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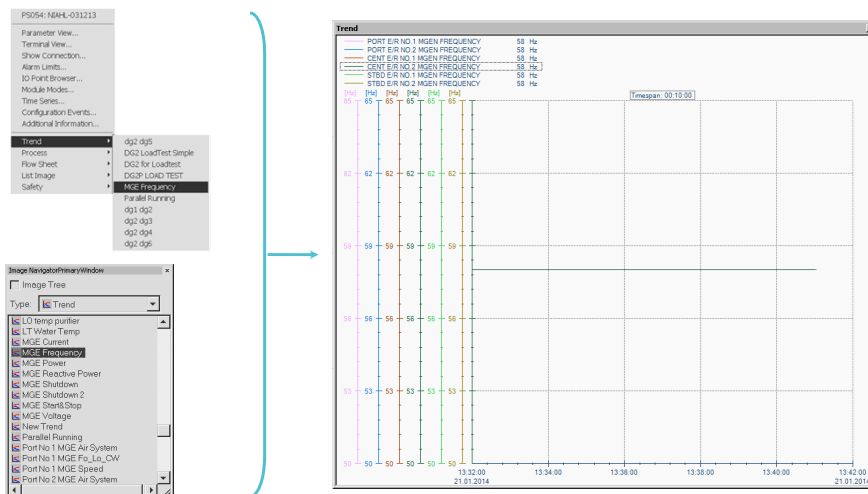
Content

- Time series concept
- Different trend images
- Presentation of the trend
- “Measurement ruler”
- Trend properties
- Timespan
- Make a new trend
- Report manager
- Report System



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The Trend image

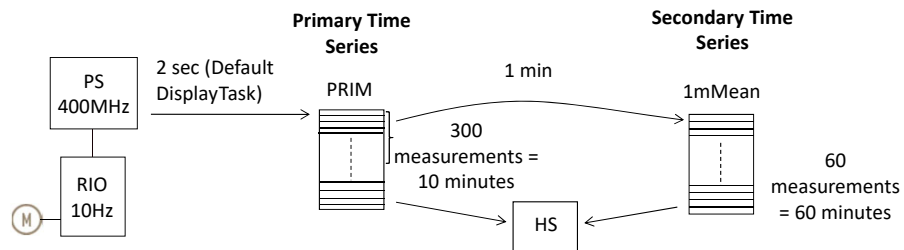




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Time series

- When configured, a value from the module is put into a time series in the PS memory
- A secondary time series can be created based on different calculations on the primary series
- All time series can be saved on the History Station



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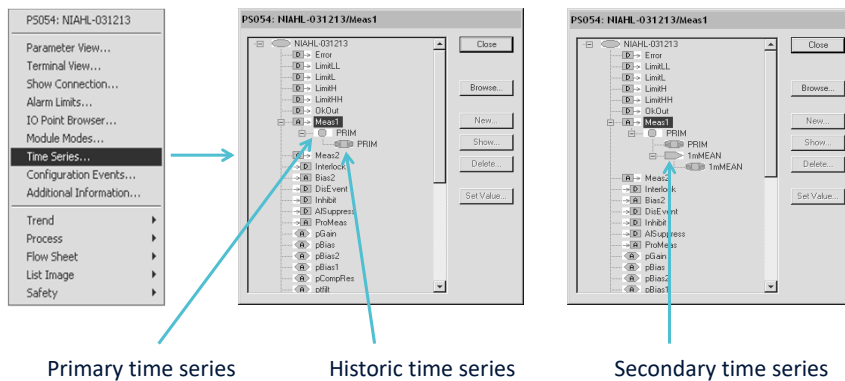
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Time series view

Context menu



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Time series Properties

Length of time series with hysteresis

Transformation properties
(Used for the Secondary Time series)

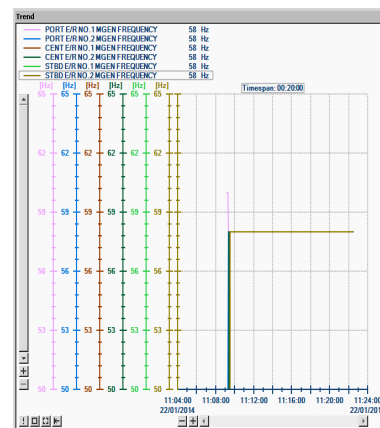
Historical storage interval in seconds (Default values)



