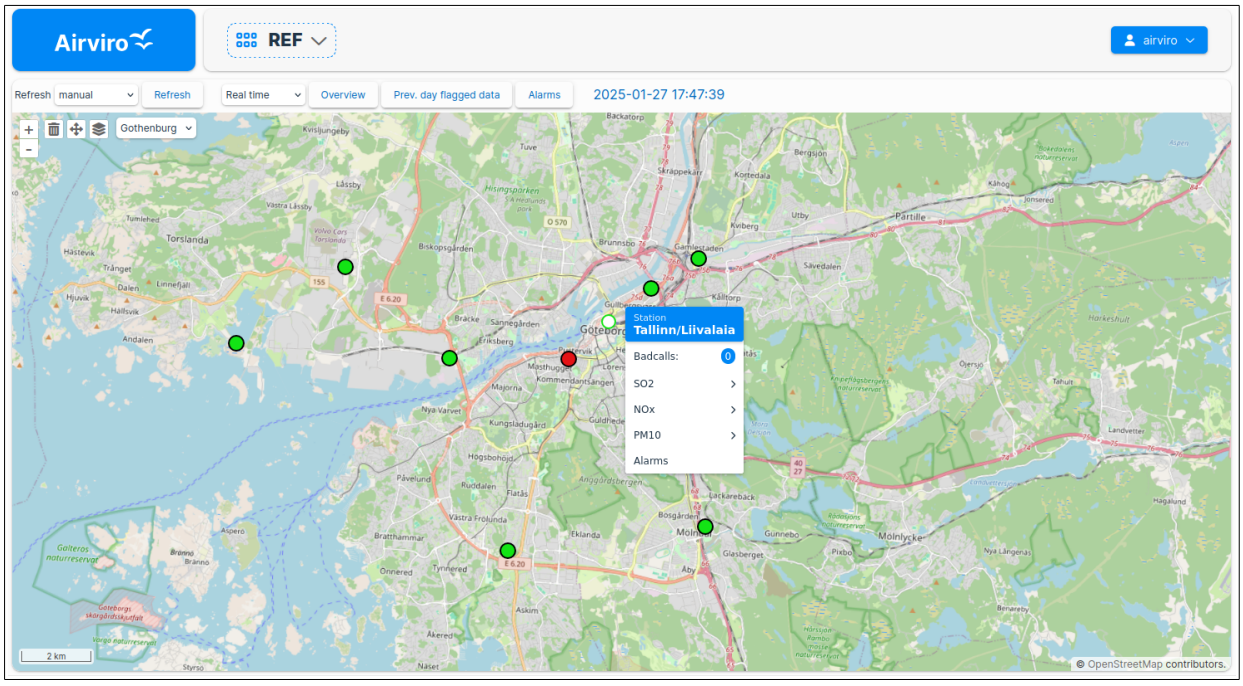
Apertum

Volume 14

Airviro User's Reference



Working with Indico Supervision

Supervising the system

Supervising the system

Amendments

Version	Date changed	Cause of change	Signature
4.00	June 2015	New Module	GS
4.00	Aug 2018	Review	GS
5.01	July2020	Review	GS
6.00	May 2024	Upgrade	GS
6.00	Nov 2024	Review	GS
6.00	Jan 2025	Upgrade	GS
6.00	Feb 2025	Review	DC
6.00	Mar 2025	Review	LEO

CONTENT

14.1 Introduction

Indico Supervision Module allows you to show a monitoring network on a map, display the status of active stations and operational parameters. There are several categories of information that could be displayed when clicking on a station:

- Logger operational parameters stored as time series in Airviro such as: battery, logger temp, instrument status flags and parameters like signal strength.
- Communication problems at each station in Airviro, in real time and the accumulated number of bad calls during the current and previous day.
- Calculated statistics such as Data Capture, Missing data and Number of flagged values.
- Active alarms for stations.

The information is shown on a map and in a table with a row for each station and columns according to the categories., A color code is used to identify each one of them, both on the map and in the table.

