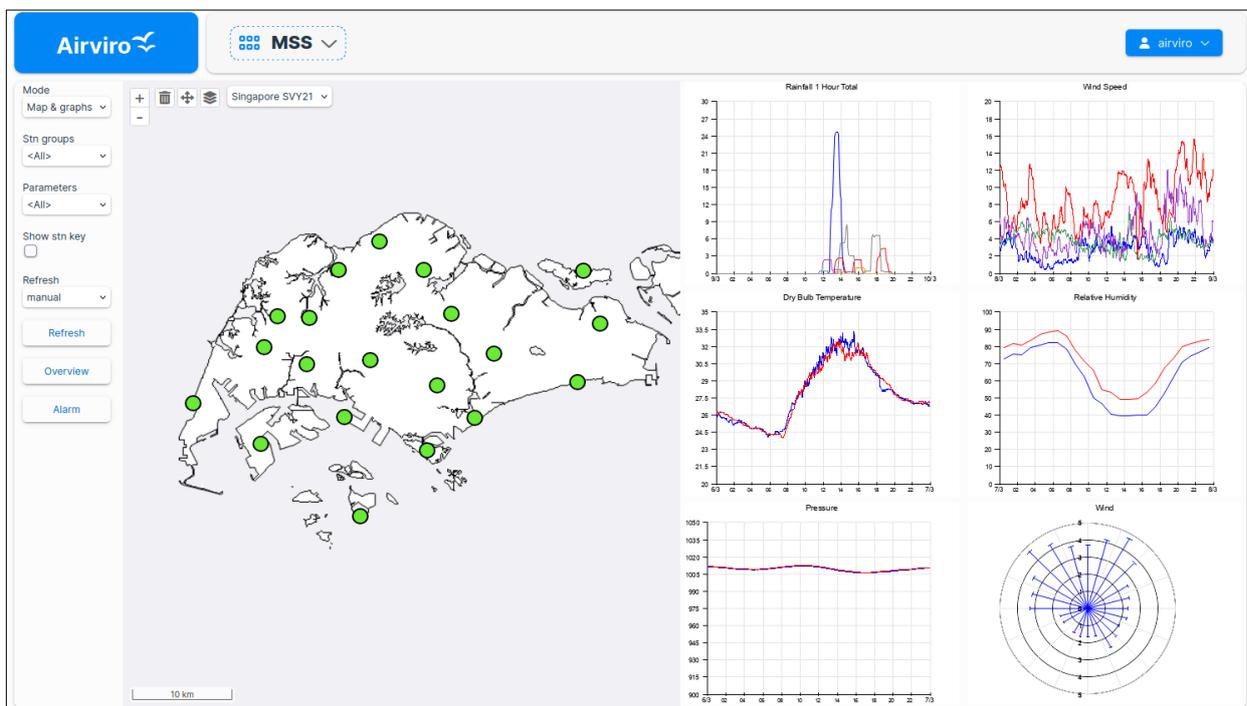




## Airviro User's Reference



## Working with Indico Real Time Weather

Visualizing weather monitoring in real time

# Presentation of weather monitoring on a Map, Graphs and Alarms

## Amendments

Version	Date changed	Cause of change	Signature
4.00	May 2015	New Module	GS
4.00	Aug 2018	Review	GS
5.01	July 2020	Review	GS
6.00	April 2024	Upgrade	GS
6.00	July 2024	Review	DC
6.00	Oct 2025	Review	GS
6.00	Dec 2025	Review	DC

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## 13.1 Introduction

The Indico RTW Module is used to display maps, graphs and alarms. The information displayed depends on the selected parameter.

On the map, it is possible to visualize stations and tables containing monitoring information.

Use the Macros tool in Indico Presentation, to define which graphs should be shown. This module is used to show real time data and therefore, are only allowed to change the refresh interval from manual to different time intervals.

Active alarms can be shown pressing the Alarm button in the left menu. Alarms are defined in Indico Alarms.

### 13.1.1 General Concepts

The data collected from several stations and parameters are stored in the TSDB. Using Indico Presentation, you can create and save macros that use this data.

The map used to display this information is the default map for the current domain. you can configure the macros to be used in Indico RTW. The Alarms are defined in Indico Alarms.

The administrator must create a configuration file with the following information: Parameter categories, list of keys for each parameter and which alarms should be shown. See an example in *Appendix 13A*.