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Curve lifespan

- Without time series: the trend will only show the current values when the trend image is open (tag/terminal)
- With time series: the trend will show the terminal value and the historic values form the time series (tag/terminal/PRIM)
- If the trend is linked to a History Station, the values stored in the HS appears in the trend image (tag/terminal/PRIM/HS)





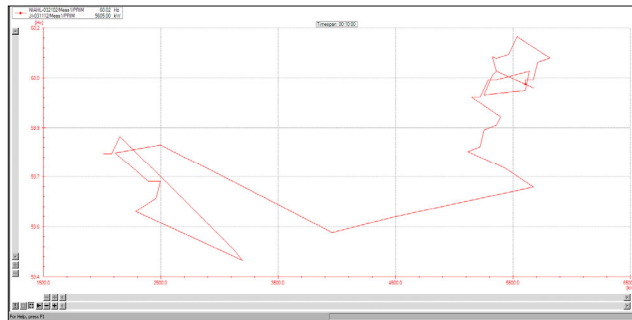
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Types of Trend

- There are two type of trends in the System:

Time trend: Values for a single process variable versus time.
Max 10 curves.

XY trend: Values for two process variables for a defined time span, e.g. frequency compared to load. Max 4 curves.



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Trend shortcut menu

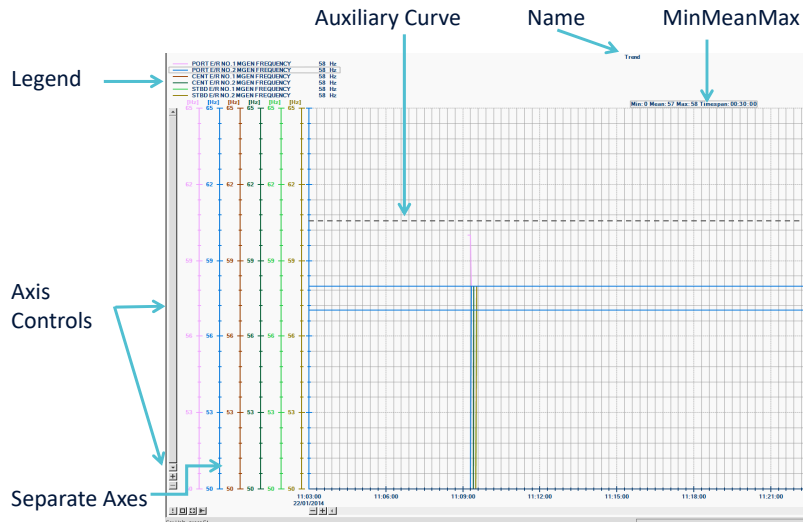
- Presentation: Presentation options
- Static: Updating of the trend is stopped
- Rectangle Zoom: Zoom in a part of a trend, no updating is done (Static Presentation)
- Auto Scale: Continues update of vertical axes according to measurement
- Make Popup: Creates a Trend Pop-up window
- Print: Print a copy of the trend to default printer
- Cut/Copy/Paste: Of curves
- New Curve: Add new curve to the Trend image
- Properties: Set the different properties for the trend





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Presentation



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Axis Controls

-  Toggle static mode
-  Toggle rectangle zoom mode
-  Toggle auto scale mode
-  Restore default axis range
-  Zoom out the time values
-  Zoom in the time values
-  Scroll to pan axis values

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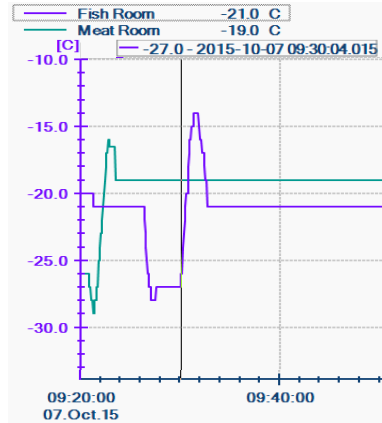
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Measurement Ruler

