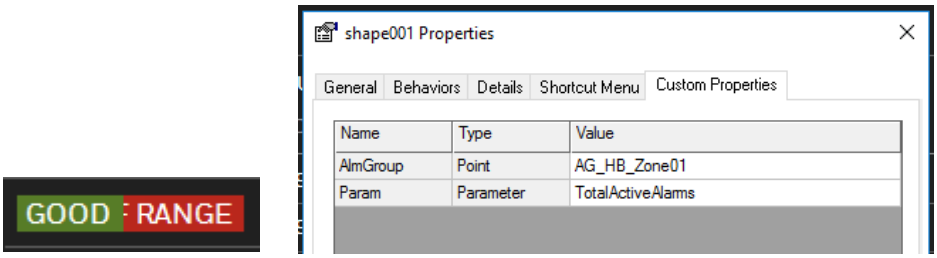
HMI Configuration

In this page we have four sections which consists of dynamic shapes There are two dynamic shapes used in this graphics : Zone Status and Smart Tuple.

For six categories there is single shapes which fetches the data based on 4 custom properties (Title, Alarm Group, Parameter, Navigation URL).

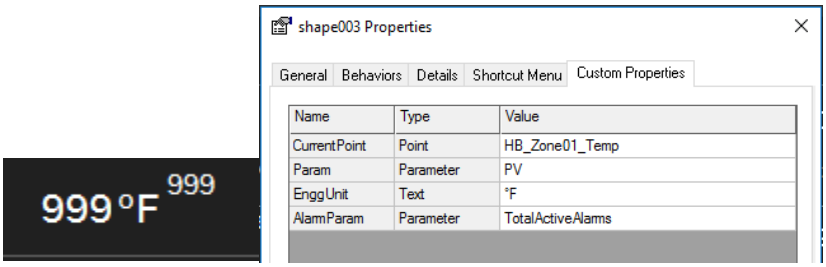
Zone Status

This shape requires two custom properties, Alarm Group point name and parameter. The alarm group for all the AQ related points for that zone should be created and downloaded in Quickbuilder. The parameter should be the Alarm Parameter as per the site requirement. (TotalAlarms, TotalActiveAlarms, etc.)



Smart Tuple

This shape shows the actual values of the point linked to it and changes the color based on the Alarm conditions configured for that point. If the point goes in alarms, the text color of the point value and engineering unit changes to RED and it returns to WHITE once the alarm is acknowledged and returned to normal.



This shape requires four custom properties:

CurrentPoint - Point Name

Param - Parameter for the point

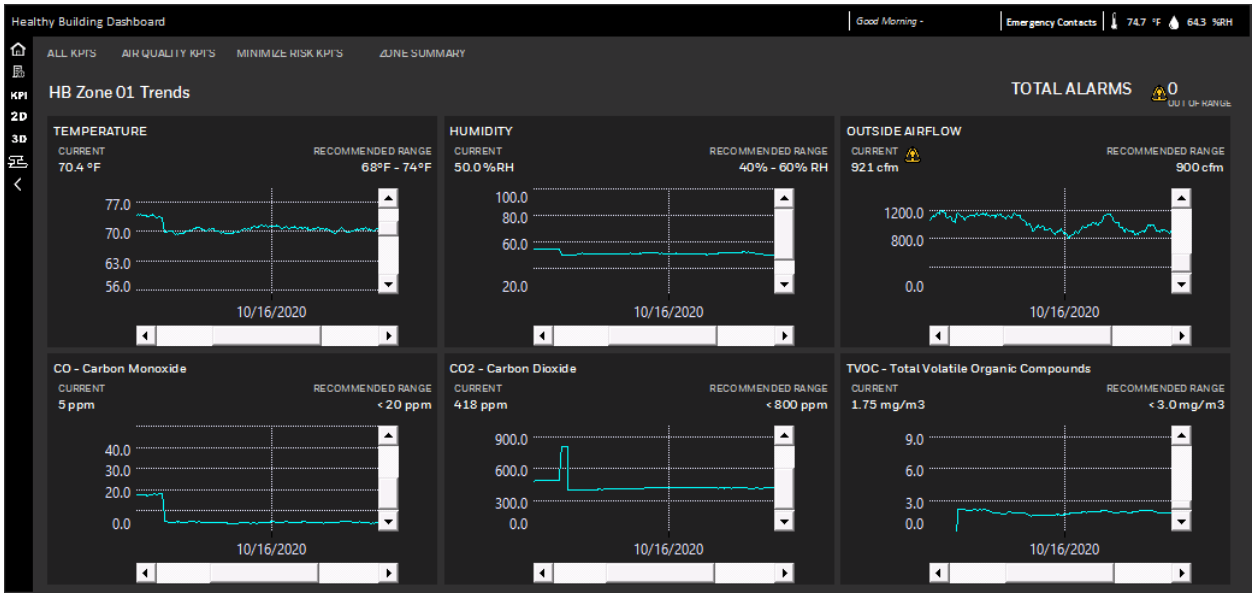
EnggUnit - Engineering unit to be shown

AlarmParam - Alarm Parameter (TotalAlarms, TotalActiveAlarms., etc.)

4.3 Air Quality Trends

Each zone has SHOW TREND button, this opens the zone trend page for Air Quality parameters of that zone. This can be customized to suite the site requirement. Any parameter that is out of range is shown in red color and alarm indicator is shown next to it.

The default trends are shown for period of last 7 days and interval of 1 Hr. This can be customized as per the requirement. The trend widget also shown the Current value of the parameter, recommended value range along with the Alarm Icon. This Alarm Icon can be used to Acknowledge or Shelve the alarm.

