

SMAVIA & 3rd Party IP-Kameras

Tables of Tested Third-Party Supplier IP Cameras,
incl. Information on Remote Configuration and Recording Options

English

1 Abstract

SMAVIA Appliances with preinstalled **SMAVIA Recording Server** software as of version 8.x.3 support receiving and recording of **video streams** from **3rd party IP cameras** over the network interface.

This function allows for the integration of any type of IP camera into a VideoIP network if the camera transmits the video stream according to the standardised industry protocol. In general, all RTSP-enabled cameras should be compatible with Dallmeier recording systems.

Observations from practice show that **manufacturer-specific modifications and deviations** from the standardised industrial protocol must be considered at times. In most cases, the resulting peculiarities of these cameras can be intercepted by enhancing the according function of a recording system. Nevertheless, in some cases a lack of compatibility must be assessed.

This **document includes tables** with information on the tested **3rd party IP cameras**.

2 Range of Functions

SMAVIA Appliances with preinstalled **SMAVIA Recording Server** software as of **version 8.x.3** support 3rd party IP cameras with the following recording options:

3rd Party IP Camera Permanent Recording

3rd party IP cameras that are sending a **RTSP video stream** via UDP/RTP can be recorded in the **Permanent** mode.

3rd Party IP Camera Recording with Motion Detection

3rd party IP cameras that are sending a **RTSP video stream** via UDP/RTP and **JPEGs** via TCP/HTTP can be recorded in the **Motion** mode.

3rd Party IP Camera Configuration

3rd party IP cameras that support the **ONVIF protocol** can be configured directly with the user interface of SMAVIA Recording Server. The support of the ONVIF protocol is not mandatory for the recording (permanent or with Motion Detection).

Audio

SMAVIA Recording Server records RTSP video streams. The recording of **RTSP audio streams** is **not integrated**, because RTSP-enabled cameras usually do not support the audio streaming function.

3 Updates

At the time of this document's creation, test results were available for those 3rd party IP cameras listed in the following. Please also check for possible updates on www.dallmeier.com.

4 Conventions

The tables in this document contain **3rd party IP cameras** that have been **functionally tested** with SMAVIA Appliances. Note the following conventions:

The camera has **not been tested** with DMS 2400.

The camera **has passed the functional test** with DMS 2400 as of version 8.1.3.

The camera **has not passed the functional test** with DMS 2400 as of version 8.1.3.
The camera's functional range is not sufficient.

DMS 2400
8.1.3

5 Disclaimer

Despite a thorough testing of the **recording in the specified recording mode (functional test)**, the use of the complete functional range of the camera can not be assured. The functional test contains **no long-term test, no stability test and no verification of the image quality**.

In case of a **hardware or firmware change** by the manufacturer, Dallmeier cannot take **any responsibility** for the persistence of the compatibility.

NOTE

The compatibility of a 3rd party IP camera depends on many factors.
Before actual use always put the camera through a more detailed test (long-term test, stability test, verification of image quality) !

6 Tested Cameras

6.1 ArecontVision

Model (Firmware)	Note	ONVIF	Recording	DMS 2400	IPS 2400
AV10115 (V. 65210)	[2]	---	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
AV2115 (V. 65210)	[1] [2] [3]	---	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
AV3135 (V. 65155)	[2]	---	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
AV8365 (V. 65046 Beta)	[2]	---	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
AV5125DNv1 (V. 65210)	[1] [2] [3]	---	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
AV3255AM (V. 65242)	[2]	---	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
AV2145DN-04-D (V. 65213)	[1] [2] [3]	---	Permanent	8.1.3	8.7.3
			Motion Detection	---	---

6.2 Axis

Model (Firmware)	Note	ONVIF	Recording	DMS 2400	IPS 2400
P3301 (V. 5.40.9.2)	[8]	✓	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3
P1354 (V. 5.40.19)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3
Q1602 (V. 5.40.3.4)		---	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3
Q1604 (V. 5.40.3.2)		---	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3
Q1614 (V. 5.55.1)		✓	Permanent	8.1.5 SP B	8.7.5 SP B
			Motion Detection	8.1.5 SP B	8.7.5 SP B
P7214 (V. 5.40.6)		---	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3
P1343 (5.40.9.5)		---	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3
207 (V. 4.40.3)		---	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
P5534 (V. 5.40.9.3)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
M3007 (V. 5.40.13.1)		---	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3

6.3 Basler

Model (Firmware)	Note	ONVIF	Recording	DMS 2400	IPS 2400
BIP2-1600c-dn (V. 3.11.1)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3
BIP2-2500c-dn (V. 3.11.1)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3