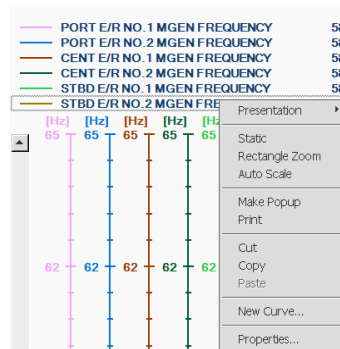
- To use the measurement ruler: left-click and hold the mouse button down and move the measurement ruler along the curve



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Adding curves to a Trend image (1)

- Copy curves from one Trend image to another
- After the changes has been done, remember to save the image with a new name

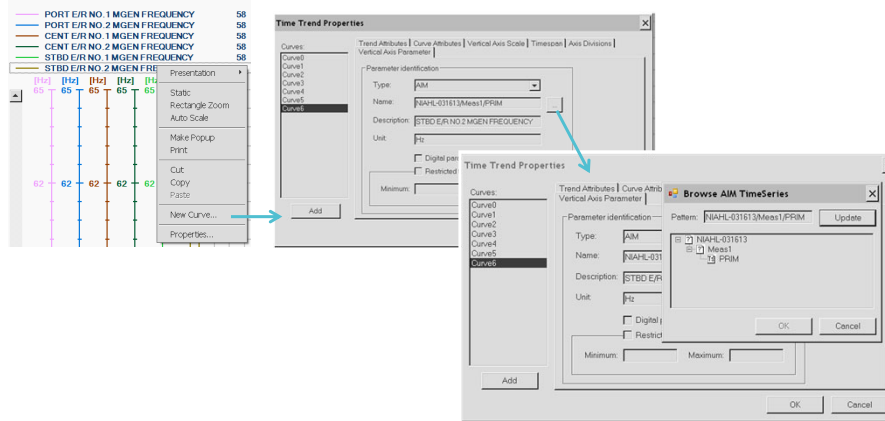




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Adding curves to a Trend image (2)

- Adding curves from the Trend menu



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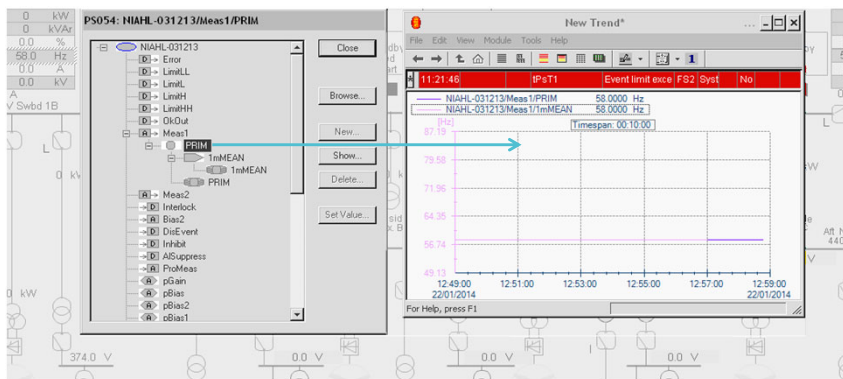
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Adding curves to a Trend image (3)



- Open the Time series for the relevant Tag
- Highlight the correct Terminal or time series
- Drag and drop into the trend image

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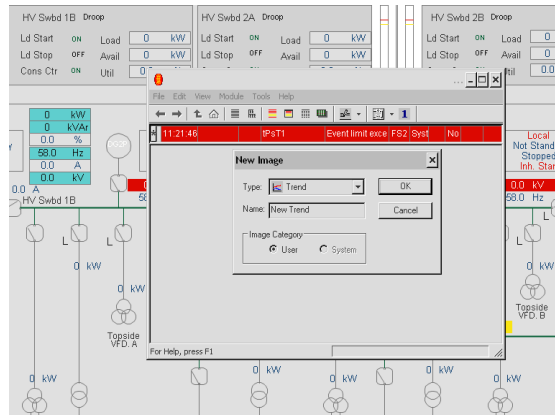


