



**BOSCH**

## **VRM Monitor**

**en**

Help



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# 1 Introduction

This application help is intended for persons using the VRM Monitor interface for installation monitoring, troubleshooting, and system information gathering.

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## 2 System overview

The VRM Monitor interface is used to monitor the status of a Video Recording Manager system from any PC in the network. The VRM Monitor interface provides information on the Video Recording Manager system and limited options for replaying the recordings.

You cannot configure the Video Recording Manager system using the VRM Monitor interface. To configure the Video Recording Manager system, use the Configuration Manager program first to get a basic configuration.

**Notice!**

Check the Windows Firewall settings. The default settings can possibly prevent the display of live images.

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## 3 Connecting to the VRM Monitor interface

There are several ways to connect to the web page of the Video Recording Manager interface.

Using the Bosch VMS or Configuration Manager program to connect:

- ▶ Right-click the Video Recording Manager icon, then click **Show VRM Monitor** or **Show in Web Browser...**. The VRM Monitor Dashboard page appears, which is the default connection page, containing the Video Recording Manager menu bar for navigation.

Using the URL of the Video Recording Manager system to connect:

- ▶ Enter the IP address in the web browser.

**Note:**

For each Video Recording Manager installation use HTTP port 80 and HTTPS port 443. No modification to the Video Recording Manager URL must be done.

Secondary or Dual Video Recording Manager instances use HTTP Port 81 and HTTPS port 444.

DIVAR IP 3000 and DIVAR IP 7000 recording appliances use HTTP port 81 and HTTPS port 442.



**Notice!**

The VRM Monitor is a live web page. We recommend that you refresh the web page regularly.

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**Menu bar**

The menu bar of the VRM Monitor web page allows you to navigate to the following sections:

- Dashboard window
- Monitoring window
- Utility programs, for example, Logout, Refresh, Print, and Help.

**Refer to**

- *VRM Monitor Dashboard window, page 8*
- *VRM Monitor Monitoring window, page 12*

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## 4 VRM Monitor Dashboard window

The VRM Monitor Dashboard window provides a lot of system information and helps you to get a quick overview of the status of the system.

The Dashboard window consists of the following components:

- General information
- Monitored values
- Bit rate graph and logs

### 4.1 General information

The general Dashboard information area at the top of the Dashboard window provides the following base system information:

- Server type and Failover information
- Device count, Pool count, Capacity, and Average retention time
- Server IP, Software version, VRM uptime, and Total bit rate

### 4.2 Monitored values

The **Monitored values** area provides the following information on the status of the system.

- Capacity
- System
- Load balancing
- Trancoders
- Devices
- License
- Storage
- Pools

#### **Capacity**

The **Capacity** group provides an overview of the system's storage and storage status. This includes **Empty**, **Total** and **Available** storage space.

The **Capacity** group also provides information on **Legacy recordings** and **Protected recordings**.



**Legacy Recordings** belong to devices that are no longer in the system and for which the minimum retention time of the video has not been reached. If the original device is replaced by a new device, the original recordings - if not overwritten - will be assigned to the new device.

Recordings older than the minimum retention time might also be available if not overwritten.

### **System**

The **System** group provides **Server time**, **System uptime** and **VRM uptime** information.

### **Load balancing**

The **Load balancing** group provides a system-wide overview of the total number of iSCSI sessions and network throughput of all storage devices depending on their configuration. This group also shows the current number of connections and bit rate as a forecast.

### **Transcoders**

The **Transcoders** group provides information and the status of transcoders associated with a Video Recording Manager system. This includes older VJ-XTC-XF external transcoders as well as internal transcoders supplied by recording appliances.

- DIVAR IP 2000 recording appliances are equipped with 1 internal transcoder capable of 1 transcoding instance.
- DIVAR IP 5000 recording appliances are capable of 4 simultaneous transcoding sessions.

### **Devices**

The **Devices** group provides the number of video channels configured in the system to include. This group provides also the number of:

- Offline channels
- Active recordings
- Idle (not recording devices)
- Signal Loss (devices)

### Licenses

The **License** group provides base license information, for example, the installation code, the type of license, the number of licensed channels, and the number of used channels.

### Storage

The **Storage** group provides an overview of iSCSI devices in the system.

This includes:

- The total number of targets in the system
- The number of offline targets
- The number of LUNs configured system wide
- The targets that are offline
- The read-only LUNs
- The discovery state
- The LUNs left

### Pools

The **Pools** group provides the following information:

- The number of virtual storage pools configured in the system.
- The number of overloaded pools. That means, the storage is not capable to receive all the traffic.

