

Parameter Specification

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DOCUMENT HISTORY

Version	Date	Comment
1.1	2007-Sep-14	Initial version.

1 OVERVIEW

This document specifies the parameters and configuration files for camera and video servers using firmware version **0.3.14** and above.

1.1 Product and firmware versions

The support for the parameters specified in this document is highly product and release dependent. Please refer to the parameter list for the actual product.

1.2 Security levels

The security levels column in each parameter table shows the required security level to operate parameters. The numbers represent security levels on the form create/delete for groups and get/set for parameters. To be able to perform an action on a parameter the user needs to have a security level equal to or higher than the corresponding security level of the parameter.

Security level	Description
0	Unprotected, but it is not possible to access the camera from outside without at least view rights.
1	View access right needed to access the parameter.
4	Operator access right needed to access the parameter.
6	Administrator access right needed to access the parameter.
7	Internal parameters that can only be changed by firmware applications or by root, editing the configuration files directly.

1.3 Valid values

The following valid values are used in this document:

Valid values	Description
An integer	Any number between -2147483647 ($-2^{31}-1$) and 2147483647 ($2^{31}-1$).
An unsigned integer	Any number between 0 and 4294967295 ($2^{32}-1$).

<m>		Any number starting from number m.
<m> ... <n>		Any number between number m and number n.
A string		Any string (valid characters: ISO 8859-1).
A domain name		A string limited to contain a domain name.
A host name		A string limited to contain a host name.
An IP address		<p>A string limited to contain an IP address of the format xxx.xxx.xxx.xxx, where xxx is a number between 0 to 255.</p> <p>Example: 192.168.1.100</p>
A MAC Address		<p>A string limited to contain a MAC address of the format xx:xx:xx:xx:xx:xx, where xx is a hexadecimal value.</p> <p>Example: 00:40:8C :00:01:3F</p>
An e-mail address		A string limited to contain an e-mail address.
A URL/URI		A sting limited to contain a URL/URI.
A path		A string limited to contain a path.
A time		<p>A string limited to contain a time of the format hh:mm:ss.</p> <p>Example: 12:03:41</p>
A date		<p>A string limited to contain a date of the format yyyy-mm-dd.</p> <p>Example: 2007-02-27</p>
<value 1> <value 2> <value 3> ...		<p>Enumeration, only the given values are valid.</p> <p>Example: yes no</p>
<m><value> ... <n><value>	<value><m> ... <value><n>	<p>Any number between m and n together with value.</p> <p>Example: 1Mbit ... 100Mbit</p>
Read only		Only the default value is valid as value.
Auto generated		Automatically generated value, should not be

	changed manually.
Hardware dependent	The hardware decides the default value/the valid values.
Everything inside brackets	Description.

2 PARAMETER GROUPS

2.1 General

2.1.1 Bandwidth

Description: To minimize the impact on other services running on the network, it is possible to configure the maximum network bandwidth the camera or video server will be allowed to use.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Bandwidth]

Parameter name	Default value	Valid values	Security level (get/set)	Description
limit	0	0, 1Kbit ... 1024Kbit 1Mbit ... 100Mbit	7/0	Limits the maximum network bandwidth usage for the product. 0 = unlimited.

2.1.2 Brand

Description: Contains information about the brand, name and type of the product.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Brand]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Brand	*	A string (Auto generated)	7/0	The brand of the product.
ProdFullName	*	A string (Auto generated)	7/0	The full name of the product.
ProdNbr	*	A string (Auto generated)	7/0	The product number.
ProdShortName	*	A string (Auto generated)	7/0	The short name of the product.
ProdType	*	Video Server, Network Camera, Network Video Recorder (Auto generated)	7/0	The product type.
WebURL	*	A string (Auto generated)	7/0	The URL to visit for support and information about the product.

* The default value for these parameters is product specific.

