

USER MANUAL

Install and exploitation the
NumberOK EDGE LPR application at
Axis IP-cameras

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1. Description and specifications of NumberOK EDGE LPR application

NumberOK EDGE LPR application designed for automatic recognition of vehicles license plates caught in the camera with installed software, record the events and creating their database, search in created database, direct control by the camera of the vehicles access system actuators.

SPECIFICATIONS OF AXIS NUMBEROK EDGE LPR APPLICATION

Parameters	Volumes
Supported browsers	Microsoft Internet Explorer, Mozilla Firefox, Opera, Google Chrome
Security system	Electronic keys, automatic or manual activation
Amount of recognition zones, psc	1
Frame recognition speed (1920x1080), fps	0,5-10
License plates recognized from countries	According to purchased license: EU countries, CIS countries, Israel, Turkey, USA, Canada, Mexico, Australia
License plate recognition accuracy, %	>95
Maximum vehicle's speed, km/h	Up to 240
Amount of recognized license plates in the frame simultaneously	Not limited
Number of controlled actuators (gates, barriers), psc.	1

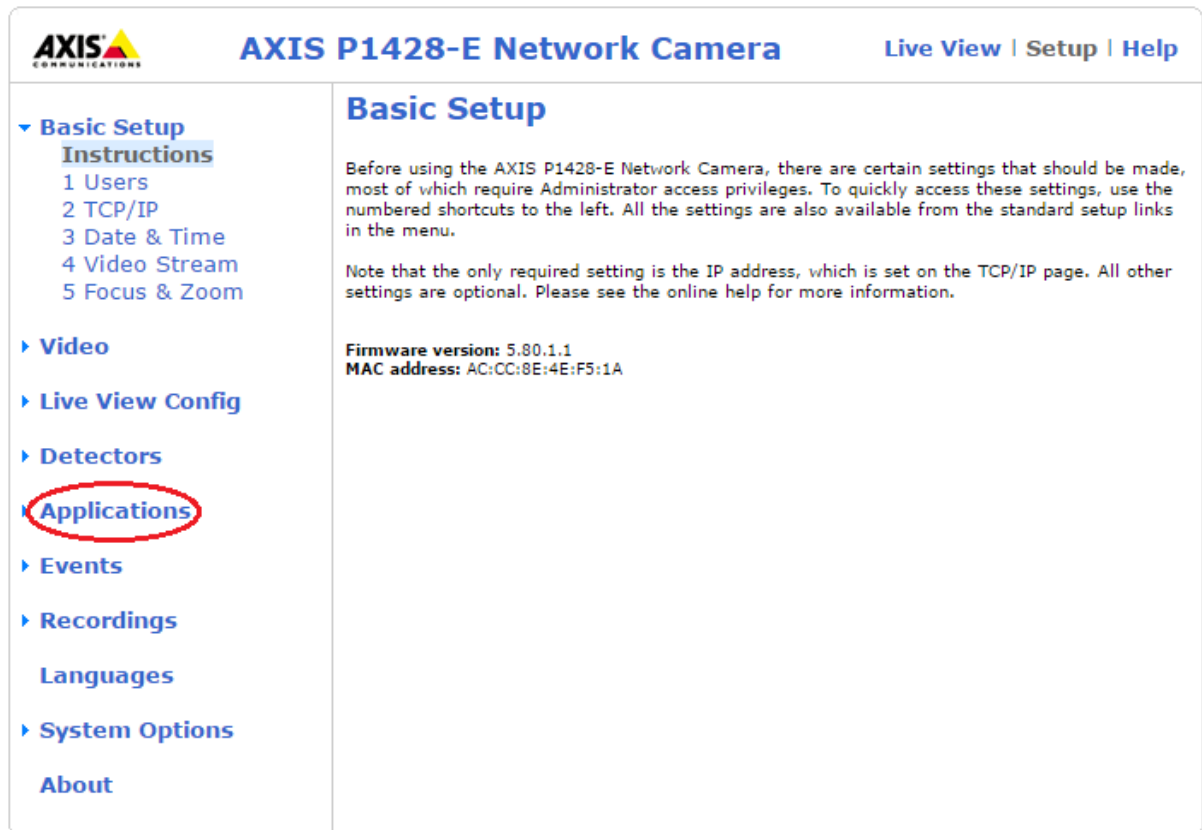
2. Installation of NumberOK EDGE LPR application

To install the NumberOK EDGE LPR application to AXIS camera, you have to perform the next sequence:

- Launch the camera web-interface by insertion the camera's IP-address in the browser address string;
- Insert the login/password pair to achieve the access to camera's web-interface;
- Press the **Setup** button in the upper string of web-interface window and go to the camera's setup page;



- Click on the **Applications** item in camera's setup page and open the installed applications window;



- Installed applications section will opens. By default, the active item is **Overview**. It contains a window with information about all installed applications in the camera, click on "**Choose file**" and select the file of installed software in the *.EAP format, hosted on a local computer. Then click "**Upload package**" to start the download and install process of the selected software to the camera;

AXIS P1428-E Network Camera Live View | Setup | Help

Application Packages ?

