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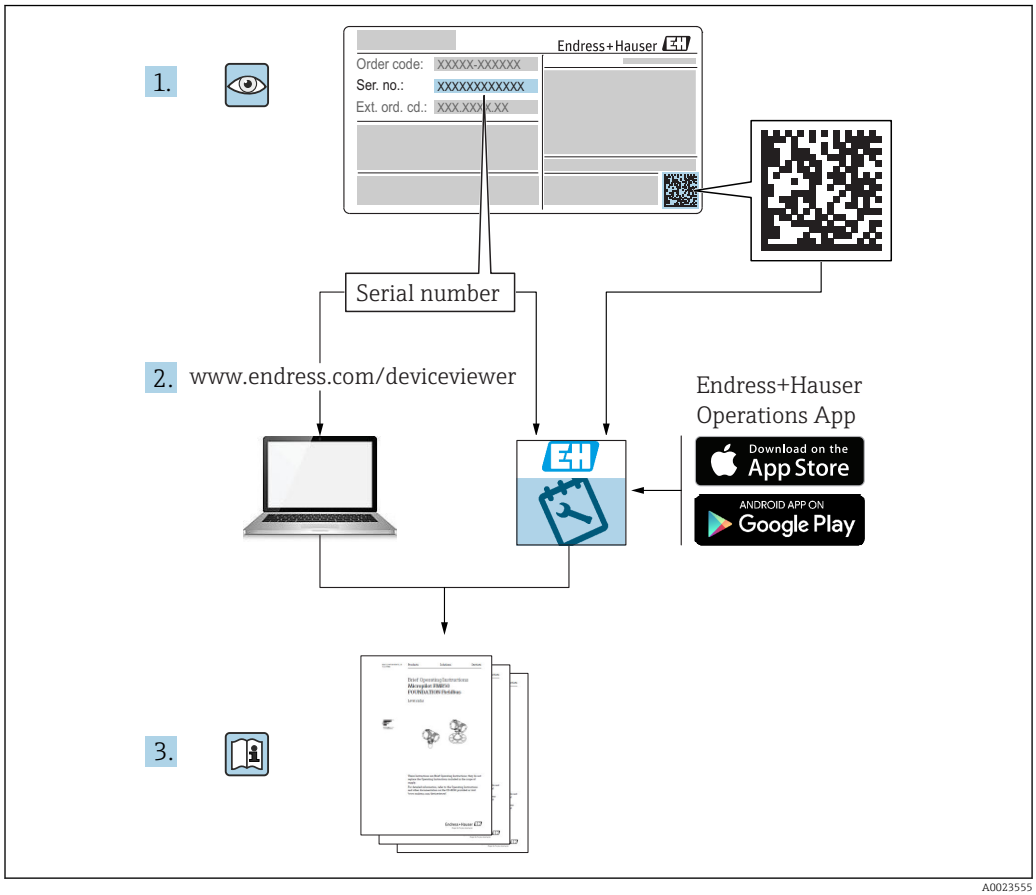
Valid as of software version:
18.3.1

Operating Instructions
Tankvision Professional NXA85 Business Information Server

Tank Gauging

Endress+Hauser
People for Process Automation



- Make sure the document is stored in a safe place such that it is always available when working on or with the product.
- To avoid danger to individuals or the facility, read the "Basic safety instructions" section carefully, as well as all other safety instructions in the document that are specific to working procedures.
- The manufacturer reserves the right to modify technical data without prior notice. Your Endress+Hauser distributor will supply you with current information and updates to these Instructions.

Change history

BA02062G/00/EN/01.20

- Valid for software version: 18.3.1
- Changes to the previous version:
  Initial version

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1 About this document

1.1 Document function

These Operating Instructions contain information that is useful for installation, operation and maintenance.

1.2 Symbols

1.2.1 Safety symbols

DANGER
This symbol alerts you to a dangerous situation. Failure to avoid this situation will result in serious or fatal injury.

WARNING
This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in serious or fatal injury.

CAUTION
This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in minor or medium injury.

NOTICE
This symbol contains information on procedures and other facts which do not result in personal injury.

1.2.2 Symbols for certain types of information

Tip
Indicates additional information

Reference to documentation

Reference to another section

1., 2., 3. Series of steps

1.2.3 Symbols in graphics

1, 2, 3 ... Item numbers

Hazardous area

Safe area (non-hazardous area)

1.3 Documentation

For an overview of the scope of the associated Technical Documentation, refer to the following:
- *W@M Device Viewer* (www.endress.com/deviceviewer): Enter the serial number from nameplate
- *Endress+Hauser Operations App*: Enter the serial number from the nameplate or scan the 2D matrix code (QR code) on the nameplate

1.4 Registered trademarks

The following trademarks are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries:

Microsoft®

Windows®

Windows Server®

1.4.1 Legal notice concerning trademarks

All company/product names and/or all company logos may be trade names, trademarks and/or registered trademarks of Endress+Hauser, its affiliates or of their respective owners with which they are associated.

2 Basic safety instructions

2.1 Requirements for the personnel

The personnel for installation, commissioning, diagnostics and maintenance must fulfill the following requirements:

- Trained, qualified specialists must have a relevant qualification for this specific function and task.
- Are authorized by the plant owner/operator.
- Are familiar with federal/national regulations.
- Before starting work, read and understand the instructions in the manual and supplementary documentation as well as the certificates (depending on the application).
- Follow instructions and comply with basic conditions.

The operating personnel must fulfill the following requirements:

- Are instructed and authorized according to the requirements of the task by the facility's owner-operator.
- Follow the instructions in this manual.

2.2 Intended use

2.2.1 Intended use of Business Information Server

Using the Business Information Server it is possible to view summary and detailed tank data, amend manual data, view and schedule reports and view historical trend data.

Incorrect use of Business Information Server

The Business Information Server client is not intended to be used as a substitute for an operator client station.

2.2.2 Intended use of Tankvision Professional NXA85 software

Tankvision Professional is specifically designed for operators of bulk storage facilities, marketing terminals, refineries and pipelines. It is designed to handle all the data acquisition, supervisory control and monitoring required in a single fully integrated solution.

Tankvision Professional integrates all major types of tank measurement instruments into one system.

All measured and calculated tank parameters are accessible to your tank farm and terminal operators as well as to connected host systems.

Multi-user operation is provided by the inbuilt Web Server offering the opportunity to access data at any connected location (local/remote) e.g. for administrative and accounting purposes.

2.3 IT security

A warranty on our part can only be provided if the software application is installed and used as specified in the operating manual. The software application contains safety mechanisms to protect it against inadvertent changes to the software settings.

IT security measures that are in accordance with the operator's safety and security standards and designed to additionally protect the software application and the transfer of data must be implemented by the operator.

3 Product description

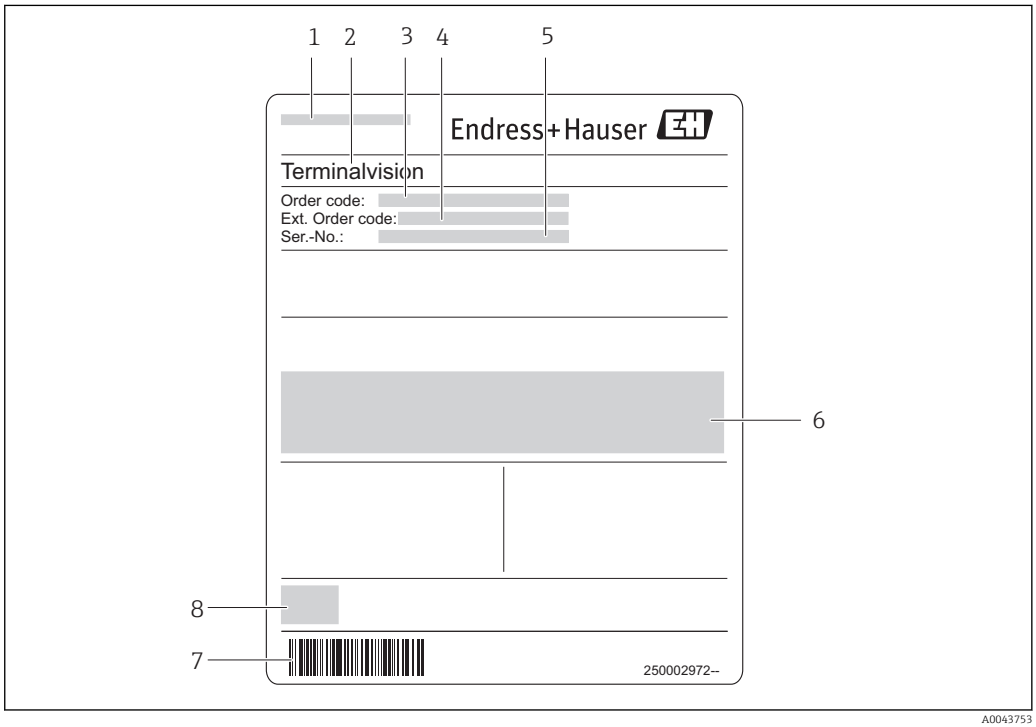
3.1 Product identification

The following options are available for identification of the software:

- Nameplate specifications
- Order code with breakdown of the software features on the delivery note
- Enter serial numbers from nameplates in W@M Device Viewer (www.endress.com/deviceviewer): All information about the software is displayed.

For an overview of the technical documentation provided, enter the serial number from the nameplate in the W@M Device Viewer (www.endress.com/deviceviewer).

3.1.1 Nameplate



1 *Address of manufacturer*
2 *Product name*
3 *Order code*
4 *Extended order code (Ext. ord. cd.)*
5 *Serial number (Ser. no.)*
6 *Certificate and approval relevant data*
7 *Barcode*
8 *CE mark*

3.1.2 Order code and product version

To find out the version of your software, enter the order code indicated on the nameplate in the search screen at the following address: www.products.endress.com/order-ident

3.2 Software function

This version of Tankvision Professional introduces the new Business Information Server web client. The Business Information Server functionality is primarily aimed at supporting functions and should not be viewed as a substitute for an operator station. Using the

Business Information Server it is possible to view summary and detailed tank data, amend manual data, view and schedule reports and view historical trend data.

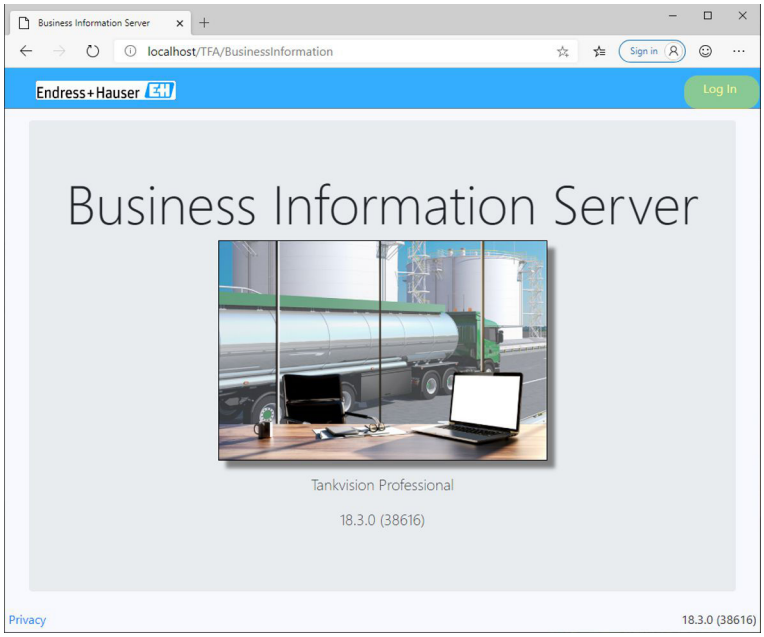
The Business Information Server client is not intended to be used as a substitute for an operator client station.