2.1.3 UserID

Description: Contains information about the brand, name and type of the product.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[UserID]

Parameter name	Default value	Valid values	Security level (get/set)	Description
ViewerAuthen	on	on, off	6/6	
ViewerModeDefault	000007ff		6/6	

Admin			6/6	
User1			6/6	
User2			6/6	
User3			6/6	
User4			6/6	
User5			6/6	
User6			6/6	
User7			6/6	
User8			6/6	
User9			6/6	

2.1.4 System

Description: Contains information about the brand, name and type of the product.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[System]

Parameter name	Default value	Valid values	Security level (get/set)	Description
BoaProtViewer	password	password, anonymous	6/6	password = Password is required to access the view pages. anonymous = Anybody on the network can access the product's view pages (but not the Admin tools) in a browser, and without having to log in.
HTTPPort	80	80	6/6	HTTP port number.
HTTPViewerPort	8090	8090	6/6	HTTP port number for viewer/recorder (MPEG-4). API

HTTPViewerPort2	8070	8070	6/6	HTTP port number for viewer/recorder(MJPEG) API.
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2.1.5 Network

Description: Network interface settings. The parameters in this group (as opposed to the subgroups of this group) are static network settings. If the Network.BootProto parameter is "dhcp" these parameters may not be in use so always use the read-only parameters in the subgroups to retrieve actual network settings in use by the operating system.

Configuration files: /etc/device.conf

Security level (create/delete): 7/7

[Network]

Parameter name	Default value	Valid values	Security level (get/set)	Description
HostName	None	A host name	6/6	The name of the device on the network, usually the same as the DNS name.

2.1.6 Network.DDNS

Description: Dynamic Updates in the Domain Name System ([RFC 2136](#)).

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Network.DDNS]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	no	yes, no	6/6	Enable/disable dynamic DNS service.
DDNSServer	www.dyndns.org	<absolute domain name> or <domain name relative to	6/6	DDNS service server.

		<i>root></i>		
UserName	none	A string	6/6	Login to DDNS server.
Password	none	A string	6/6	Login to DDNS server.
HostName	none	A host name	6/6	The name entered here will be associated with the product's IP address in the DDNS server.

2.1.7 Network.eth0

Description: Network settings of the first ethernet interface. Use these parameters to retrieve the network settings actually in use by the operating system.

Configuration file: There is no configuration file for these parameters. They are retrieved directly from the interface.

Security level (create/delete): 7/7

[Network.eth0]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Broadcast	192.168.1.255	An IP address	6/6	Broadcast address. Used to disseminate information to several recipients simultaneously. This parameter is read only.
DNSAuto	on	on, off	6/6	Specifies if the DNS server should be obtained from a DHCP server.
DNSServer1	0.0.0.0	An IP address	6/6	Primary Domain Name System server.
DNSServer1	0.0.0.0	An IP address	6/6	Secondary Domain Name System server.
BootProto	dhcp	dhcp,	6/6	Enable/disable

		none		dynamic IP address assignment to the device.
IPAddress	192.168.1.100	An IP address	6/6	IP Address. The physical address of the device on the network.
MACAddress	00:40:8C:xx:xx:xx	A MAC address (Auto generated)	6/4	MAC address. The unique identity of the device. This parameter is read only.
SubnetMask	255.255.255.0	An IP address	6/6	Subnet mask. Divides the network.
DefaultRouter	192.168.1.1	An IP address	6/6	Routing table actually in use by the operating system
IPAddressRange	192.168.0.99-192.168.0.254	A string	6/6	

2.1.8 Network.UPnP

Description: Enable/disable Universal Plug and Play and set the name to be displayed in UPnP-clients.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Network.UPnP]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	yes	yes, no	6/6	Enables/disables Universal Plug and Play.

2.1.9 Network.UPnP.NATTraversal

Description: These parameters control NAT traversal functionality. NAT traversal is a

technique that can be used to open up routers and firewalls to make devices on a LAN accessible from the Internet.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Network.UPnP.NATTraversal]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	no	yes, no	6/6	Enables/disables NAT traversal.
HTTPPort	80	1024 ... 65535	6/6	Number of HTTP port for NAT traversal.
HTTPViewerPort	8090	1024 ... 65535	6/6	Number of MPEG4 video port for NAT traversal.
HTTPViewerPort2	8070	1024 ... 65535	6/6	Number of MJPEG video port for NAT traversal.

2.1.10 Network.PPPoE

Description: Enable/disable PPP over Ethernet. The userid and password is provided by internet service provider.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Network.PPPoE]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	no	yes, no	6/6	Enables/disables PPPoE
IPAddress	0.0.0.0	An IP address	6/6	IP Address. The physical address of the device on the network.
UserID	none	A string	6/6	For login PPPoE service.

Password	none	A string	6/6	For login PPPoE service.
DNSAuto	on	on, off	6/6	Specifies if the DNS server should be obtained from a DHCP server.
DNSServer1	0.0.0.0	Auto generated	6/6	Primary Domain Name System server.
DNSServer2	0.0.0.0	yes, no	6/6	Secondary Domain Name System server.

