

IP Camera API Documentation

ExcelSense Technologies Corp.
Version 2.0

Introduction

This document contains information on the integrated API within the compatible products listed in the table below. This information can be used to send HTTP commands to the API in order to retrieve or apply various camera settings.

Compatible Products

Product	Description	Compatibility
ToughEye-1700™	Self-cleaning IP/Analog Camera	Fully compatible
ToughCam-1000™	Non-self-cleaning IP Camera	Fully compatible



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General API Reference

Parameters

Parameter	Type	Description
ip	string	The IP address of the target camera (e.g., 192.168.0.120)
username	<i>string</i>	User login name (e.g., admin)
password	<i>string</i>	User login password (e.g., admin)

General Response

Success:

HTTP Code: 200 OK
Content-Type: text/plain
"OK"

Unsuccessful:

HTTP Code: 200 OK
Content-Type: text/plain
<error message> "error, return=%d"

Note: %d in the string shown above is the error code, refer to Error Codes Section

Device Info

Device Information

Get Device Information

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=deviceInfo</code>
Description	Retrieve device information settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=deviceInfo</code>
Example Output	<pre> deviceID=159356 deviceName= deviceType=1 productModel=ToughEye manufacturerID=272 manufacturerName=IPCamera MACAddress=00:1C:27:15:93:56 hardwareVer=V260084_2 softwareVer=v3.6.1607.1006.272.0.7.4.26 channelNum=1 alarmInNum=1 alarmOutNum=1 RS485Num=0 </pre>

Parameters

Parameter	Type	Description
deviceID	<i>string</i>	Device identifier.
deviceName	<i>string</i>	Device name. Disallows: `< > % & \ " / , ' ; =`
deviceType	<i>int</i>	Device type: 1 IPCamera
productModel	<i>string</i>	Product model.

manufacturerName	<i>string</i>	Manufacturer name.
manufacturerID	<i>string</i>	Manufacturer ID
MACAddress	<i>string</i>	MAC address.
hardwareVer	<i>string</i>	Hardware version.
softwareVer	<i>string</i>	Software version.
channelNum	<i>unsigned int</i>	Number of channels.
alarmInNum	<i>unsigned int</i>	Number of alarm inputs.
alarmOutNum	<i>unsigned int</i>	Number of alarm outputs.
RS485Num	<i>unsigned int</i>	Number of RS485 ports.

Device Name

Set Device Name

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=deviceName&deviceName=<deviceName></code>
Description	Update device name settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=set&type=deviceName&deviceName=testCam</code>
Output	OK or Error

Parameters

Parameter	Type	Description
deviceName	<i>string</i>	New device name. Disallows: ` < > % & \ " / , ' ; =

Camera Information

Get Camera Information

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=cameraInfo[&cameraID=<cameraID>]</code>
Description	Retrieve camera information settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=cameraInfo&cameraID=1</code>
Example Output	cameraName=OEM

Set Camera Information

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=cameraInfo&cameraID=<cameraID>[&cameraName=<cameraName>]</code>
Description	Update camera information settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=set&type=cameraInfo&cameraID=1&cameraName=asd</code>
Output	OK or Error

Parameters

Parameter	Type	Description
cameraID	int	Channel ID. Optional on get (omit for all channels); required on set .



cameraName	string	Channel name. If omitted on set , the name is not modified.
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Device Settings

Local Network

Get Local Network

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=localNetwork&IPProtoVer=<IPProtoVer>[&netCardId=<netCardId>]</code>
Description	Retrieve local network settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=localNetwork&IPProtoVer=1&netCardId=1</code>
Example Output	<pre> localNetworkBegin=1 IPProtoVer=1 netCardId=1 IPAddress=192.168.32.151 subNetmask=255.255.0.0 subGateway=192.168.1.1 preferredDNS= alternateDNS= autoGetIPFlag=1 localNetworkEnd=1 </pre>

Set Local Network

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=localNetwork&netCardId=<netCardId>&IPProtoVer=<IPProtoVer>[&<argument>=<value>...]</code>
Description	Update local network settings.



Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=set&type=localNetwork&netCardId=1&IPProtoVer=1&IPAddress=192.168.32.21&subNetmask=255.255.255.0&subGetway=192.168.32.1&preferredDNS=128.0.0.1&alternateDNS=128.0.0.2</code>
Output	OK or Error

Parameters

Parameter	Type	Description
IPProtoVer	<i>int</i>	IP protocol version. • `1`: IPv4 • `2`: IPv6 (not supported; still returns IPv4). Required.
IPAddress	<i>string</i>	Device IP address.
subNetmask	<i>string</i>	Subnet mask.
subGetway	<i>string</i>	Default gateway.
preferredDNS	<i>string</i>	Primary DNS.
alternateDNS	<i>string</i>	Secondary DNS.
autoGetIPFlag	<i>int</i>	DHCP flag. • `0`: Manual • `1`: Automatic
netCardId	<i>int</i>	Network card ID. • `1`: NIC 1 • `2`: NIC 2 Optional for get (omit to return all NICs); required for set .
localNetworkBegin	<i>string</i>	Response loop start marker for network info.
localNetworkNextFlag	<i>string</i>	Response loop marker for next NIC entry.
localNetworkEnd	<i>string</i>	Response loop end marker for network info.

Device Port

Get Device Port

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=devicePort</code>
Description	Retrieve device port settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=devicePort</code>
Example Output	controlPort=30001 httpPort=80 rtspPort=554 rtmpPort=8080

Set Device Port

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=devicePort&controlPort=<controlPort>&httpPort=<httpPort>&rtspPort=<rtspPort>&rtmpPort=<rtmpPort></code>
Description	Update device port settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=set&type=devicePort&controlPort=30001&httpPort=80&rtspPort=554&rtmpPort=8080</code>
Output	OK or Error

Parameters

Parameter	Type	Description
controlPort	<i>unsigned short</i>	Signaling control and A/V port. Optional on set .

httpPort	<i>unsigned short</i>	HTTP port. Optional on set .
rtspPort	<i>unsigned short</i>	RTSP port. Optional on set .
rtmpPort	<i>unsigned short</i>	RTMP port. Optional on set .