4 User interface

4.1 First Use

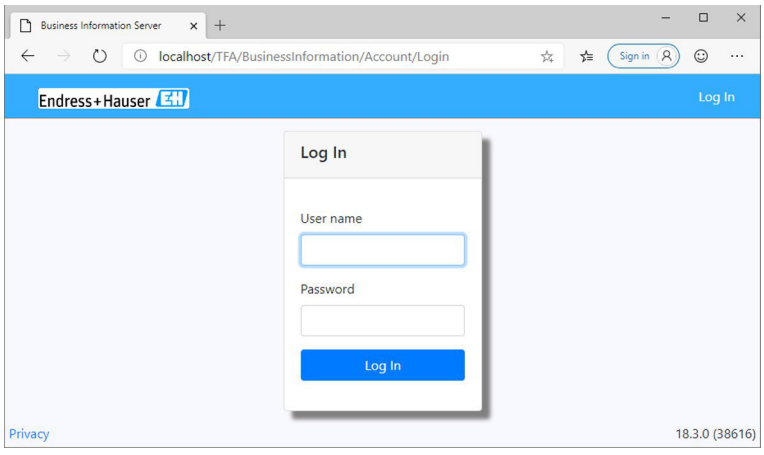
The Business Information Server is launched by opening a browser session and then navigating to the machine on which Tankvision Professional is installed. For example, if the name of the machine is TankGauging, then the Business Information Server client can be accessed by typing http://TankGauging in the address box of the browser. This will automatically be redirected to the Business Information Server home page (http://TankGauging/TFA/BusinessInformation).

To use any functionality of the Business Information Server it is necessary to log in. This is achieved by clicking on the **Log In** link at the top right corner of the page:



1 *Home Page*

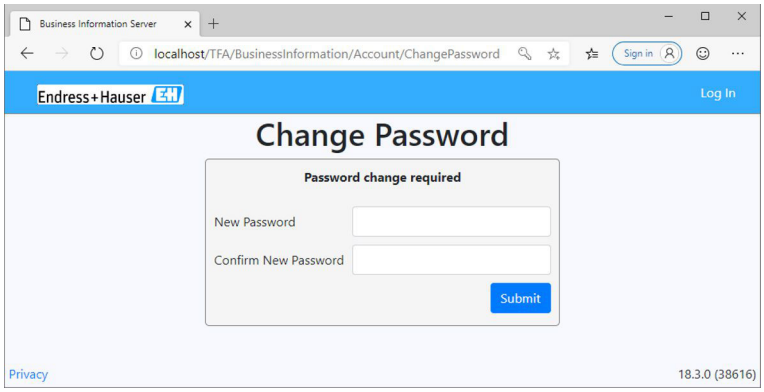
The user will then be prompted to enter their user name and password:



2 *Log In Page*

If the Business Information Server has not been previously run the user name will be Administrator and the password will be password. Note that the password is case-sensitive and must be entered with all lower-case characters.

Upon successful log in, the user will be prompted to change the password for the administrator user:



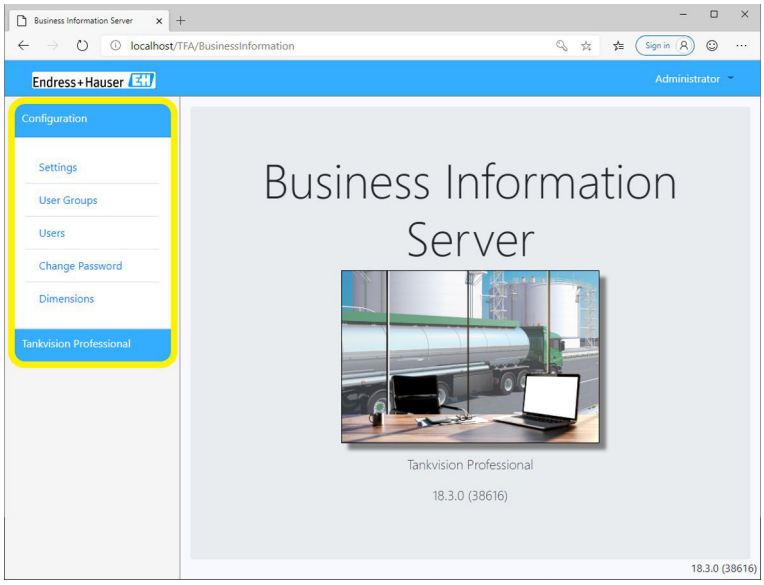
3 Change Password Page

The new password must:
- Be at least 6 characters in length
- Contain at least one non-alphanumeric character
- Contain at least one number
- Contain at least one uppercase character

These restrictions can be amended later in the **System Settings** page → 14.

4.2 Navigation

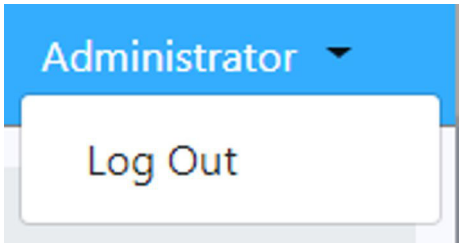
The functionality of the Business Information Server is navigated using the navigation bar on the left side of the page:



4 Navigation

To navigate to a specific page, click on the name of the page. To collapse or expand a section, click on the name of the section.

To log out, click on the user name displayed in the top right corner of the page, and select the option to log out:



5 *Log Out*

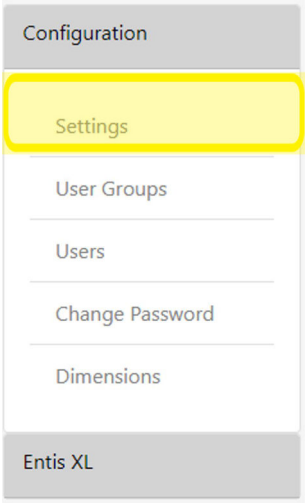
The current user will be logged out, and the Business Information Server home page will be displayed.

5 System integration

5.1 Configuration

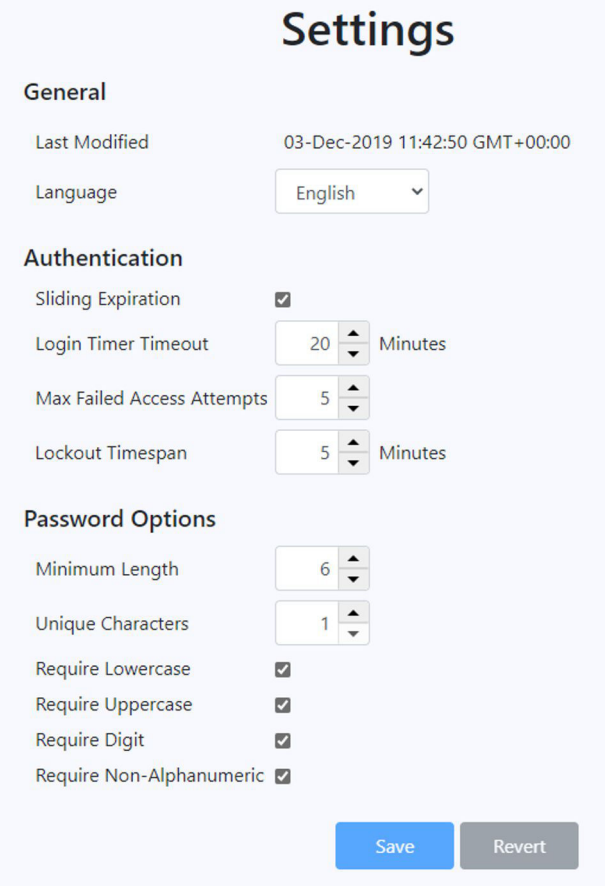
5.1.1 Settings

The main settings page for the Business Information Server is accessed by selecting the **Settings** link from the navigation bar:



6 Settings Option

The available settings are as follows:



7 *Settings Page*

NOTICE

Changes must be saved.

Navigating away from this page will cause any changes to be lost without warning.

► If you want to keep the changes made, click the **Save** button to confirm.

General

The General section of the settings simply displays the date the settings were last modified and allows the language for the Business Information Server to be selected.

The selected language will be used for all Business Information Server clients

Authentication

The Authentication section of the settings allows the authentication options to be modified.

- **Sliding Expiration**
  This setting indicates whether sliding expiration is enabled. If it is ticked, then the time until the user is automatically logged out is reset each time authentication is performed (generally when the user navigates to another page). If it is left unticked, then the user is automatically logged out at the specified interval after they logged in.
- **Login Timer Timeout**
  The interval after which the user is to be automatically logged out, see notes on **Sliding Expiration** above.
- **Max Failed Access Attempts**
  This setting is used to define how many times a user is able to try unsuccessfully to log in before they are locked out of the system.
- **Lockout Timespan**
  This setting is used to set the length of time that a user is unable to attempt to log in after they have been locked out of the system.

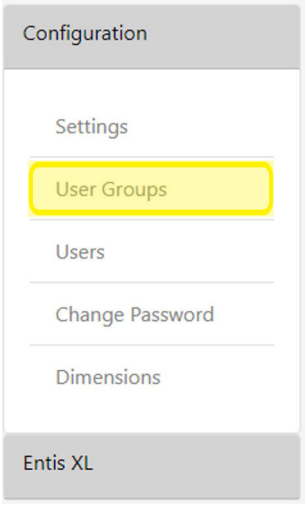
Password Options

The Password Options section of the settings allows the strength of user passwords to be enforced.

- **Minimum Length**
  The minimum length permitted for a password.
- **Unique Characters**
  The number of unique characters required in a password
- **Require Lowercase**
  Indicates whether a password must contain one or more lower-case characters.
- **Require Uppercase**
  Indicates whether a password must contain one or more upper-case characters.
- **Require Digit**
  Indicates whether a password must contain one or more digits.
- **Require Non-Alphanumeric**
  Indicates whether a password must contain one or more characters that is neither a number nor a letter.

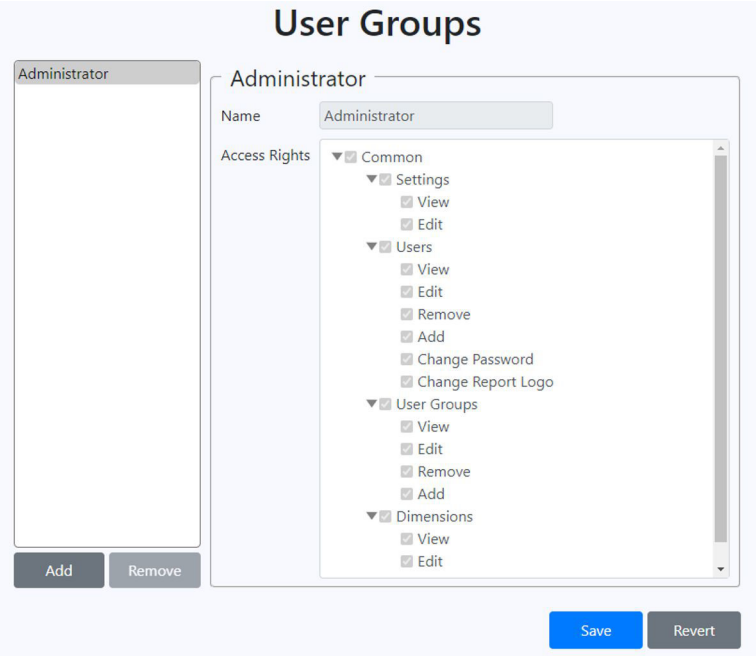
5.1.2 User Groups

The user groups page for the Business Information Server is accessed by selecting the User Groups link from the navigation bar:



8 User Groups Option

The user groups page will then be displayed to the right of the navigation bar:



9 *User Groups Page*

The administrator user cannot be edited and will always have full access rights.

NOTICE

Changes must be saved.

Navigating away from this page will cause any changes to be lost without warning.

▶ If you want to keep the changes made, click the **Save** button to confirm.

A new user can be created by clicking the **Add** button.

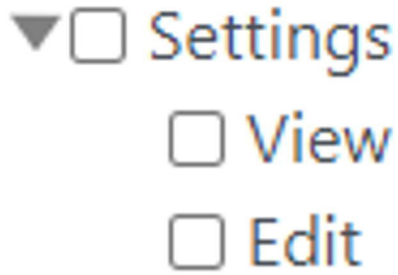
To remove an existing user, select the user from the list and then click the **Remove** button.

The Administrator user cannot be removed.

If an access right has a ▶ symbol next to it, it indicates that the item can be expanded to show child access rights by clicking on the symbol.

If an access right has a ▼ symbol next to it, it indicates that the item can be collapsed to hide the child access rights by clicking on the symbol.