## 4.3 Bit rate graph and logs

This group provides the **Bit rate graph** and the **Logs** tools.

- The **Bit rate graph** tool provides real time data of the system's network throughput to the storage devices. The graph also provides filter and graph options, for example, for 1 hour, 1 day, 1 week, 1 month or a customized period of time.



Click the icon to open the **Filters** dialog box, then select the filter options for 1 hour, 1 day, 1 week, 1 month or a customized period of time.



Click the icon to enlarge the axis of the graph.

**Note:** To enlarge the axis, you can also draw a rectangle in the graph.



Click the icon to reduce the axis of the graph.



Click the icon, point into the graph, then press the mouse button and move the graph.



Click the icon to update the graph.

- The **Logs** tool displays the most recent logs.

## 5 VRM Monitor Monitoring window

The VRM Monitor **Monitoring** window provides a detailed overview of the Video Recording Manager system.

The **Monitoring** window is divided in the following 2 panes:

- The tree structure to the left allows you to select specific monitoring pages for the most important monitoring options.
  - Peripherals: Devices, Cameras, Signal loss, Legacy Recordings, and Transcoders
  - Storage: Overview, Targets, LUNs, Blocks, and Protected blocks
  - System: Logbook, Export Logbook, Playbacks, Jobs, and Pools
- The view pane to the right shows details of the selected monitoring pages and allows different methods of filtering information, as well as a preset view with basic and advanced information. Custom information views can also be created on a per user basis.

To open the **Monitoring** window:

- ▶ In the menu bar, click the **Monitoring** tab.

### 5.1 Devices page

How to get here: **Monitoring** window > expand **Peripherals** > click **Devices**

The **Devices** page shows general information of the devices assigned to the Video Recording Manager system. Filter options allow you to get detailed device information.

- General information

The following general information are displayed at the top.

  - **Device count** - Displays the number of configured devices.
  - **Channel count** - Displays the number of configured channels.
  - **Offline device count** - Displays the number of devices that are offline.

- **Signal loss count** - Displays the number of all encoders or Video Streaming Gateway channels that do not receive video data from this source.
- Filter options  
Filter options, below the general information, allow you to search the available devices according to certain criteria.
  - **Filter** - Primary filter option that allows you to filter devices by **Pool** and **Target**.
  - **Preset** - Allows you to switch between presets, for example, **Basic** and **Advanced** mode.
  - **Preset options** - Click to open the **Preset options** dialog box where you can define additional user presets.

## 5.2 Preset options

How to get here:

**Monitoring** window > expand **Peripherals** > click **Devices** > click **Preset options**

or

**Monitoring** window > expand **Peripherals** > click **Cameras** > click **Preset options**

or

**Monitoring** window > expand **Storage** > click **Targets** > expand **Details** group > click **Preset options**

or

**Monitoring** window > expand **Storage** > click **LUNs** > expand **List** group > click **Preset options**

or


**Monitoring** window > expand **System** > click **Pools** > expand **List** group > click **Preset options**

The **Preset options** dialog box allows you to define additional user presets and shows all information modules that can be added to a user preset.


- **User presets** - Displays all available user presets and allows you to add or delete user presets.

- **Column selection** - Contains the information modules that can be added to user presets.
  - **Default presets** - Displays the default presets that are available (**Basic** and **Advanced**).
- Note:** You cannot delete or change the default presets.

To add a new user preset:

1. Click  to add a new user preset.
2. In the **Column selection** list, select the information modules that should appear in the user preset.
3. Click **Save**.

To delete an existing user preset.

1. In the **User presets** list, select the user preset.
  2. Click  to delete the user preset.
- Note:** You cannot delete the default presets (**Basic** and **Advanced**).
3. Click **Save**.

To add information modules to an existing user preset:

1. In the **User presets** list, select the check box of the desired user preset.
2. In the **Column selection** list, select the information modules that should appear in the user preset.
3. Click **Save**.

To define the order of the selected values:

1. Drag the icon  up and down in the list.
2. Click **Save**.

To copy preset settings to other user presets:

- ▶ Click **Copy to other user presets** to copy the **Basic** or **Advanced** settings to new user presets. To do this, select the respective check box first.

## 5.3 Cameras page

How to get here: **Monitoring** window > expand **Peripherals** > click **Cameras**

The **Camera** page shows general information of all cameras assigned to the Video Recording Manager system. In the **List** and **Details** group, filter and preset options allow you to get detailed camera information.