6.4 Bosch

Model (Firmware)	Note	ONVIF	Recording	DMS 2400	IPS 2400
VG5-713-CCE2 (5.70)	[5]	---	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3
NWC-0495-10P (4.10)		---	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3
NTC-255-PI (5.70)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3
NDC455P (5.70)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3
NDC-284 (5.70)		---	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
Dinion NBN-498-P (5.73)		✓	Permanent	8.1.8 SP D	8.7.8 SP D
			Motion Detection	8.1.8 SP D	8.7.8 SP D

6.5 Canon

Model (Firmware)	Note	ONVIF	Recording	DMS 2400	IPS 2400
VB-M40 (V. 1.0.3)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3

6.6 Eneo

Model (Firmware)	Note	ONVIF	Recording	DMS 2400	IPS 2400
2018PTZ1080 (rv20130515N)	[7]	✓	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3

6.7 Dynacolor

Model (Firmware)	Note	ONVIF	Recording	DMS 2400	IPS 2400
M05D-2E11 (z120130504NSA)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3

6.8 Ganz

Model (Firmware)	Note	ONVIF	Recording	DMS 2400	IPS 2400
ZN-M2AF (ZN2C0.2.1082.32)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
ZN-DN332XE-MPD (V. 1.6.0.6)		✓	Permanent	8.1.5 SP B	8.7.5 SP B
			Motion Detection	---	---

6.9 Hikvision

Model (Firmware)	Note	ONVIF	Recording	DMS 2400	IPS 2400
DS-2CD7153-E (V. 3.0 110516)		---	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
DS-2CD753F-E (V. 4.1.0)		---	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
DS-2CD753F-EI (V. 4.0.3)		---	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
DS-2CD862F-E (V. 4.0.3 120821)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
DS-6716-HFI (V 1.1.0)		✓	Permanent	8.1.5	8.7.5
			Motion Detection	8.1.5	8.7.5
DS-6704-HFI		✓	Permanent	8.1.5	8.7.5
			Motion Detection	8.1.5	8.7.5
DS-2CD2032-I (--)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
DS-2CD2112-I (V. 5.0.0)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
DS-2CD733F-E (V. 5.1.0)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
DS-2DF5274-A (V. 5.1.0)	[7]	✓	Permanent	8.1.5 SP B	8.7.5 SP B
			Motion Detection	8.1.5 SP B	8.7.5 SP B
DS-2DF8223I-AEL(W) (V. 5.3.0)		✓	Permanent	8.1.8 SP B	8.7.8 SP B
			Motion Detection	---	---

6.10 IndigoVision

Model (Firmware)	Note	ONVIF	Recording	DMS 2400	IPS 2400
BX400 (3.0.0.3)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3

6.11 JVC

Model (Firmware)	Note	ONVIF	Recording	DMS 2400	IPS 2400
VN-H37U (4.04.103)	[7]	✓	Permanent	8.1.5 SP B	8.7.5 SP B
			Motion Detection	8.1.5 SP B	8.7.5 SP B
VN-H57U(A) (6.01.004)	[7]	✓	Permanent	8.1.5 SP B	8.7.5 SP B
			Motion Detection	8.1.5 SP B	8.7.5 SP B
VN-H657BU (SPL2889 4.00.855)	[7]	✓	Permanent	8.1.5 SP B	8.7.5 SP B
			Motion Detection	8.1.5 SP B	8.7.5 SP B
VN-H557U (1.00.524 SPL2971)	[7]	✓	Permanent	8.1.5 SP B	8.7.5 SP B
			Motion Detection	8.1.5 SP B	8.7.5 SP B
VN-T16U (j.2.2.2232)	[7]	✓	Permanent	8.1.5 SP B	8.7.5 SP B
			Motion Detection	8.1.5 SP B	8.7.5 SP B
VN-T216VPRU (j.2.2.2541)	[7]	✓	Permanent	8.1.8 SP B	8.7.8 SP B
			Motion Detection	8.1.8 SP B	8.7.8 SP B

6.12 LG

Model (Firmware)	Note	ONVIF	Recording	DMS 2400	IPS 2400
LNV7210R (--)		✓	Permanent	8.1.8	8.7.8
			Motion Detection	---	---

6.13 Oncam

Model (Firmware)	Note	ONVIF	Recording	DMS 2400	IPS 2400
EVO-05NID (V. 1.4.7)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3
EVO-05NJD (1.4.12)		✓	Permanent	8.1.8 SP B	8.7.8 SP B
			Motion Detection	8.1.8 SP B	8.7.8 SP B