Upload Application

Select package file to upload: FF_ANPR_...mv7.eap and click

Installed Applications

Application	Version	Vendor	Status	License
AXIS Video Motion Detection	3.1-1	Axis Communications	Idle	None

The application will be loaded and installed to the camera. Before the license activation the application stay stopped, its status will shows as "**Stopped**". To run it you have to activate the license:

Installed Applications				
Application	Version	Vendor	Status	License
AXIS Video Motion Detection	3.1-1	Axis Communications	Stopped	None
NumberOK EDGE LPR	1.53	FF	Stopped	Missing

3. License installation for NumberOK EDGE LPR application

To install the NumberOK EDGE LPR application license you have to:

- Double click by left mouse button the «NumberOK EDGE LPR» string in installed applications table of installed application window. Or single click left button on its name, added to the installed software menu:



- In the opened submenu select and click **License** to open the installation window of the NumberOK EDGE LPR application:

The screenshot shows the 'License: NumberOK EDGE LPR' window. On the left is a sidebar with a menu where 'License' is highlighted. The main area contains:

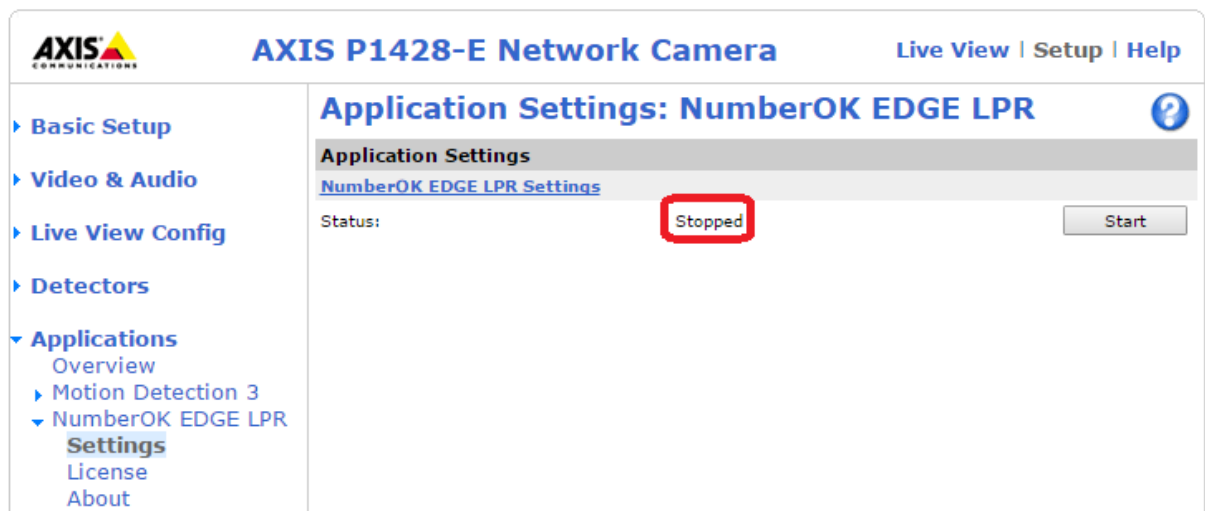
- Installed license key:** A text input field and a 'Remove' button.
- Manual installation:** Instructions to go to www.axis.com, a text field for the license code, and a 'Choose File' button for the license key file.
- Automatic installation:** A text field for the license code, an 'Email' field with an asterisk, and an 'Install' button.

The license installation can be performed in two ways: **Automatic installation** or **Manual installation**.

