



DIVUS IP CAM VIEWER

GENERAL INFORMATION

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The manual has been conceived and written for users who are experienced in the use of PCs and automation technology.

This version of the manual is based on the following version(s):

- DIVUS TOUCHZONE image R4.8
- DIVUS IP CAM VIEWER v. 1.1 rev. 21

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<https://www.divus.eu/en/general-conditions>

CONVENTIONS

[KEYS]	Keys that are to be pressed by the user are given in square brackets, e.g. [CTRL] or [DEL]
COURIER	On-screen messages are given in the Courier font, e.g. C:\>
COURIER BOLD	Keyboard input to be made by the user are given in Courier bold, e.g. C:\> DIR .
„...“	Names of buttons to be pressed, menus or other onscreen elements and product names are given within double quotes. (e.g. "Configuration").
PICTOGRAMS	In this manual the following symbolic are used to indicate particular text blocs.
	Caution! A dangerous situation may arise that may cause damage to material.
	Hint Hints and additional notes
	New New features

The terms "**DIVUS TOUCHZONE**" and "**DIVUS TZ**" or simply "TZ" all point out the same product.

INDEX

1	INTRODUCTION	5
1.1	PREREQUISITES	6
1.2	FIRST START	7
2	MAIN VIEW	9
2.1	CAMERA LAYOUT	10
2.2	CAMERA FRAME	10
2.3	ACTIONS	11
2.4	SIDE MENU	12
3	ARCHIVE	13
4	CAMERA CONFIGURATION	14
4.1	CAMERA CONFIGURATION FORM	15
4.1.1	OVERLAY	17
5	SETTINGS	18
5.1	ACTIONS	19
5.2	FFMPEG	20

1 Introduction

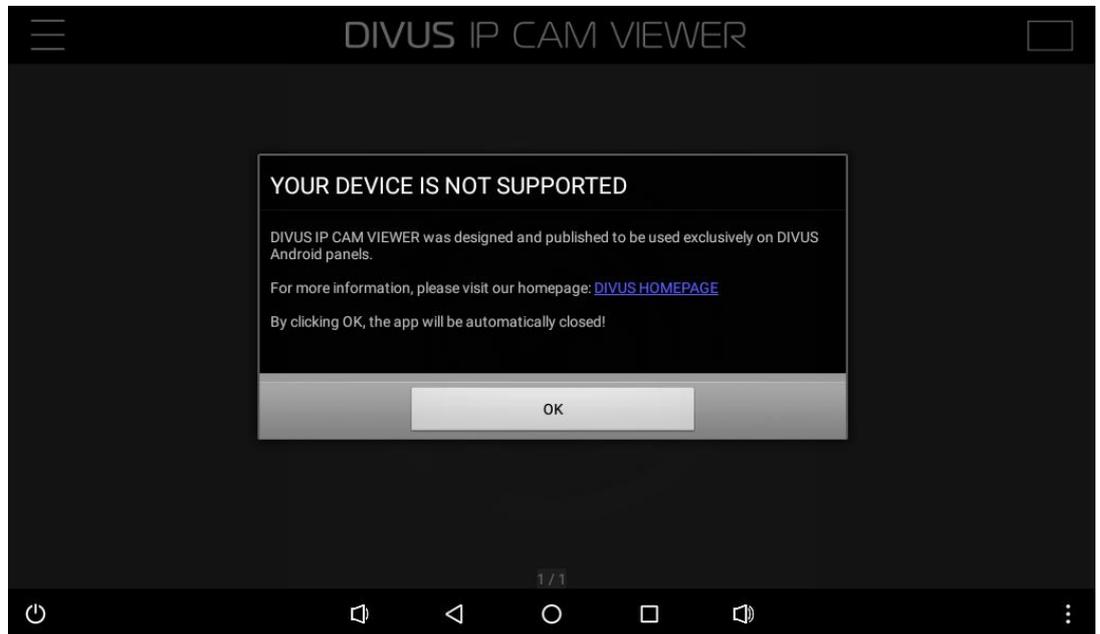
With DIVUS IP CAM VIEWER you have the possibility to access your IP cameras surrounding your home or your remote holiday resort, seeing in real-time what is happening around you, and help you feel more secure and in control. The app allows to easily connect local/remote IP cameras of various types and take screenshots of the current camera image. You can view up to 6 cameras simultaneously and by a simple click quickly see one in full screen. With the app DIVUS IP CAM VIEWER you can get the most out of your IP cameras and increase your surveillance capabilities. Now you will always know what is happening around you.



Further information about the app DIVUS IP CAM VIEWER can be requested by contacting the technical support of DIVUS.