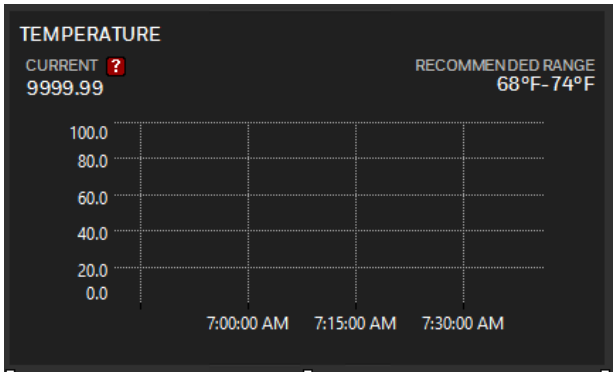


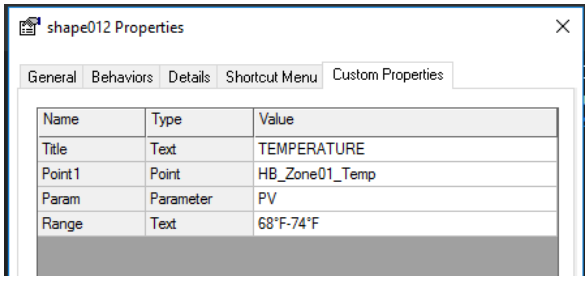
HMI Configuration

This page uses multiple trend shapes, all the shapes are similar. The only change is in the scale based on the recommended values. This shape shows the trend chart for the values of the point linked to it. There are different variants of the shape based on the value ranges for points

Smart Trends

This shape shows the trend chart for the values of the point linked to it. There are different variants of the shape based on the value ranges for points. By default, the trends are configured for default period





This shape requires four custom properties:

CurrentPoint - Point Name

Param - Parameter for the point

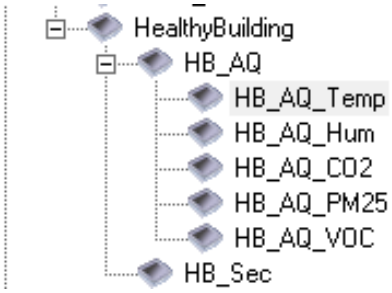
EnggUnit - Engineering unit to be shown

AlarmParam - Alarm Parameter (TotalAlarms, TotalActiveAlarms., etc.)

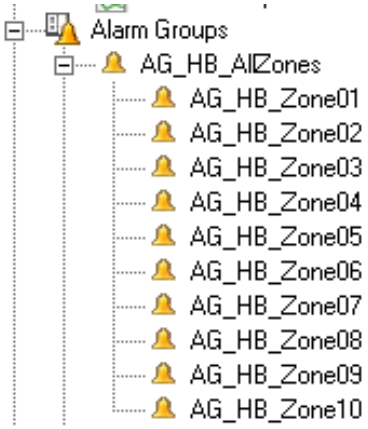
5. QUICKBUILDER DATABASE CONFIGURATION

Health Building Air Duality dashboard utilizes the alarm group functionality and facility for showing the Alarm Count for zone wise and system wise alarms. Once the alarm groups are created, points should be dragged to specific alarm groups so that it fetches the data for systems and zones.

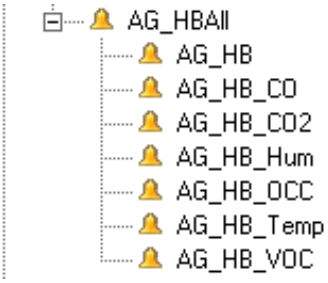
Similar way all the points associated with the Healthy Building dashboard shall be configured with master facility having only HB related points. In below screenshot, Healthy Building is the master facility under which there are two separate facilities for HB_AQ and HB_Sec and so on.



Alarm Groups are required for each zone and each category. For example, a site has 10 zones and IAQ sensor is fetching values for 6 air quality parameters, in quick builder we must create 16 Alarm Groups as below:



Zone-wise Alarm Groups



Category-wise Alarm Groups

The shapes used on Air Quality KPIs and All KPIs pages (described on page-12) fetches the Alarm count based on the parameters linked in the custom property. In the above screenshot the Shape shows ***TotalActiveAlarms*** for ***AG_HB_Temp*** Alarm Group.

If the Count = 0, the shape shows GOOD in the Count Text and All Zones in the Description Text. If the Count > 0, the shape shows COUNT in the Count Text and Out of Range in the Description Text.

6. SECURITY PACKAGE

6.1 Prerequisites

- Site system should have EBI and DVM integrated with required licenses.
- Both the EBI and DVM Servers should have Healthy Building Updates as specified below
    - EBI R500 CU5 – EBI Analytics Update
    - EBI R600 CU2 – RU5 + Analytics Update
    - EBI R600 CU3 – No Update Required
    - DVM 620 SP1 – Healthy Building update (HB Update)
    - DVM 700.1 CU1 - Healthy Building update (HB Update)
- Cameras on site should to support alarms (7 Alarms) and the associated adapter should be installed to get the alarms in EBI.

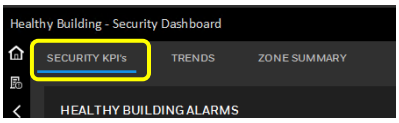
6.2 Supported Solutions

Solution	Solution Set	Data Source
HikVision	Body Temp Screening	EBI alarm on high temp
Silent Sentinel	Body Temp Screening	EBI alarm on high temp
Thermo Rebellion	Body Temp Screening	EBI alarm on high temp
Lockdown App	Occupancy	Soft channel to DVM camera point
Occupancy - TEMA	Occupancy	EBI Alarms based on zone exceeded
Occupancy - Access Control	Occupancy	Access Granted event
DVM HVA people counting	Occupancy	EBI alarm person in, EBI alarms person out
Ipsotek People Counting	Occupancy	EBI alarm person in, EBI alarms person out
Ipsotek Mask PPE	PPE	EBI alarm on no mask detection
MaxPro NVR PPE	PPE	EBI alarm
Ipsotek Social Distancing	Social Distancing	EBI alarm
MaxPro NVR Social Distancing	Social Distancing	EBI alarm
RightCrowd Social Distancing	Social Distancing	RightCrowd EBI alarm