- General information

The following general information are displayed at the top.

  - **Total channels** - Displays the total number of channels.
  - **Offline channels** - Displays the number of channels that are offline.
  - **Signal loss count** - Displays the number of channels that do not receive video data from this source.
- **List** group for filter options

Click ► **List** to show the filter options.

Filter options, below the general information, allow you to search the available devices according to certain criteria.

  - **Filter** - Primary filter option that allows you to filter devices by **Pool** and **Target**.
  - **Preset** - Allows you to switch between presets, for example, **Basic** and **Advanced** mode.
  - **Preset options** - Click to open the **Preset options** dialog box where you can define additional user presets.
- **Details** group

Click ► **Details** to display the following tabs with specific camera information.

  - **Overview** - Displays camera information, such as, General, Connectivity, Recording and LUN information.
  - **Event log** - Displays information, warnings and errors of the iSCSI target.

To filter the **Event log** display, in the **Filter** list, select an entry.
  - **Graph** - Displays the following:

A graph for the selected camera with its recording bit rate as graphical overview.

The **Filter** area where you can select the period that is

displayed in the graph.

The **Report category** area to select between **Bit rate streamed per 2 minutes interval**, **Remaining data stored per day**, and **Remaining amount of recordings stored per day**.

The **Export of .csv file** area where you can export searches in .csv format for later analysis.

## 5.4 Signal loss page

How to get here: **Monitoring** window > expand **Peripherals** > click **Signal loss**

The **Signal loss** page provides system wide information on any devices that are online but get no video signal.

## 5.5 Legacy recordings page

How to get here: **Monitoring** window > expand **Peripherals** > click **Legacy recordings**

The **Legacy Recordings** page provides information on recordings that are stored in the system but are no longer associated with a device in the system. This typically occurs if a device is removed from the system configuration either permanently or pending replacement.

If a device is removed from a system, the associated video is kept until it is either manually deleted or the minimum retention time has expired

## 5.6 Transcoders page

How to get here: **Monitoring** window > expand **Peripherals** > click **Transcoders**

The **Transcoders** page provides an overview of the transcoder status, number of sessions, and sessions that are in use or available. This includes internal transcoders and legacy VJ-XTCXF external transcoders.

This page also displays the number and status of dedicated and local sessions.



## 5.7 Overview page

How to get here: **Monitoring** window > expand **Storage** > click **Overview**

The **Overview** page provides general and system-wide information on all aspects of **Storage, Target, LUN** and **Capacity** information.

- General information

The following general information are displayed at the top.

- **Target count** - Displays the number of all available iSCSI targets.
- **LUN count** - Displays the number of all available LUNs.
- **Offline targets** - Displays the number of targets that are offline.
- **Offline LUN count** - Displays the number of LUNs that are offline.
- **Capacity**

**Total** - Capacity of all blocks of all iSCSI targets managed by the Video Recording Manager system.

**Usable** - Capacity of all blocks, but without the capacity of read-only LUNs.

**Available** - Capacity of all blocks which can be allocated for recording. This means, these blocks are not already allocated by any device for recording and does not contain recordings which are protected by minimum retention time or manual recording protection.

**Empty** - Capacity of all blocks which does not contain any recordings. This means, there was never a recording on that block (since last formatting) or the recording was deleted manually or by the Video Recording Manager, for example, due to maximum retention time has expired or the block is already allocated for recording.

**Protected** - Capacity of all blocks that are manually protected by the user.

- **Overall storage**  
Displays
  - The bit rate graph as graphical overview.
  - The **Filter** area where you can select the period that is displayed in the graph
  - The **Report category** area to select between **Bit rate streamed per 2 minutes interval**, **Remaining data stored per day**, and **Remaining amount of recordings stored per day**.
  - The **Export of .csv file** area where you can export searches in .csv format for later analysis.

## 5.8 Targets page

How to get here: **Monitoring** window > expand **Storage** > click **Targets**

The **Targets** page provides general information on the system's iSCSI targets.

In the **List** and **Details** group, filter and preset options allow you to get detailed target information. This data can be filtered by **All** and **Pool** basis.

- General information  
The following general information are displayed at the top.
  - **Target count** - Displays the number of all available iSCSI targets.
  - **LUN count** - Displays the number of all available LUNs.
  - **Offline targets** - Displays the number of targets that are offline.
  - **Offline LUN count** - Displays the number of LUNs that are offline.
  - **Capacity**
    - Total** - Capacity of all blocks of all iSCSI targets managed by the Video Recording Manager system.
    - Usable** - Capacity of all blocks, but without the capacity of read-only LUNs.
    - Available** - Capacity of all blocks which can be

allocated for recording. This means, these blocks are not already allocated by any device for recording and does not contain recordings which are protected by minimum retention time or manual recording protection.