2.1.11 Time

Description: Common time information which tell the time zone, how date and time is synchronized and the offset related to the chosen time zone and Coordinated Universal Time, UTC.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Time]

Parameter name	Default value	Valid values	Security level (get/set)	Description
ObtainFromDHCP	no	yes, no	6/6	DHCP servers may provide names/IP addresses for local/remote NTP servers. Enable this feature by setting this parameter to yes.
ServerDate	2006-11-30	A date	6/6	The date (yyyy-mm-dd) when the device's time was set manually or synchronized with the computer.
ServerTime	14:52:23	A time	6/6	The time (hh:mm:ss) when

				the device's time was set manually or synchronized with the computer.
DateFormat	ymd		6/6	
SyncSource	None	PC, NTP, None	6/6	The source to synchronize the time with; PC, NTP or None (manually).
TimeZone	GMT+08:00/Asia/Taipei	GMT-12, ... GMT-1, GMT, GMT+1, ... GMT+12	6/6	Time zone.
UTCOffset	00:00:00	A time	6/6	Time difference (hh:mm:ss) between the time zone and Coordinated Universal Time (UTC). -01:00:00 = -1 hour, i.e. 1 hour after UTC. 00:00:00 = 0 hour, 01:00:00 = 1 hour, i.e. before UTC.

2.1.12 Time.DST

Description: Contain parameters required to manage Daylight Saving Time, DST.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Time.DST]

Parameter	Default	Valid	Security	Description
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name	value	values	level (get/set)	
Enabled	no	yes, no	6/6	Enable/disable DST (Daylight Saving Time)
Offset	00:00:00	A time	6/6	The amount of time the clock should be turned back/forward (hh:mm:ss), due to DST.
StartDay	1		6/6	The meaning of StartDay depends on StartTypeOfDate. If StartTypeOfDate is 0 (exact date) the StartDay should be interpreted as the day of the month. Otherwise StartDay indicates the number of days since Sunday in the range 0 to 6.
StartMonth	0		6/6	The number of months since January in the range 0 to 11.
StartTime	00:00:00	A time	6/6	Indicates the time (hh:mm:ss) when DST should be enabled. StartTime = 02:00:00 means that DST should be enabled two hours after midnight.
StartTypeOfDate	0	-1, 0, 1 ... 31	6/6	<p>DST can either start on an exact date, or a specific weekday of the month. StartTypeOfDate indicates how to interpret StartDay. If 0, then StartDay is an exact date, otherwise it is a weekday.</p> <p>0 = StartDay is an exact date (1-31). -1 = The weekday specified by StartDay is the last in the month. 1 to 31 = The first weekday specified by StartDay that has a date larger than or equal to this.</p> <p>Example: StartTypeOfDate = 0 StartDay = 12 The 12th of the month</p> <p>Example2: StartTypeOfDate = -1 StartDay = 0</p>

				<p>The last Sunday of the month</p> <p>Example 3: StartTypeOfDate = 1 StartDay = 5 The first Friday of the month</p> <p>Example 4: StartTypeOfDate = 15 StartDay = 0 The third Sunday of the month</p>
StopDay	31	1 ... 31 0 ... 6	6/6	<p>The meaning of StopDay depends on StopTypeOfDate. If StopTypeOfDate is 0 (exact date) then StopDay should be interpreted as the day of the month. Otherwise StopDay indicates the number of days since Sunday in the range 0 to 6.</p>
StopMonth	11	0 ... 11	6/6	<p>The number of months since January in the range 0 to 11.</p>
StopTime	00:00:00	A time	6/6	<p>Indicates the time (hh:mm:ss) when DST should be disabled. StopTime = 02:00:00 means that DST should be disabled two hours after midnight.</p>
StopTypeOfDate	0	-1 0 1 ... 31	6/6	<p>DST can either end on an exact date, or a specific weekday of the month. See the description of StartTypeOfDate above.</p>

2.1.13 Time.NTP

Description:

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Time.NTP]

Parameter name	Default value	Valid values	Security level	Description
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			(get/set)	
Server	0.0.0.0	An IP address or a host name	6/6	The NTP server to connect to when synchronizing the time in the device.
Update	01:00:00	A time	6/6	Time interval (hh:mm:ss) between connections to the NTP server.
VolatileServer	0.0.0.0	An IP address or a host name	6/6	The name/IP address of the NTP server, received from the DHCP server. Only one NTP server is currently supported. The NTP server name/IP address will be valid only until the next DHCP renewal or reboot.