14.2 Getting started

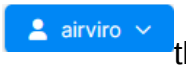
This Airviro module runs on any PC or device running later versions of Microsoft Edge, Firefox, Chrome or Safari.

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 Supervision** should be chosen from the available modules.

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

By clicking on the button v [down arrow], besides the user button text, 

the [**Logout]** button, is shown. By clicking on the Logout button, the current module is closed and the Airviro login page is displayed instead.

14.3 Main window

Once the Indico Supervision module has been selected, the following options are available in the Main window (*Figure 14.1 Indico Supervisor)*:

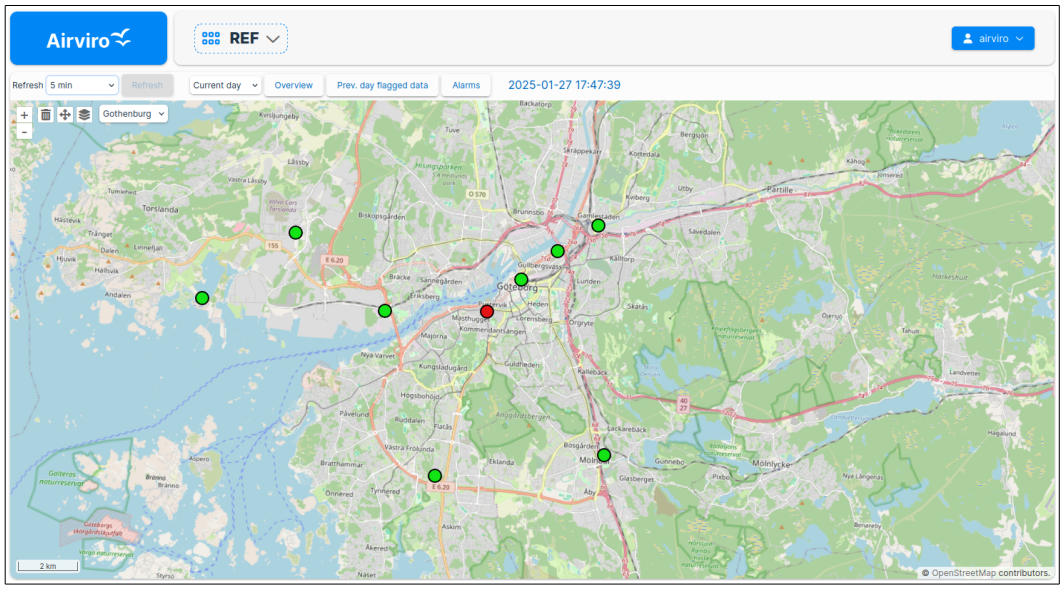


Figure 14.1 Indico Supervisor.

- **[Refresh]**: is used to manually refresh the displayed data or to specify a refresh interval: Every minute, 5 minutes, 10 minutes, 15 minutes, 30 minutes or 1 hour.

- Information can be presented in three different ways : **Real time, Current day** and **Previous day**. Real time shows data in real time that is updated every 10 minutes. Current day, updated once per hour, shows data from midnight up to now. Previous day, is updated once per day and shows the summary of whole previous day (00-24hs)

[Overview]: a table is displayed showing the status of each station and its parameters. Stations are organized per station group type, for example: Meteorological stations, Ambient stations, etc. Station groups are defined in Indico Administration. Overviews are displayed for the period previously selected (Real Time, Current day or Previous day). Green circles indicate that the instruments are working correctly,and red circles indicate that there are some problems.