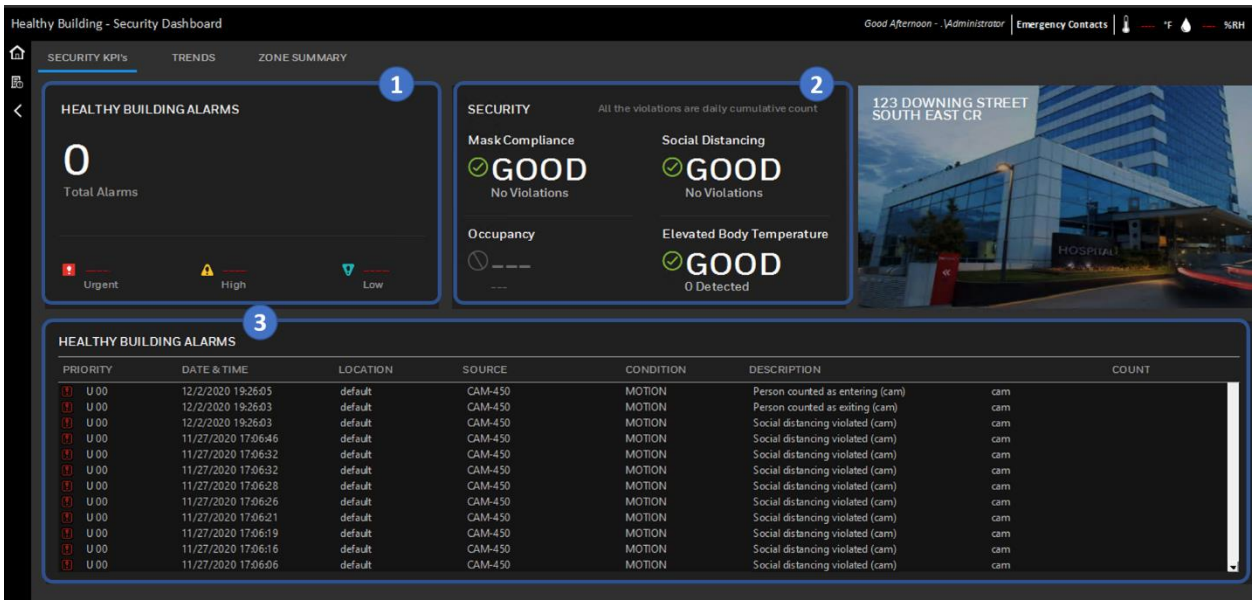
7. SECURITY PACKAGE

7.1 Security Dashboard

- Click the "**Security KPIs**" button on top navigation bar to open the Air Quality KPIs dashboard.



- This page shows zone wise count of violations of various healthy building parameters like Elevated Body Temperature, Mask Compliance, Zone Occupancy and Social Distancing Violations.

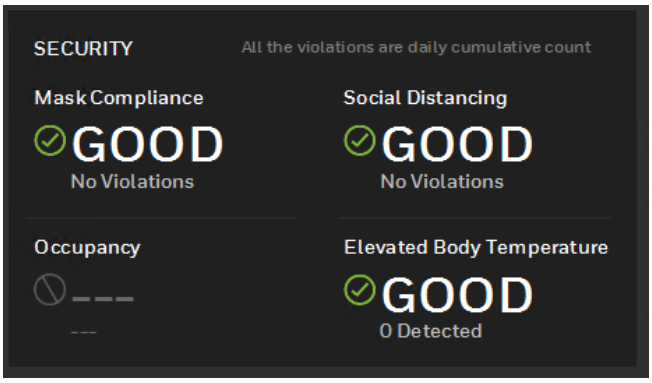


Section 1: Healthy Building Alarms

- This section shows the categorization of HB alarms based on their priorities like Urgent, High and Low.
- This requires the Facility configuration in Quick Builder to show the data.

Section 2: Security KPIs

- This section has tiles for various Healthy building security KPIs. Each tile will show count of violations of each category zones that are having violations. It will also display the status of All Zone (Good) if none of the zones is having any violation.
- All the security KPI counters shown on the dashboard are for last 24 Hrs. It uses the NotifCnt24Hr counters for dashboard and zone summary.
- If any counter is not available or point is not programmed, the widget only shows the Title and shows cross circle and dashed line to represent the widget placeholder.

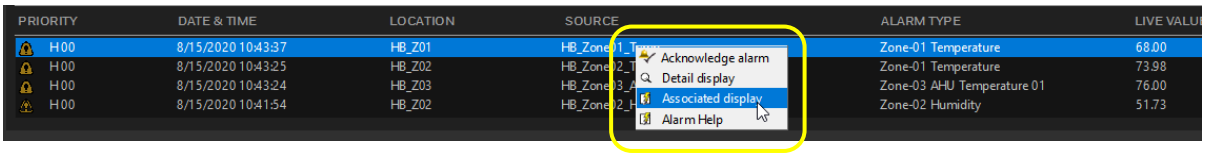


- **Mask Compliance**
  - This widget is configured to show the count of people not wearing mask in the entire facility for today. This counter resets every midnight and fetchers the information for today.
  - If there are more than one Mask violation based on the EBI Analytics counter, the widget shows the **COUNT** and text as **Violations**.
  - If there are no violations based on the EBI Analytics counter, the widget shows the text as **GOOD – No Violations.**
- **Social Distancing**
  - This widget is configured to show the count of people not following the social distancing in the entire facility for today. This counter resets every midnight and fetchers the information for today.
  - If there are more than one Social distancing violation based on the EBI Analytics counter, the widget shows the **COUNT** and text as **Violations**.
  - If there are no Social distancing violations based on the EBI Analytics counter, the widget shows the text as **GOOD – No Violations**.

- **Elevated Body Temperature**
    - This widget is configured to show the count of people having Elevated Body Temp in the entire facility for today. This counter resets every midnight and fetchers the information for today.
    - If there are more than one Social distancing violation based on the EBI Analytics counter, the widget shows the **COUNT** and text as **Detected**.
    - If there are elevated body temperature incidents reported based on the EBI Analytics counter, the widget shows the text as **GOOD – 0 Detected**.
- **Occupancy**
    - This widget is configured to capture the alarms for the Occupancy violation based on the zone occupancy limit. This widget uses the Alarm Group for the occupancy zones and not the EBI Analytics.
    - If there are more than one Occupancy Violation Alarms in the Alarm Group, then widget shows the **COUNT** and text as **Violations**.
    - If there are no Occupancy Violation Alarms in the Alarm Group, then the widget shows the text as **GOOD – No Violations**.