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New Trend Image (User trend)

How to make new trend images:

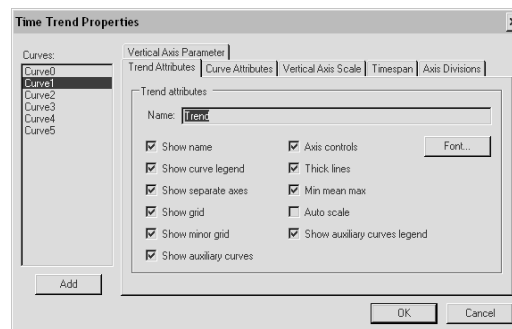
- File → New Image
- Give the trend a name
- Click “OK”
- Add curves
- Save



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Trend Properties

- To open the Time Trend Properties view: right-click in the image → Properties
- The Trend Attributes applies to all curves regardless of the selected curve

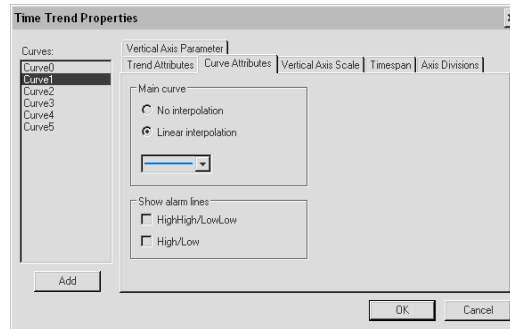




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Curve Attributes

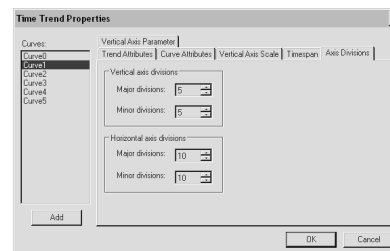
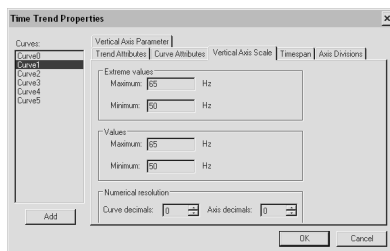
- The Curve Attributes applies to the selected curve
- No interpolation: Dotted line
- Curve colour can be selected
- Alarm Lines can be displayed in the trend image (Show auxiliary curves must be selected (Trend Attributes))



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Vertical Axis Scale and Axis Division

- Vertical Axis Scale: Sets the max and min values of the chosen curve
- Extreme values: Max and min limits
- Values: Max and min values displayed (Must be within extreme values)
- Axis Divisions: Sets the values of major and minor divisions on the horizontal and vertical scale





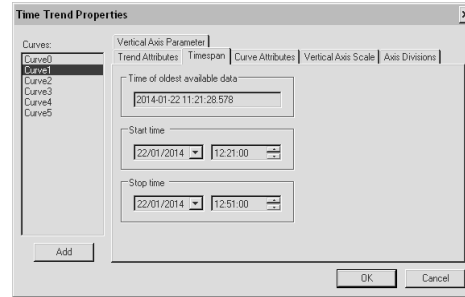
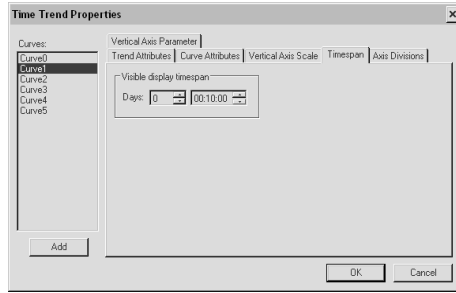
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Timespan

- Defines the horizontal axis scale (all curves)