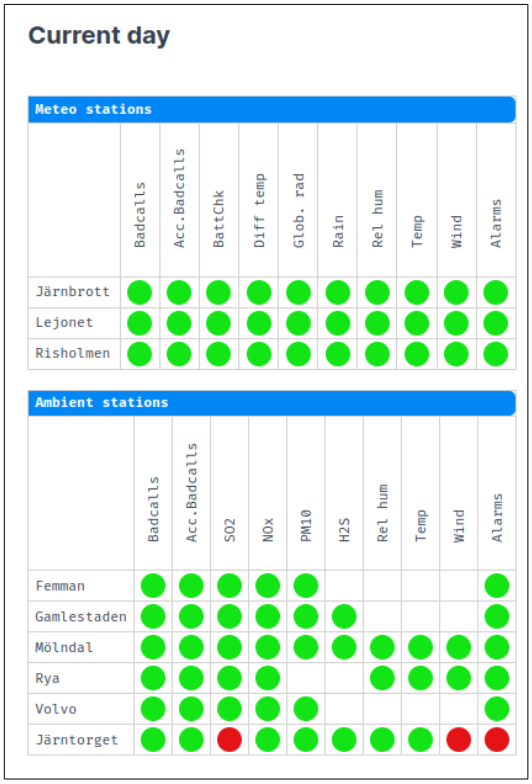


Figure 14.2 Overview. Example Current day.

- **[Prev day flagged data]**: A file in Excel or CSV format is downloaded with all the flagged data from the previous day.

- **[Alarms]**: In Real Time, a table is displayed with all the active alarms showing the alarm name, level of the alarm and a description of the alarm. In Current Day, all alarms during the current day is shown, including active ones. In Previous Day, all alarms for yesterday is shown.

- **Date and time: Indi**cates the last update of the map.

Active stations are displayed on the map as coloured circles. Colours are used to identify the existence of a problem. A red station marker indicates that something is wrong. A green station marker indicates that everything is ok. When hovering the mouse pointer over a station on the map, the name of the station is displayed. When clicking on a station a popup window will be displayed containing the following information: station name, bad calls, battery status (and possibly other operational parameters), sensor/instrument information (missing and flagged percentage) and possibly also status flag information from the sensor/instruments. Red menu entries indicate that something is wrong with that particular operational parameter or sensor. See *Figure 14.2 Description red mark.* The percentages that will be acceptable or not for flagged and missing values can be configured by the system administrator. These settings are configured in the *indsupersoh.rf* file (See 14.5 below). Furthermore, among others, can include the time buffer, badcalls, accumulative bad calls and battery check.

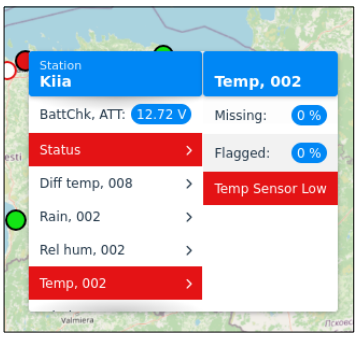


Figure 14.2 Description red mark.

14.4 Monitoring alarms

14.4.1 From map

Active stations with missing data and /or bad status data, are marked in red. The displayed popup window allows you to view the alarm status of the data collection network. These alarms are defined in Indico Alarms. Only the alarms with category *Operation* are listed.

The following information is shown in the table (*Figure 14.3 Monitoring alarms)*:

- Station name (defined in Indico Administration Module): operating station name.
- Day and time of occurrence: shows active alarms in real time, current day or previous day as selected in the main menu.
- Level of the alarm (defined in Indico Alarms Module): alarm, alert and warning
- Description: alarm details.

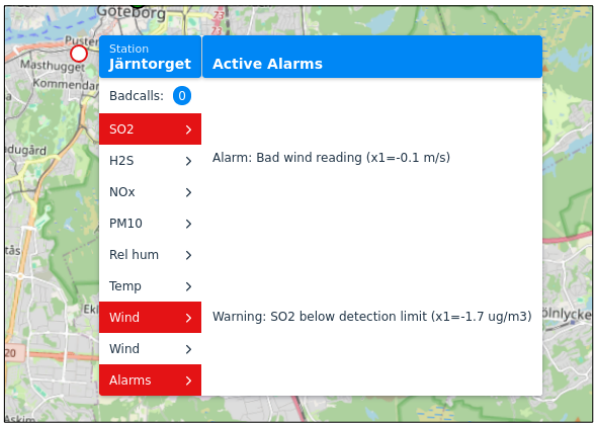


Figure 14.3 Monitoring alarms from map.