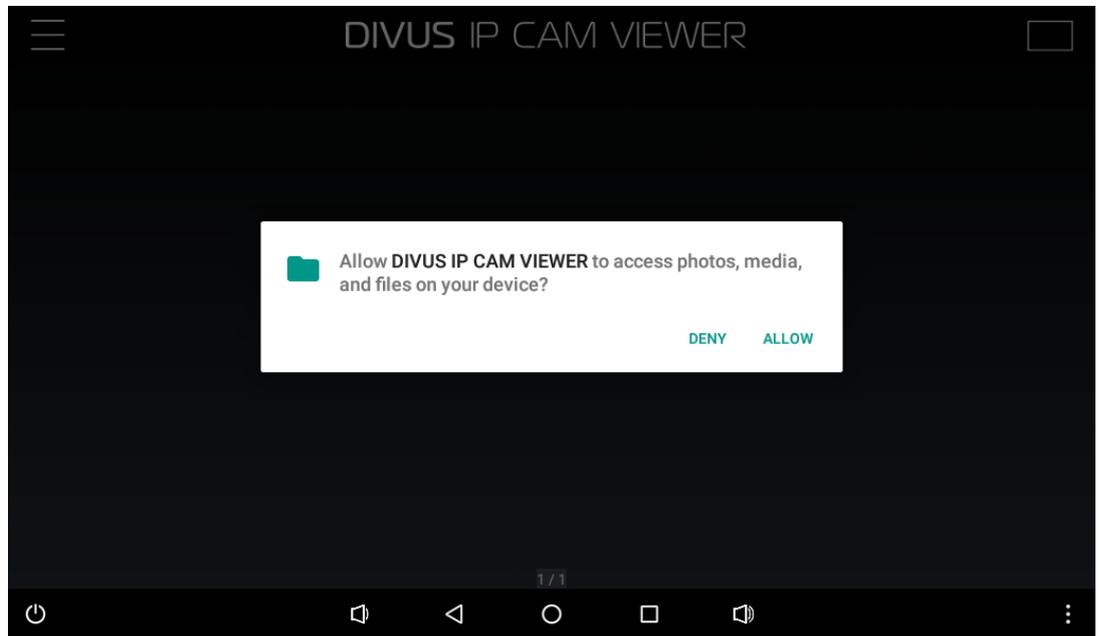
1.1 PREREQUISITES

DIVUS IP CAM VIEWER requires Android 5.0.2 (API 21) or higher to run, the app will be unable to install on devices running a lower Android version. Additionally, DIVUS IP CAM VIEWER is designed to be used exclusively on DIVUS Android panels running Android 5 or higher, such as DIVUS TOUCHZONE – on other devices (which still satisfy the minimum required Android version) the app will still be able to install, but when launched it will show the following warning:



1.2 FIRST START

If your device supports DIVUS IP CAM VIEWER, when launching the app, on some versions of Android some runtime permissions are asked and have to be manually allowed: DIVUS IP CAM VIEWER asks to access media on the device, this is required e.g. to save screenshot pictures.



As long as some permissions are not granted, these missing permissions are asked at every start of the main view of the app until granted or denied permanently. When these permissions are not granted some functions of the app may not work! If the user decides to permanently deny these permissions then this dialog should not show up anymore. These permissions can also be granted/revoked manually in the settings on the application management page of DIVUS IP CAM VIEWER.

After the prompt for the permissions, when launching the app you will find the following empty screen, as no cameras are configured yet.



2 Main view

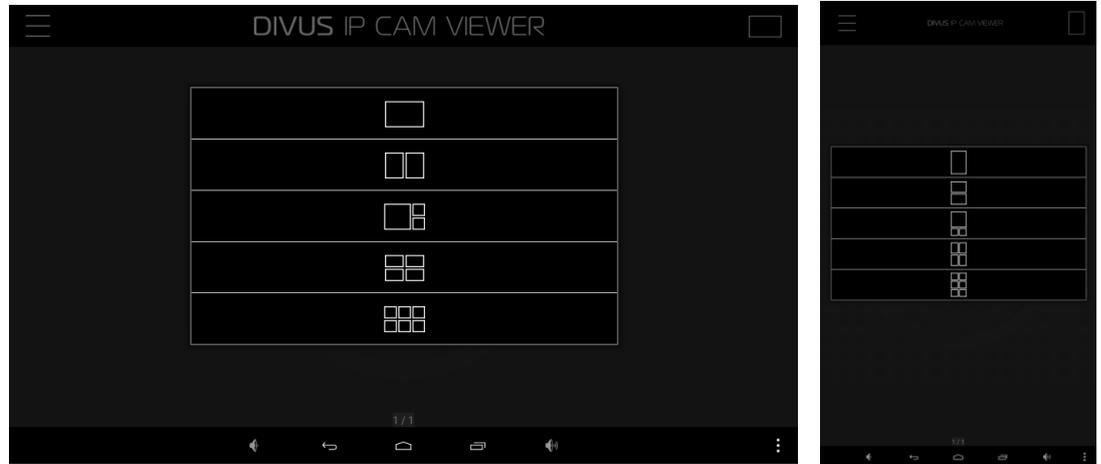
The main view of DIVUS IP CAM VIEWER consists of the main screen displaying the currently configured cameras, and the top bar which allows for additional controls.