Dynamic trend

Static trend

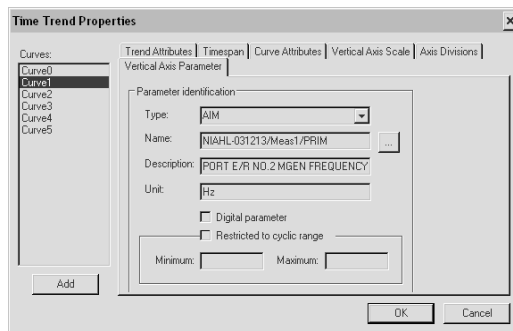


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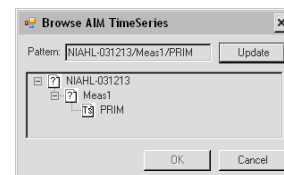
Vertical Axis Parameter

- Defines the Tag name/Terminal/Time series for each curve

Add Description and unit



Search button





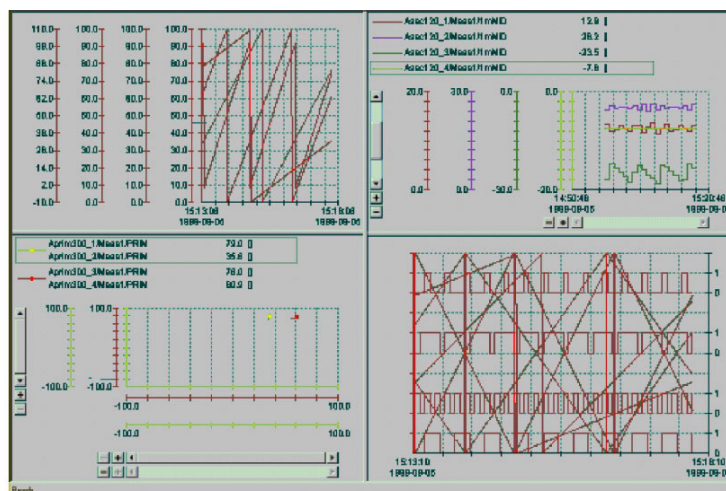
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Layout Mode

- It is possible to split a Trend image into several Trend images by using «Layout Mode»
- Click «File» and choose «Layout Mode»
- The Trend shortcut menu has two new options; Split Vertically & Split Horizontally



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Example of a Report

Interactive Report: c:\vc12345678\Run\Reports\Prepared\BallastTanks.rpt

1 of 1 | 100% | Total: 27 | 27 of 27

KM Drill 8
Ballast Tanks

Print Date: 11 Feb 2015
Print Time: 07:35:43

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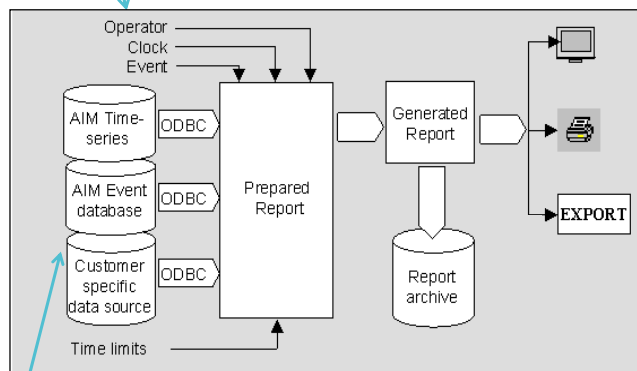
UTC Time	Port	Tag	
Date Wednesday 11 February 2			
06:35:42	285C1C14-AFT PEAK TK (P)	(LIAH-111424-A)	59.81 m3
06:35:42	285C1C13-NO.6 WATER BLST TK (P)	(LIAH-111410-A)	39.34 m3
06:35:42	285C1C10-NO.5 WATER BLST TK (P)	(LIAH-111409-A)	25.73 m3
06:35:42	285C1C8-NO.4 WATER BLST TK (P)	(LIAH-111408-A)	55.43 m3
06:35:42	285C1C6-NO.3 WATER BLST TK (P)	(LIAH-111407-A)	39.76 m3
06:35:42	285C1C4-NO.2 WATER BLST TK (P)	(LIAH-111406-A)	56.92 m3
06:35:42	285C1C2-NO.2 WATER BLST TK (P)	(LIAH-111401-A)	57.54 m3
06:35:42	285C2C11-NO.5 HOLD BLST TK (P)	(LIAH-111433-A)	31.50 m3
06:35:42	285C2C9-NO.4 HOLD BLST TK (P)	(LIAH-111413-A)	24.33 m3
06:35:42	285C2C7-NO.3 HOLD BLST TK (P)	(LIAH-111412-A)	24.14 m3
06:35:42	285C2C5-NO.2 HOLD BLST TK (P)	(LIAH-111411-A)	14.09 m3
06:35:42	285C2C2-NO.1 HOLD BLST TK (P)	(LIAH-111403-A)	27.79 m3
06:35:42	285C2C1-NO.1 HOLD BLST TK (P)	(LIAH-111404-A)	11.81 m3
Centre			
06:35:42	285C2C4-NO.2 HOLD BLST TK (C)	(LIAH-111416-A)	19.71 m3
06:35:42	285C1C1-NO.1 FWD D/B W.B. TK (C)	(LIAH-111415-A)	43.04 m3
Stbd			
06:35:42	285C2C12-NO.5 HOLD BLST TK (S)	(LIAH-111434-A)	31.50 m3