14.4.2. From button

Clicking **[Alarm]** button on the top menu display the alarms for all stations on the map. The displayed table shows: station name, alarm level and description. (*Figure 14.4 Alarms).*

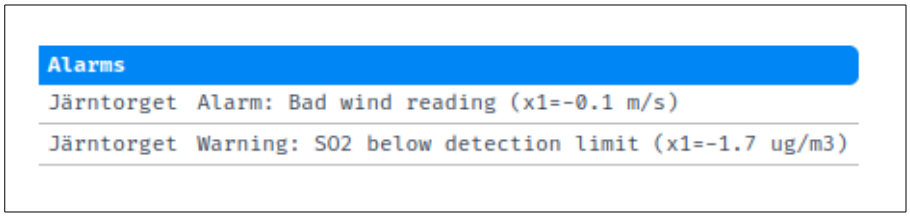


Figure 14.4 Alarms from Button.

14.5 Configuration

Configuration for Indico Supervision is done in <domain>/rsrc/indsupersoh.rf. There are five groups of information that are collected, processed and shown for each station:

Information	Description
Communication	This is fetched from the bad calls and/or accumulated bad calls for the station. Limits for bad are setup in the station database.
Operational	These are parameters that are collected from the station logger but they reflect the condition around the measurements. Typically this could be battery level, signal strength or other similar parameters.
Sensor	To detect if a sensor/instrument is working or not, it is normally enough to monitor one measured time series from this sensor/instrument that can be said to be a representative measurement.
Status	Sometimes there are bitmasks or integer value that can indicate an error status for a sensor/instrument.
Alarm	Alarms during the monitored period.

Example of configuration:

```
stngrps: SOH_sixelt SOH_rain
stngrp.SOH_sixelt.name: Six element stations
stngrp.SOH_rain.name: Rainfall stations
timebuffer.realtime:    30

! Which command to use to fetch data (valuedb/latestdb)
fetchcmd: valuedb

! Parameter group for instrument representative time series (one per instr)
ts.sensor.pargrps: SensTemp SensRain SensWind SensRH SensPres
ts.sensor.pargrp.SensTemp.name: Temperature
ts.sensor.pargrp.SensWind.name: Wind
ts.sensor.pargrp.SensRain.name: Rain
ts.sensor.pargrp.SensRH.name: Rel.Humidity
ts.sensor.pargrp.SensPres.name: Pressure
ts.sensor.maxmissingperc: 10
ts.sensor.maxflaggedperc: 0

! Instance for instrument representative time series (one per instr)
ts.sensor.instshow: TB1 TB2
ts.sensor.inst: AVG TB1 TB2

! Parameter group for operational time series
ts.operational.pargrps: SOH_Oper
!ts.operational.inst: xxx

! Parameter group for instrument status time series (bitmask)
! codes can be "default" or key PPPP, PPPPNNN
!
ts.status.pargrps: SOH_Status
ts.status.codes.default.1.mask: 0x0001
ts.status.codes.default.1.desc: Pressure Sensor Low
ts.status.codes.default.1.key: PRES
ts.status.codes.default.2.mask: 0x0002
ts.status.codes.default.2.desc: Pressure Sensor High
ts.status.codes.default.2.key: PRES
ts.status.codes.default.3.mask: 0x0004
ts.status.codes.default.3.desc: Pressure Sensor NaN
ts.status.codes.default.3.key: PRES
ts.status.codes.default.4.mask: 0x0008
```

```
ts.status.codes.default.4.desc: Wind Sensor Speed Low
ts.status.codes.default.4.key: WSPD
ts.status.codes.default.5.mask: 0x0010
ts.status.codes.default.5.desc: Wind Sensor Speed High
ts.status.codes.default.5.key: WSPD
ts.status.codes.default.6.mask: 0x0020
ts.status.codes.default.6.desc: Wind Sensor Speed NaN
ts.status.codes.default.6.key: WSPD
ts.status.codes.default.7.mask: 0x0040
ts.status.codes.default.7.desc: Wind Sensor Dir Low
ts.status.codes.default.7.key: WDIR
ts.status.codes.default.8.mask: 0x0080
ts.status.codes.default.8.desc: Wind Sensor Dir High
ts.status.codes.default.8.key: WDIR
ts.status.codes.default.9.mask: 0x0100
ts.status.codes.default.9.desc: Wind Sensor Dir NaN
ts.status.codes.default.9.key: WDIR
ts.status.codes.default.10.mask: 0x0200
ts.status.codes.default.10.desc: Temp Sensor Low
ts.status.codes.default.10.key: TEMP
ts.status.codes.default.11.mask: 0x0400
ts.status.codes.default.11.desc: Temp Sensor High
ts.status.codes.default.11.key: TEMP
ts.status.codes.default.12.mask: 0x0800
ts.status.codes.default.12.desc: Temp Sensor NaN
ts.status.codes.default.12.key: TEMP
ts.status.codes.default.13.mask: 0x01000
ts.status.codes.default.13.desc: Humidity Sensor Low
ts.status.codes.default.13.key: RHUM
ts.status.codes.default.14.mask: 0x02000
ts.status.codes.default.14.desc: Humidity Sensor High
ts.status.codes.default.14.key: RHUM
ts.status.codes.default.15.mask: 0x04000
ts.status.codes.default.15.desc: Humidity Sensor NaN
ts.status.codes.default.15.key: RHUM
ts.status.codes.STA2.1.mask: 0x0001
ts.status.codes.STA2.1.desc: External Battery Low
ts.status.codes.STA2.1.key: BATTEXT
ts.status.codes.STA2.2.mask: 0x0002
ts.status.codes.STA2.2.desc: Internal Batterly Low
ts.status.codes.STA2.2.key: BATTINT
```