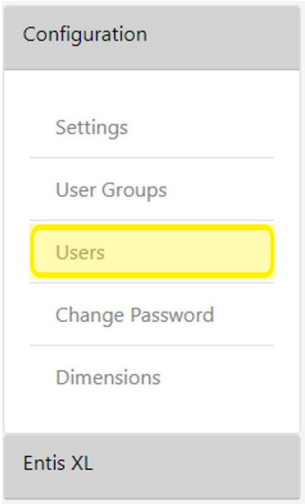
If an access right is ticked, it indicates that members of the user group will have access to that area of functionality. Conversely, if the access right is not ticked, it indicates that members of the user group are prohibited from that area of functionality. Click on either the box or the name of the access right to toggle permissions. If an access right has child access rights, the new permission will be cascaded down to all children. For example, to grant a user both View and Edit access rights for settings it is only necessary to click on the Settings entry:



10 *Settings Permissions*

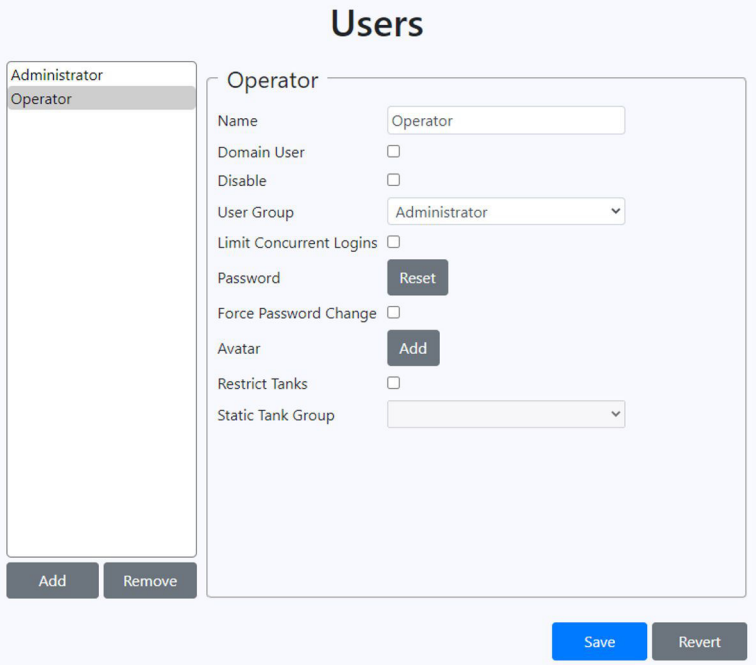
5.1.3 Users

The users page for the Business Information Server is accessed by selecting the Users link from the navigation bar:



11 *Users Option*

The users page will then be displayed to the right of the navigation bar:



12 *Users Page*

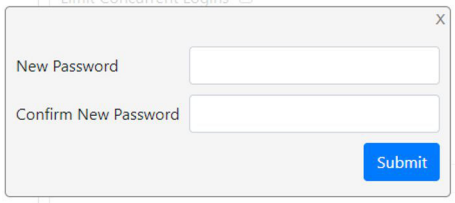
NOTICE

Changes must be saved.

Navigating away from this page will cause any changes to be lost without warning.

▶ If you want to keep the changes made, click the **Save** button to confirm.

- **Name**
  The name of the user. This cannot be edited for the Administrator user.
- **Domain User**
  Indicates whether the user is associated with a domain and should be authenticated using network credentials rather than a Business Information Server specific password. This option is not available for the Administrator user.
- **Domain**
  This field is only visible when the Domain User option has been ticked. It is used to enter the domain against which the user is to be authenticated.
- **Disable**
  Indicates if a user is to be disabled to prevent them logging in. This option is not available for the Administrator user.
- **User Group**
  The user group to which the user belongs.
- **Limit Concurrent Logins**
  Indicates if the user is only allowed to have a limited number of concurrent logins.
- **Max Concurrent Logins**
  This field is only visible when the Limit Concurrent Logins has been ticked. It is used to set the maximum number of stations at which the user is allowed to log into the Business Information Server concurrently.
- **Password Reset**
  This option is not available for domain users. Clicking this button displays the reset password popup:



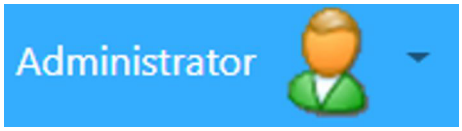
13 *Reset Password*

- To reset the password for the currently selected user, enter the new password and then click **Submit**.

The change will not take place until **Save** is clicked on the users page.

- To abandon the password reset, click away from the popup.

- **Force Password Change**
  Indicates that the user will be required to change their password the next time that they log on to the Business Information Server.
- **Avatar**
  Click the Add button to add an avatar to the user. A file dialog will be displayed to allow selection of the avatar to be used. This avatar will be displayed alongside the user name when a user is logged in:



14 *Avatar*

If the user already has an avatar it will be displayed on the user configuration page:

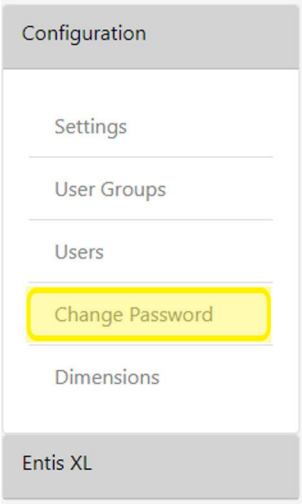
15 *Avatar*

The avatar can be changed by clicking on it. This will display a file dialog to allow selection of the replacement avatar to be used. To remove the avatar entirely, click the **Clear** button.

- **Restrict Tanks**
  Indicates if a user is only allowed access to a limited set of tanks.
- **Static Tank Group**
  This field is only available when the Restrict Tanks option has been selected. It is used to select the static tank group which contains the tanks to which the user should have access.

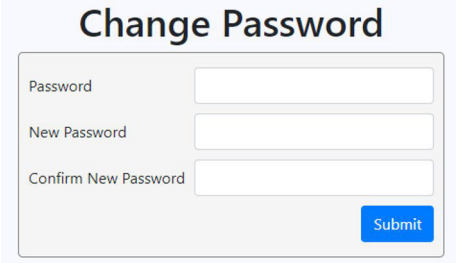
5.1.4 Change Password

The change password page for the Business Information Server is accessed by selecting the Change Password link from the navigation bar:



16 *Change Password Option*

The change password page which allows the currently logged in user to change their own password will then be displayed to the right of the navigation bar:

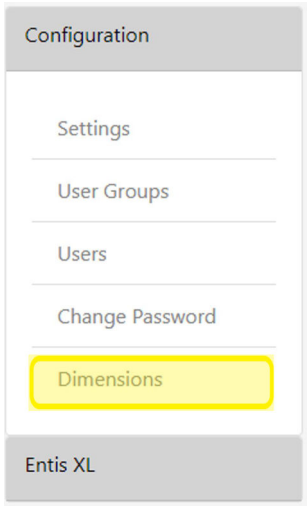


17 *Change Password Page*

To change their password the users must enter their current password as well as their new password and then click the **Submit** button. The new password must fulfill the criteria specified in the **System Settings** page → 14.

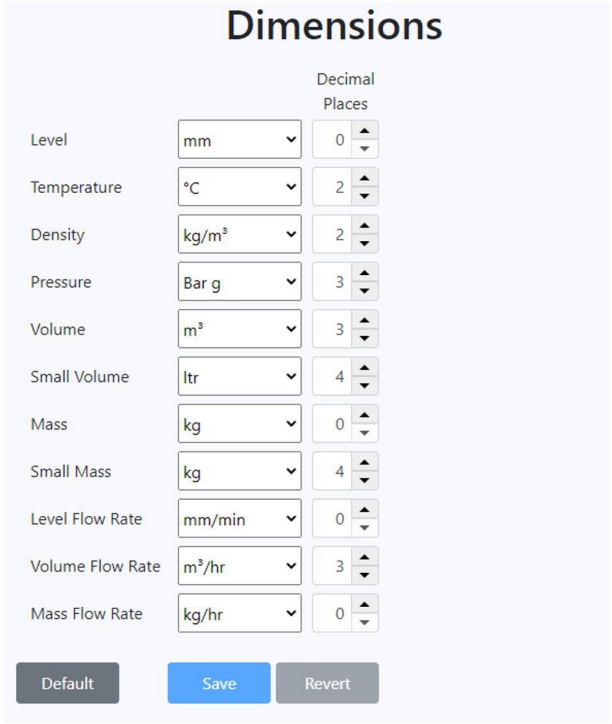
5.1.5 Dimensions

The dimensions page for the Business Information Server is accessed by selecting the Dimensions link from the navigation bar:



18 *Dimensions Option*

The dimensions page will then be displayed to the right of the navigation bar:



19 *Dimensions Page*

These dimensions will be used for all Business Information Server clients.

NOTICE

Changes must be saved.

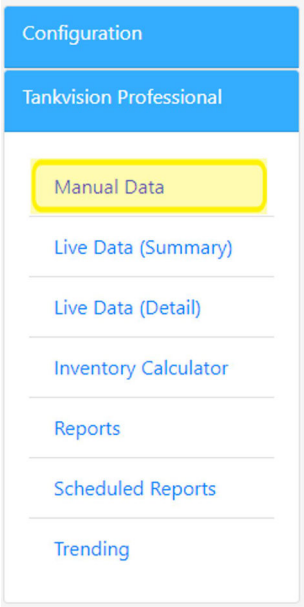
Navigating away from this page will cause any changes to be lost without warning.

- If you want to keep the changes made, click the **Save** button to confirm.

6 Operation

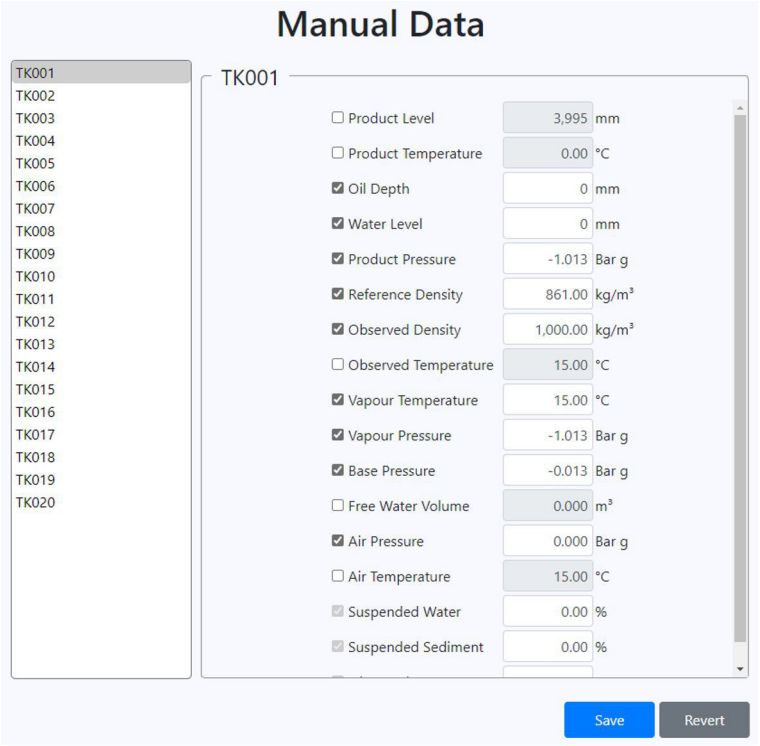
6.1 Manual Data

The manual data page for the Business Information Server is accessed by selecting the Manual Data link from the navigation bar:



20 *Manual Data Option*

The manual data page will then be displayed to the right of the navigation bar:



21 *Manual Data Page*

NOTICE

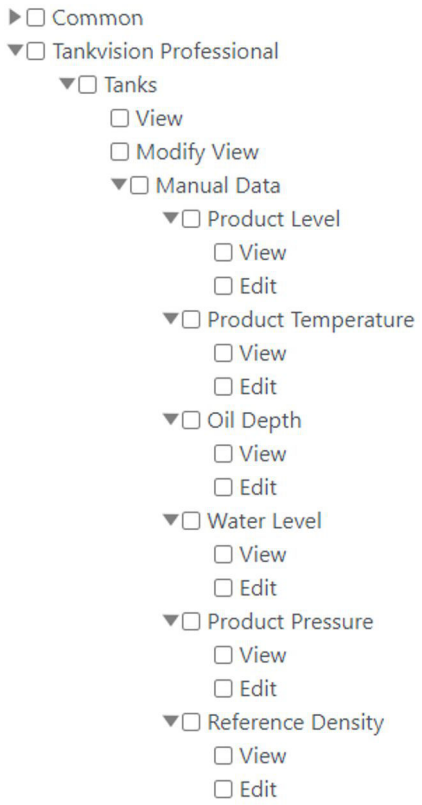
Changes must be saved.