### 13.1.2 Functionality

This Airviro module runs on any PC or any other device running Edge, Firefox, Google Chrome or any other Mozilla based browsers.

## 13.2 Getting started

Once Airviro has been properly installed on the *server*, you can start using it by typing the correct URL in your web browser over the Intranet/Internet.

After logging into Airviro typing your user-ID and password, a domain must first be selected, from the icon showing the map or enabling the List Mode, and pressing on the Domain name that is displayed. In this case **Indico RTW** should be chosen from the available modules.

Any user with the required privileges can access the Alarm module. Privileges must be previously defined to avoid unauthorized access.

By clicking on the button  [down arrow], besides the user button text, the **[Logout]** button, is shown. Click on it to close the current module and display the Airviro login page instead.

## 13.3 Main window

The following options are available:

- Mode: it allows you to select a data presentation mode. These options are: map &

graphs, only map or only graphs.

- Stn groups: it allows you to select to only show stations belonging to a certain station group (i.e. rain, meteorology).
- Parameters: it allows you to select a parameter from a set of available parameters such as pressure, temperature, wind, etc. These are previously defined by the system administrator. The latest values for the parameter chosen are shown when hovering the mouse pointer over the station.
- Show stn key: tick the box to display the station key.
- Refresh: it allows you to manually refresh the display or to specify a refresh interval, for example, manual, 1 minute, 5 minutes, 15 minutes, 30 minutes or 1 hour.
- [Refresh]: use this button for manually refreshing the display.
- [Overview]: it opens a new window containing a table. This table may contain, for instance, the station and parameters (temperature, relative humidity, heat index, rainfall, wind direction, wind speed, sunshine, radiation, and pressure).
- [Alarm]: it opens a new window containing a table with alarms.

Placing the mouse pointer over a station, on the map, will display a new floating window with a table showing the following information: Station name and the measured parameters for that station including data/time and values.

Clicking on any of the graphs to the right of the map, will display it enlarged in a new

maximized pop-up window.

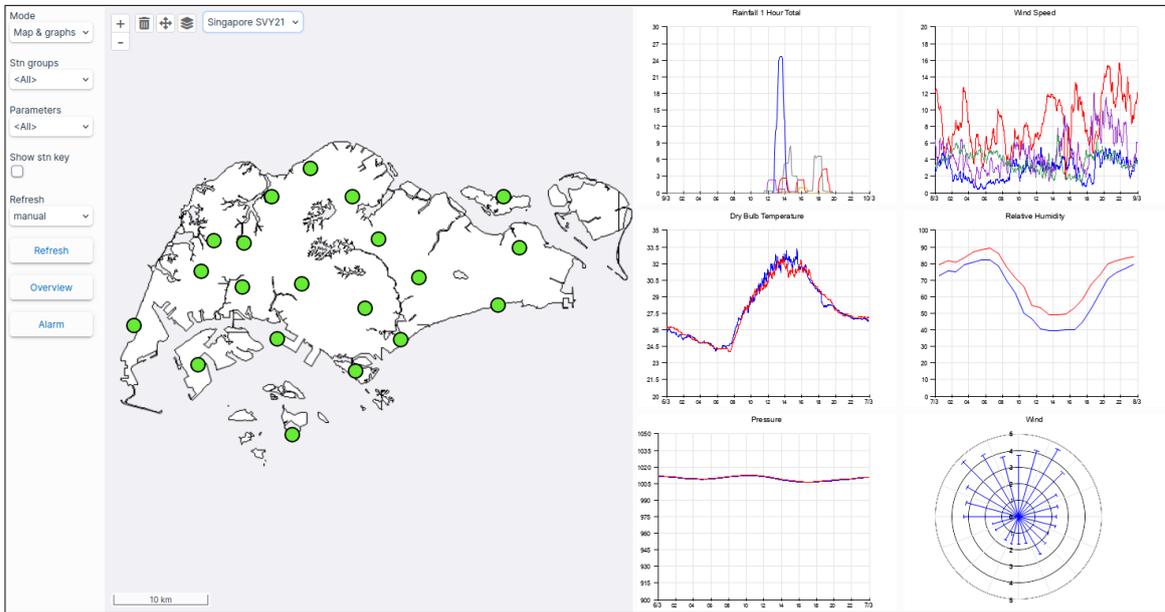


Figure 13.2 RTW Windows.