Device Time

Get Device Time

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=dateTime</code>
Description	Retrieve device time settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=dateTime</code>
Example Output	<pre> year=2018 month=9 day=25 hour=14 minute=5 second=20 </pre>

Set Device Time

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=dateTime&year=<year>&month=<month>&day=<day>&hour=<hour>&minute=<minute>&second=<second></code>
Description	Update device time settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=set&type=dateTime&year=2018&month=9&day=25&hour=14&minute=10&second=10</code>



Output	OK or Error
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Parameters

Parameter	Type	Description
year	<i>int</i>	Year.
month	<i>int</i>	Month (1-12).
day	<i>int</i>	Day of month (1-31).
hour	<i>int</i>	Hour (0-23).
minute	<i>int</i>	Minute (0-59).
second	<i>int</i>	Second (0-59).

Time Zone

Get Time Zone

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=timeZone</code>
Description	Retrieve time zone settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=timeZone</code>

Example Output	timeZone=85 DSTOpenFlag=0 beginMonth=3 beginWeekly=5 beginWeekDays=0 beginTime=60 endMonth=10 endWeekly=5 endWeekDays=0 endTime=120
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Set Time Zone

Field	Value
URL	<a href="http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=timeZone&timeZone=<timeZone>&DSTOpenFlag=<DSTOpenFlag>&beginMonth=<beginMonth>&beginWeekly=<beginWeekly>&beginWeekDays=<beginWeekDays>&beginTime=<beginTime>&endMonth=<endMonth>&endWeekly=<endWeekly>&endWeekDays=<endWeekDays>&endTime=<endTime>">http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=timeZone&timeZone=<timeZone>&DSTOpenFlag=<DSTOpenFlag>&beginMonth=<beginMonth>&beginWeekly=<beginWeekly>&beginWeekDays=<beginWeekDays>&beginTime=<beginTime>&endMonth=<endMonth>&endWeekly=<endWeekly>&endWeekDays=<endWeekDays>&endTime=<endTime>
Description	Update time zone settings.
Example	http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=set&type=timeZone&timeZone=85&DSTOpenFlag=1&beginMonth=3&beginWeekly=1&beginWeekDays=1&beginTime=600&endMonth=10&endWeekly=2&endWeekDays=0&endTime=1200
Output	OK or Error

Parameters

Parameter	Type	Description
timeZone	<i>int</i>	Time zone ID (0-300).
DSTOpenFlag	<i>int</i>	Daylight Saving Time flag. • `0`: Disabled • `1`: Enabled
beginMonth	<i>int</i>	DST start month (1-12).
beginWeekly	<i>int</i>	DST start week in month (1-5).

beginWeekDays	<i>int</i>	DST start day of week. • `0`: Sunday ... `6`: Saturday
beginTime	<i>int</i>	DST start time in minutes from 00:00 (must be a multiple of 30).
endMonth	<i>int</i>	DST end month (1-12).
endWeekly	<i>int</i>	DST end week in month (1-5).
endWeekDays	<i>int</i>	DST end day of week. • `0`: Sunday ... `6`: Saturday
endTime	<i>int</i>	DST end time in minutes from 00:00 (must be a multiple of 30).

NTP

Get NTP

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=NTP</code>
Description	Retrieve ntp settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=NTP</code>
Example Output	enableFlag=1 IPProtoVer=1 NTPIP=192.168.1.7 NTPPort=123 NTPCheckTime=3600

Set NTP

Field	Value
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URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=NTP&IPProtoVer=<IPProtoVer>&enableFlag=<enableFlag>&NTPIP=<NTPIP>&NTPPort=<NTPPort></code>
Description	Update ntp settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=set&type=NTP&IPProtoVer=1&enableFlag=1&NTPIP=192.168.1.7&NTPPort=3</code>
Output	OK or Error

Parameters

Parameter	Type	Description
IPProtoVer	<i>int</i>	IP protocol version. Only IPv4 is supported. Use 1.
enableFlag	<i>unsigned char</i>	NTP enable flag. • `0`: Disabled • `1`: Enabled
NTPIP	<i>string</i>	NTP server IP address. Invalid format returns error.
NTPPort	<i>int</i>	NTP server port (0-65535). Values above 65535 are clamped to 65535.
NTPCheckTime	<i>int</i>	NTP server synchronization interval, in seconds.

OSD Global

Get OSD Global

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=OSD&cameraID=<cameraID></code>

Description	Retrieve On-Screen Display global settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=OSD&cameraID=1</code>
Example Output	fontColor=2 inverseFlag=1 TwelveHoursFlag=0 WeekFlag=1 alpha=4

Set OSD Global

Field	Value
URL	<pre>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=OSD&cameraID=<cameraID>[&<argument>=<value>..]</pre> <pre>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=OSDCanvas&cameraID=<cameraID>&OSDCanvasBegin=1&canvasID=<canvasID>&topX=<0-100>&topY=<0-100>&fontSize=<1-3>&alignMode=<0-1>&OSDInfoBegin=1&arrowID=0&OSDEnableFlag=1&OSDType=<4_or_5>&info=<text>[&<argument>=<value>...]&OSDInfoEnd=1&OSDCanvasEnd=1</pre>
Description	Update On-Screen Display global settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=set&type=OSD&cameraID=1&fontColor=7&inverseFlag=1&alpha=2</code>
Output	OK or Error

Parameters

Parameter	Type	Description
cameraID	<i>int</i>	Camera ID.

fontColor	<i>unsigned int</i>	OSD font color. • `0`: Other • `1`: White • `2`: Black • `3`: Red • `4`: Orange • `5`: Yellow • `6`: Green • `7`: Cyan • `8`: Blue • `9`: Purple
inverseFlag	<i>unsigned char</i>	Inverse enable flag. • `0`: Disabled • `1`: Enabled
alpha	<i>unsigned int</i>	Transparency. • `1`: Transparent • `2`: Translucent • `3`: Semi-transparent • `4`: Opaque Note: `0` is only returned by get and is invalid for set.