2.2 Motion

2.2.1 Motion.M#

Description: Contain dynamic parameters, which define the properties of a Motion Detection window.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Motion.M#]*

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enable	no	yes, no	6/6	Enable/disable this detection window.
Sensitivity	90	0-512	6/6	This tunes the "object difference from the background"-sensitivity, i.e. difference in terms of color and/or structure. A high value detects even very small changes and can e.g. trigger on image noise if set too high. A very low value requires on the other hand a very dramatic change with e.g. a dark object appearing in an almost

				white scene (or vice versa).
Threshold	700	0-1000	6/6	This adjusts the motion detection to be more or less sensitive for very fast motion. With a very low value the motion is detected only when a scene has changed but adapts to this changed scene as the new normal scene rapidly. A large value is more conservative and will detect the motion for a larger number of pictures before it consider this as being a normal object in the scene.
Left	0	0-9999	6/6	The coordinate for the left boundary of the rectangular motion detection window. The full value range is related to the full image width and 0 is counted from the left hand side of the image.
Top	0	0-9999	6/6	The coordinate for the upper boundary of the rectangular motion detection window. The full value range is related to the full image height and 0 is counted from the upper side of the image.
Right	720	0-9999	6/6	The coordinate for the right boundary of the rectangular motion detection window. The full value range is related to the full image width and 0 is counted from the left hand side of the image.
Bottom	480	0-9999	6/6	The coordinate for the bottom boundary of the rectangular motion detection window. The full value range is related to the full image height and 0 is counted from the upper side of the image.

* **Note:** The # is replaced with a group number starting from zero, e.g. Motion.M0.

2.3 FtpClient

Description: Parameters for the File Transfer Protocol, for sending files. Can be used by an event to upload files to

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[FtpClient]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	off	on, off	6/6	Enable/disable FTP client.
ServerName	None	An IP address or a host name	6/6	IP address or host name of the server
UserName	None	A string	6/6	FTP user name
Password	None	A string	6/6	FTP password.
Passive	off	on, off	6/6	Use passive FTP.

2.3.1 FtpClient.Alarm

Description: Parameters for FTP alarm.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[FtpClient.Alarm]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	off	on, off	6/6	
RemotePath	None		6/6	
ImageName	None		6/6	
Suffix	date		6/6	
Motion	off	on, off	6/6	
SensorIn	off	on, off	6/6	
BufferEnabled	off	on, off	6/6	

Period	always		6/6	
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2.3.2 FtpClient.Periodical

Description: Parameters for sending files periodically.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[FtpClient.Periodical]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	off	on, off	6/6	
RemotePath	None		6/6	
ImageName	None		6/6	
Suffix	date		6/6	
Period	always		6/6	
Interval	0030000		6/6	

2.4 SMTP

Description: Parameters for the Simple Mail Transfer Protocol, for sending e-mail messages between mail servers.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[SMTP]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	off	on, off	6/6	

ServerName	None		6/6	
RcptToAddr1	None		6/6	
RcptToAddr2	None		6/6	
RcptToAddr3	None		6/6	
AdminAddr	None		6/6	
Subject	None		6/6	
Message	None		6/6	

2.4.1 SMTP.Authentication

Description: Parameters for SMTP authentication.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[SMTP.Authentication]

Parameter name	Default value	Valid values	Security level (get/set)	Description
AuthenMode	None		6/6	
AthSmtPop	off	on, off	6/6	
AthPopServerName	None		6/6	The IP address or host name of the POP server.
AthUserNam	None		6/6	The user name for the mail server or the POP server.
AthPassword	None		6/6	The password for the mail server or the POP server.

2.4.2 SMTP.Alarm

Description:

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[SMTP.Alarm]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	off	on, off	6/6	Enable/disable SMTP alarm
FileAttach	None		6/6	
ImageName	None		6/6	
Suffix	date		6/6	
Motion	off	on, off	6/6	
SensorIn	off	on, off	6/6	
BufferEnabled	off	on, off	6/6	
Period	always		6/6	

2.4.3 SMTP.Periodical

Description:

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[SMTP. Periodical]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	off	on, off	6/6	
ImageName	None		6/6	
Suffix	date		6/6	

Period	always		6/6	
Interval	0030000		6/6	

2.5 IPNotify

2.5.1 IPNotify.SMTPNotify

Description: Sending notification through e-mail when IP is changed.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[IPNotify.SMTPNotify]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	off	on, off	6/6	Enables the SMPT notify.
Dhcp	off	on, off	6/6	
Static	off	on, off	6/6	
Pppoe	yes	yes, no	6/6	
RcptAddr	None		6/6	
AdminAddr	None		6/6	
Subject	IP address notification	A string	6/6	Subject of message to be sent.
Messgae	IP:PORT:MAC:Model:Serial:	A string	6/6	Message to be sent.