3.1 Automatic installation of application license

This method requires a permanent Internet connection. For automatic license installation of NumberOK EDGE LPR application, you have to:

- Enter purchased license code in the “**License code**” window, existing e-mail address to the “**Email**” window and press the “**Install**” button;
- The license key will be achieved and installed automatically, its strings will appears in the “**Installed license key**” window;
- Go to the camera’s installed software setup window and click by the left button on the **NumberOK EDGE LPR** string in the installed software table. The application stopped status «**Stopped**» will be displayed in **Application settings** form;



- Click the «**Start**» by left mouse button. NumberOK EDGE LPR application became active, its status will change to «**Running**»;
- The installation of NumberOK EDGE LPR application to Axis IP-camera is completed.

3.2 Manual installation of application license

The manual license installation needs the next actions, can be performed at the third-party computer connected to the Internet. At the same time, the camera, where a manual license installation performed, may not have access to the external network, only to the LAN. The license manual installation procedure is the next:

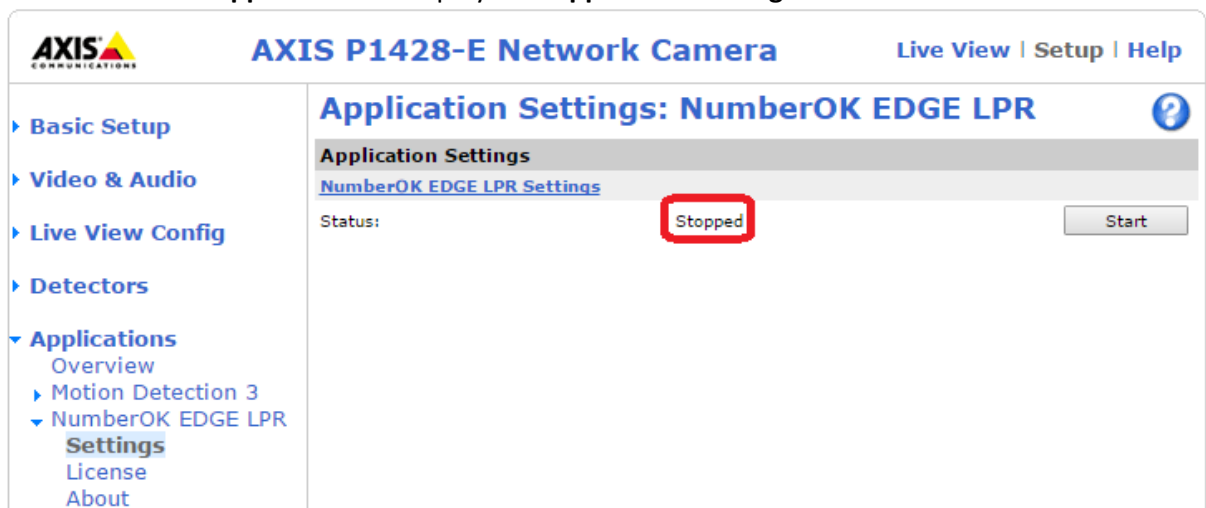
- Go to the license keys registration page at the www.axis.com site (www.axis.com/ru/ru/products/camera-applications/license-key-registration) by left mouse click at the www.axis.com string in the license activation window of camera's web-interface. Perform the authorization sequence and register the camera, where the NUMBEROK EDGE LPR application installed. The required device number is written by bold in the license manual installation section after «**This device's serial number is:**»:

Manual installation

To retrieve a license key for this application, go to www.axis.com and enter your license code together with the serial number of this device. **This device's serial number is:** **XXXXXXXXXXXX**

License key file to upload: No file chosen

- After camera registration, the license key file will be sent to a specified e-mail. Copy it to the computer, where the manual license installation for NumberOK EDGE LPR application on the camera would took place;
- Press the «**Choose File**» button in the license installation window and specify the received license key file, then press «**Install**» button;
- The license key would be installed automatically, its strings will appears in the «**Installed license key**» window;
- Go to the camera's installed software setup window and click by the left button on the **NumberOK EDGE LPR** string in the installed software menu. The application stopped status «**Stopped**» will be displayed in **Application settings** form:

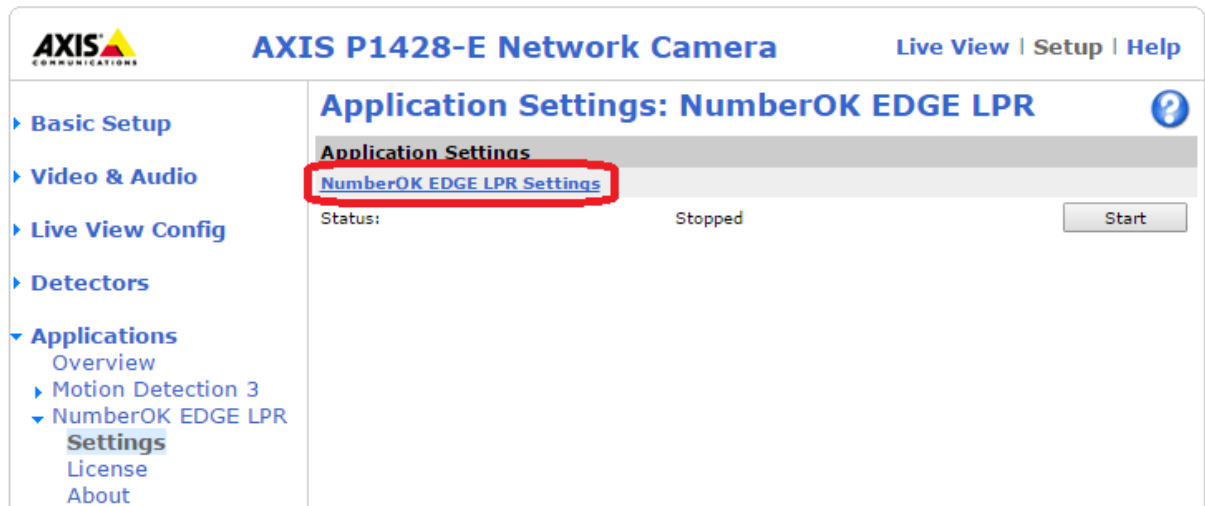


- Click the «**Start**» by left mouse button. NumberOK EDGE LPR application became active, its status will change to «**Running**»;
- The installation of NumberOK EDGE LPR application to Axis IP-camera is completed.

4. Adjusting the NumberOK EDGE LPR application

To configure the NumberOK EDGE LPR application and adjust its parameters for maximizing the accuracy of license recognition it is necessary:

- Go to web-interface of camera, where NumberOK EDGE LPR application installed;
- Enter the camera setup menu by clicking the **Setup**;
- Open the installed application item: **Applications**;
- Enter to the sub item **NumberOK EDGE LPR** by left mouse button click or by left mouse button double click at **NumberOK EDGE LPR** name in the installed applications table;
- Select **NumberOK EDGE LPR Settings** in opened window:



- – The application settings page will opens in addition browser sub-tab:

Camera live view window

NumberOK EDGE License Plate Recognition application

Last recognition event

Last event:

05/07/2016 17:10:15 B206F Not opened B206F DEU

Application functional window

Date / Time	Plate	List	Action	Photo	Country
05/07/2016 17:10:15	B206F	Not opened		B206F	DEU
05/07/2016 17:09:22	B206F	Not opened		B206F	DEU
05/07/2016 17:09:06	BH18CTL	Not opened		BH18CTL	ROU
05/07/2016 17:09:01	FM4793	Not opened		FM4793	PRT
05/07/2016 17:08:55	BL316AA	Not opened		BL316AA	SVK
05/07/2016 17:08:42	2530XQ	Not opened		2530XQ	PRT
05/07/2016 17:08:18	EPH87TL	Not opened		EPH87TL	POL
05/07/2016 17:08:10	B206F	Not opened		B206F	DEU
05/07/2016 17:08:00	BL31P	Not opened		BL31P	DEU
05/07/2016 17:07:33	B206F	Not opened		B206F	DEU
05/07/2016 17:07:15	RT06F	Not opened		RT06F	DEU
05/07/2016 16:54:53	B206F	Not opened		B206F	DEU
05/07/2016 16:45:55	B206F	Not opened		B206F	DEU
05/07/2016 16:10:46	B206F	Not opened		B206F	DEU
23/06/2016 14:36:42	CO725	Not opened		CO725	CYP
23/06/2016 14:10:36	FND68	Not opened		FND68	FIN

It contains the next main blocks:

- **Camera live view window** – filled with camera live view, where the NUMBEROK EDGE LPR application installed;
- **Last recognition event** – block contains data from last license plate recognition event;
- **Application functional window** – contains several sub-tabs:

4.1 Application functional window

Application functional window of NUMBEROK EDGE LPR application contains sub-tabs: **Events**, **Search**, **Settings**. Let see they closer:

4.1.1. Events

It is recognition results table. It includes data about last recognition events, has the next parameters columns:

- **Date/Time** – date and time when the event occurs;
- **Plate** – recognized vehicle's license plate;
- **List** – 'black' or 'white' list, where the license plate is listed to;
- **Action** – the action made by actuator, linked to the camera;
- **Photo** – the part of picture, participating in recognition process;
- **Country** – the country, where the recognized license plate registered.