OSD Canvas

Get OSD Canvas

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=OSDCanvas&cameraID=<cameraID>[&canvasID=<canvasID>]</code>
Description	Retrieve On-Screen Display canvas settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=OSDCanvas&cameraID=1&canvasID=1</code>



Example Output	topX=0.000000 topY=0.000000 fontSize=2 alignMode=0 OSDInfoCount=1 OSDInfoBegin=1 arrowID=0 OSDEnableFlag=1 OSDType=4 info=YYYY-MM-DDhh:mm:ssww OSDInfoEnd=1
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Set OSD Canvas

Field	Value
URL	<pre>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=OSDCanvas&cameraID=<cameraID>[&<argument>=<value>...]</pre> <pre>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=OSDCanvas&cameraID=<cameraID>&OSDCanvasBegin=1&canvasID=<canvasID>[&<argument>=<value>...]&OSDInfoBegin=1&arrowID=0[&<argument>=<value>...]&arrowID=<arrowID>&OSDType<OSDType>&OSDInfoEnd=1&OSDCanvasEnd=1</pre>
Description	Update On-Screen Display canvas settings. Warning: canvasID 1 and 3 are reserved by the EST Camera Configuration Tool and Web interface for the time overlay and live-view indicator overlay respectively. To edit or position these overlays we recommend using those apps specifically.
Example	<pre>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=set&type=OSDCanvas&cameraID=1&OSDCanvasBegin=1&canvasID=2&topX=0&topY=50&fontSize=2&alignMode=1&OSDInfoAction=add&OSDInfoBegin=1&arrowID=0&OSDEnableFlag=1&OSDType=5&info=YYYY-MM-DD%20hh:mm:ss%20ww&OSDInfoEnd=1&next_OSDCanvasURL=2&canvasID=1&topX=0&topY=50&fontSize=2&alignMode=1&OSDInfoAction=add&OSDInfoBegin=1&arrowID=0&OSDEnableFlag=1&OSDType=4&info=YYYY-MM-DD%20hh:mm:ss%20ww&OSDInfoEnd=1&OSDCanvasEnd=1</pre>

Output	OK or Error
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Parameters

Parameter	Type	Description
cameraID	<i>int</i>	Target camera ID.
OSDCanvasCount	<i>unsigned int</i>	Number of OSD canvases. From get return only
OSDCanvasBegin	<i>unsigned int</i>	OSD canvas loop start flag <i>Marker in get return</i> <i>Required and = 1 for set</i> <i>Arguments within scope:</i> • <i>canvasID</i> • <i>topX</i> • <i>topY</i> • <i>fontSize</i> • <i>align mode</i>
canvasID	<i>int</i>	Canvas ID (1-8). Optional on get , when excluded returns all canvases.
topX	<i>int</i>	Top-left X coordinate as a percentage of total width (0-100).
topY	<i>int</i>	Top-left Y coordinate as a percentage of total height (0-100).
fontSize	<i>int</i>	Font size. • `1`: Large • `2`: Medium • `3`: Small Note: `0` is only returned by get and is invalid for set.
alignMode	<i>int</i>	Alignment. • `0`: Left • `1`: Right

OSDInfoCount	<i>int</i>	OSD info count From get return only
OSDInfoAction	<i>string</i>	OSD info loop action. • `cover` • `add` (Default) • `remove`
OSDInfoBegin	<i>unsigned int</i>	OSD info loop start flag <i>Marker in get return</i> <i>Required and = 1 for set</i> <i>Arguments within scope:</i> • <i>arrowID</i> • OSDEnableFlag • OSDBlinkFlag • OSDBlinkInterval • OSDType • info
arrowID	<i>int</i>	Arrow ID (must be 0). Required on set .
OSDEnableFlag	<i>unsigned char</i>	OSD enable flag. • `0`: Disabled • `1`: Enabled
OSDBlinkFlag	<i>unsigned char</i>	OSD blink enable flag. • `0`: Disabled • `1`: Enabled
OSDBlinkInterval	<i>unsigned char</i>	OSD blink interval in seconds (≥ 1).
OSDType	<i>int</i>	OSD type. • `1`: Device name • `2`: Camera ID • `3`: Camera name • `4`: Time watermark • `5`: Text watermark.

info	<i>string</i>	OSD content. Valid only for text or time watermark (OSDType == 4 or 5). Time formats supported: - YYYY-MM-DD hh:mm:ss ww - hh:mm:ss YYYY-MM-DD ww - MM/DD/YYYY hh:mm:ss ww - hh:mm:ss MM/DD/YYYY ww Cannot include: ` < > % & \ " / , ' ; =
OSDInfoEnd	<i>unsigned int</i>	OSD info loop end flag (count). <i>Marker in get return</i> <i>Required and = 1 for set</i>
next_OSDCanvasURL	<i>unsigned int</i>	Next OSD canvas loop marker (from 2). <i>Marker in get return</i>
OSDCanvasEnd	<i>unsigned int</i>	OSD canvas loop end flag (count). <i>Marker in get return</i> <i>Required and = 1 for set</i>

Device Disk Info

Get Device Disk Info

Field	Value
URL	<a href="http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=deviceDiskInfo">http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=deviceDiskInfo
Description	Retrieve device disk info settings.
Example	http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=deviceDiskInfo

Example Output	diskInfoBegin=1 diskID=1 diskTotalSize=14912 diskFreeSize=64 diskStatus=1 next_diskInfoURL=2 diskID=2 diskTotalSize=0 diskFreeSize=0 diskStatus=0 diskInfoEnd=2
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Parameters

Parameter	Type	Description
diskInfoCount	<i>int</i>	Number of disk entries.
diskInfoBegin	<i>int</i>	Disk info loop start flag (must be 1).
diskID	<i>int</i>	Disk ID.
diskTotalSize	<i>int</i>	Disk total size.
diskFreeSize	<i>int</i>	Disk free size.
diskStatus	<i>int</i>	Disk status. • `1`: Normal • `2`: Abnormal • `3`: Disk not present • `4`: Write-protected • `5`: Not formatted • `6`: Formatting
next_diskInfoURL	<i>int</i>	Next disk info loop marker (from 2).
diskInfoEnd	<i>int</i>	Disk info loop end flag (count).

Stream Settings

AV Stream

Get AV Stream

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=AVStream&cameraID=<cameraID>&streamID=<streamID></code>
Description	Retrieve AV stream settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=AVStream&cameraID=1&streamID=1</code>
Example Output	<pre>streamName=stream1 videoEncoderType=1 audioEncoderType=102 resolution=1920*1080 frameRate=30 iFrameInterval=60 bitRateType=2 bitRate=4096 quality=9 (Only present when bitRateType=2 (VBR)) streamEncoderFlag=0</pre>

Set AV Stream

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=AVStream&cameraID=<cameraID>&streamID=<streamID>[&<argument>=<value>...]</code>
Description	Update av stream settings.



Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=set&type=AVStream&cameraID=1&streamID=1&streamName=tangtang&videoEncoderType=1&audioEncoderType=108&resolution=1280*720&frameRate=5&iFrameInterval=5&bitRateType=2&bitRate=5000&quality=9</code>
Output	OK or Error

Parameters

Parameter	Type	Description
streamName	<i>string</i>	Stream name.
videoEncoderType	<i>int</i>	Video encoder type. • `1`: H264 • `2`: MJPEG • `4`: H264_MAIN • `5`: H264_HIGH • `8`: H265_MAIN
audioEncoderType	<i>int</i>	Audio encoder type. • `102`: G711_ALAW • `103`: G711_ULAW • `108`: PCM • `109`: NONE
resolution	<i>string</i>	Resolution (device-dependent). Examples: 1920*1080, 1280*720, 640*480.
frameRate	<i>int</i>	Frame rate (fps). Range depends on device (often 1-25).
iFrameInterval	<i>int</i>	I-frame interval (1-45).
bitRateType	<i>int</i>	Bit rate type. • `1`: CBR • `2`: VBR
bitRate	<i>int</i>	Bit rate in kbps (range depends on resolution and device).

quality	<i>int</i>	Quality level. • `1` (worst) to `9` (best)
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Stream Ability

Get Stream Ability

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=streamAbility&cameraID=<camera ID> [&streamID=<streamID>]</code>
Description	Retrieve stream ability settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=streamAbility&cameraID=1</code>
Example Output	<pre> AVStreamCount=3 AVStreamBegin=1 streamID=1 AVStreamEncoderAbilityCount=5 AVStreamEncoderAbilityBegin=1 streamEncoderType=8 videoResolutionCount=5 videoResolutionBegin=1 resolution=2592*1520 ... Resolution loop ... videoResolutionEnd=5 ... next_AVStreamURL=3 streamID=3 ... AVStreamEnd=3 </pre>

Parameters

Parameter	Type	Description
AVStreamCount	<i>int</i>	Number of streams returned.



AVStreamBegin	<i>int</i>	Stream loop start flag.
streamID	<i>int</i>	Stream ID.
AVStreamEncoderAbilityCount	<i>int</i>	Number of encoding abilities for the stream.
AVStreamEncoderAbilityBegin	<i>int</i>	Stream ability loop start flag (must be 1).
streamEncoderType	<i>int</i>	Stream encoder type. • `1`: H264 • `2`: MJPEG • `4`: H264_MAIN • `5`: H264_HIGH • `8`: H265_MAIN
videoResolutionCount	<i>int</i>	Number of supported resolutions.
videoResolutionBegin	<i>int</i>	Resolution loop start flag (must be 1).
resolution	<i>string</i>	Resolution value (device-dependent).
next_videoResolutionURL	<i>int</i>	Next resolution loop marker.
videoResolutionEnd	<i>int</i>	Resolution loop end flag.
next_AVStreamEncoderURL	<i>int</i>	Next encoder-ability loop marker.
next_AVStreamURL	<i>int</i>	Next stream loop marker.
AVStreamEncoderAbilityEnd	<i>int</i>	Stream ability loop end flag.

Recording Settings

Record Policy

Get Record Policy

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=recordPolicy&cameraID=<cameraID></code>
Description	Retrieve record policy settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=recordPolicy&cameraID=1</code>
Example Output	<pre> cameraID=1 RecordOpenFlag=0 SaveDays=7 StreamId=1 AudioOpenFlag=1 DiskGroupId=1 weekDayBegin=1 weekDay=2 startTime1=0 endTime1=86400 weekDayEnd=1 </pre>

Set Record Policy

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=recordPolicy&cameraID=<cameraID>&StreamId=<StreamId>&DiskGroupId=<DiskGroupId> [&argument=<value>...]</code>
Description	Update record policy settings.



Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=set&type=recordPolicy&cameraID=1&RecordOpenFlag=0&SaveDays=7&StreamId=1&AudioOpenFlag=1&DiskGroupId=1&weekDayBegin=1&weekDay=2&startTime1=0&endTime1=86400&weekDayEnd=1&scheduleTimeAction=cover</code>
Output	OK or Error

Parameters

Parameter	Type	Description
RecordOpenFlag	<i>int</i>	Schedule recording enable. • `0`: Disable • `1`: Enable
cameraID	<i>int</i>	Channel ID.
StreamId	<i>int</i>	Stream ID. Required for set .
SaveDays	<i>int</i>	Retention in days.
AudioOpenFlag	<i>int</i>	Record audio flag. • `0`: Disable • `1`: Enable
DiskGroupId	<i>int</i>	Disk group ID. Must match record directory group.
weekDayCount	<i>int</i>	Number of scheduled days (max 7).
scheduleTimeAction	<i>string</i>	Schedule loop action. • `cover`: Replace existing schedule Default is add if omitted.
weekDayBegin	<i>int</i>	Schedule loop start flag (required on set).
weekDay	<i>int</i>	Day of week. • `0`: Sunday ... `6`: Saturday
startTime	<i>long</i>	Start time in seconds (0-86400).

endTime(1..3)	<i>long</i>	End time in seconds (0-86400).
next_weekDayURL	<i>int</i>	Next schedule loop marker.
weekDayEnd	<i>int</i>	Schedule loop end flag (count).

Record Directory

Get Record Directory

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=recordDirInfo[&diskId=<diskId>]</code>
Description	Retrieve record directory settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=recordDirInfo</code>
Example Output	<pre>recordDirInfoBegin=1 diskName= diskPath= diskWholePath= enableFlag=1 alarmThreshold=100 attribute=1 diskType=2 freeSpace=0 groupID=1 status=1 usableSpace=0 fileSystemFormat=8 recordDirInfoEnd=1</pre>

Set Record Directory

Field	Value
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URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=recordDirInfo&diskId=<diskId>[&<argument>=<value>...]</code>
Description	Update record directory settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=set&type=recordDirInfo&diskId=1&diskName=SD0001&enableFlag=1&groupID=2</code>
Output	OK or Error

Parameters

Parameter	Type	Description
recordDirInfoBegin	<i>int</i>	Record directory loop start flag.
recordDirInfoNextURL	<i>int</i>	Next record directory loop marker.
recordDirInfoEnd	<i>int</i>	Record directory loop end flag.
diskId	<i>int</i>	Disk ID (required on set ; optional on get to return all disks).
diskName	<i>string</i>	Disk label.
diskPath	<i>string</i>	Disk path.
diskWholePath	<i>string</i>	Full disk path.
enableFlag	<i>int</i>	Enable flag. • `0`: Disabled • `1`: Enabled
alarmThreshold	<i>int</i>	Disk usage alarm threshold (percent).
attribute	<i>int</i>	Record directory attribute.
diskType	<i>int</i>	Disk type.
freeSpace	<i>int</i>	Free space.
groupID	<i>int</i>	Disk group ID. Must match record policy.



status	<i>int</i>	Disk status.
usableSpace	<i>int</i>	Usable space.
fileSystemFormat	<i>int</i>	File system format.