Each configured camera has its own frame, and depending on the layout and orientation they are distributed differently. On bottom in the middle is the page indicator, the first number shows the current page, the second number shows the total number of pages. Depending on the amount of cameras and selected layout the page count may change. It's possible to switch to the next/previous page with a horizontal swipe on the main screen.

2.1 CAMERA LAYOUT

The app supports multiple camera layouts, allowing to display between 1 and 6 cameras at a time per page. The button on the top right shows the current layout, and by clicking on it the layout can be changed. Depending on the current orientation of the device, some layouts slightly vary.



Depending on the various aspects (e.g. network speed, camera resolution, etc.) the frame rate of the stream and performance of the device may suffer, the more cameras per page are visible.

If more cameras are configured than possible to display in the current layout it's possible to switch to the next/previous page with a horizontal swipe on the main screen. If less cameras are available for the current page, then the empty camera frames will be filled with a placeholder.

2.2 CAMERA FRAME

As said before, each configured camera has its own frame. If the camera has a name assigned it will be displayed in the top label, should the camera have no name then no label is visible. On the bottom right is a camera button which allows to take screenshots. When pressed the next received frame will be saved as screenshot which will be visible in the archive. Additionally it's also possible to click directly on any given camera frame, this will open that camera in fullscreen.



Clicking on a camera to open it in fullscreen will change the camera layout to a single camera. This camera layout will be kept until another layout is selected.

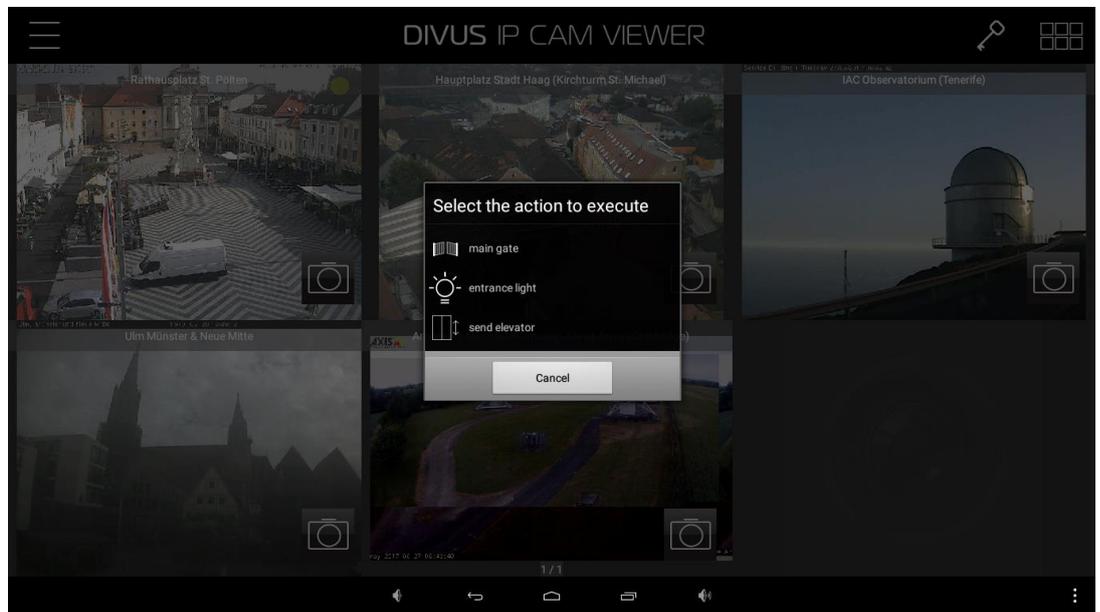
If the camera should be inaccessible or not enough cameras are configured to fill the current page with the selected layout, then a placeholder will be placed for that frame.



If the stream is not stable and some images are lost, the camera frame will keep displaying the last received image until a new one is received.

2.3 ACTIONS

DIVUS IP CAM VIEWER allows to trigger certain actions, either by accessing a DIVUS KNXCONTROL device or controlling the digital outputs of the DIVUS Android panel. In the top right of the screen a key icon is displayed, with a click on it a dialog with all currently configured actions is displayed, from which a desired action can be triggered.