Section 3: Healthy Building Alarms

- This section shows the filtered alarms for Healthy Building. It provides the standard navigation supported by EBI alarm tables like option to Acknowledge the alarm, navigate to associated display, navigate to point detail display.
- This requires point associated with master facility related to Healthy Building.
- Operator can click on the Alarm Row and select option to Acknowledge the Alarm or to go to the associated display for drilling down to further details.

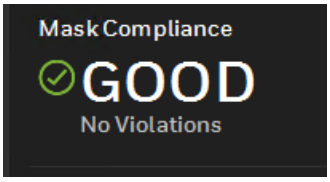


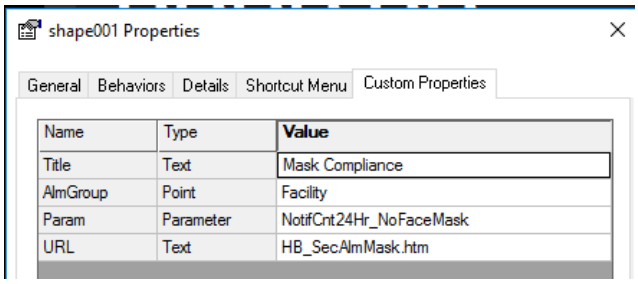
- This navigates to the floorplan graphics from where the Alarm has triggered.

HMI Configuration

In this page we have four sections which covers the Healthy Building Alarms, Air Quality KPIs, Security KPIs and Alarm Summary. There is one common dynamic shape used in this graphics : SmartTileSmallSecSingleV

Same shape fetches the alarm count from Alarm Group / Facility for Air Quality KPIs, and fetches violation count from EBI Counters for security KPIs, this shape can be configured using 4 custom properties (Title, Alarm Group, Parameter, Navigation URL).

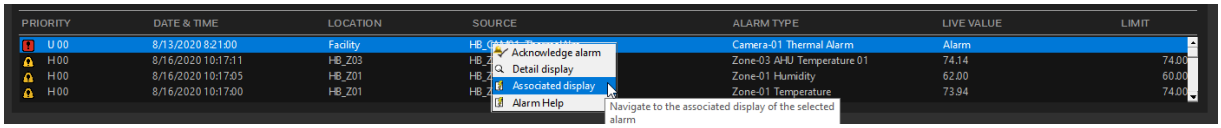




Below are the details about the Custom Properties :

Title – Heading text for the widget
AlmGroup – Point for the Counter
Param – Parameter for the Counter (NotifCnt24Hr_NoFaceMask, etc.)
URL – HTM file name of the customized alarm summary page for HB TVOC Alarms

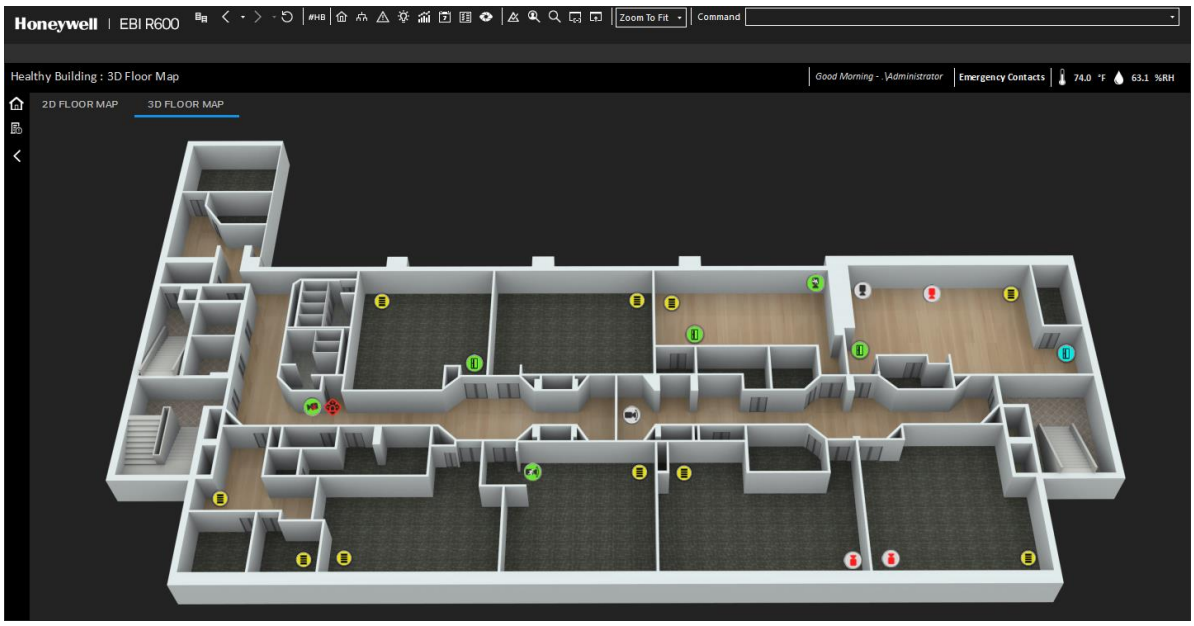
- Once the Alarm is triggered, it appears in the HB Alarms table on the bottom of the graphics page and the count is increased in the widget. Clicking on any of the widget redirects to the system specific alarm summary. For example, clicking on the Mask Compliance widget opens the Mask Violation Alarms page where only mark violation alarms are listed.
- Right clicking on any Alarm row from the summary page or the alarm table on the dashboard page, shows various alarm actions like Acknowledge Alarm, Detail Display, Associated Display, etc.
- Clicking on the Associated Display redirects user to the floorplan having device associated that alarm.