Alarm and Trigger Settings

Manual Alarm Output Trigger

Field	Value
URL	<code>http://<ip>/cgi-bin/alarm.cgi?userName=<username>&password=<password>&action=manualControl&alarmOutID=1&controlFlag=<controlFlag></code>
Description	Manually trigger an alarm output channel. <i>Used to trigger self-clean, LED toggles, and other operations when configured in combination with Set Alarm Output</i>
Example	<code>http://192.168.0.120/cgi-bin/alarm.cgi?userName=admin&password=admin&action=manualControl&alarmOutID=1&controlFlag=1</code>
Output	OK or Error

Parameters

Parameter	Type	Description
alarmOutID	int	Alarm output channel ID. (must be 1)
controlFlag	int	Manual control flag. • 1: start • 0: end

Alarm Trigger Output

Get Alarm Trigger Output

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=alarmOut&alarmOutID=<alarmOutID></code>



Description	Retrieve alarm output settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=alarmOut&alarmOutID=1</code>
Example Output	<pre>alarmOutID=1 alarmOutName=runFinish alarmValidSignal=1 alarmMode=2 alarmOutFrequency=0.000000 alarmTime=0</pre>

Set Alarm Trigger Output

Warning: The Web Interface and other applications assume the Alarm Trigger is configured for **Self-Clean**. If this setting is modified incorrectly, the Self-Clean trigger buttons will not function correctly.

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=alarmOut[&<argument>=<value>..]</code>
Description	Update alarm output settings. <i>This request is used to configure the Alarm Trigger Output for self-clean and other operations listed below.</i> <i>For all operations:</i> <code>alarmValidSignal=1, alarmMode=1, alarmOutFrequency=5</code> <i>For:</i> • Self-Clean (default): <code>alarmTime=300</code> • LED Normally-Disabled Mode Toggle: <code>alarmTime=900</code> • LED Shutoff Mode Toggle: <code>alarmTime=1700</code> Warning: The Web Interface and other applications assume the Alarm Trigger is configured for Self-Clean. Ensure the alarm is always set to this configuration after any other operations.

Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=set&type=alarmOut&alarmOutID=1&alarmOutName=selfCleanTrigger&alarmMode=2&alarmValidSignal=1&alarmOutFrequency=5&alarmTime=300</code>
Output	OK or Error

Parameters

Parameter	Type	Description
alarmOutID	<i>int</i>	Alarm output channel ID.
alarmOutName	<i>string</i>	Alarm output name.
alarmValidSignal	<i>int</i>	Valid alarm signal. • `0`: Open • `1`: Close
alarmMode	<i>int</i>	Alarm mode. • `1`: Switching • `2`: Square-wave
alarmOutFrequency	<i>float</i>	Alarm frequency.
alarmTime	<i>int</i>	Alarm duration in milliseconds.

Motion Alarm

Get Motion Alarm

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=motionAlarm&cameraID=<cameraID></code>
Description	Retrieve motion alarm settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=motionAlarm&cameraID=1</code>

Example Output	motionDetectionEnableFlag=0 alarmInterval=10 sensitivity=5
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Set Motion Alarm

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=motionAlarm&cameraID=<cameraID>[&<argument>=<value>...]</code>
Description	Update motion alarm settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=set&type=motionAlarm&cameraID=1&motionDetectionEnableFlag=0&alarmInterval=10&sensitivity=3&motionDetectionAreaBegin=1&topX=95&topY=42&width=76&height=84&motionDetectionAreaEnd=1&weekDayBegin=1&weekDay=0&startTime1=0&endTime1=86400&next_weekDayURL=2&weekDay=1&startTime1=0&endTime1=86400&weekDayEnd=2&AlarmLinkageBegin=1&ActionID=1&ActionType=1&AlarmLinkageEnd=1</code>
Output	OK or Error

Parameters

Parameter	Type	Description
motionDetectionEnableFlag	<i>unsigned char</i>	Motion detection enable. • `0`: Disable • `1`: Enable
sensitivity	<i>int</i>	Motion sensitivity (device-dependent).
alarmInterval	<i>int</i>	Alarm interval in seconds (1-1800).
cameraID	<i>int</i>	Channel ID (required on set).
motionDetectionAreaCount	<i>int</i>	Number of motion detection areas.



motionDetectionAction	<i>int</i>	Motion detection loop action (default is add if omitted).
motionDetectionAreaBegin	<i>int</i>	Motion detection loop start flag.
topX	<i>int</i>	Top-left X coordinate of detection area (relative to 420*260 grid).
topY	<i>int</i>	Top-left Y coordinate of detection area.
width	<i>int</i>	Detection area width.
height	<i>int</i>	Detection area height.
next_motionDetectionAreaURL	<i>int</i>	Next detection area loop marker.
motionDetectionAreaEnd	<i>int</i>	Motion detection loop end flag.
weekDayCount	<i>int</i>	Number of scheduled days (max 7).
weekDayBegin	<i>int</i>	Schedule loop start flag.
scheduleTimeAction	<i>int</i>	Schedule loop action (default is add if omitted).
weekDay	<i>int</i>	Day of week. • `0`: Sunday ... `6`: Saturday
startTime(1..3)	<i>long</i>	Start time in seconds (0-86400).
endTime(1..3)	<i>long</i>	End time in seconds (0-86400). Must be >= start time.
next_weekDayURL	<i>int</i>	Next schedule loop marker.
weekDayEnd	<i>int</i>	Schedule loop end flag.
AlarmLinkageCount	<i>int</i>	Number of linkage actions.
AlarmLinkageParam	<i>string</i>	Linkage loop action (default is add if omitted).

ActionType	<i>int</i>	Linkage action type. • `1`: Alarm Trigger (Self-Clean) • `4`: Record
ActionID	<i>int</i>	Linkage action ID (meaning depends on ActionType).
AlarmLinkageBegin	<i>int</i>	Linkage loop start flag.
next_AlarmLinkageURL	<i>int</i>	Next linkage loop marker.
AlarmLinkageEnd	<i>int</i>	Linkage loop end flag.