If no actions are yet configured then the key icon will not be visible. As soon as at least once action is configured the key icon will become visible. The actions can be configured in the settings, as will be described later in the manual.



To use KNX actions a DIVUS KNXCONTROL device is required.

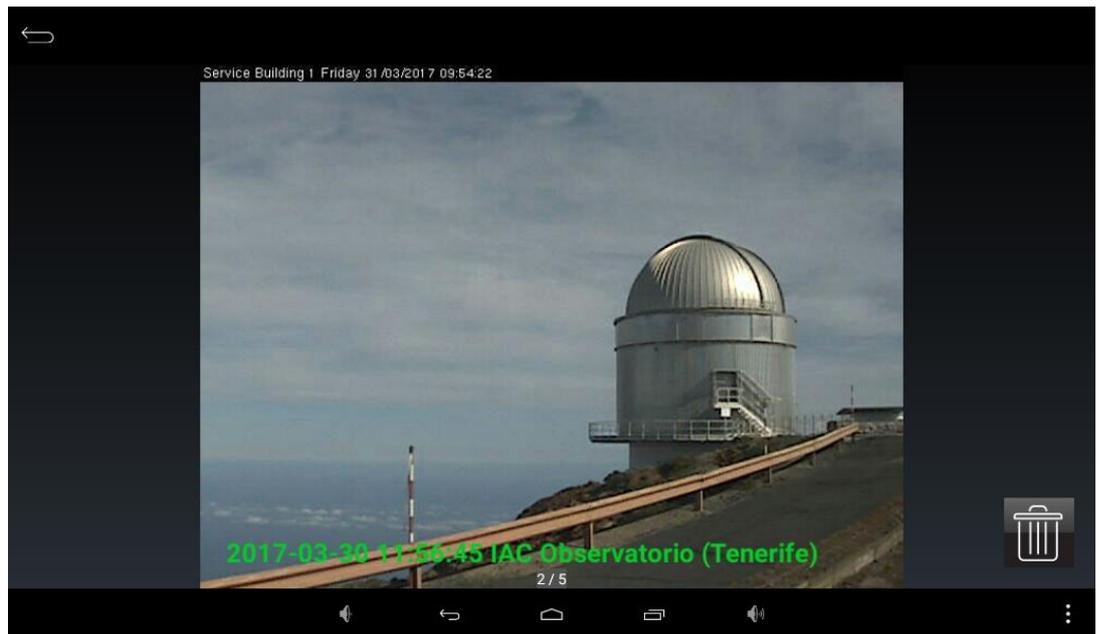
2.4 SIDE MENU

The top left buttons allows to open/close the side menu, alternatively also possible through a swipe movement from the left edge of the screen. The side menu offers access to the camera configuration, app settings, archive and app information. The app information shows information about the app version and how to contact DIVUS, the other entries will be discussed separately.



3 Archive

DIVUS IP CAM VIEWER allows to take screenshots for each camera through the corresponding button, which can then be viewed in the archive. The archive can be accessed from the side menu through the corresponding entry. The screenshots are displayed as a slideshow one at a time, at the bottom in the middle the page indicator show with the first number the current screenshot and the last number shows the total number of screenshots. Through a horizontal swipe it's possible to switch to the next/previous screenshot. As visible in the image, when taking a screenshot also the date, time and name of the camera is printed in green on the bottom of the screenshot. By clicking on the bottom right trash button the currently displayed screenshot can be deleted.



4 Camera configuration

The camera configuration is accessible through the side menu and allows to configure the cameras to display.



Access to the camera configuration can be password protected, thus allowing to change the configuration of the cameras only to authorized personnel. The password can be set in the settings, by default no password is set. When no password is set then the access to the settings is unprotected, and no password prompt is shown.

When opening the camera configuration a list of the currently configured camera is visible. The order here is important, as this order will also be used when displaying the cameras in the main view. The order of each camera can be changed with the far right up/down arrow.