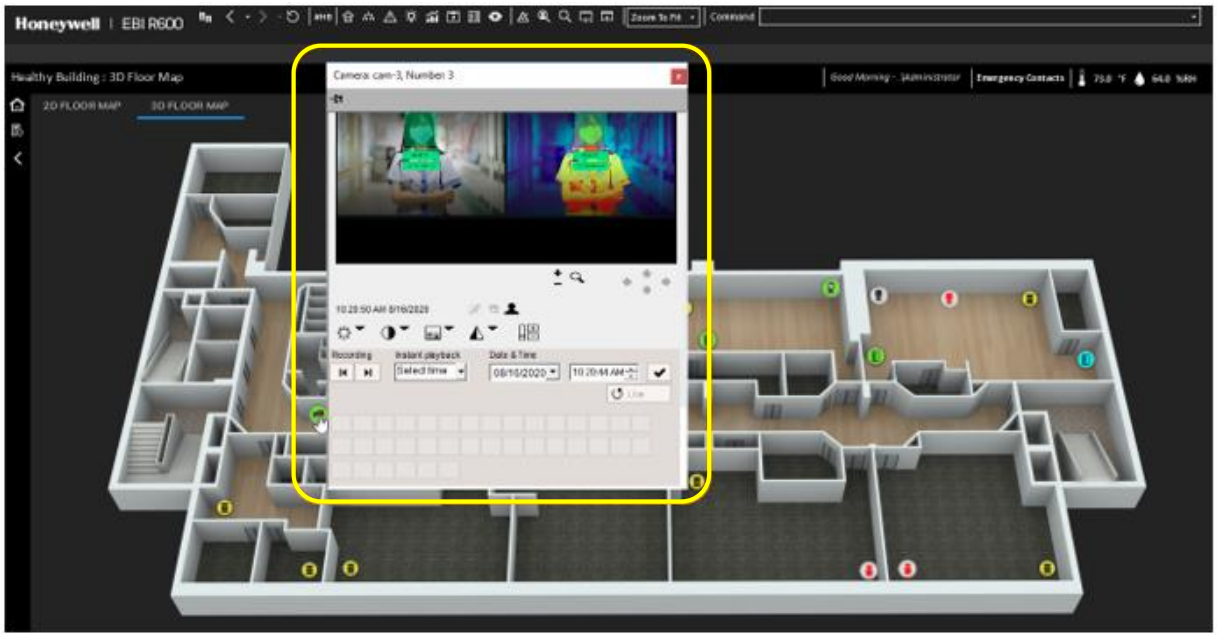
- Security Floorplan has dynamic icons for different devices like Cameras, Doors, Card Readers, Intercoms, etc. These icons change color based on the Status, Alarm points of associated equipment.

Note:

As a part of healthy building dashboard, the associated display assignment is done for providing navigation to existing site Floorplan graphics. Existing floorplan graphics can be modified as per site specific requirements.



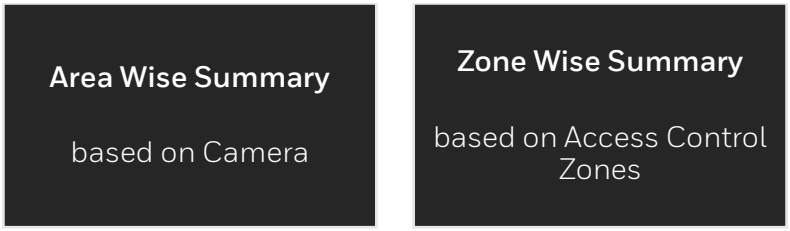
- Clicking on these icons will open the standard popup for associated point. In this demo, clicking on Camera icons will open the standard DVM faceplate with live video.



- This is the default faceplate/popup for the camera and provides options like Play, Pause, Change settings, Date & Time selection, etc.

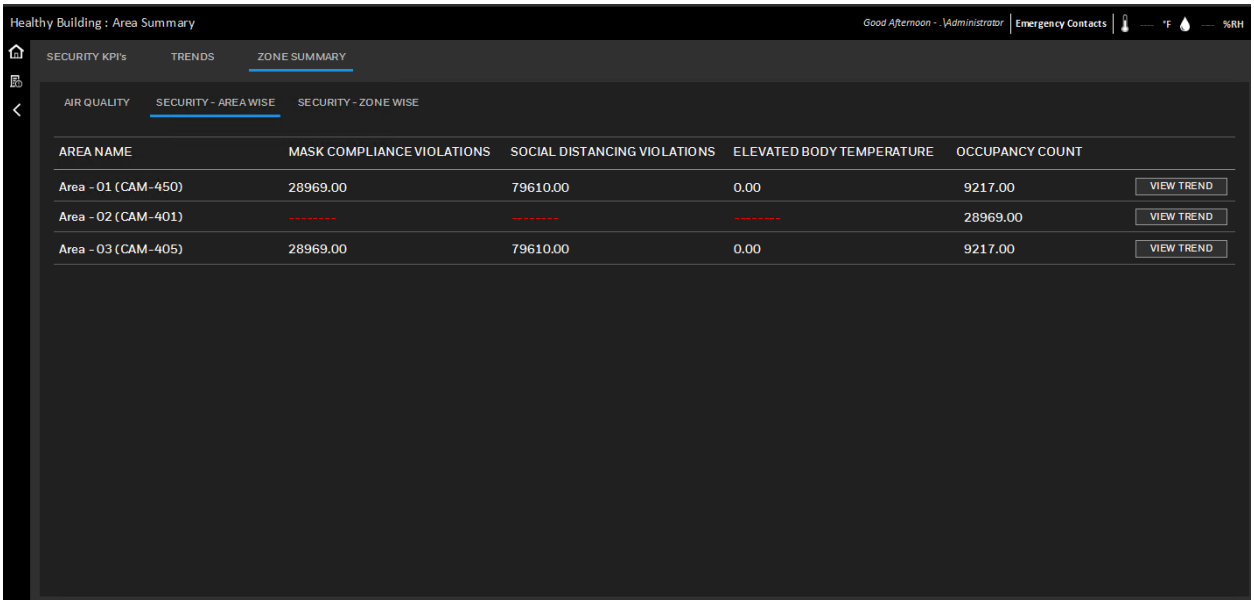
7.2 Area-wise Summary & Trends

Security Zone Summary has two subcategories as Area wise Summary and Zone Wise Summary.