6.14 Panasonic

Model (Firmware)	Note	ONVIF	Recording	DMS 2400	IPS 2400
WV-SP305E (1.80)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3
WV-SF438 (1.52)	[9]	✓	Permanent	8.1.5 SP B	8.7.5 SP B
			Motion Detection	8.1.5 SP B	8.7.5 SP B
WV-SF458 (1.61)	[9]	✓	Permanent	8.1.5 SP B	8.7.5 SP B
			Motion Detection	8.1.5 SP B	8.7.5 SP B
WV-SW559E (1.31)		✓	Permanent	8.1.6 SP B	8.7.6 SP B
			Motion Detection	8.1.6 SP B	8.7.6 SP B

6.15 Pelco

Model (Firmware)	Note	ONVIF	Recording	DMS 2400	IPS 2400
Sarix IM10LW10-1 (V. 1.8.1-20110912-1)	[4]	---	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3
Sarix IMS0C10 (V. 1.7.41)	[4]	---	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
Sarix IMS0DN10-1E (V. 1.7.41)	[4]	---	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
Spectra S5118-FW0 (V. 1.7.41)	[4] [5]	---	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
Sarix IXSOC (1.8.2.18)		---	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3

6.16 Samsung

Model (Firmware)	Note	ONVIF	Recording	DMS 2400	IPS 2400
SNP-6200 (1.02_130108)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
SND-7082 (1.00_120824)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
SND-6084 (1.00_130412)		✓	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
SND-6201P (1.01_131002)		✓	Permanent	8.1.5 SP B	8.7.5 SP B
			Motion Detection	---	---

6.17 Sanyo

Model (Firmware)	Note	ONVIF	Recording	DMS 2400	IPS 2400
VCC-HD2300P (62240245G)		---	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
VCC-HD2500P (02.02-02)		---	Permanent	8.1.3	8.7.3
			Motion Detection	---	---
VCC-HD4600P (49370235)		---	Permanent	8.1.3	8.7.3
			Motion Detection	---	---

6.18 Sony

Model (Firmware)	Note	ONVIF	Recording	DMS 2400	IPS 2400
SNC-RH124 (1.79)	[5] [8]	✓	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3
SNC-CH180 (1.79)		---	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3
SNC-VB600 (1.51)		---	Permanent	8.1.3	8.7.3
			Motion Detection	8.1.3	8.7.3
SNC-ER580 (1.82.01)	[8]	✓	Permanent	8.1.5 SP B	8.7.5 SP B
			Motion Detection	8.1.5 SP B	8.7.5 SP B

7 Requirements

The following minimum requirements must be fulfilled by 3rd party IP cameras if they are to be recorded with SMAVIA appliances.

Note that

- the audio stream is not recorded.
- the calculations for the recording mode **Motion Detection** are made on the appliance. A corresponding function of the IP camera is not used.

7.1 Relevant Appliances

Currently suitable 3rd party IP cameras can be recorded with the following SMAVIA appliances:

- DMS 2400 as of version 8.1.3
- IPS 2400 as of version 8.7.3
- VideoNetBox II as of version 8.11.6

7.2 Relevant Protocols

Currently we can communicate with appropriate 3rd party IP cameras via the following protocols:

- RTSP
- ONVIF 1.02
- ONVIF Profile S 2.1
- HTTP

7.3 Requirements

7.3.1 General

While recording a 3rd party IP camera date and time are written to the recording track. For this purpose, the time stamp sent by the IP camera with the RTSP stream is used.

- The camera must synchronize the internal time via a UTC time server (NTP).
- The camera and the SAMVIA Appliance must use the same time server.
- The camera can use every SMAVIA Appliance directly as time server (no external server required).

7.3.2 Permanent Recording via RTSP

- The RTSP standard must be met.
- The GOP size must be less than 30 frames per GOP.
- The frame rate must be at least 5 frames per second (fps).
- The video stream must be encoded in MPEG4 or H.264.
- The data rate (Mbps) and the GOP size (frames per GOP) must be constant.
- The video streams must be transmitted with RTP over UDP.

7.3.3 Recording with Motion Detection via RTSP and HTTP

The motion detection is always calculated directly on the appliance. For this purpose, a smaller single image in JPEG format must be retrieved at any time of the camera in addition to the RTSP stream with normal resolution.

- The transfer of a JPEG by an HTTP request must be supported.
- The transmission of JPEG must be at least 2 frames per second.
- The transmission of JPEG may not exceed delay of 2 seconds.
- The size of the JPEG may not exceed CIF (352x288).
- The JPEG image must contain the same detail (view) as the RTSP stream.
- If the configuration is done via the ONVIF protocol, the second encoder (JPEG) must be activated manually under certain circumstances.

7.3.4 Recording via ONVIF

- The version 1.02 of the ONVIF standards must be met.
- The version 2.1 of the ONVIF Profile S standards must be met.

7.4 Overview

Depending on the used 3rd party camera type and the desired recording, the above requirements must be met to 100%.