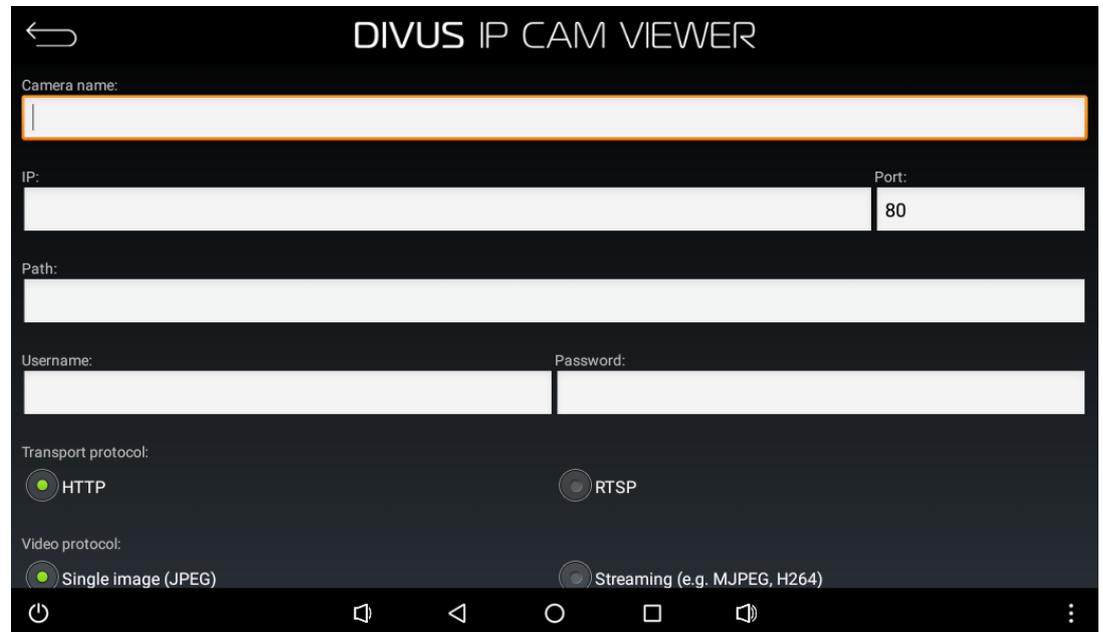
With the top right “+” button it’s possible to open the screen to configure a new camera, which will be added at the end of the list. With the gearwheel it’s possible to open the same screen to edit a camera, in this case the fields will be filled with the existing configuration of the corresponding camera.

By clicking on the trashcan the corresponding camera can be permanently deleted.

A click on the top left arrow will close this view and bring you back to the main view.

4.1 CAMERA CONFIGURATION FORM

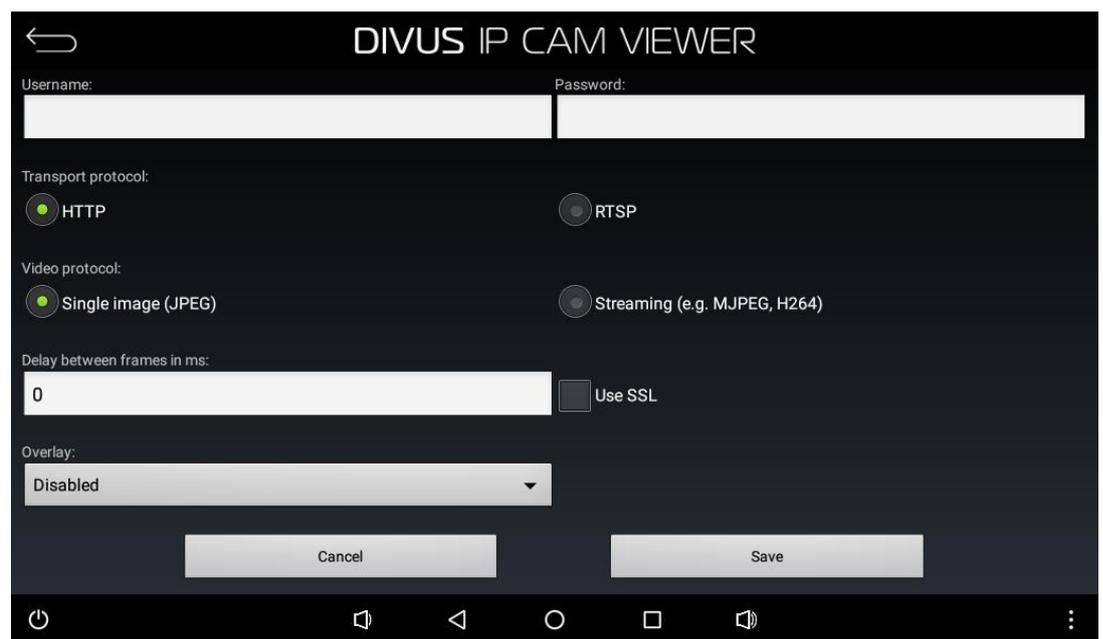
For an empty/new camera the configuration form looks as follows:



The screenshot shows the 'DIVUS IP CAM VIEWER' configuration form for a new camera. The form is displayed on a dark background with white text and input fields. At the top left is a back arrow icon. The title 'DIVUS IP CAM VIEWER' is centered at the top. Below the title, the form contains the following fields and options:

- Camera name:** A single-line text input field.
- IP:** A wide text input field.
- Port:** A text input field containing the value '80'.
- Path:** A wide text input field.
- Username:** A text input field.
- Password:** A text input field.
- Transport protocol:** Two radio button options: 'HTTP' (selected) and 'RTSP'.
- Video protocol:** Two radio button options: 'Single image (JPEG)' (selected) and 'Streaming (e.g. MJPEG, H264)'.