Navigating away from this page will cause any changes to be lost without warning.

- If you want to keep the changes made, click the **Save** button to confirm.

A list of available tanks is displayed on the left side of the page. If the currently logged-in user only has access to a restricted set of tanks (see User Configuration), then only the tanks from their static tank group will be displayed. Otherwise all tanks will be displayed.

When a tank is selected, the current manual data for that tank is displayed on the right hand side of the page. The manual data fields that are available to be viewed can be restricted by modifying the access rights of the user group that the user belongs to:



22 *Manual Data Access Rights*

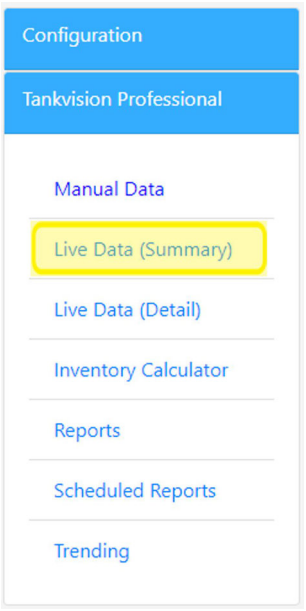
The box alongside the field name indicates whether the field is currently in manual mode. If the box is ticked, then the field is in manual mode. To toggle manual mode, click on the box.

The manual data value for a field can only be edited if the field is in manual mode.

To save changes, click on the **Save** button. To revert any changes and reset the values on the screen, click the **Revert** button.

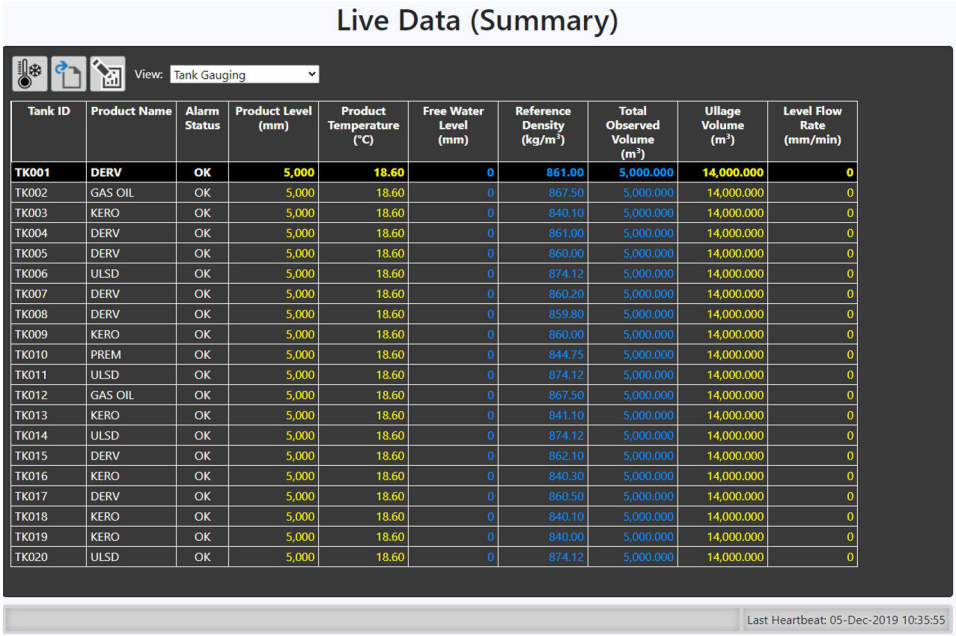
6.2 Live Data (Summary)

The summary live data page for the Business Information Server is accessed by selecting the Live Data (Summary) link from the navigation bar:



23 *Live Data (Summary) Option*

The summary live data page will then be displayed to the right of the navigation bar:



Tank ID	Product Name	Alarm Status	Product Level (mm)	Product Temperature (°C)	Free Water Level (mm)	Reference Density (kg/m³)	Total Observed Volume (m³)	Ullage Volume (m³)	Level Flow Rate (mm/min)
TK001	DERV	OK	5,000	18.60	0	861.00	5,000.000	14,000.000	0
TK002	GAS OIL	OK	5,000	18.60	0	867.50	5,000.000	14,000.000	0
TK003	KERO	OK	5,000	18.60	0	840.10	5,000.000	14,000.000	0
TK004	DERV	OK	5,000	18.60	0	861.00	5,000.000	14,000.000	0
TK005	DERV	OK	5,000	18.60	0	860.00	5,000.000	14,000.000	0
TK006	ULSD	OK	5,000	18.60	0	874.12	5,000.000	14,000.000	0
TK007	DERV	OK	5,000	18.60	0	860.20	5,000.000	14,000.000	0
TK008	DERV	OK	5,000	18.60	0	859.80	5,000.000	14,000.000	0
TK009	KERO	OK	5,000	18.60	0	860.00	5,000.000	14,000.000	0
TK010	PREM	OK	5,000	18.60	0	844.75	5,000.000	14,000.000	0
TK011	ULSD	OK	5,000	18.60	0	874.12	5,000.000	14,000.000	0
TK012	GAS OIL	OK	5,000	18.60	0	867.50	5,000.000	14,000.000	0
TK013	KERO	OK	5,000	18.60	0	841.10	5,000.000	14,000.000	0
TK014	ULSD	OK	5,000	18.60	0	874.12	5,000.000	14,000.000	0
TK015	DERV	OK	5,000	18.60	0	862.10	5,000.000	14,000.000	0
TK016	KERO	OK	5,000	18.60	0	840.30	5,000.000	14,000.000	0
TK017	DERV	OK	5,000	18.60	0	860.50	5,000.000	14,000.000	0
TK018	KERO	OK	5,000	18.60	0	840.10	5,000.000	14,000.000	0
TK019	KERO	OK	5,000	18.60	0	840.00	5,000.000	14,000.000	0
TK020	ULSD	OK	5,000	18.60	0	874.12	5,000.000	14,000.000	0

24 *Live Data (Summary) Page*

If the currently logged in user only has access to a restricted set of tanks (see User Configuration). then only the tanks from their static tank group will be displayed. Otherwise all tanks will be displayed.

6.2.1 Freezing Data

It is possible to **freeze** the data update so that a snapshot of the tank data can be viewed.

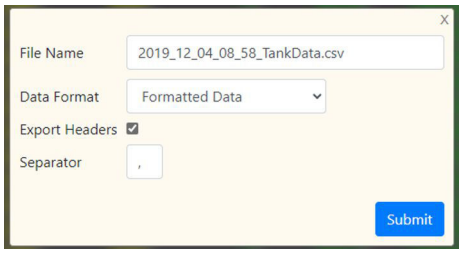
To freeze the data click on the **Freeze/Unfreeze** button above the list of tanks. The data displayed will no longer be updated, and a warning will be displayed in the status bar:

25 *Data Frozen Warning*

To unfreeze the data, click the **Freeze/Unfreeze** button again. Whilst the data is frozen the appearance of the button will change .

6.2.2 Export Data

To export the current data click on the **Export Data** button . A popup will be displayed allowing the format of the export to be changed:



26 *Export Data*

- **File Name**
  The name to be used for the downloaded file.
- **Data Format**
  The way in which the data fields are to be formatted. Possible options are:
  - **Raw Data in Base Units**
    The data will be exported as maintained internally within Tankvision Professional.
  - **Raw Data**
    The data will be exported using the current units (see Dimensions) but with no restriction on the number of decimal places.
  - **Formatted Data**
    The data will be exported as currently displayed on the screen.
- **Export Headers**
  Indicates whether the column headers are to be exported as the first row in the export file.
- **Separator**
  The character to be used to separate fields.

Clicking on the **Submit** button will cause a file to be downloaded containing the exported data in the specified format. To exit without exporting the data, click away from the popup or press the **Esc** key.

6.2.3 Views

It is possible to change the data fields that are displayed for each tank. Sets of data fields are defined as views.

There are four built-in views with the following fields:

- Tank Gauging
  - Tank ID
  - Product Name
  - Alarm Status
  - Product Level
  - Product Temperature
  - Free Water Level
  - Reference Density
  - Total Observed Volume
  - Ullage Volume
  - Level Flow Rate
- Tank Inventory
  - Tank ID
  - Product Name
  - Alarm Status
  - Product Level
  - Product Temperature
  - Free Water Level
  - Reference Density
  - Gross Observed Volume
  - Usable Volume
  - Gross Standard Volume
  - Total Gross Standard Volume
  - Total mass
  - Ullage Volume
  - Level Flow Rate
- Gauge Status
  - Tank ID
  - Product Level
  - Product Temperature
  - Level Flow Rate
  - Gauge Type
  - Gauge Status
  - Servo Status
  - Alarm Status
- Movements
  - Tank ID
  - Product Level
  - Product name
  - Start Level
  - Target Level
  - Target Direction
  - Planned Volume
  - Transferred Volume
  - Volume Left
  - Time to Stop Gauge
  - Volume Flow Rate
  - Movement Status
  - Target Pre Alarm 1
  - Target Pre Alarm 2

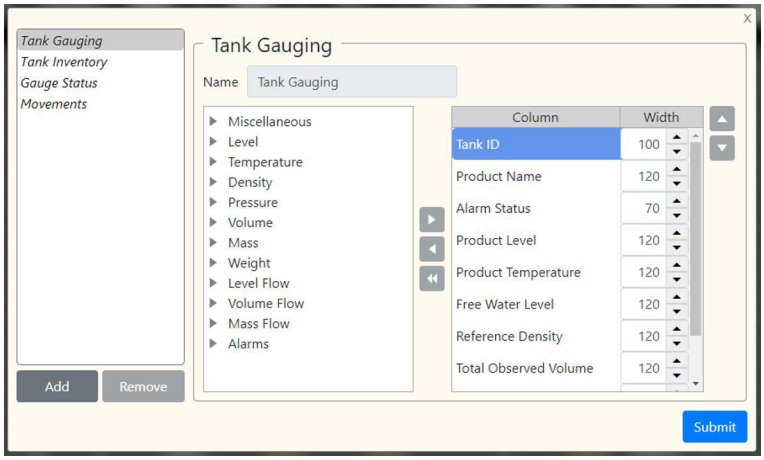
The built-in **Movements** view relates to simple movements and not the full movements package.

To select a view, pick it from the drop-down list of views which can be found above the tank list:

27 *Views List*

6.2.4 Maintaining Views

It is possible to create new custom views to meet specific requirements. To create a new view, or alter existing views, click on the **Maintain Views** button . A popup will be displayed allowing the views to be maintained:



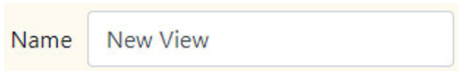
28 *Maintain Views*

To create a new view, click the **Add** button. To remove an existing view, select the view from the list of views and then click the **Remove** button. To edit a view, select the view from the list of views and the view details will be displayed on the right hand part of the popup.

Editing of built-in views is very restricted. A built-in view cannot be removed, renamed, or have the included fields changed, except to amend the width of individual fields.

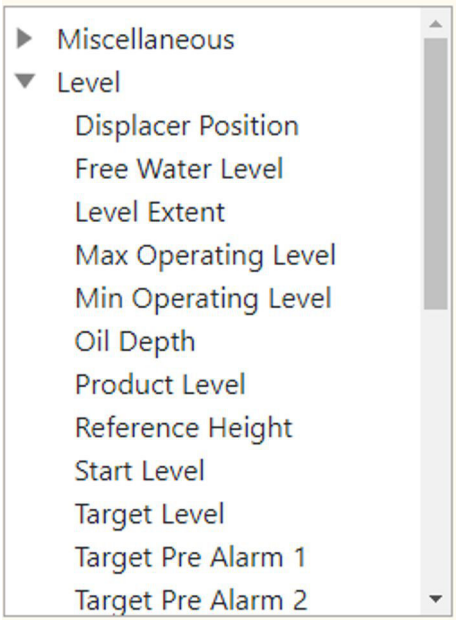
The view details group has three main parts.

The first part is the name of the view:



29 *View Name*

The second part is the list of fields that are available to be added to the view:



30 *Available Fields*

Where an entry can be expanded, there is an arrow ▶ next to the name. These entries are containers for groups of related fields and cannot be added directly to the view themselves. When the entry is expanded, the arrow will change ▼ to indicate that the fields can be hidden. To expand or collapse the entry, click on the arrow. To add a field to the currently selected view, click on the name of the field in the list and then click on the add ▸ button. The field will be added to the end of the list of fields currently in the view.