Disk Alarm

Get Disk Alarm

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=diskAlarm&alarmInID=<alarmInID></code>
Description	Retrieve disk alarm settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=diskAlarm&alarmInID=1</code>
Example Output	<pre> diskFullAlarmCheckFlag=1 diskErrorAlarmCheckFlag=0 NoDiskAlarmEnableFlag=0 AlarmInterval=345 AlarmLinkageBegin=1 ActionID=1 ActionType=1 AlarmLinkageEnd=1 </pre>

Set Disk Alarm

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=diskAlarm&alarmInID=<alarmInID>[&<argument>=<value>...]</code>
Description	Update disk alarm settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=set&type=diskAlarm&alarmInID=1&diskFullAlarmCheckFlag=1&diskErrorAlarmCheckFlag=0&NoDiskAlarmEnableFlag=0&AlarmInterval=345&AlarmLinkageBegin=1&ActionID=1&ActionType=1&AlarmLinkageEnd=1</code>
Output	OK or Error.

Parameters

Parameter	Type	Description
diskFullAlarmCheckFlag	<i>unsigned char</i>	Disk full alarm enable. • `0`: Disable • `1`: Enable
diskErrorAlarmCheckFlag	<i>unsigned char</i>	Disk error alarm enable. • `0`: Disable • `1`: Enable
NoDiskAlarmEnableFlag	<i>unsigned char</i>	No-disk alarm enable. • `0`: Disable • `1`: Enable
AlarmInterval	<i>int</i>	Alarm interval in seconds (10-86400).
AlarmLinkageCount	<i>int</i>	Number of linkage actions.
AlarmLinkageParam	<i>string</i>	Linkage loop action (default is add if omitted).



ActionType	<i>int</i>	Linkage action type. • `1`: Alarm Trigger (Self-Clean) • `4`: Record
ActionID	<i>int</i>	Linkage action ID (meaning depends on ActionType).
AlarmLinkageBegin	<i>int</i>	Linkage loop start flag.
next_AlarmLinkageURL	<i>int</i>	Next linkage loop marker.
AlarmLinkageEnd	<i>int</i>	Linkage loop end flag.

Protocol Info

Protocol Information

Get Protocol Information

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=protocolInfo</code>
Description	Retrieve protocol information settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=protocolInfo</code>
Example Output	protocolName=ONVIF protocolVersion=v22.06 protocolSoftwareVersion=v22.06_build000409

Parameters

Parameter	Type	Description
protocolName	<i>string</i>	Protocol name (e.g., ONVIF).
protocolVersion	<i>string</i>	Protocol version.
protocolSoftwareVersion	<i>string</i>	Protocol software version.

Protocol Security

Get Protocol Security

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=protocolSecurity</code>



Description	Retrieve protocol security settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=protocolSecurity</code>
Example Output	protocolSecurityFlag=1

Set Protocol Security

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=set&type=protocolSecurity[&protocolSecurityFlag=<protocolSecurityFlag>]</code>
Description	Update protocol security settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=set&type=protocolSecurity&protocolSecurityFlag=1</code>
Output	OK or Error

Parameters

Parameter	Type	Description
protocolSecurityFlag	<i>unsigned char</i>	Protocol security enable flag. • `0`: Disabled • `1`: Enabled Optional on set (omit for no change).

User Management

Add User

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=add&type=User&newuser=<newuser>&newpasswd=<newpasswd> [&group=<groupname>] [&note=<note>]</code>
Description	Create a new user account.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=add&type=User&newuser=asdfg34&newpasswd=asdfg&group=Administrators&note=admin</code>
Output	OK or Error

Modify User

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=modify&type=User&user=<user>&newpasswd=<newpasswd> [&group=<groupname>] [&note=<note>]</code>
Description	Update an existing user account.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=modify&type=User&user=asdfg&newpasswd=12345&group=Administrators&note=admin</code>
Output	OK or Error

Parameters

Parameter	Type	Description
user	<i>string</i>	Username of the operator. Required for modify .
newuser	<i>string</i>	New username (for add).

newpasswd	<i>string</i>	New password (for add and modify).
group	<i>string</i>	Authorization group. Required when current user is super-privileged.
note	<i>string</i>	User label/notes.

Get User

This function is not available in the API. Refer to the SDK library documentation, available [here](#), for implementation of this feature.

Delete User

This function is not available in the API. Refer to the SDK library documentation, available [here](#), for implementation of this feature.

Sensor Settings

Brightness

Get Brightness

Field	Value
URL	<code>http://<ip>/cgi-bin/sensor.cgi?userName=<username>&password=<password>&action=get&type=brightness</code>
Description	Retrieve brightness settings.
Example	<code>http://192.168.0.120/cgi-bin/sensor.cgi?userName=admin&password=admin&action=get&type=brightness</code>
Example Output	value=100

Set Brightness

Field	Value
URL	<code>http://<ip>/cgi-bin/sensor.cgi?userName=<username>&password=<password>&action=set&type=brightness&value=<value></code>
Description	Update brightness settings.
Example	<code>http://192.168.0.120/cgi-bin/sensor.cgi?userName=admin&password=admin&action=set&type=brightness&value=100</code>
Output	OK or Error

Parameters

Parameter	Type	Description
value	<i>int</i>	Brightness value. Range: 0-100.

Contrast

Get Contrast

Field	Value
URL	<code>http://<ip>/cgi-bin/sensor.cgi?userName=<username>&password=<password>&action=get&type=contrast</code>
Description	Retrieve contrast settings.
Example	<code>http://192.168.0.120/cgi-bin/sensor.cgi?userName=admin&password=admin&action=get&type=contrast</code>
Example Output	value=100

Set Contrast

Field	Value
URL	<code>http://<ip>/cgi-bin/sensor.cgi?userName=<username>&password=<password>&action=set&type=contrast&value=<value></code>
Description	Update contrast settings.
Example	<code>http://192.168.0.120/cgi-bin/sensor.cgi?userName=admin&password=admin&action=set&type=contrast&value=100</code>
Output	OK or Error

Parameters

Parameter	Type	Description
value	<i>int</i>	Contrast value. Range: 0-100.