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Reports

Three ways to start a report



Data sources

The report can be:

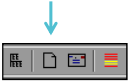
- Displayed on a monitor
- Printed out
- Saved as a file



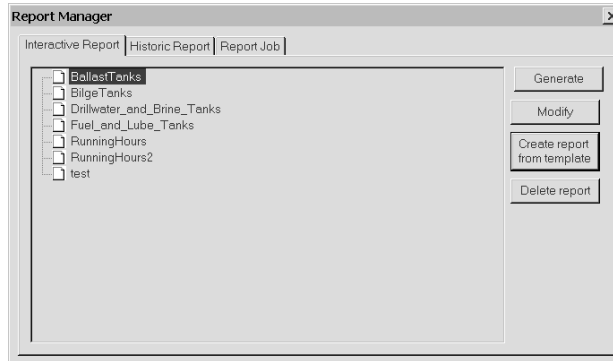
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Reports

Report tool



- Interactive Report: Prepared Reports
- Historic Report: Report archive
- Report Job: Scheduled reports jobs



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Report Manager

- **Generate:**
Collects data into a prepared report and display it on the monitor
- **Modify:**
Modification of a prepared report
- **Create a report from a template:**
Create your own prepared report based on some standard templates
- **Delete report:**
Delete a prepared report





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Modify / Create report

Customize Report: (vc12345678) \Run\Reports\Prepared\BallastTanks.rpt

1. Report Header	2. Report Header	Data From HCU#1, PCU#2	Show Debug
KM Drill B	Ballast Tanks	2	No
Display Time	Partial group sum		
UTC Time	No		
Group	Lead text (optional)	Time series for value	Engineering Unit
Port	285C1C14-AFT PEAK TK (P)	LIAH-111424-AAVolumePRIM	m3
	285C1C13-NO 5 WATER BLST TK (P)	LIAH-111410-AAVolumePRIM	m3
	285C1C10-NO 5 WATER BLST TK (P)	LIAH-111409-AAVolumePRIM	m3
	285C1C08-NO 4 WATER BLST TK (P)	LIAH-111408-AAVolumePRIM	m3
	285C1C06-NO 3 WATER BLST TK (P)	LIAH-111407-AAVolumePRIM	m3
	285C1C04-NO 2 WATER BLST TK (P)	LIAH-111406-AAVolumePRIM	m3
	285C1C02-NO 2 WATER BLST TK (P)	LIAH-111401-AAVolumePRIM	m3
	285C2C11-NO 5 HOLD BLST TK (P)	LIAH-111433-AAVolumePRIM	m3
	285C2C08-NO 4 HOLD BLST TK (P)	LIAH-111413-AAVolumePRIM	m3
	285C2C07-NO 3 HOLD BLST TK (P)	LIAH-111412-AAVolumePRIM	m3
	285C2C05-NO 2 HOLD BLST TK (P)	LIAH-111411-AAVolumePRIM	m3
	285C2C02-NO 1 HOLD BLST TK (P)	LIAH-111403-AAVolumePRIM	m3
	285C2C01-NO 1 HOLD BLST TK (P)	LIAH-111404-AAVolumePRIM	m3
Centre	285C1C04-NO 2 HOLD BLST TK (C)	LIAH-111416-AAVolumePRIM	m3
	285C1C01-NO 1 FWD D/B W.B. TK (C)	LIAH-111415-AAVolumePRIM	m3
Subd	285C2C12-NO 5 HOLD BLST TK (S)	LIAH-111434-AAVolumePRIM	m3
	285C2C10-NO 4 HOLD BLST TK (S)	LIAH-111414-AAVolumePRIM	m3
	285C2C09-NO 3 HOLD BLST TK (S)	LIAH-111423-AAVolumePRIM	m3
	285C2C05-NO 2 HOLD BLST TK (S)	LIAH-111422-AAVolumePRIM	m3
	285C2C03-NO 1 HOLD BLST TK (S)	LIAH-111405-AAVolumePRIM	m3
	285C1C15-AFT PEAK TK (S)	LIAH-111425-AAVolumePRIM	m3
	285C1C12-NO 6 WATER BLST TK (S)	LIAH-111421-AAVolumePRIM	m3
	285C1C11-NO 5 WATER BLST TK (S)	LIAH-111420-AAVolumePRIM	m3