**Empty** - Capacity of all blocks which does not contain any recordings. This means, there was never a recording on that block (since last formatting) or the recording was deleted manually or by the Video Recording Manager, for example, due to maximum retention time has expired or the block is already allocated for recording.

**Protected** - Capacity of all blocks that are manually protected by the user.

- **List** group for filter options  
Click ► **List** to display the list with all available targets. Filter options, below the general information, allow you to search for detailed information.
  - **Filter** - Primary filter option that allows you to filter devices by **All** and **Pool** basis.
  - **Preset** - Allows you to switch between presets, for example, **Basic** and **Advanced** mode.
  - **Preset options** -Click to open the **Preset options** dialog box where you can define additional user presets.
- **Details** group  
Click ► **Details** to display the following tabs with specific target information.
  - **Event log** - Select an entry in the **Filter** list to get an overview and capacity information
  - **Graph** - Displays the following:  
Displays a diagram.  
A graph for the iSCSI target with its recording bit rate. The **Filter** area where you can select the period that is displayed in the graph.

The **Report category** area to select between **Bit rate streamed per 2 minutes interval**, **Remaining data stored per day**, and Remaining amount **of recordings stored per day**.

The **Export of .csv file** area where you can export searches in .csv format for later analysis.

## 5.9 LUNs page

How to get here: **Monitoring** window > expand **Storage** > click **LUNs**

This page provides general information, configuration data and activity data on a LUN by LUN basis.

In the **List** and **Details** group, filter and preset options allow you to get detailed camera information.

The LUN addressing is as follows:

192.168.1.200 = IP / 0 = iSCSI Target or NIC / 1 = LUN number

This data can be filtered by **All** and **Target** basis.

- General information

The following general information are displayed at the top.

- **LUN count** - Displays the number of LUNs.
- **Offline LUN count** - Displays the number of LUNs that are offline.

- **List** group for filter options

Click ► **List** to show the filter options.

Filter options, below the general information, allow you to sort the available devices according to certain criteria.

- **Filter** - Primary filter option that allows you to filter devices by **All** and **Target** basis.
- **Preset** - Allows you to switch between presets, for example, **Basic** and **Advanced** mode.
- **Preset options** - Click to open the **Preset options** dialog box where you can define additional user presets.

- **Details** group  
Click ► **Details** to display details concerning the selected LUN and the following tabs with further information.
  - **Event Log** - Displays all loggings of the LUN.  
To filter the event log, select an entry in the **Filter** list
  - **Overview** - Displays additional information, for example, **Target address**, **LUN type**, **Uptime**.
  - **Capacity** - Displays a graphical view.

## 5.10 Blocks page

How to get here: **Monitoring** window > expand **Storage** > click **Blocks**

The **Blocks** page provides general and detailed storage information on a block-by-block basis of all blocks on all iSCSI targets. Filter options allow you to filter the information by **Target** and **LUN** basis. The information also includes if the block is currently mounted or if the block is available to be allocated to a different device.

- General information  
The following general information on the allocation status are displayed at the top.
  - **Protected blocks** - Number of manually protected blocks on all iSCSI targets.
  - **Restrained blocks** - Number of blocks that cannot be allocated because their retention time is not exceeded.
  - **Available blocks** - Number of all available blocks on all iSCSI targets.
- Filter options  
Filter options, below the general information, allow you to filter the information by **Target** and **LUN** basis.
  - **Target** - Select the iSCSI target.
  - **LUN** - Select the LUN.

**Note:** To display additional information of a single block, select a row in the list, then expand **Details**.

- **Details** group  
Click ► to display the following tabs.
  - **Info** - Displays additional **Block** information.
  - **Slices** - Displays additional information, for example, Interval type, Recording from.

## 5.11 Protected blocks page

How to get here: **Monitoring** window > expand **Storage** > click **Protected block lists**

The **Protected blocks** page provides general information on video that has been protected automatically by alarm or manually. A .csv export is also available.

Protecting video allows the protection of incident video for an indefinite period. The protected video will remain in the system until the video is set manually to unprotected.

Large amounts of automatically protected video from misconfiguration of alarm settings can inadvertently affect the system's retention capabilities.