2.5.2 IPNotify.HTTPNotify

Description: Sending notification to specified URL when IP is changed.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[IPNotify.HTTPNotify]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	off	on, off	6/6	Enables the HTTP notify.
Dhcp	off	on, off	6/6	
Static	off	on, off	6/6	
Pppoe	yes	yes, no	6/6	
Url	None	A URL	6/6	
Proxy	None	An IP address or a URL	6/6	
ProxyPort	8080	1 ... 65535	6/6	Port for proxy.
Method	get		6/6	

2.6 Image

Description: Common image parameters used for all image configurations.

Configuration files: /etc/device.conf

Security level (create/delete): 7/7

[Image]

Parameter name	Default value	Valid values	Security level (get /set)	Description
MaxViewers	5	1 ... 5	6/0	Max number of

				simultaneous viewers (does not affect multicast delivery).
NbrOfConfigs	1 in one-input products 5 in four-input products (4 inputs + Quad)	An unsigned integer (Read only)	6/0	Number of image configurations.

2.6.1 Image.I#.Appearance

Description: Image appearance parameters (resolution, compression, rotation) for each image configuration.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Image.I#.Appearance] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
ColorEnabled	yes	yes, no	6/6	yes = The image is coded with color information. no = The image is coded without color information, i.e. a black and white image.
Compression	30	0 ... 100	6/6	The level of image compression. High compression reduces the file size. Low compression produces optimum picture quality, but larger file sizes. MPEG-4: The compression setting maps to the qscale used when quantizing the video stream. This mapping has been made in such a way as to give as similar result as using the same setting for M-JPEG.
Resolution	704x480	704x576, 704x480,	7/6	The image resolution.

		352x288, 352x240, 176x144, 176x120, 640x480, 320x240, 160x120		
Rotation	0	0 ... 359	6/6	Image rotation degree
Flip	off	on, off	6/6	Enable image Flip.
Mirror	off	on, off	6/6	Enable image Mirror.

* **Note:** The # is replaced with a group number starting from zero, e.g. Image.I0.Appearance.

2.6.2 Image.I#.MPEG

Description: Parameters related to the generation and format of the MPEG stream.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Image.I#.MPEG] *

Parameter name	Default value	Valid values	Security level (get /set)	Description
ICount	1	1	6/6	The number of I frames per GOV.
PCount	10	1 ...	6/6	The number of P frames per I frame.

* **Note:** The # is replaced with a group number starting from zero, e.g., Image.I0.MPEG.

2.6.3 Image.I#.RateControl

Description: Parameters to control the bit rate (bandwidth) from the server.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Image.I#.RateControl] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
Mode	cbr	vbr, cbr	7/6	Specifies whether the rate controller operates in Variable Bit Rate (VBR) or constant bit rate (CBR) mode.
TargetBitrate	2048	0 ... 10000	7/6	The target bit rate, in kbit/s, for CBR mode.
MaxCompression	31	1 ... 31	7/6	The rate controller will not produce streams with compression higher than this value.
MinCompression	1	1 ... 31	7/6	The rate controller will not produce streams with compression lower than this value. Note: Image.I#.Appearance.Compression overrides this value.

* **Note:** The # is replaced with a group number starting from zero, e.g. Image.I0.RateControl.

2.6.4 Image.I#.Stream

Description: Image streaming parameters for each image configuration.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Image.I#.Stream] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
Duration	0	An unsigned integer	7/6	The number of seconds the image stream is streamed for, before being terminated. The default stream time is unlimited.
FPS	30	An unsigned integer	7/6	Limits the frame rate available to each viewer.

				<p>0 = unlimited frame rate.</p> <p>Note 1: That the viewer will actually get the configured frame rate cannot be guaranteed. Not exceeding the configured frame rate, however, is guaranteed.</p>
NbrOfFrames	30	An unsigned integer	7/6	<p>The number of frames transmitted to each viewer. The maximum frame rate is hardware dependent.</p> <p>0 = The maximum possible frame rate.</p> <p>Note: The viewer is not guaranteed the configured frame rate. It is however, guaranteed that it will not exceed the configured fps.</p>

* **Note:** The # is replaced with a group number starting from zero, e.g. Image.I0.Stream.