Hue

Get Hue

Field	Value
URL	<code>http://<ip>/cgi-bin/sensor.cgi?userName=<username>&password=<password>&action=get&type=hue</code>
Description	Retrieve hue settings.
Example	<code>http://192.168.0.120/cgi-bin/sensor.cgi?userName=admin&password=admin&action=get&type=hue</code>
Example Output	value=100

Set Hue

Field	Value
URL	<code>http://<ip>/cgi-bin/sensor.cgi?userName=<username>&password=<password>&action=set&type=hue&value=<value></code>
Description	Update hue settings.
Example	<code>http://192.168.0.120/cgi-bin/sensor.cgi?userName=admin&password=admin&action=set&type=hue&value=100</code>
Output	OK or Error

Parameters

Parameter	Type	Description
value	<i>int</i>	Hue value. Range: 0-100.

Saturation

Get Saturation

Field	Value
URL	<code>http://<ip>/cgi-bin/sensor.cgi?userName=<username>&password=<password>&action=get&type=saturation</code>
Description	Retrieve saturation settings.
Example	<code>http://192.168.0.120/cgi-bin/sensor.cgi?userName=admin&password=admin&action=get&type=saturation</code>
Example Output	value=100

Set Saturation

Field	Value
URL	<code>http://<ip>/cgi-bin/sensor.cgi?userName=<username>&password=<password>&action=set&type=saturation&value=<value></code>
Description	Update saturation settings.
Example	<code>http://192.168.0.120/cgi-bin/sensor.cgi?userName=admin&password=admin&action=set&type=saturation&value=100</code>
Output	OK or Error

Parameters

Parameter	Type	Description
value	<i>int</i>	Saturation value. Range: 0-100.

Sharpness

Get Sharpness

Field	Value
URL	<code>http://<ip>/cgi-bin/sensor.cgi?userName=<username>&password=<password>&action=get&type=sharpness</code>
Description	Retrieve sharpness settings.
Example	<code>http://192.168.0.120/cgi-bin/sensor.cgi?userName=admin&password=admin&action=get&type=sharpness</code>
Example Output	value=100

Set Sharpness

Field	Value
URL	<code>http://<ip>/cgi-bin/sensor.cgi?userName=<username>&password=<password>&action=set&type=sharpness&value=<value></code>
Description	Update sharpness settings.
Example	<code>http://192.168.0.120/cgi-bin/sensor.cgi?userName=admin&password=admin&action=set&type=sharpness&value=100</code>
Output	OK or Error

Parameters

Parameter	Type	Description
value	<i>int</i>	Sharpness value. Range: 0-100.

Mirror

Get Mirror

Field	Value
URL	<code>http://<ip>/cgi-bin/sensor.cgi?userName=<username>&password=<password>&action=get&type=mirror</code>
Description	Retrieve mirror settings.
Example	<code>http://192.168.0.120/cgi-bin/sensor.cgi?userName=admin&password=admin&action=get&type=mirror</code>
Example Output	vertical=1 horizontal=1

Set Mirror

Field	Value
URL	<code>http://<ip>/cgi-bin/sensor.cgi?userName=<username>&password=<password>&action=set&type=mirror&vertical=<vertical>&horizontal=<horizontal></code>
Description	Update mirror settings.
Example	<code>http://192.168.0.120/cgi-bin/sensor.cgi?userName=admin&password=admin&action=set&type=mirror&vertical=1&horizontal=1</code>
Output	OK or Error

Parameters

Parameter	Type	Description
vertical	<i>int</i>	Vertical flip. • 0: Off, 1: On
horizontal	<i>int</i>	Horizontal flip. • 0: Off, 1: On

Camera Maintenance

Factory Reset

Factory Reset

Field	Value
URL	<code>http://<ip>/cgi-bin/operate.cgi?userName=<username>&password=<password>&action=reset</code>
Description	Factory reset the device.
Example	<code>http://192.168.0.120/cgi-bin/operate.cgi?userName=admin&password=admin&action=reset</code>
Output	OK or Error

Parameters

Parameter	Type	Description
userName	<i>string</i>	Login username.
password	<i>string</i>	Login password.
action	<i>string</i>	Operation type. • `reset`: Factory reset • `restart`: Reboot

Restart

Restart Device

Field	Value
URL	<code>http://<ip>/cgi-bin/operate.cgi?userName=<username>&password=<password>&action=restart</code>



Description	Reboot the device.
Example	<code>http://192.168.0.120/cgi-bin/operate.cgi?userName=admin&password=admin&action=restart</code>
Output	OK or Error

Parameters

Parameter	Type	Description
userName	<i>string</i>	Login username.
password	<i>string</i>	Login password.
action	<i>string</i>	Operation type. • `reset`: Factory reset • `restart`: Reboot

System Log

Get System Log

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=systemLogInfo&startTime=<startTime>&endTime=<endTime>&logType=<logType></code>
Description	Retrieve system log settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=systemLogInfo&startTime=20191226000000&endTime=20191226000010&logType=-1</code>



Example Output	SystemLogInfoCount=1 SystemLogInfoBegin=1 deviceId= deviceIp= channelId=0 userName= majorType=4 minorType=6 time=2019-12-26 17:51:23 logData=StartVideoStream oldParamInfo= newParamInfo= SystemLogInfoEnd=1
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Parameters

Parameter	Type	Description
startTime	string	Log start time, format <code>yyyymmddhhmmss</code> . Minimum is <code>197101010000</code> .
endTime	string	Log end time, format <code>yyyymmddhhmmss</code> . Minimum is <code>197101010000</code> .
logType	int	Log type. Use <code>-1</code> for all logs.

Alarm Log

Get Alarm Log

Field	Value
URL	<code>http://<ip>/cgi-bin/param.cgi?userName=<username>&password=<password>&action=get&type=alarmLogInfo&startTime=<startTime>&endTime=<endTime>&logType=<logType></code>



Description	Retrieve alarm log settings.
Example	<code>http://192.168.0.120/cgi-bin/param.cgi?userName=admin&password=admin&action=get&type=alarmLogInfo&startTime=20191226000000&endTime=20191226000010&logType=-1</code>
Example Output	AlarmLogInfoCount=1 AlarmLogInfoBegin=1 deviceId=BB0120 deviceIp= deviceType=0 sourceType=1 sourceId=1 majorType=1 minorType=1 description= alarmStartTime=2019-12-13 1:59:19 alarmEndTime=2019-12-13 2:10:19 AlarmLogInfoEnd=1

Parameters

Parameter	Type	Description
startTime	string	Log start time, format <code>yyyymmddhhmmss</code> . Minimum is <code>197101010000</code> .
endTime	string	Log end time, format <code>yyyymmddhhmmss</code> . Minimum is <code>197101010000</code> .
logType	int	Log type. Use <code>-1</code> for all logs.