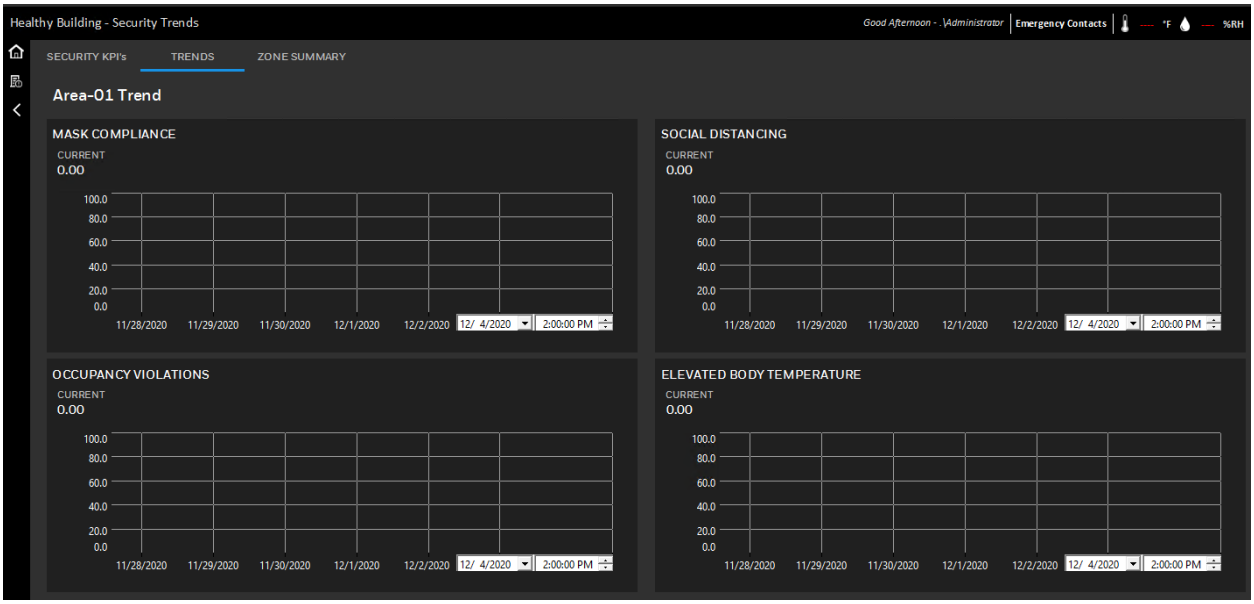


Area wise Summary –

- This page shows the camera-based information for all the areas having cameras. This page shows the Mark Compliance Violations, Social Distancing Violations, Elevated Body Temperature incidents in that zone from last 24 hours.

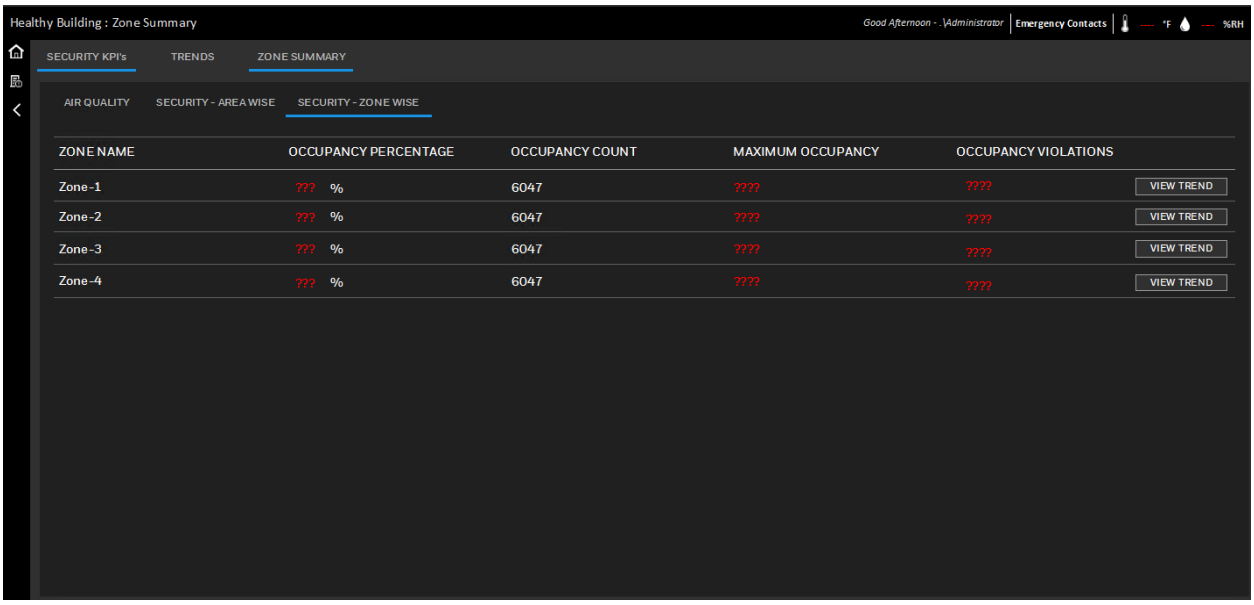


- It also shows the Occupancy Count for each area based on the 'person detected entering' and 'person detected exiting' . These two counters are available in EBI Analytics.
- Clicking on 'View Trend' button opens the Trend page for that area. The Trend page shows the historic data for the same four categories. The default sample rate for Trends is 1 Hour and default period is 7 Days.