Date / Time	Plate	List	Action	Photo	Country
05/07/2016 17:10:15	B206F		Not opened		DEU
05/07/2016 17:09:22	B206F		Not opened		DEU
05/07/2016 17:09:06	BN16CTL		Not opened		ROU
05/07/2016 17:09:01	P94763		Not opened		PRT
05/07/2016 17:08:55	BL876AA		Not opened		SVK
05/07/2016 17:08:42	25334Q		Not opened		PRT
05/07/2016 17:08:18	ERA87TL		Not opened		POL
05/07/2016 17:08:10	B206F		Not opened		DEU
05/07/2016 17:08:00	BL87P		Not opened		DEU
05/07/2016 17:07:33	B206F		Not opened		DEU
05/07/2016 17:07:15	RT06F		Not opened		DEU
05/07/2016 16:54:53	B206F		Not opened		DEU
05/07/2016 16:40:55	B206F		Not opened		DEU
05/07/2016 16:10:46	B206F		Not opened		DEU
23/06/2016 18:30:42	C0723		Not opened		CYP
23/06/2016 18:10:35	FX040		Not opened		FIN

4.1.2. Search

It is the tool to perform the search in recognition events database. It allows to specify six search parameters and to view search result in the multiply page format. You can specify the next search filters:

- **DateTime From** – The date and time of the search beginning. To set it you should click at that field and select date and time from opened table:

Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27	28	29	30	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

Time: 13:00

- **DateTime To** – The time and date of the search end. To set it you should click at that field and select values from opened table;
- **Plate** – Recognized car's license plate. It is necessary to accurately convey the sequence of letters, digits and spaces in the searched room;
- **Action** – The action, made by linked actuator. You can set: «**Opened**» or «**Not opened**»;
- **Country** – The code of country, where recognized plate registered.

Date / Time	Plate	List	Action	Photo	Country
05/07/2016 17:10:15	B206F		Not opened		DEU
05/07/2016 17:09:22	B206F		Not opened		DEU
05/07/2016 17:09:06	BN16CTL		Not opened		ROU
05/07/2016 17:09:01	P94763		Not opened		PRT
05/07/2016 17:08:55	BL876AA		Not opened		SVK
05/07/2016 17:08:42	25334Q		Not opened		PRT
05/07/2016 17:08:18	ERA87TL		Not opened		POL
05/07/2016 17:08:10	B206F		Not opened		DEU
05/07/2016 17:08:00	BL87P		Not opened		DEU
05/07/2016 17:07:33	B206F		Not opened		DEU
05/07/2016 17:07:15	RT06F		Not opened		DEU

Filters parameters are united with the logical '**AND**', i.e. the search result have to match to all specified parameters simultaneously. Press «**Search**» button after filing of all filters. Search results would be demonstrated in a table form below the filters list.

4.1.3. Settings

It is the panel for adjusting the NUMBEROK EDGE LPR application working. It allows to define the recognition zone size and position, 'Black' and 'White' lists, to setup the reaction of actuator, linked to the camera, to set the minimal horizontal size in the frame of recognized plate. The size and position of recognition zone are set by the mouse on the **Camera live view window**. You can set the next fields of **Settings** tab:

- **Black list** – the plates list with restricted barrier (gates, etc.) passage, controlled by linked to the camera actuator;
- **White list** – the plates list with agreed passage throw the barrier (gates, etc.), controlled by linked to the camera actuator;
- **Barrier mode** – the mode of actuator reaction on the recognized plate. Next options are possible:
 - **Do not open barrier** – the linked actuator will be closed when any plate detected;
 - **Open to all** – the linked actuator will be open when any plate detected;
 - **Open to whitelisted** – the linked actuator will be open only when recognizing plates from the 'White' list;
 - **Open except blacklisted** – the linked actuator will be open when recognizing any plates, except included in the 'Black' list.
- **Min plate width, %** – sets the minimum horizontal plate size (as a percentage of the horizontal size of the camera's frame) that will be detected and recognized as the car license plate;
- **IPC login** – access login to the used IP-camera;
- **IPC password** – access password to the used IP-camera;
- **Relay IO output #** – the number of camera's relay output that would control the linked actuator.

Press the «**Save**» button to record all changes to the camera's application.