At the bottom of the form, there is a power icon on the left and a set of Android navigation icons (back, home, recent apps) on the right.



The screenshot shows the 'DIVUS IP CAM VIEWER' configuration form for an existing camera. The form is displayed on a dark background with white text and input fields. At the top left is a back arrow icon. The title 'DIVUS IP CAM VIEWER' is centered at the top. Below the title, the form contains the following fields and options:

- Username:** A text input field.
- Password:** A text input field.
- Transport protocol:** Two radio button options: 'HTTP' (selected) and 'RTSP'.
- Video protocol:** Two radio button options: 'Single image (JPEG)' (selected) and 'Streaming (e.g. MJPEG, H264)'.
- Delay between frames in ms:** A text input field containing the value '0'.
- Use SSL:** A checkbox that is currently unchecked.
- Overlay:** A dropdown menu currently set to 'Disabled'.

At the bottom of the form, there are two buttons: 'Cancel' on the left and 'Save' on the right. Below the buttons is a power icon on the left and a set of Android navigation icons (back, home, recent apps) on the right.

- Camera name

An optional name for the camera can be given. This name will be displayed both in the camera list as well as in the camera frame in the main view.

- IP

Here the mandatory IP/URL to the camera is added, e.g. 123.123.123.123 or www.mycameraurl.com

- Port

Here the mandatory port used for the camera stream is inserted, default: 80.

- Path

If necessary the path to the camera stream can be added, e.g. /mjpg/video.mjpg.

- Username / password

If required the username and password to access the camera stream can be provided here.

- Transport protocol

The mandatory transport protocol must be selected, depending on the camera, default: HTTP.

- Video protocol

The mandatory video protocol must be selected, depending on the camera, default: single image.

- Delay between frames

This option is available only for single image video protocol and allows to set an optional delay before requesting the next frame. When the value is empty or 0 no delay is used and the next request is performed immediately.

- SSL

When enabled it uses HTTPS/RTSPS-prefix for accessing the camera stream.

- Overlay

Allows to configure an overlay when visualizing the camera, default: disabled.



Transport/video protocol depend on the camera to visualize, both on manufacturer and model.



Displaying a camera with single image video protocol significantly reduces the app performance.

4.1.1.1 OVERLAY

For each camera there is an option to select a camera overlay, which changes how the camera is displayed. The available camera overlays are as follows:

- Disabled

No overlay is applied, the camera stream is shown unaltered as received.