The third part is the list of fields that are currently in the view:

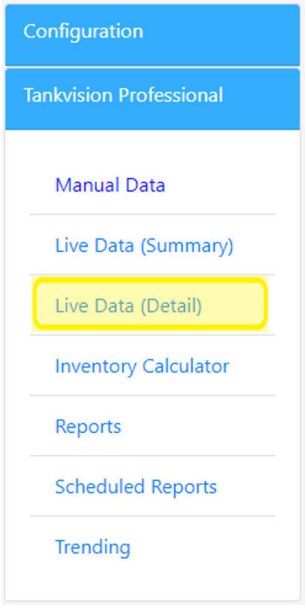
31 *View Fields*

The width of individual columns in the view can be amended by changing the value for the field in the Width column. It is also possible to change the order in which the fields appear in the view. To move a field to the left, select the field and then click the **up** button ▲. Conversely, to move a field to the right, select the field and then click the **down** button ▼. The order of the fields in the list (top to bottom) reflect the order of the fields in the view (left to right).

To remove a field from the currently selected view, click on the field and then click the **remove** button . To remove all fields from the currently selected view, click the **remove all** button .

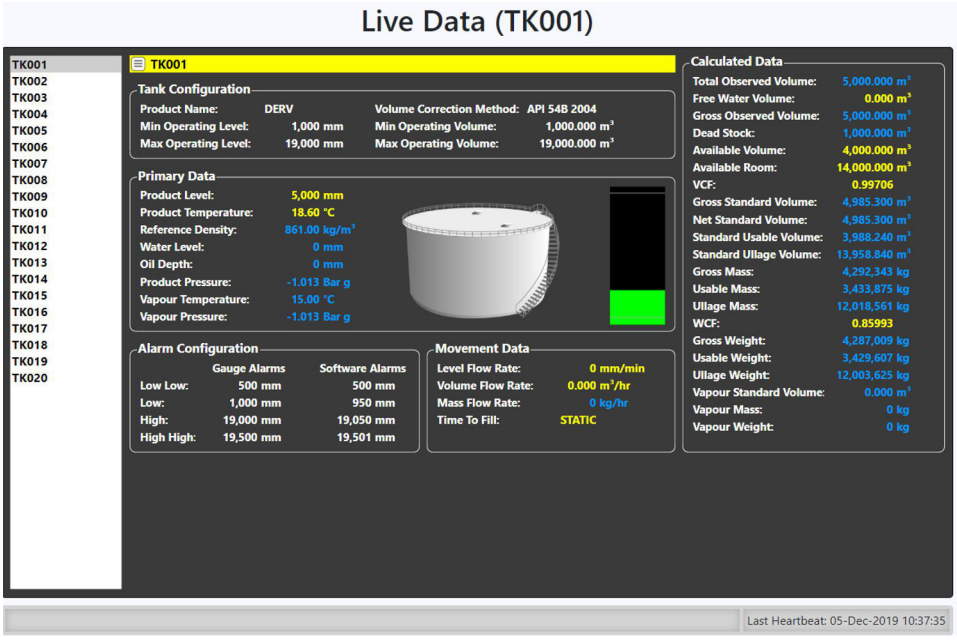
6.3 Live Data (Detail)

The live data detail page for the Business Information Server is accessed by selecting the **Live Data (Detail)** link from the navigation bar:



32 *Live Data (Detail) Option*

The live data detail page will then be displayed to the right of the navigation bar:



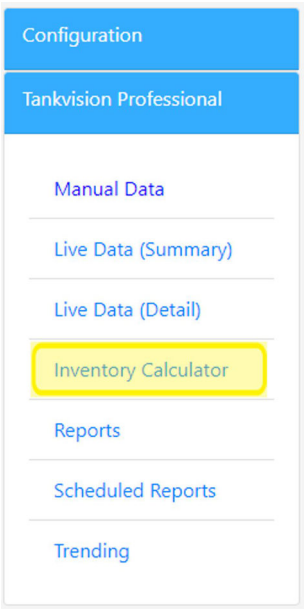
33 *Live Data (Detail) Page*

If the currently logged in user only has access to a restricted set of tanks (see User Configuration), then only the tanks from their static tank group will be displayed.

Otherwise all tanks will be displayed. To see details for a specific tank, click on the tank id for that tank in the list of tanks.

6.4 Inventory Calculator

The inventory calculator page for the Business Information Server is accessed by selecting the **Inventory Calculator** link from the navigation bar:

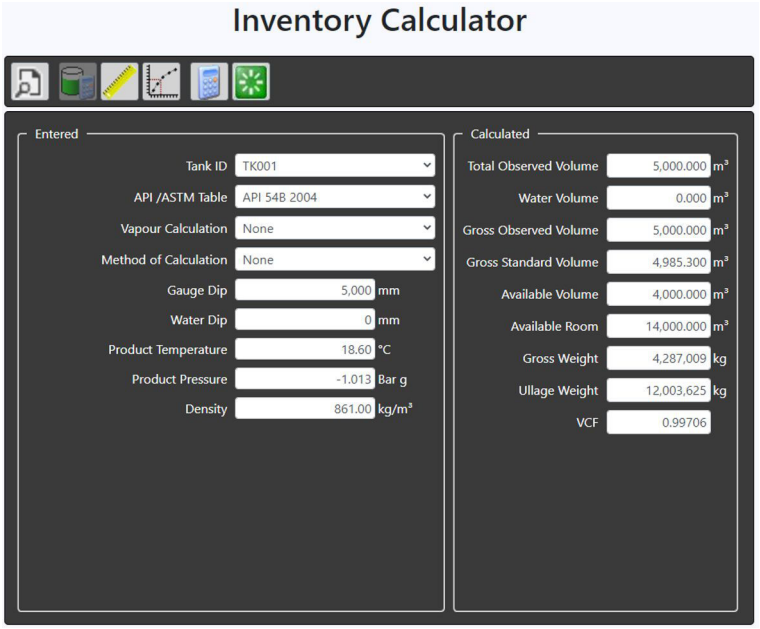


34 *Inventory Calculator Option*

The **inventory calculator** page will then be displayed to the right of the navigation bar. This page supports three types of inventory calculation.

6.4.1 Tank Calculator

To select the Tank Calculator click the **Tank Calculator** button . The lower part of the page will change to display the tank calculator:



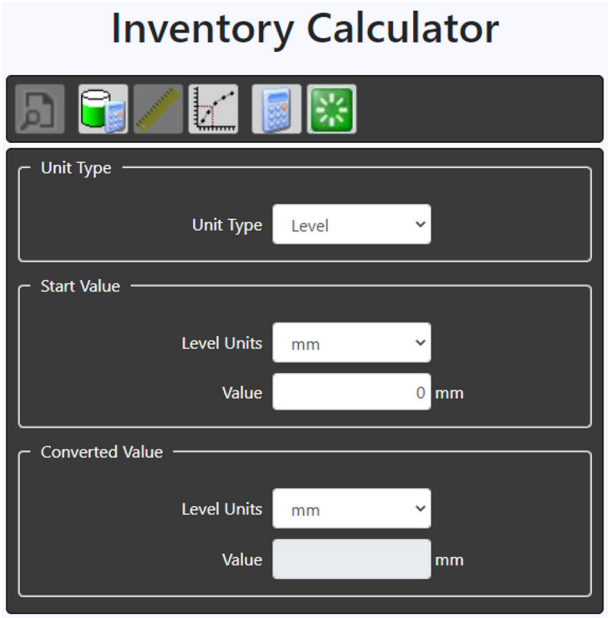
35 *Tank Calculator*

The tank calculator is used to evaluate what-if-scenarios for a tank. The inventory figures for a given set of input conditions can be calculated from the entered parameters. To use the tank calculator, edit the fields in the **Entered** box to the required values and then click the **Calculate** button . The calculated inventory figures will then be displayed in the fields in the **Calculated** box on the right. To reset the input values to the current live values, click the **Reset** button .

To generate a report containing the current inputs and calculated figures, click the **Print Preview** button . A pdf version of the report will be generated and opened in a new tab in the browser.

6.4.2 Unit Conversion

To select the Unit Conversion page click the **Unit Conversion** button . The lower part of the page will change to display the unit conversion fields:



36 *Unit Conversion*

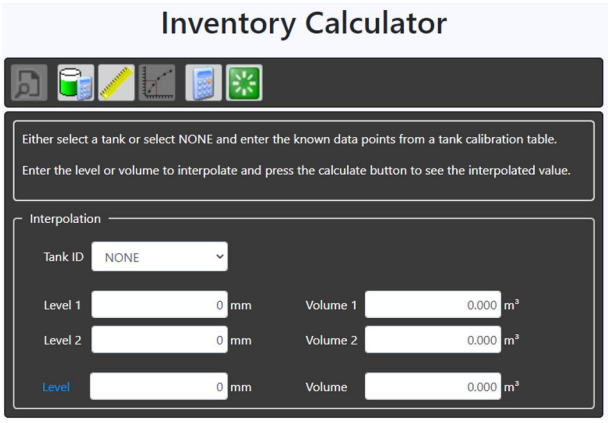
- **Unit Type**
  The type of units for which conversion is required.
- **Start Value > Units**
  The units in which the start value will be entered.
- **Start Value > Value**
  The value which is to be converted.
- **Converted Value > Units**
  The units to which the start value is to be converted.
- **Converted Value > Value**
  Read-only field containing the result of the unit conversion.

To convert a value, select the type of units. Then select the starting units and the starting value. Finally, select the required units and click the **Calculate** button . The converted value will then be displayed in the Value field at the bottom of the page.

To reset the fields to their original values, click the **Reset** button .

6.4.3 Interpolation

To select the **Interpolation** page click the **Interpolation** button . The lower part of the page will change to display the interpolation fields:

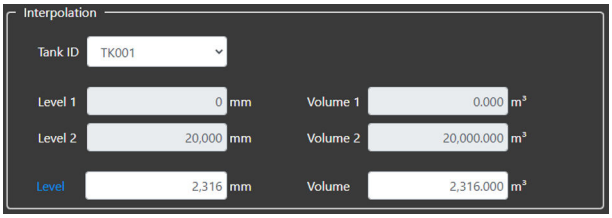


37 *Unit Conversion*

6.4.4 Using a Tank Capacity Table

To calculate an interpolated value using a tank capacity table, select the tank which uses that tank capacity table as the product tank capacity table.

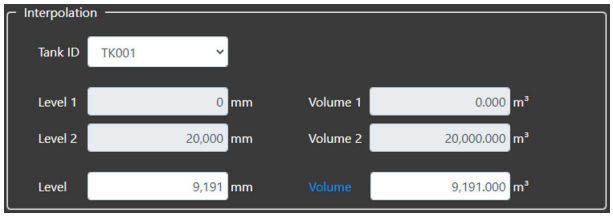
To calculate an interpolated volume, enter the level for which the volume is required and then click the **Calculate** button . The interpolated volume will be displayed, along with the details of the points from the tank capacity table which were used to calculate it:



38 *Volume Interpolation*

Note that the **Level** field label indicates a manually entered value.

To calculate an interpolated level, enter the volume for which the level is required and then click the **Calculate** button . The interpolated level will be displayed, along with the details of the points from the tank capacity table which were used to calculate it:



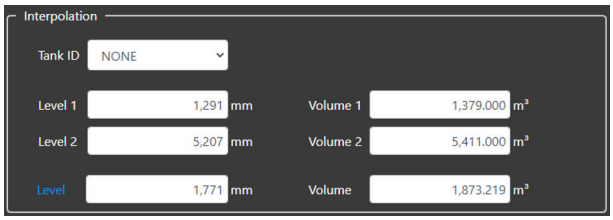
39 *Level Interpolation*

Note that the **Volume** field label indicates a manually entered value.

6.4.5 Free Format

To calculate an interpolated value without the use of a tank capacity table, select NONE from the list of tanks. It is then possible to enter values for **Level 1**, **Level 2**, **Volume 1** and **Volume 2**. **Volume 1** represents the volume at **Level 1** and **Volume 2** represents the volume at **Level 2**. **Level 1** must be less than **Level 2** and **Volume 1** must be less than **Volume 2**.