- General information  
The following general information on the allocation status are displayed at the top.
  - **Protected blocks** - Number of manually protected blocks on all iSCSI targets.
  - **Restrained blocks** - Number of blocks that cannot be allocated because their retention time is not exceeded.
  - **Available blocks** - Number of all available blocks on all iSCSI targets.
- Export of protected blocks
  - **Protected blocks as CSV** - Saves the protected blocks in .csv format for later analysis.
  - **Protected times as CSV** - Saves the protected times in .csv format for later analysis.

## 5.12 Logbook page

How to get here: **Monitoring** window > expand **System** > click **Logbook**

The **Logbook** page provides current and past system log information. System logs can be filtered and displayed per day. The following types of system logs are available:

- **Event log** - Displays the standard event system logs.  
**Note:** The **Filter** list allows you to filter the logs per day.
- **Block history log** - Displays the block history logs.
- **RCP+ log** - Displays the logs of the complete communication between the Video Recording Manager system and the devices. The RCP+ logging is turned off by default. The logging should only be activated temporary if necessary due to a large amount of data.  
**Note:** The **Filter** list allows you to filter the logs per day.

## 5.13 Export Logbook page

How to get here: **Monitoring** window > expand **System** > click **Export Logbook**

The **Export Logbook** page allows you to export all or only selected system logs as a .zip file.

The following export logbook options are available:

- Select all system logs
- Current configuration
- Time dependent logs where you can select the period of time, for example, Event log, Local VSG, Block history log, Playback log, RCP+ log, and Debug log.
- Camera dependent logs (**Span info**)

### Exporting system logs

To export system logs:

1. Select the desired export logbook options.
2. Click **Export as ZIP**.

## 5.14 Playbacks page

How to get here: **Monitoring** window > expand **System** > click **Playbacks**

The **Playbacks** page provides information on the current number of video playbacks being done by the Video Recording Manager system. The information provided include also the user information on the camera name and who is performing the playback.

Observe the following:

- Playbacks direct from the storage are not displayed.
- A Video Recording Manager system is capable of 64 simultaneous tunneled playbacks.
- There are playback limitations for DIVAR IP devices depending on the device version, for example.

## 5.15 Jobs page

How to get here: **Monitoring** window > expand **System** > click **Jobs**

The **Jobs** page provides general information regarding the total number of jobs and the total number of active jobs. Additional information are available by clicking the following tabs.

- **Exports** - Displays Video Recording Manager exports.
- **Formattings** - Displays the formatting jobs on specific LUNs.
- **Reorganizations** - Displays the jobs that perform automatic load balancing.

### Refreshing the Jobs page

We recommend that you refresh the page occasionally.

To refresh the **Jobs** page:

- ▶ Click **Refresh**.

### Deleting jobs

You can delete one or multiple jobs at once.

To delete a job:

1. Select a job.



2. Click **Delete**.

**Note:** If required, select multiple jobs.

## 5.16 Pools page

How to get here: **Monitoring** window > expand **System** > click **Pools**

The **Pools** page provides information on the virtual storage pools configured in the Video Recording Manager system. The Video Recording Manager system supports up to 120 virtual storage pools to provide either logical or physical segmentation of a system. The information provided are based on the entire contents of the pool.

All available pools are displayed in the **List** group that can be filtered. After selecting a specific pool in the **List** group, the **Details** group appears below. The **Details** group provides detailed information on the pools and several filter options.

- General information

The following general information are displayed at the top.

- **Pool count** - Displays the number of all available pools in the system.

- **List** group with filter options

Click ► **List** to show the pools list and the filter options.

The filter options allow you to search for certain criteria.

- **Preset** - Allows you to switch between presets, for example, **Basic** and **Advanced** mode.
- **Preset options** - Click to open the **Preset options** dialog box where you can define additional user presets.

- **Details** group

Click ► **Details** to display detailed information for the pool selected in the **List** group.

Use the following tabs:

- **Storage** - Displays storage information of the selected pool and allows you to filter for **Basic**, **Advanced** and **Preset Options**.

- **Devices** - Displays information of all cameras that are assigned to the selected pool and allows you to filter for **Basic**, **Advanced** and **Preset Options**.
- **Capacity** - Displays capacity information.
- **Graph** - Displays the following:
  - The **Overall storage** area showing a graph with period and bit rate axis.
  - The **Filter** area where you can select the period displayed in the graph.
  - The **Report category** area to select between **Bit rate streamed per 2 minutes interval**, **Remaining data stored per day**, and **Remaining amount of recordings stored per day**.
  - The **Export of .csv file** area where you can export searches in .csv format for later analysis.





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