## 13.4 Map Display

After selecting a parameter, all the stations measuring that parameter are displayed on the map with a green dot over the station, unless the station have any active conditional alarms. If alarms are active, the station is shown with the color of the conditional alarm with the highest value.

Hovering the mouse over a station, opens a little floating table that contains the following information: station name, parameters, date, time and the measured values. See *Figure 13.3*, example: station S122.

S50 Clementi Road		
Parameter	Date time	Result
1 min, Rainfall Total, TOT	08/03/2015 16:03	0 mm
1 min, Wind Direction, AVG	08/03/2015 16:03	132 degrees
1 min, Wind Speed (Scalar), AVG	08/03/2015 16:03	4.2 knots
5 min, Rainfall Total, TOT	08/03/2015 16:00	0 mm
5 min, Rainfall 1 Hour Total M5M, TOT	08/03/2015 16:00	0.2 mm
10 min, Wind Direction, MAX	08/03/2015 16:00	139 degrees
10 min, Wind Direction (Scalar) 1 Hour , AVG	08/03/2015 16:00	96 degrees
10 min, Wind Speed (Scalar), MAX	08/03/2015 16:00	8.2 knots
10 min, Wind Speed (Scalar) 1 Hour M10M, AVG	08/03/2015 16:00	3.5 knots

Figure 13.3 Station information

## 13.5 Graphs Display

Use Indico Presentation to define which graphs will be shown in the RTW graph display. (Figure 13.4 Graphics). These settings must be saved as Indico Presentation Macros before being used in Indico RTW.

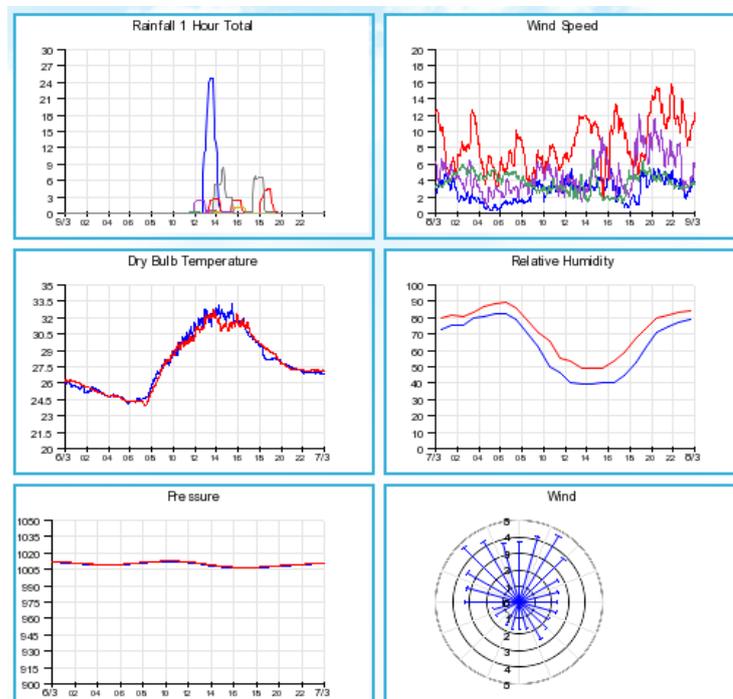


Figure 13.4 Graphics

If no station is clicked, the Indico Macros used for the graphs will be those named as graph1 to graph6, located under the logged user's folder for Indico Macros and the sub-folder **rtw**. If these macros do not exist, the module will display the macros named as graph1 to graph6 located under the *COMMON* folder and the sub-folder **rtw**.

If a station is clicked on, it will become an active station. In that case, the station used by the macro might be replaced with the station clicked on. That happens when macros named as stngraph1 to stngraph6, are found under the logged user's folder and the sub-folder **rtw** or under the *COMMON folder* and sub-folder **rtw**.

Example 1: When a user named Tom clicks on a station, the module will look for macros for the third graph (lower left corner) in the following order:

1. COMMON/Tom/rtw/stngraph3
2. COMMON/Tom/rtw/graph3
3. COMMON/rtw/stngraph3
4. COMMON/rtw/graph3

The station used by the macro is only replaced with the selected one if the macro found has the name stngraph3.