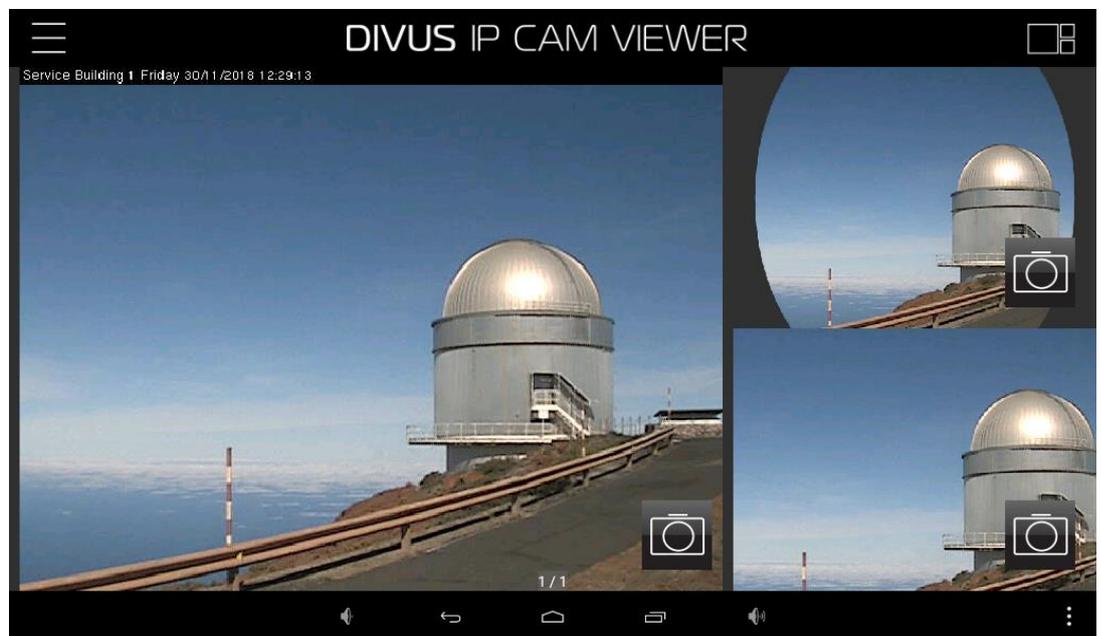
- Fisheye

The shown camera stream is increased by roughly 20%, and a round overlay is applied.

- Zoom

The shown camera stream is increased by roughly 56%.

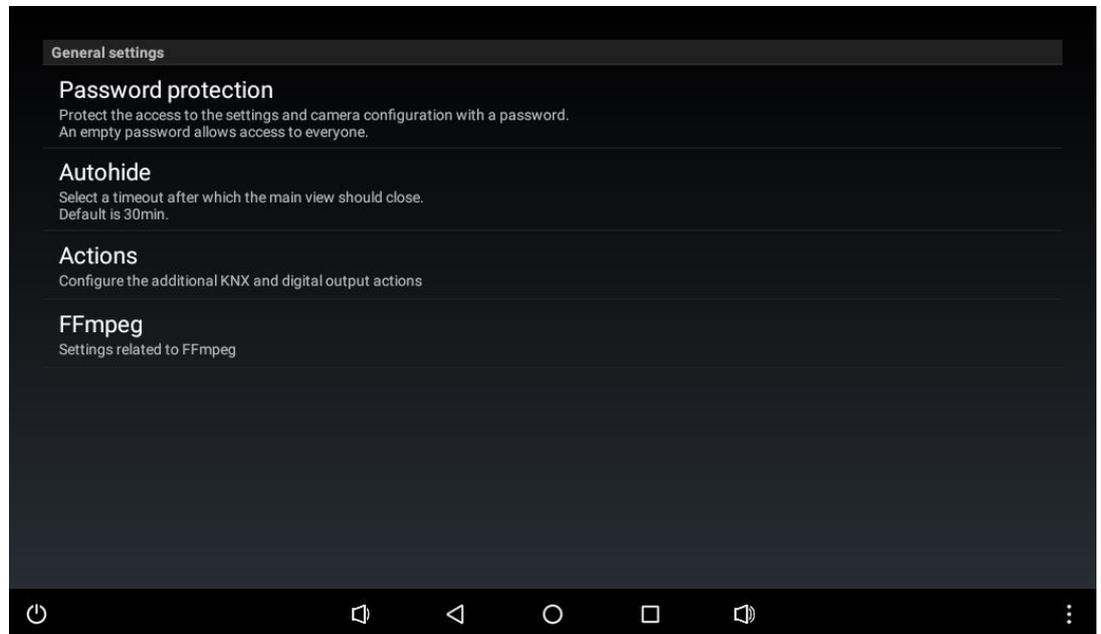
Below is an example of the various available overlays: on the left the overlay is disabled, top-right has fisheye overlay and bottom-right has zoom overlay.



When taking a screenshot the original camera image is saved, even if a camera overlay is enabled.

5 Settings

The settings are accessible through the side menu.



By default access to the settings is unrestricted, however it is possible to set a password to restrict access to both settings and camera configuration. If a password is set, a dialog will be displayed when trying to open the respective areas, asking for the password. Access to the desired screen is granted only if the correct password is provided. If no password is set then access to the settings and camera configuration is unprotected and is automatically granted.

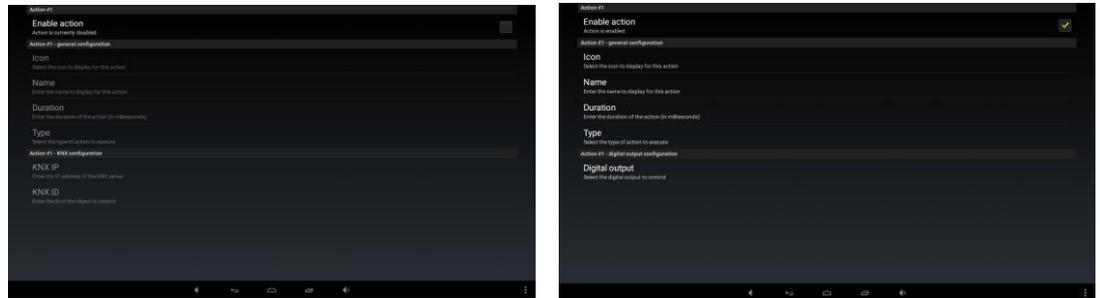
The next setting allows to set a timer after which the app should close: when the app isn't used for the given time then the app will automatically be closed, when the app is used the timer is automatically reset. The available timeouts are between 5 minutes and 9 hours. This function is only active in the main view.