Configuration	Importance	Description
`stngrps`	Required	Space-separated list of station group names to consider. If you have more than one specified group, there will be one table per group in the Overview page.
`stngrp.<stngrp>.name`		
`timebuffer.realtime`	Optional	Sets the size of the buffer (in minutes) to consider when looking at real-time values. Default is 60 (= 1 hour).
`fetchcmd`	Optional	Can be valuedb (default) or latestdb for using cached data.
`ts.operational.pargrps`	Optional	Space-separated list of parameter groups to include as operational parameters.
`ts.operational.inst`	Optional	List of instances to filter out for use. Can be in the form "AVE" which would match an instance, "TEMP" that would match a parameter, or "TEMPAVE" that would match both parameter and instance.
`ts.sensor.pargrps`	Optional	Space-separated list of parameter groups to consider for sensor information.
`ts.sensor.pargrp.<pargrp>.name`	Optional	Use this name for the sensor represented by this parameter group. Default is to use the parameter name for the matching parameter.
`ts.sensor.inst`	Optional	List of instances to filter out for use. Can be in the form "AVE" which would match an instance, "TEMP" that would match a parameter, or "TEMPAVE" that would match both parameter and instance.
`ts.sensor.instshow`	Optionals	Include the listed instances when showing

Configuration	Importance	Description
		parameter/sensor name in the menus.
`ts.sensor.maxmissingperc`	Optional	The limit percentage of missing data required to generate an error indication. Default is 10.
`ts.sensor.maxflaggedperc`	Optional	The limit percentage of flagged data required to generate an error indication. Default is 0.
`ts.status.pargrps`	Optional	Space-separated list of parameter groups to consider for sensor information. If this is specified, also the **ts.status.codes.xx.n.mask** must be present for the masks that should generate any error.
`ts.status.inst`	Optional	List of instances to filter out for use. Can be in the form “AVE” which would match an instance, “TEMP” that would match a parameter, or “TEMPAVE” that would match both parameter and instance.
`ts.status.codes.<param>.<nr>.mask`	Optional	Specifies that the *param* (parameter key or parameter key with instance) contains a mask. For this param, a number of masks can be specified. The *nr* should go from 1 and up. Mask should be specified as a hex number, e.g. 0x0040.
`ts.status.codes.<param>.<nr>.desc`	Optional	Description of error matching the mask.
`ts.status.codes.<param>.<nr>.key`	Optional	If the key is specified, the status will be listed under the corresponding sensor rather than under a separate header Status