	285C1C09-NO 4 WATER BLST TK (S)	LIAH-111419-AAVolumePRIM	m3
	285C1C07-NO 3 WATER BLST TK (S)	LIAH-111418-AAVolumePRIM	m3
	285C1C05-NO 2 WATER BLST TK (S)	LIAH-111417-AAVolumePRIM	m3
	285C1C03-NO 1 WATER BLST TK (S)	LIAH-111402-AAVolumePRIM	m3
Grand total sum	Group chart in footer	Pie chart in footer	
No	No	No	

Close

Cancel

Save

Save as...

PreView

KM Drill 8

Ballast Tanks

Print Date: 11 Feb 2015

Print Time: 07:35:43

Port	Tag	Date	Volume
		Wednesday 11 February 2	
285C1C14-AFT PEAK TK (P)	(LIAH-111424-A)	06:35:42	59.81 m3
285C1C13-NO 6 WATER BLST TK (P)	(LIAH-111410-A)	06:35:42	39.34 m3
285C1C10-NO 5 WATER BLST TK (P)	(LIAH-111409-A)	06:35:42	25.73 m3
285C1C08-NO 4 WATER BLST TK (P)	(LIAH-111408-A)	06:35:42	55.43 m3
285C1C06-NO 3 WATER BLST TK (P)	(LIAH-111407-A)	06:35:42	55.52 m3

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Report job

- This report job generates and print the Ballast report every day at 12:00

Configure Report Job

Report job name: Ballast Tanks OK

Prepared report: C:\vc12345678\Run\Reports\Prepared\BallastTanks.rpt Cancel

Schedule parameters

Schedule report every 1 day(s) Change...

First scheduling time is (UTC+01:00) 2015-02-11 12:00:00

Report generation is delayed 0 minute(s)

Report data timespan is unknown

Output to printer

Printer name is Change...

Number of copies is 1

Output to file

File format is Crystal Report (*.rpt) Change...

File name is

Destination path is C:\vc12345678

Number of files with this name is not restricted

Output to mail

File format to attach file is Crystal Report (*.rpt) Change...

Mail address is

Mail subject is

Mail message is

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Exercises:

- Trends
- Make a user trend
- Report



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Learning Objectives

- Explain/Understand the Time Series concept
- Be aware of the different ways of displaying trend images
- Recognize different types of trend images
- Be able to change the presentation of the trend
- Identify the “Measurement ruler”
- Access the Trend properties and understand what happens when changing the different settings
- Identify the timespan used and understand/explain the different timespans that can be presented in the trend
- Use trend to present a desired value
- Access Report Manager
- Generate a report
- Configure a schedule report
- Memorise the two functions Modify and Create a report



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**End of the
presentation**

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