The next setting opens a sub-menu to configure the additional actions.

The last setting opens a sub-menu with various configurations related to FFmpeg.

5.1 ACTIONS

DIVUS IP CAM VIEWER allows to trigger some actions, through which DIVUS KNXCONTROL device and digital output of the DIVUS Android panel can be used. Up to 6 actions can be individually configured, as seen in the next screenshots.



By default every action is disabled and has to be activated manually before it can be used/configured. Disabled action will not show up in the dialog to select the action to execute, even if they are full configured.

Enabling an action will enable to configure it. For every action an optional icon from a given set and a name can be provided, as well as a mandatory duration in milliseconds has to be provided. Next it must be chosen which type of action (KNX or digital output) to execute, and depending on the selection either IP and ID must be provided for KNX action, or the digital output must be selected.



When used in combination with DIVUS HEARTBEAT it's possible to provide the hostname and corresponding port instead of the IP address of the DIVUS KNXCONTROL device.



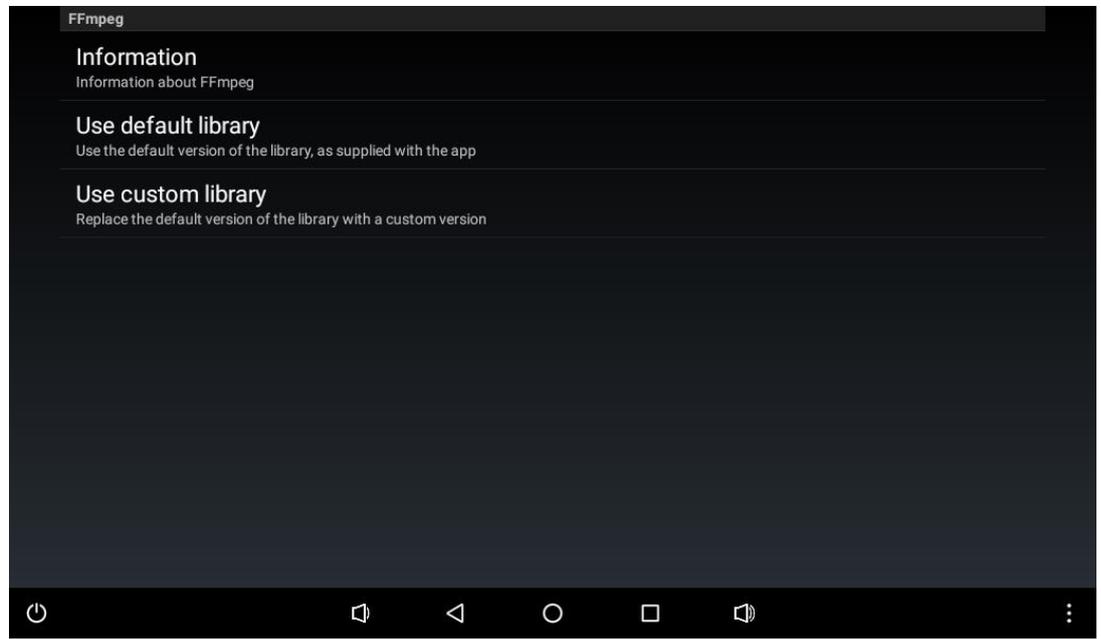
Controlling the digital output is only possible on DIVUS Android panels, the corresponding settings may vary between the devices.



To use KNX actions a DIVUS KNXCONTROL device is required.

5.2 FFMPEG

To handle video streaming the app internally uses a library called FFmpeg, which is a popular library which offers compatibility with different types of streams and codes. In this sub-menu various information and settings about FFmpeg are found.



This first setting opens a dialog with various information about FFmpeg: the respective license is mentioned, details on the version used and information on how to modify the used library is provided.

DIVUS IP CAM VIEWER internally has a default pre-compiled library of FFmpeg, which is provided by DIVUS. The next option allows to revert back to this default library, should the need arise.

The last option allows to replace the default FFmpeg library of DIVUS with a custom version of the library. Selecting this setting will open a new window, through which the user can pick his own custom version of FFmpeg. The app will then automatically replace its default library with the selected custom version.



If a custom version of the FFmpeg library is used the correct functionality of the app can not be guaranteed!



Additional information about FFmpeg can be found in their homepage at <https://ffmpeg.org/>.