Live View

Live Video

Get RTSP Live Video

Field	Value
URL	<code>http://<ip>/cgi-bin/video.cgi?userName=<username>&password=<password>&type=RTSP&cameraID=<cameraID>&streamID=<streamID>&EncoderType=<EncoderType></code>
Description	Retrieve the RTSP URL for live video.
Example	<code>http://192.168.0.120/cgi-bin/video.cgi?userName=admin&password=admin&type=RTSP&cameraID=1&streamID=1&EncoderType=H264</code>
Example Output	<code>rtsp://192.168. 1.121:554/sn1/live/1/1</code>

Parameters

Parameter	Type	Description
userName	<i>string</i>	Login username.
password	<i>string</i>	Login password.
type	<i>string</i>	Stream type. • `RTSP` • `HTTP` (case-insensitive)
cameraID	<i>int</i>	Channel ID (default is 1).
streamID	<i>int</i>	Stream ID.
EncoderType	<i>string</i>	Video encoder. • `H265` • `H264` • `MJPEG`

AudioFlag	<i>int</i>	HTTP-only audio flag. • `0`: No audio • `1`: With audio (default)
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Get HTTP Live Video

Field	Value
URL	<code>http://<ip>/cgi-bin/video.cgi?userName=<username>&password=<password>&type=HTTP&cameraID=<cameraID>&streamID=<streamID>&EncoderType=<EncoderType>&AudioFlag=<AudioFlag></code>
Description	Retrieve the HTTP live video stream.
Example	<code>http://192.168.0.120/cgi-bin/video.cgi?userName=admin&password=admin&type=HTTP&cameraID=1&streamID=1&EncoderType=H264</code>
Example Output	HTTP Code: 200 OK Date: <Date> Pragma: no-cache Cache-Control: no-cache Content-Type: multipart/x-mixed-replace; boundary=myboundary --myboundary HTTP Code: 200 OK Content-Type: video/h264 Content-Length: <data len> < data len> --myboundary HTTP Code: 200 OK Content-Type: image/jpeg Content-Length: <data len > < data len>

Parameters

Parameter	Type	Description
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userName	<i>string</i>	Login username.
password	<i>string</i>	Login password.
type	<i>string</i>	Stream type. • `RTSP` • `HTTP` (case-insensitive)
cameraID	<i>int</i>	Channel ID (default is 1).
streamID	<i>int</i>	Stream ID.
EncoderType	<i>string</i>	Video encoder. • `H265` • `H264` • `MJPEG`
AudioFlag	<i>int</i>	HTTP-only audio flag. • `0`: No audio • `1`: With audio (default)

Snapshot

Get Snapshot Image

Field	Value
URL	<code>http://<ip>/cgi-bin/image.cgi?userName=<username>&password=<password>&cameraID=<cameraID>&quality=<quality></code>
Description	Retrieve a snapshot image.
Example	<code>http://192.168.0.120/cgi-bin/image.cgi?userName=admin&password=admin&cameraID=1&quality=5</code>
Example Output	HTTP Code: 200 OK Content-Type: image/jpeg Content-Length: <image size> < image data>

Parameters



Parameter	Type	Description
cameraID	<i>int</i>	Channel ID.
quality	<i>int</i>	Image quality (1-9). 1 is lowest, 9 is highest.

Error Codes

Conventional Errors

Error No.	Description
-2	Insufficient memory
-3	Invalid handle
-4	Null pointer detected
-5	Invalid function reference
-6	System environment error
-7	Program load format error
-8	Invalid program load parameters
-9	Device or data not ready
-10	Invalid data length
-11	Thread already running
-12	Thread initialization failed
-13	Queue full
-14	Queue empty
-15	System timeout
-16	Resource not found
-17	SSL encryption not required
-18	SSL encryption required
-19	SSL handshake timeout
-20	SSL connection timeout
-21	Invalid CGI program name



-22	CGI subtype not found
-23	Invalid CGI parameters

I/O Errors

Error No.	Description
-101	File not found
-102	Directory not found
-103	Error opening disk
-104	Error reading from disk
-105	Error writing to disk
-106	Error seeking file location
-107	Reached end of disk
-108	Insufficient disk space
-109	Disk not found
-110	Disk is write-protected
-112	Disk is not formatted
-113	General disk error
-150	Error opening serial port
-151	Error reading from serial port
-152	Error writing to serial port

Network Errors

Error No.	Description
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-201	Socket not initialized
-202	Socket creation failed
-203	Socket bind failed
-204	Server connection failed
-205	Server connection timeout
-206	Socket listen failed
-207	Client connection accept failed
-208	Connection accept timeout
-209	Network disconnected
-210	Socket send failed
-211	Send operation timed out
-212	Error receiving data
-213	Receive operation timed out
-214	Error retrieving socket address
-215	Error retrieving socket options
-216	Failed to retrieve socket configuration
-217	Network protocol not supported
-218	Port already in use
-230	Failed to create data packet
-231	Packet header analysis failed
-232	Failed to create packet header
-233	Packet payload analysis failed
-234	Failed to create packet payload
-235	RTP extension field error

-236	Data compression failed
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Database Errors

Error No.	Description
-301	Error opening database
-302	Error closing database
-303	Failed to start transaction
-304	Transaction rollback failed
-305	Transaction commit failed
-306	Data insertion failed
-307	Data deletion failed
-308	Data update failed
-309	Database query failed
-310	Invalid query conditions
-311	No results found

Command Errors

Error No.	Description
-401	Unknown command
-402	Command header parsing failed
-403	Failed to create command header
-404	Command payload parsing failed
-405	Failed to create command payload

-406	Invalid command version
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Business Application Errors

Error No.	Description
-501	Unexpected response received
-502	Remote device processing error
-503	Device not open
-504	Failed to open device
-505	Device busy
-506	Device not supported
-507	Invalid username
-508	Invalid login command
-509	ADSL dial-up failed
-510	Serial port exclusively locked
-511	Maximum connections reached
-512	Insufficient permissions
-513	Device not configured
-550	Video session ended
-551	Video thread ended
-552	Failed to create DirectShow video component
-553	Failed to create DirectShow video component
-601	Audio session ended
-602	Audio thread ended
-603	Failed to create DirectShow audio component



-604	DirectShow audio operation failed
-605	Failed to initialize DirectDraw
-606	Decoder initialization failed
-607	Decoding failed