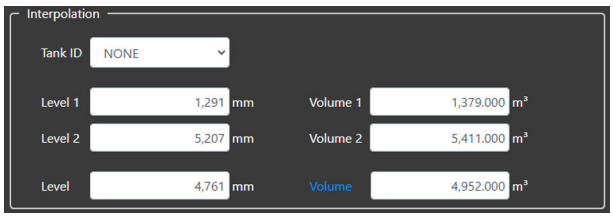
To calculate an interpolated volume, enter the level for which the volume is required and then click the **Calculate** button . The interpolated volume will be displayed:



40 *Volume Interpolation*

Note that the **Level** field label indicates a manually entered value.

To calculate an interpolated level, enter the volume for which the level is required and then click the **Calculate** button . The interpolated level will be displayed:

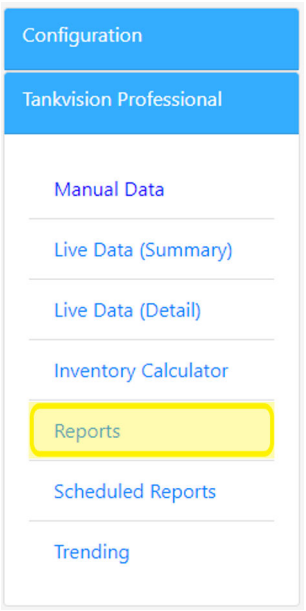


41 *Level Interpolation*

Note that the **Volume** field label indicates a manually entered value.

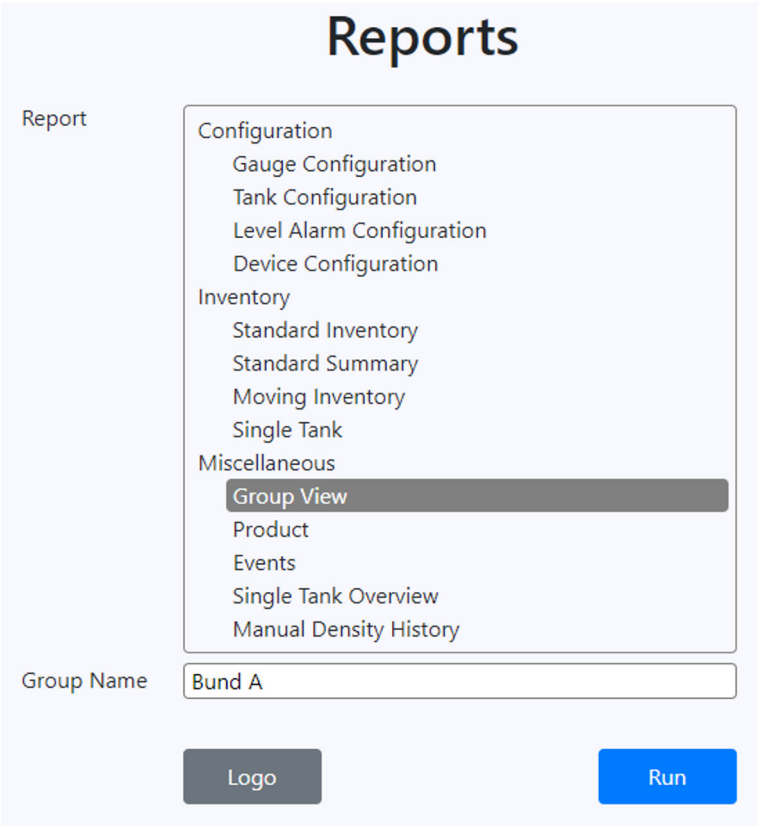
6.5 Reports

The reports page for the Business Information Server is accessed by selecting the **Reports** link from the navigation bar:



42 *Reports Option*

The **reports** page will then be displayed to the right of the navigation bar:



43 *Reports Page*

Available reports are:

- **Configuration**
  - Gauge Configuration
  - Tank Configuration
  - Level Alarm Configuration
  - Device Configuration
- **Inventory**
  - Standard Inventory
  - Standard Summary
  - Moving Inventory
  - Single Tank
- **Miscellaneous**
  - Group View
  - Product
  - Events
  - Single Tank Overview
  - Manual Density History

The reports which a user is able to run can be restricted by configuring the access rights for the user group to which the user belongs. If a user is only able to access tanks from a specific static tank group, only values which relate to the tanks in that group will be displayed on the reports.

The **Single Tank**, **Single Tank Overview** and **Manual Density History** reports require selection of the tank for which the report is to be run:

44 *Tank Parameter*

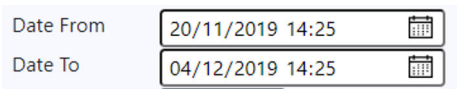
The **Group View** report requires selection of the static tank group for which the report is to be run:

45 *Static Tank Group Parameter*

The **Product** report requires selection of the product for which the report is to be run:

46 *Product Parameter*

The **Events** report requires entry of a date range for which the report is to be run:

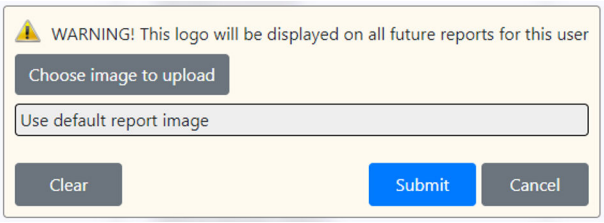


47 *Date Range Parameters*

To run a report, select the required report, enter any necessary parameters and then click the **Run** button. A pdf version of the report will be generated and opened in a new tab in the browser.

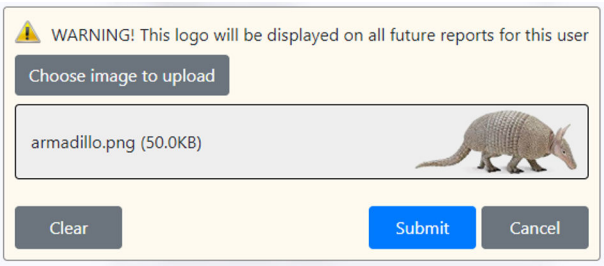
6.5.1 Report Logos

It is possible to customise the report logo that is displayed on the reports for a user. To set the report logo for the current user, click the **Logo** button. A popup will be displayed:



48 *Select Report Logo*

To select an image file to upload, click on the Choose image to upload button. A file dialog will be displayed allowing selection of the required image file. When the file has been selected, it will be displayed in the popup:



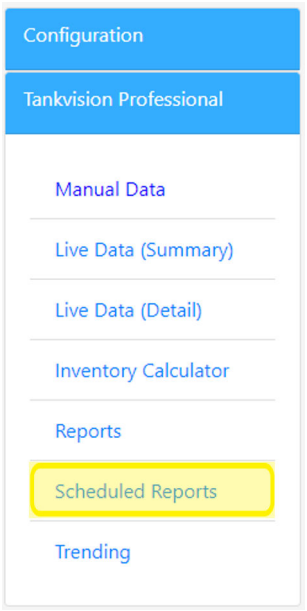
49 *Select Report Logo With Image*

Click on the **Choose image to upload** button to select a different image. Click on the **Clear** button to clear the image. The default report image will then be used. To save the changes click the **Submit** button. To close the popup without saving the new image, click the **Cancel** button.

If the report logo is customised for a user, then the logo will appear on all reports (both ad-hoc and scheduled) for that user.

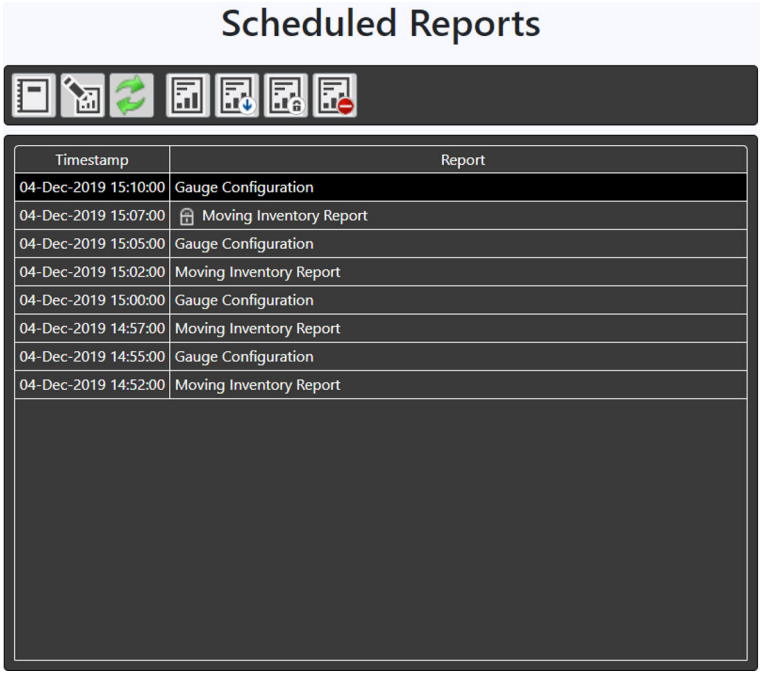
6.6 Scheduled Reports

The scheduled reports page for the Business Information Server is accessed by selecting the **Scheduled Reports** link from the navigation bar:



50 *Scheduled Reports Option*

The **scheduled reports** page will then be displayed to the right of the navigation bar:



51 *Scheduled Reports Page*

The initial view displays the list of reports that have been generated and stored in the system database for the current user. To refresh this list with the latest updates, click the **Refresh** button . If the current user is the administrator user and other users have scheduled reports, it is possible to view the reports for a specific user by selecting the user from the drop down list on the toolbar:

52 *Scheduled Reports Toolbar*

6.6.1 View Report

To view a report, select the report entry from the list and click the **View** button . The report will be opened in a new tab in the browser.

6.6.2 Download Report

To download a report, select the report entry from the list and click the **Download** button . The report will be downloaded to the browser downloads folder.

6.6.3 Lock/Unlock Report

To lock a report, select the report entry from the list and click the **Lock** button . When a report is locked, a lock image is displayed next to the report title in the list:

53 *Locked Report*

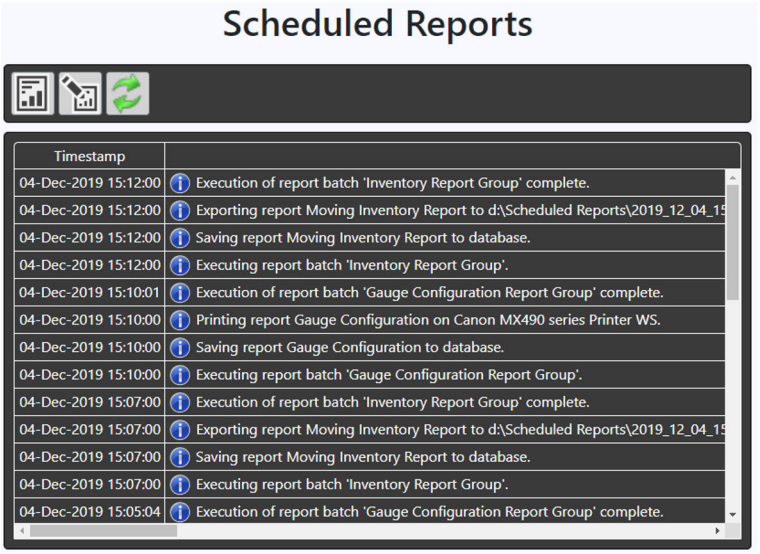
When a report is locked it cannot be deleted and will not be purged after the number of days specified in the report scheduler settings. To unlock a report, select the report entry from the list and click the **Unlock** button which replaces the **Lock** button when a locked report is selected.

6.6.4 Delete Report

To delete a report, select the report entry from the list and click the **Delete** button .