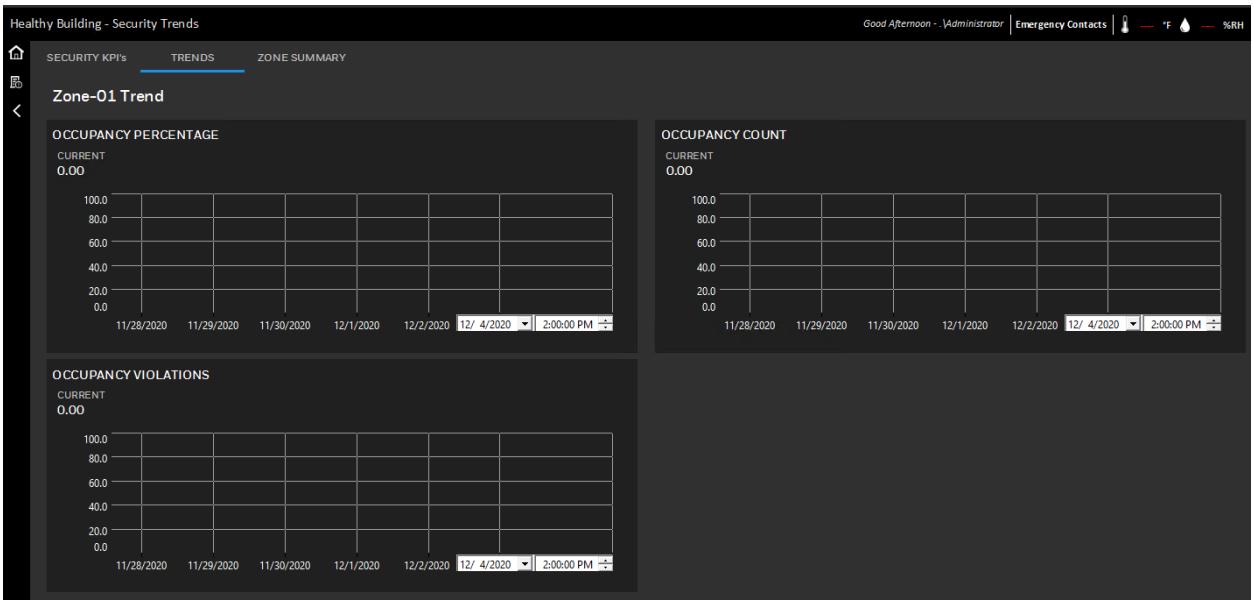

Healthy Building - Security Trends
Good Afternoon - .\Administrator
Emergency Contacts
°F
%RH
SECURITY KPI's
TRENDS
ZONE SUMMARY
Area-01 Trend
MASK COMPLIANCE
CURRENT
0.00
100.0
80.0
60.0
40.0
20.0
0.0
11/28/2020
11/29/2020
11/30/2020
12/1/2020
12/2/2020
12/ 4/2020
2:00:00 PM
SOCIAL DISTANCING
CURRENT
0.00
OCCUPANCY VIOLATIONS
CURRENT
0.00
ELEVATED BODY TEMPERATURE
CURRENT
0.00

7.3 ACS Zone-wise Summary & Trends

- This page shows the access control zone-based information for all access-controlled zones. This page shows the Occupancy Count, Maximum Occupancy Limit, Occupancy Percentage and Occupancy Violations for each zone.



- Occupancy violations are based on the alarms and thence that value turns red it the count is more than one.
- Clicking on 'View Trend' button opens the Trend page for that zone. The Trend page shows the historic data for the same four categories. The default sample rate for Trends is 1 Hour and default period is 7 Days.



8. EBI ANALYTICS

8.1 EBI Analytics Overview

- EBI Analytics engine is "Analytics.exe" which runs as an EBI daemon and gets installed to the "%honeywelldir%server\analytics" folder along with the configuration tool "Analytics.Config.exe".
- An analytic is exposed in the system as a parameter built against a point and has 3 parts:
  1. Analytic Type: defines how the analytic is calculated e.g. counters
  2. Analytic Source: defines what input the analytic is consuming e.g. notifications (alarms/events)
  3. Analytic Target(s): define where the analytic is built and runtime value can be accessed (read/write) e.g.facility model, points

An analytic definition has 3 parts in this format:
<AnalyticType>_<AnalyticSource> [<AnalyticTarget>;<AnalyticTarget>]

- <AnalyticType> can be any one of AnalyticType identifiers e.g. NotifCnt, NotifCnt8Hr, NotifCnt24Hr, NotifCntLast8Hr, NotifCntLast24Hr
- <AnalyticSource> can be any one of AnalyticSource identifiers e.g. Entry, Exit, FaceMask, NoFaceMask,NormalBodyTemp, HighBodyTemp, Distancing, DistancingViolation, Crowd, Granted
- <AnalyticTarget> can be one or multiple AnalyticTarget identifiers separated by semi-colon e.g. FacilityModel, Point:cam001, Point:poiana01

Once built, an analytic is exposed by a parameter having a name matching the <AnalyticType>_<AnalyticSource> part of the definition.

Example 1

Assume you want to count the number of access control granted events every 24 hours on every location in the EBI facility model plus two specific access points named Reader1 and Reader2. To achieve this, you would create an analytic using a fixed interval counter by running below command in a command prompt:

Analytics.Config.exe /Build:"NotifCnt24Hr_Granted [FacilityModel;Point:Reader1;Point:Reader2]"

Building this analytic would result in NotifCnt24Hr_Granted parameter being built against every location in the facility model as well as points Reader1 and Reader2. So, to read live value of this analytic for Reader1 or Reader2 or a given location e.g. Floor1 and Floor2 you can use below parameter values:

Point (tag name)	Parameters
Facility	NotifCnt24Hr_Granted
Floor1	NotifCnt24Hr_Granted
Floor2	NotifCnt24Hr_Granted
Reader1	NotifCnt24Hr_Granted
Reader2	NotifCnt24Hr_Granted

Example 2

Assume you want to know:

- number of people entered the building (detected by cameras) every 24 hours
- number of people with no masks detected in the building and specifically detected by camera1 every 24 hours
- number of people with no masks detected by **camera1** for last 2 hours at any point of time
- number of people with high temperature detected by **camera2** and **camera3** every 8 hours

To achieve this, you would create a text file e.g. ***analytic-def-example.txt*** in the same folder as Analytics.Config.exe with below contents:

analytic-def-example.txt contents

```
NotifCnt24Hr_Entry [FacilityModel]
NotifCnt24Hr_NoFaceMask [FacilityModel;Point:camera1]
NotifCntLast2Hr_NoFaceMask [Point:camera1]
NotifCnt8Hr_HighBodyTemp [Point:camera2;Point:camera3]
```

and then build the analytics by running below command in a command prompt:

Analytics.Config.exe /BuildFile:"analytic-def-example.txt"

Building these analytics would result in below parameters built in the system assuming there are ***Floor1*** and ***Floor2*** defined as locations in the facility model:

Point (tag name)	Parameters
Facility	NotifCnt24Hr_Entry
	NotifCnt24Hr_NoFaceMask
Floor1	NotifCnt24Hr_Entry
	NotifCnt24Hr_NoFaceMask
Floor2	NotifCnt24Hr_Entry
	NotifCnt24Hr_NoFaceMask
camera1	NotifCnt24Hr_NoFaceMask
	NotifCntLast2Hr_NoFaceMask
camera2	NotifCnt8Hr_HighBodyTemp
camera3	NotifCnt8Hr_HighBodyTemp

8.2 Analytic Type

There are currently 3 types of analytics implemented of which all variations available on an EBI system can be seen by running Analytics.Config.exe /ListAnalyticTypes in a command prompt.