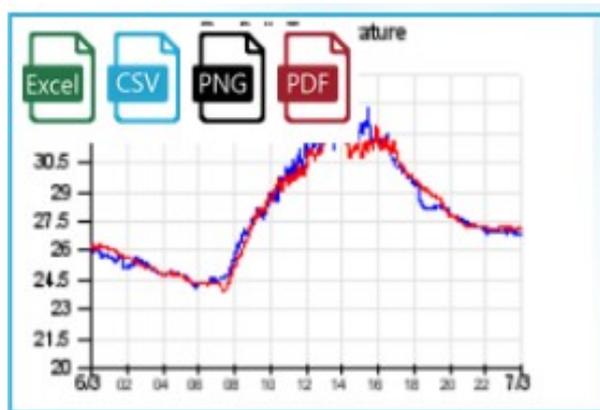
Example 2: When no station has been selected by the user, the module will look for macros for the third graph (lower left corner) in the following order:

1. COMMON/Tom/rtw/graph3

## 2. COMMON/rtw/graph3

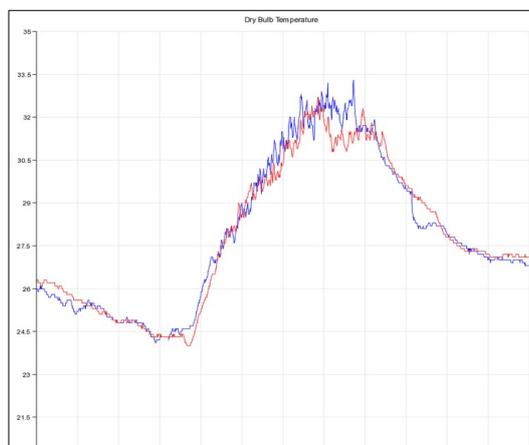
A station can be deselected by clicking on the map far away from any station.

Hovering the mouse pointer over the upper left corner of any of the graphs, displays icons used to export the graph in different formats, like EXCEL, CSV, PNG or PDF.



*Figure 13.5 Export formats*

Clicking on a graph, will show the selected graph enlarged, in a new modal window.



*Figure 13.6 Enlarged graph*

## 13.6 Table Display

### 13.6.1.Overview

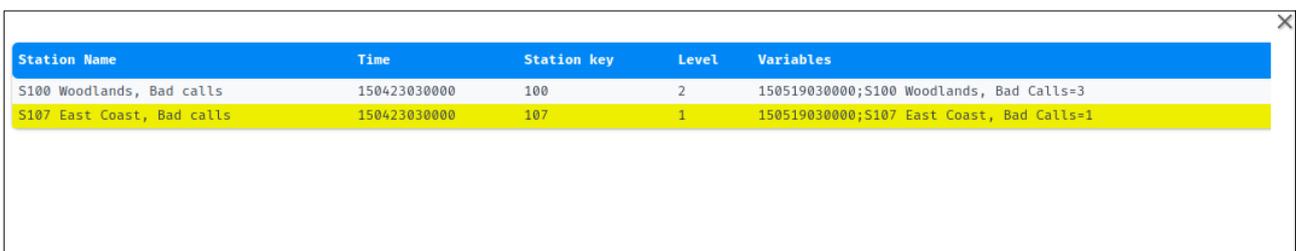
Click on the **[Overview]** button to open a window displaying information about the stations and the value for each of their parameters. The parameters, colors, and texts are set up by the system administrator.

### 13.6.2 Alarm

Click on the **[Alarm]** button to open a window displaying data alarms. For example, with the following data: station name, station key, level, date and hours and bad call.

The colors for the alarm levels (alert, warning, alarm) can be set in the alarm definition menu, (using Indico Alarm Module).

The alarms can be configured using Indico Alarm.