6.6.5 View Log

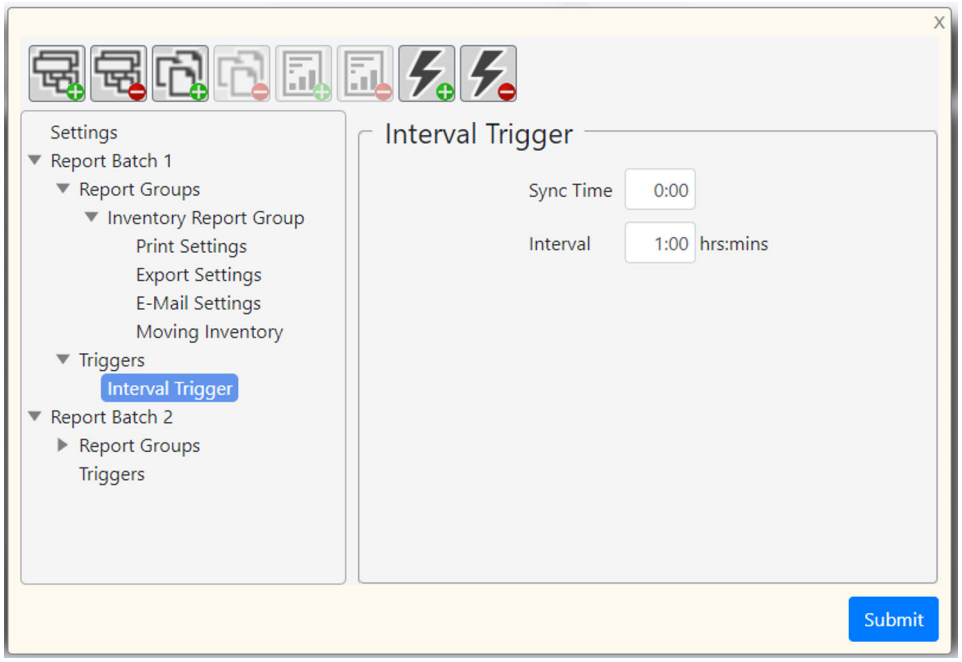
To view the report log instead of the list of reports, click on the **View Log** button . This will cause the Business Information Server report scheduler activity log to be displayed instead:



54 *Report Scheduler Activity Log*

6.6.6 Schedule Reports

To modify the report scheduler settings and maintain report schedules, click on the **Schedule Reports** button . A popup will be displayed:

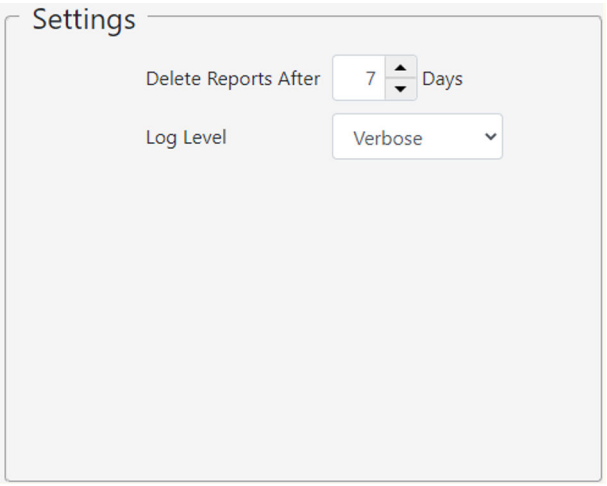


55 *Schedule Reports*

Initially there will be no report batches defined, so the only entry in the list on the left hand side will be **Settings**.

6.6.7 Report Scheduler Settings

To edit the report scheduler settings, select **Settings** from the list on the left hand side. The right hand pane will then display the report scheduler settings:

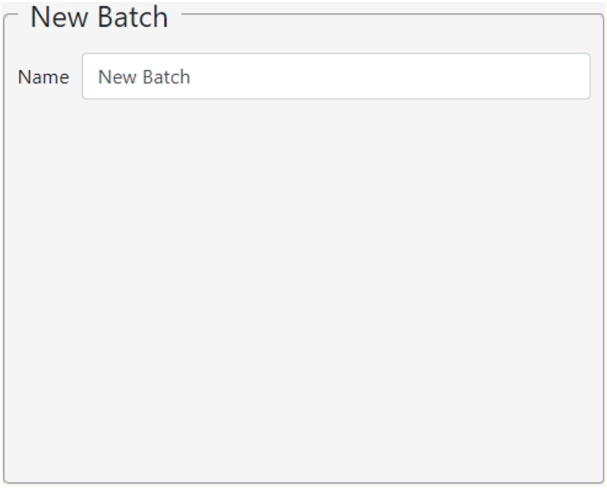


56 *Report Scheduler Settings*

- **Delete Reports After**
  Defines the interval after which reports stored in the system database will be deleted. The purge takes place at midnight each day.
- **Log Level**
  Defines the level at which events are to be written to the report activity log. It is strongly recommended that this is left at **Verbose**.

6.6.8 Batches

To create a new report batch, click on the **Add Batch** button . A new report batch will be added to the list in the left hand pane. To edit the batch details, select the batch in the left hand pane. The right hand pane will then display the batch details:

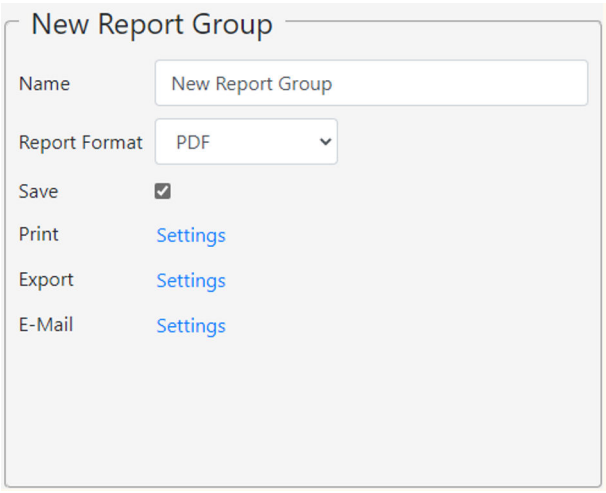


57 *Batch Details*

To delete a report batch, select the batch or any of it's children in the left hand pane and then click the **Delete Batch** button .

6.6.9 Report Groups

To create a new report group, select the batch to which the report group is to belong and then click the **Add Report Group** button . A new report group will be added to the list in the left hand pane as a child of the Report Groups of the selected batch. To edit the report group details, select the report group in the left hand pane. The right hand pane will then display the report group details:



58 *Report Group Details*

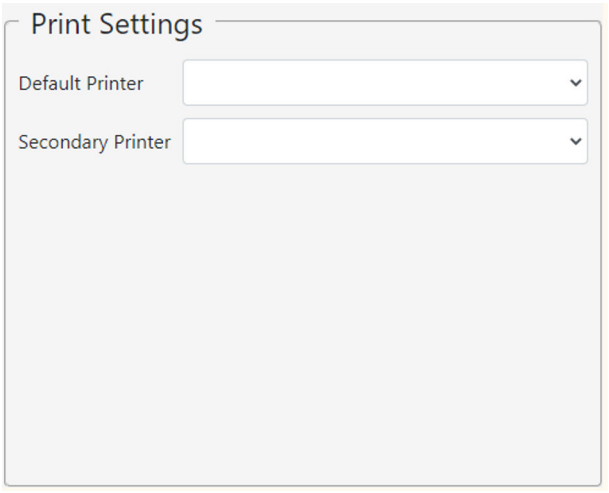
- **Name**
  The name to use to identify the report group.
- Report Format
  The format to be used when generating the reports for this report group.
- **Save**
  Indicates if the generated reports are to be saved to the system database.

- **Print**
  Navigates to the print settings for this report group.
- **Export**
  Navigates to the export settings for this report group.
- **E-Mail**
  Navigates to the e-mail settings for this report group.

To delete a report group, select the report group or any of it's children in the left hand pane and then click the **Delete Report Group** button .

6.6.10 Print Settings

To edit the print settings for a report group, select the **Print Settings** child of the required report group in the left hand pane. The right hand pane will then display the print settings for that report group:

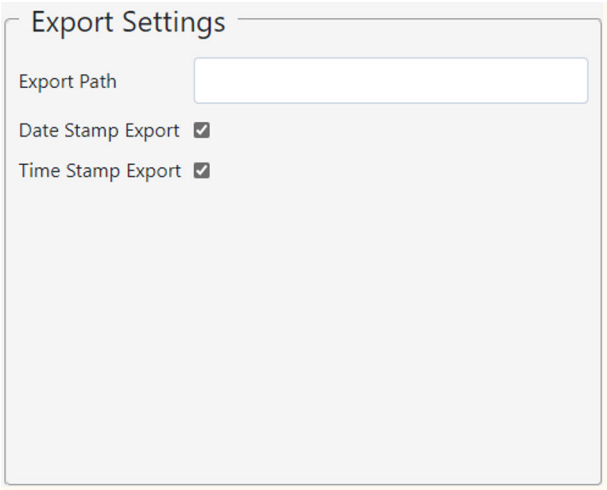


59 *Print Settings*

- **Default Printer**
  The printer to be used to print the reports for this report group. If no printer is selected, then the reports will not be printed.
- **Secondary Printer**
  The alternative printer to be be used to print the reports for this report group if there is an error printing to the **Default Printer**.

6.6.11 Export Settings

To edit the export settings for a report group, select the **Export Settings** child of the required report group in the left hand pane. The right hand pane will then display the export settings for that report group:

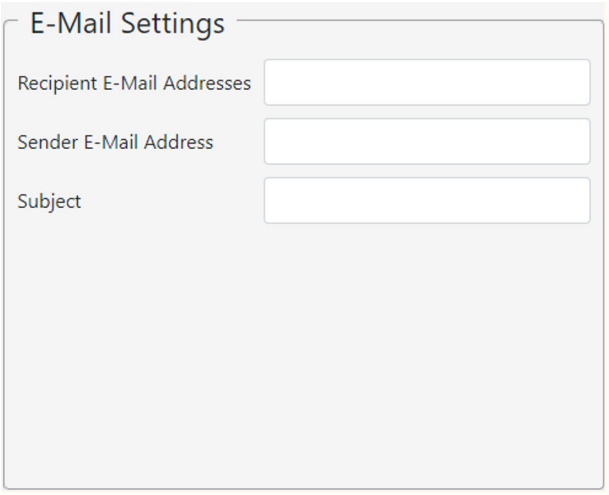


60 *Export Settings*

- **Export Path**
  The path to the directory where the reports are to be written for this report group. If this is left blank, then the reports will not be written to the file system.
- **Date Stamp Export**
  Indicates if the date the report was run is to be prepended to the name of the report file when it is written.
- **Time Stamp Export**
  Indicates if the time the report was run is to be prepended to the name of the report file when it is written.

6.6.12 E-Mail Settings

To edit the e-mail settings for a report group, select the **E-Mail Settings** child of the required report group in the left hand pane. The right hand pane will then display the e-mail settings for that report group:



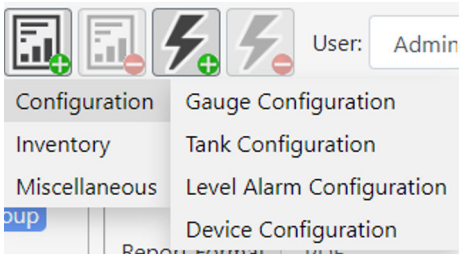
61 *E-Mail Settings*

- **Recipient E-Mail Addresses**
  The e-mail addresses of the recipients of the reports in this report group. If more than one e-mail address is required, each e-mail address should be separated with a semi-colon.
- **Sender E-Mail Address**
  The e-mail address to be used as the sender of the reports in this report group.
- **Subject**
  The subject to be displayed on e-mails sent for this report group.

E-mails will only be sent when reports are generated for the report if all three fields are correctly populated and the messaging service is configured to send e-mails within Tankvision Professional.

6.6.13 Reports

To add a report to a report group, select the report group or one of it's children in the left hand pane and then move the mouse to the **Add Report** button . A list of available reports will be displayed:



62 *Available Reports*

Click on a report to add it to the report group.

The available reports are:

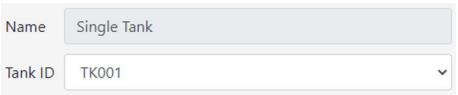
- **Configuration**
  - Gauge Configuration
  - Tank Configuration
  - Level Alarm Configuration
  - Device Configuraton
- **Inventory**
  - Standard Inventory
  - Standard Summary
  - Moving Inventory
  - Single Tank
- **Miscellaneous**
  - Group view
  - Product
  - Events
  - Single Tank Overview
  - Manual Density History

To edit the settings for a report, select the report in the left hand pane. The right hand pane will then display the details for that report:

63 *Report Settings*

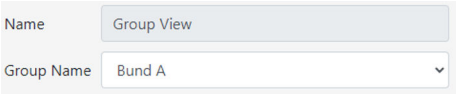
Every report will have a name field which cannot be edited. In addition, some reports may have selection criteria that need to be supplied.