Accumulating notification counter

This type of analytic can be defined using the identifier NotifCnt and is used to count up number of notifications occurred on the system since the analytic is configured on the system; this counter increments until reaches max number supported for a long integer value (2,147,483,647) and then resets to zero.

Fixed-interval notification counter

This type of analytic can be defined using the identifier NotifCnt<X>Hr in which <X> can be replaced with 8 different values for hours (1, 2, 3, 4, 6, 8, 12, and 24) indicating the fixed interval duration notification occurrences on the system are counting up, and once end of the interval is reached the counter resets to zero and starts counting up again for the next fixed interval; e.g. NotifCnt8Hr indicates that the analytic counts up notifications every 8 hours starting from midnight every day and resets the counter to zero every 8 hours on the clock i.e. 8 AM, 4 PM, 12 AM (with a few seconds delay to have history collection pickup value changes).

Identifier	Interval Duration	Time intervals
NotifCnt1Hr	1 hour	00:00 to 01:00 - 01:00 to 02:00 - … - 23:00 to 24:00
NotifCnt2Hr	2 hours	00:00 to 02:00 - 02:00 to 04:00 - … - 22:00 to 24:00
NotifCnt3Hr	3 hours	00:00 to 03:00 - 03:00 to 06:00 - … - 21:00 to 24:00
NotifCnt4Hr	4 hours	00:00 to 04:00 - 04:00 to 08:00 - … - 20:00 to 24:00
NotifCnt6Hr	6 hours	00:00 to 06:00 - 06:00 to 12:00 - … - 18:00 to 24:00
NotifCnt8Hr	8 hours	00:00 to 08:00 - 08:00 to 16:00 - 16:00 to 24:00
NotifCnt12Hr	12 hours	00:00 to 12:00 - 12:00 to 24:00
NotifCnt24Hr	24 hours	00:00 to 24:00

Sliding-interval notification counter

This type of analytic can be defined using the identifier NotifCntLast<X>Hr in which <X> can be replaced with 8 different values for hours (1, 2, 3, 4, 6, 8, 12, and 24) indicating the sliding time window notification occurrences on the system are counting up, and it decrements once a notification occurrence falls outside the boundary of the sliding time window (prior to current time); e.g. NotifCntLast8Hr indicates that the analytic counts up notifications for the last 8 hours from current time i.e. if current time is 3:15 PM then the analytic has number of notification occurrences between 7:15 AM and 3:15 PM (with a few seconds delay to have history collection pickup value changes).

Identifier	Interval Duration	Time intervals
NotifCntLast1Hr	1 hour	Last hour from current time
NotifCntLast2Hr	2 hours	Last 2 hours from current time
NotifCntLast3Hr	3 hours	Last 3 hours from current time
NotifCntLast4Hr	4 hours	Last 4 hours from current time
NotifCntLast6Hr	6 hours	Last 6 hours from current time
NotifCntLast8Hr	8 hours	Last 8 hours from current time
NotifCntLast12Hr	12 hours	Last 12 hours from current time
NotifCntLast24Hr	24 hours	Last 24 hours from current time

Analytic Source

There are currently 9 healthy building notification types and 12 access control notification types defined as available analytic sources which can be seen by running Analytics.Config.exe /ListAnalyticSources in a command prompt.

Healthy buildings analytic sources

Analytic	Source Description
Entry	Person entered
Exit	Person exited
FaceMask	Person detected with face mask
NoFaceMask	Person detected with no face mask
NormalBody	Temp Person detected with a normal body temperature
HighBodyTemp	Person detected with a high body temperature
Distancing	Social distancing detected
DistancingViolation	Social distancing violation detected
Crowd	Crowd detected
Granted	Access control granted notification

Access control analytic sources

Analytic Source	Description
Granted	Access control granted notification
Denied	Access control denied notification
DeniedExpired	Access control denied expired notification
DeniedInactiveCard	Access control denied inactive card notification
DeniedInvalidReader	Access control denied invalid reader notification
DeniedInvalidTime	Access control denied invalid time notification
DeniedLost	Access control denied lost card notification
DeniedOther	Access control denied other notification
DeniedPinError	Access control denied PIN error notification
DeniedStolen	Access control denied stolen card notification
DeniedUnrecognizedCard	Access control denied unrecognized card notification
Duress	Access control duress notification

Analytic Target

The system currently supports 2 types of analytic targets which indicate upon which EBI points the new parameters will be built:

- Facility model; by using FacilityModel target identifier the analytic (counter) parameter is built for every location in the EBI facility model.
- Specific points; by using Point:<tag-name> target identifier (<tag-name> must be replaced with the actual tag name of the point) the analytic (counter) parameter is built for <tag-name>.

8.3 Analytic Configuration

1.

Analytics definitions can be validated by running one of below commands in a command prompt:

- Individual analytic***: Analytics.Config.exe /Validate:"<Definition>"***
- Bulk analytics: ***Analytics.Config.exe /ValidateFile:"<File path>"***

Analytics can be configured (built) in the system by running one of below commands in a command prompt:

- Individual analytic configuration***: Analytics.Config.exe /Build:"<Definition>" [/Overwrite]***
- Bulk analytics configuration using a text file***: Analytics.Config.exe /BuildFile:"<File path>" [/Overwrite]***

/Overwrite is an optional switch which can be used when you need to add or remove target(s) of an existing analytic; ***You must rebuild the analytic using its entire definition.***

The analytics that are built in a system can be seen by running below command in a command prompt:

- ***Analytics.Config.exe /ListAnalytics***

An analytic can be deleted by running below command in a command prompt (note that deleting an analytic does not delete the parameters that were built for it):

- ***Analytics.Config.exe /Delete:"<Definition>"***