Station Name	Time	Station key	Level	Variables
S100 Woodlands, Bad calls	150423030000	100	2	150519030000;S100 Woodlands, Bad Calls=3
S107 East Coast, Bad calls	150423030000	107	1	150519030000;S107 East Coast, Bad Calls=1

*Figure 13.7 Overview table*

Station Name	Temperature	Relative Humidity	Heat Index1	Heat Index 2	Rainfall	Comfort Index 1	Comfort Index 2	Surface Wind Direction	Surface Wind Speed	Sunshi
S07 Lornie Road										
S08 Upper Thomson Road										
S11 Choa Chu Kang Road					0 mm					
S24 Upper Changi Road North					0 mm					
S29 Pasir Ris Drive 12										
S31 Kampong Bahru Road										
S33 Jurong Pier Road										
S35 Old Toh Tuck Road										
S36 Upper Serangoon Road										
S39 Jalan Ahmad Ibrahim Road										
S40 Mandai Lake Road										
S43 Kim Chuan Road					0 mm					
S44 Nanyang					0 mm					

Figure 13.8 Alarm table

## Appendix 13A. Configuration.

### indrtw.rf

```

!
! Which parameter categories to show in RTW dropdown menu
!
parlist.rain.name: Rain
parlist.temp.name: Temperature
parlist.wind.name: Wind
parlist.hum.name: Humidity
parlist.pres.name: Pressure
!
!
! List of keys to consider for each parameter category
! (hovering menus on map)
!
active.all.keys: ,MPQFEAVG ,MPQNHAVG +MPQFEAVG ,MRAINTB1 ,MRAINTB2
,MRHUMAVG ,MTEDBAVG ,MTEDBAVG ,MTEDPAVG ,MTEWBAVG ,MwDIRAVG ,MwSPD
AVG fMRAINTB1 fMRAINTB2 fMRR01TB1 fMRR01TB2 fMRR03TB1 fMRR06TB1
fMRR12TB1 tMwDIRMAX tMwDRHAVG tMwSPDMAX tMwSRHAVG +MPQFEAVG
+MPQFEMAX +MPQFEMIN +MPQNHAVG +MPQNHMAX +MPQNHMIN +MTEDBAVG
+MTEDPAVG +MTEWBAVG +MRHUMAVG
active.rain.keys: ,MRAINTB1 ,MRAINTB2 fMRAINTB1 fMRAINTB2
fMRDURTB1 fMRDURTB2 fMRR30TB1 fMRR30TB2 fMRR01TB1 fMRR01TB2
fMRR03TB1 fMRR03TB2 fMRR06TB1 fMRR06TB2 fMRR12TB1 fMRR12TB1
fMRR24TB1 fMRR24TB1 +MRAINTB1 +MRAINTB2 +MRDURTB1 +MRDURTB2
active.wind.keys: ,MwDIRAVG ,MwDRTAVG ,MwSPDAVG ,MwSRTAVG
tMwDIRMAX tMwDRHAVG otMwSPDMAX tMwSRHAVG
active.pres.keys: ,MPQFEAVG ,MPQNHAVG +MPQFEAVG +MPQFEMAX
+MPQFEMIN +MPQNHAVG +MPQNHMAX +MPQNHMIN
active.temp.keys: ,MTEDBAVG ,MTEDPAVG ,MTEWBAVG +MTEDBAVG
+MTEDPAVG +MTEWBAVG
active.hum.keys: ,MRHUMAVG +MRHUMAVG
!
!
! Alarms to show in the eight rightmost positions in the Alert
panel
! id: Refers to alarm name (without station)
! name: Name shown on panel
!
rtwalerts.1.id: wSRT_MAX

```

```
rtwalerts.1.name: Max Wind 10 Min M1M
!  
rtwalerts.2.id: WSPD_A1M  
rtwalerts.2.name: Avg Wind 1 Min  
!  
rtwalerts.3.id: WSPD_A10  
rtwalerts.3.name: Avg Wind 10 Min  
!  
rtwalerts.4.id: WSPD_A1H  
rtwalerts.4.name: Avg Wind 1 Hour  
!  
rtwalerts.5.id: RAIN  
rtwalerts.5.name: Max Rain Total  
!rtwalerts.5.id: RAIN_5M  
!rtwalerts.5.name: Max Rain 5M Intensity  
!  
rtwalerts.6.id: RAIN_30M  
rtwalerts.6.name: Max Rain 30M Total  
!  
rtwalerts.7.id: RAIN_1H  
rtwalerts.7.name: Max Rain 1H Total  
!  
rtwalerts.8.id: RAIN_3H  
rtwalerts.8.name: Max Rain 3H Total  
rtwalerts.8.lev.1: Moderate Rainfall  
rtwalerts.8.lev.2: Heavy Rainfall  
rtwalerts.8.lev.3: Deluge  
!  
!
```