The **Single Tank**, **Single Tank Overview** and **Manual Density History** reports need a tank parameter:



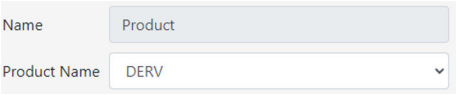
64 *Tank Parameter*

The **Group View** report needs a tank group parameter:



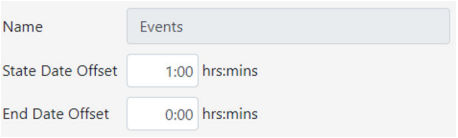
65 *Tank Group Parameter*

The **Product** report needs a product parameter:



66 *Product Parameter*

The **Events** report needs date range offset parameters:

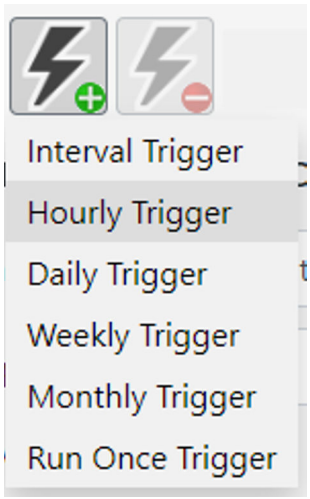


67 *Date Range Offset Parameters*

To remove a report from a report group, select the report in the left hand pane and click the **Delete Report** button .

6.6.14 Triggers

To create a new trigger for a batch, select the batch to which the trigger is to belong and then move the mouse to the **Add Trigger** button . A list of available triggers will be displayed:

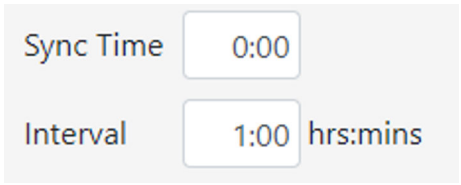


68 *Available Triggers*

Click on a trigger to add it to the batch. To edit the settings for a trigger, select it in the left hand pane. The right hand pane will then display the details for that trigger.

Interval Trigger

An interval trigger is used to run the batch at regular intervals:

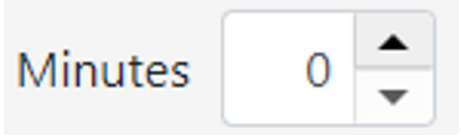


69 *Interval Trigger Parameters*

- **Sync Time**
  The reference time from which the interval is to be measured.
- **Interval**
  The interval at which the batch is to be run.

Hourly Trigger

An hourly trigger is used to run the batch once an hour:

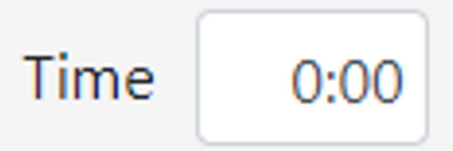


70 *Hourly Trigger Parameter*

Minutes
The minutes past the hour at which the batch is to be run.

Daily Trigger

A daily trigger is used to run the batch once a day:

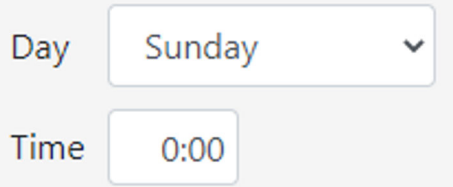


71 *Daily Trigger Parameter*

Time
The time of day at which the batch is to be run.

Weekly Trigger

A weekly trigger is used to run the batch once a week:

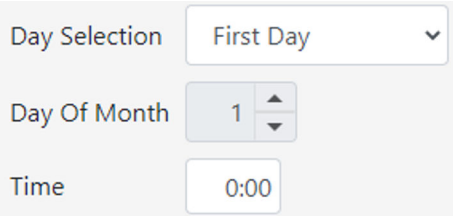


72 *Weekly Trigger Parameters*

- **Day**
  The day of the week on which the batch is to be run.
- **Time**
  The time of day at which the batch is to be run on the specified day.

Monthly Trigger

A monthly trigger is used to run the batch once a month:

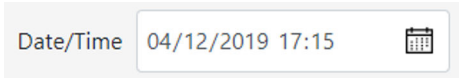


73 *Monthly Trigger Parameters*

- **Day Selection**
  The day of the month on which the batch is to be run. Possible values are First Day, Last Day and Specified Day.
- **Day Of Month**
  The day of the month on which the batch is to be run. This value can only be set if the Day Selection is set to Specified Day.
- **Time**
  The time of day at which the batch is to be run on the specified day of the month.

Run Once Trigger

A run once trigger is used to run a batch exactly once at a specified date and time:



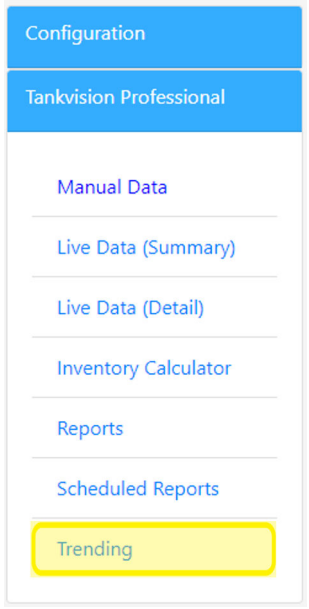
74 *Run Once Trigger Parameter*

Date/Time
The date and time at which the batch is to be run.

To remove a trigger from a batch, select the trigger in the left hand pane and click the **Delete Trigger** button .

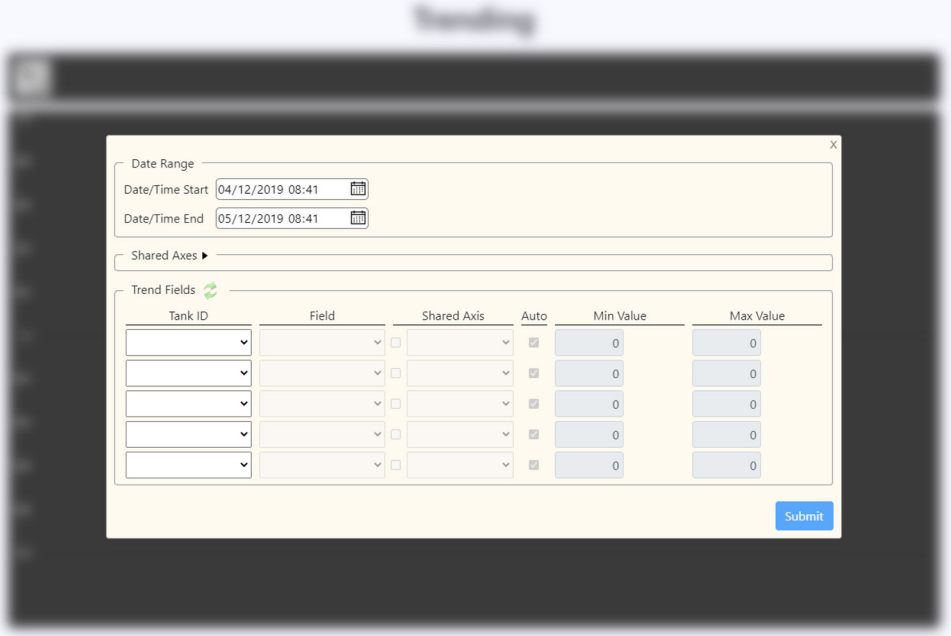
6.7 Trending

The trending page for the Business Information Server is accessed by selecting the **Trending** link from the navigation bar:



75 *Trending Option*

The trending page will then be displayed to the right of the navigation bar. When the trending page first opens it has a popup allowing for entry of the trend criteria:



76 *Trending Page with Configuration Popup*

6.7.1 Configuration

Date Range

The data range fields are used to define the period of time for which the trend data is required.

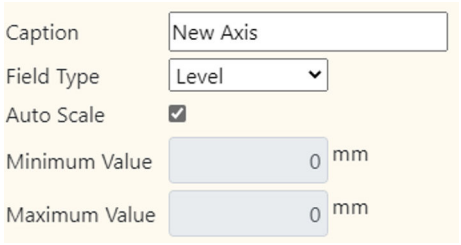
- **Date/Time Start**
  The date/time at which the trend should start.
- **Date/Time End**
  The date/time at which the trend should end.

Shared Axes

The shared axes fields are used to define axes which can be used to display multiple trend fields. This means that the fields will share common min/max values and scaling allowing for easier comparison of values. To expand the shared axes region to display the entry fields click the **arrow** ▶ . The shared axes configuration fields will then be displayed:

77 *Shared Axes Configuration Fields*

To add a new shared axis, click on the **Add** button. A new shared axis will be created. To edit the details of a shared axis, select it by clicking on the name of the shared axis in the list. Details of that shared axis will then be displayed in the other fields:



78 *Shared Axis Fields*

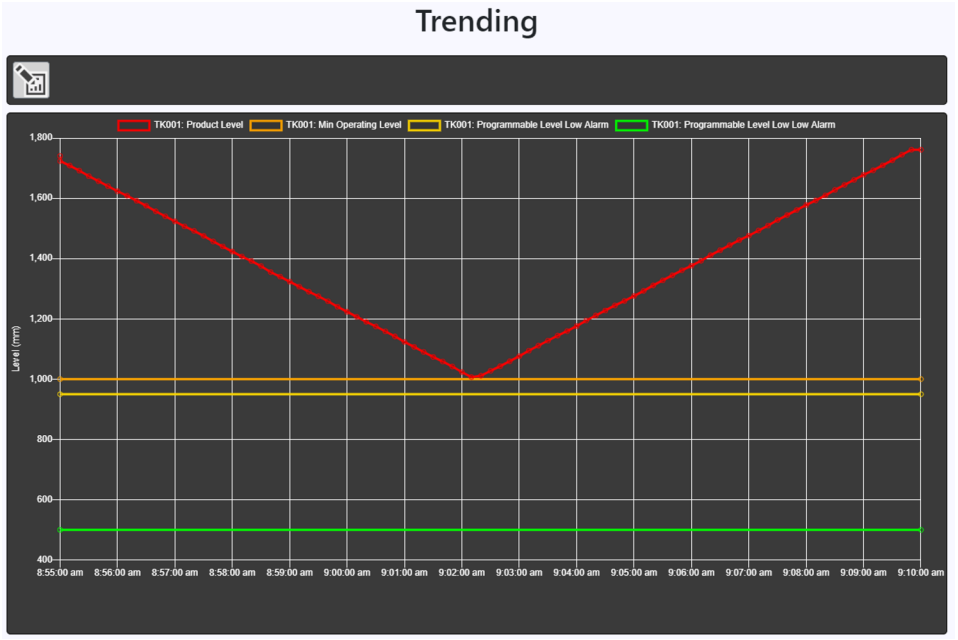
- **Caption**
  The caption used to identify the shared axis. This will appear in the list of available shared axes for a field.
- **Field Type**
  Identifies the type of field that this shared axis can be used for.
- **Auto Scale**
  Indicates if the axis is to auto scale. If this is ticked, the minimum and maximum values for the axis are calculated from the data points in any trend fields that use this axis. Otherwise the minimum and maximum values must be explicitly entered.
- **Minimum Value**
  The minimum value that can be displayed for data points in any trend fields that use this axis. Can only be entered if the axis is not auto-scaled.
- **Maximum Value**
  The maximum value that can be displayed for data points in any trend fields that use this axis. Can only be entered if the axis is not auto-scaled.

Trend Fields

Up to 5 fields can be chosen to be displayed on the trend graph. If the date/time start and/or date/time end for the trend has been changed then the list of tanks and the list of fields may not accurately reflect the tank fields that are available for that date range. To update the list of tanks and list of fields to reflect the data available for the current date range click the **refresh** image . Each trend field has the following configuration:

- **Tank ID**
  The tank for which data is to be displayed. If no tank is selected, then no data is displayed.
- **Field**
  The field for the tank for which data is to be displayed.
- **Shared Axis**
  Indicates the shared axis to be used when plotting the data points for the field. This can only be selected if a shared axis of the correct data type has been configured.
- **Auto**
  Indicates if auto-scaling is to be used for this field. This can only be configured if a shared axis is not being used.
- **Min Value**
  The minimum value that can be displayed for data points for the field. This can only be entered if the field is not using a shared axis and is not auto-scaled.
- **Max Value**
  The maximum value that can be displayed for data points for the field. This can only be entered if the field is not using a shared axis and is not auto-scaled.

To display the trend graph for the entered criteria, click the **Submit** button. The popup will be closed, and the trend data displayed:



79 *Historical Trend Graph*

To edit the criteria for the trend, click on the **Configure** button . The configuration popup will then be displayed.

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