3rd Party Camera Type	RTSP	RTSP	ONVIF	ONVIF
Recording	Permanent	Motion Detection	Permanent	Motion Detection
Communication	RTSP	RTSP/HTTP	ONVIF/RTSP	ONVIF/RTSP/HTTP
General requirements	100%	100%	100%	100%
RTSP requirements	100%	100%	100%	100%
HTTP requirements		100%		100%
ONVIF requirements			100%	100%

8 RTSP Addresses

Supplier	Model	RTSP Address
ArecontVision	All listed	rtsp://IP address:554/h264.sdp
Axis	All listed	rtsp://IP address:554/axis-media/media.amp
Basler	All listed	rtsp://IP address/h264
Bosch	All listed	rtsp://IP address:554/
Canon	All listed	rtsp://IP address/profile1=u
Dynacolor	All listed	rtsp://IP address/h264
Eneo	All listed	rtsp://IP address/h264
Ganz	ZN-M2AF	rtsp://IP address/gnz_media/main
IndigoVision	RX400	rtsp://IP address:554/h264
JVC	Model dependent	rtsp://ip_adx/livestream rtsp://IP address:554/PSIA/Streaming/channels/0 rtsp://IP address/ONVIF/Streaming/channels/0 rtsp://ip_adx/livestream
Oncam	All listed	rtsp://ip_adx/h264/video.sdp?camera=13[=4MP] 25[=2MP] 12[=1MP] 26[=0,25MP]
Panasonic	All listed	rtsp://IP address:554/MediaInput/h264
Pelco	Sarix IXSOC	rtsp://IP address:554/stream1
Samsung	All listed	rtsp://IP address:554/onvif/profile2/media.smp
Sanyo	All listed	rtsp://IP address:554/VideoInput/1/h264/1
Sony	All listed	rtsp://IP address:554/media/video1

9 HTTP Addresses

Supplier	Model	HTTP Address
Axis	All listed	http://IP address/axis-cgi/jpg/image.cgi?resolution=320x240
Bosch	All listed	http://IP address/snap.jpg?JpegSize=M&JpegQuality=4&JpegBorder=0x63967210
Canon	All listed	http://10.128.8.43:80/-wvhttp-01-/image.cgi?v=jpg:640x480&cache=on
Dynacolor	All listed	http://IP address/cgi-bin/jpg/image.cgi
Eneo	All listed	http://IP address/cgi-bin/jpg/image.cgi
IndigoVision	RX400	http://IP address/cgi-bin/jpg/image.cgi
JVC	All listed	rtsp://IP address/PSIA/Streaming/channels/1
Oncam	All listed	http://ip_adx/mjpg/snapshot.cgi?camera=13[=4MP] 25[=2MP] 12[=1MP] 26[=0,25MP]
Panasonic	All listed	http://IP address/cgi-bin/camera?resolution=640&page=20040830203157
Pelco	All listed	http://IP address/jpeg
Sony	All listed	http://IP address/oneshotimage1

10 Consider

No.	[Supplier] Model	Comment
[1]		In some „exposure-modes“, the camera reduces the fps from 12 to 2 at night, while maintaining an invariable GOP size (length:15) and consistent data rate (6 Mbit/s). Consequently, the GOP data size severely increases at night (from 6 Mbit to 36 Mbit). The results are, much larger I-frames and, with the determined RTSP over UDP transmission from camera to recorder, errors within the I-frame which cause a whole GOP (6 sec) to become useless (or also two consecutive GOPs) and, thus, trigger a camera failure.
[2]		The cameras are set to a GOP size of 51 when delivered. However, the GOP size can not be adjusted over the web interface of the camera! Therefore, the cameras are not suitable initially, since a GOP size of <= 30 is required.
[3]		With 2 fps and a high data rate the cameras produce a very large I-frame at night which, then, is transmitted over the interface within a very short time interval. On average, the camera reaches 6 Mbit/s (equals 6 Kbit/ms), yet, a peak of more than 600 Kbit/ms is created in the first couple of milliseconds. If two cameras are connected, the load causes a bottleneck and therefore leads to packet losses, even with a 1000 Mbit LAN interface.
[4]		The camera only works in H.264 mode.
[5]		Dome camera: control only via the user interface (web browser) of the IP camera.
[6]		The camera has not been explicitly tested by Dallmeier electronic. Based on the feedback from customers / partners a successful functional test is assumed.
[7]		Motion detection is supported when the camera is configured via ONVIF. Set the Dallmeier profile.
[8]		Motion detection is supported when the camera is not configured via ONVIF.
[9]		Important for Motion Detection: The JPEG stream from the camera has to be set to 320x180 (camera webconfig). The HTTP string is not transmitted correctly to the recorder. The string has to be changed manually to the following string: http://10.2.107.135/cgi-bin/camera?resolution=180



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