2.6.5 Image.I#.OSD

Description: Image OSD parameters for each image configuration.

Configuration file: /etc/device.conf

Security level (create/delete): 6/6

[Image.I#.OSD] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	off	on, off	6/6	Enable/disable OSD.
Date	off	on, off	6/6	Enable/disable Date/Time OSD.
TextColor	white	black, white	6/6	OSD text color
BkColor	black	black, white, transparent	6/6	OSD background color.
Position	top	top, bottom	6/6	OSD position.
Alias	None	A string	6/6	Alias for Camera

				display on OSD.
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* **Note:** The # is replaced with a group number starting from zero, e.g. Image.I0.Stream.

2.6.6 Image.I#.Mask

Description: Privacy mask parameters for each image configuration.

Configuration file: /etc/device.conf

Security level (create/delete): 6/6

[Image.I#.Mask] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	off	on, off	6/6	Enable/disable privacy mask.
XPos	0	2 ... 690	6/6	The overlays upper left corner is positioned at this horizontal position (0=to the left).
YPos	0	2 ... 234	6/6	The overlays upper left corner is positioned at this vertical position (0=to the top).
Width	0	0 ... 57	6/6	Width of the specified mask.
Height	0	0 ... 29	6/6	Height of the specified mask.
Color	black	black	6/6	The privacy mask color.

* **Note:** The # is replaced with a group number starting from zero, e.g. Image.I0.Stream.

2.7 ImageSource

Description: The number of image sources (video inputs/chips or CCD/CMOS chips).

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[ImageSource]

Parameter name	Default value	Valid values	Security level (get/set)	Description
name	NbrOfSources	A string.	7/0	
NbrOfSources	1	An unsigned integer (Read only)	7/0	Number of image sources/inputs.

2.7.1 ImageSource.I0.Sensor

Description: The name of the image source.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[ImageSource.I0.Sensor]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Brightness	50	0 ... 100	7/6	The image brightness.
Contrast	50	0 ... 100	7/6	The image contrast.
Saturation	80	0 ... 100	7/6	The image saturation.
Hue	60	0 ... 100	7/6	The image hue.

2.8 PTZ

2.8.1 PTZ.PTZDrivers

Description: List of installed PTZ drivers.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[PTZ.PTZDrivers]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Driver0	vtrec	A string	6/6	The name of the driver currently installed on index0.
Driver1	pelcod	A string	6/6	The name of the driver currently installed on index1.
Driver2	pelcop	A string	6/6	The name of the driver currently installed on index2.

2.8.2 PTZ.SerDrivers

Description: List of PTZ drivers associated with serial ports.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[PTZ.SerDrivers]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Ser0Driver	None	A string	6/6	The name of the driver currently associated with serial port 0.
Ser1Driver	vtrec	A string	6/6	The name of the driver currently associated with serial port 1.

2.8.3 PTZ.Speed

Description:

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[PTZ.Speed]

Parameter name	Default value	Valid values	Security level (get/set)	Description
PanSpeed	50		6/6	
TiltSpeed	50		6/6	
ZoomSpeed	50		6/6	
FocusesSpeed	50		6/6	
IrisSpeed	50		6/6	
AutoPanSpeed	50		6/6	

2.8.4 PTZ.Delay

Description:

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[PTZ.Delay]

Parameter name	Default value	Valid values	Security level (get/set)	Description
PanDelay	600		6/6	
TiltDelay	600		6/6	
ZoomDelay	200		6/6	
FocusesDelay	200		6/6	
IrisDelay	200		6/6	

2.8.5 PTZ.CtrlParam

Description:

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[PTZ.CtrlParam]

Parameter name	Default value	Valid values	Security level (get/set)	Description
keyid	0		6/6	
address	0		6/6	

2.8.6 PTZ.PresetPos

A dynamic parameter group PTZ.PresetPos.P# is created for each new preset position. # merely denotes the number of the dynamic parameter group and has no connection to any preset position numbers mentioned below.

Description: Dynamic parameter groups, each representing a preset position.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[PTZ.PresetPos.P#]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Pos	None	<p>A : ² delimited string with the following content:</p> <p><Name>: A valid preset position name according to the PTZ control section in Video HTTP API.</p> <p><Type>: server, device</p> <p><No>: 1, ... for <Type> = server, -1 for <Type> = device</p> <p><DevicePresetNo>: An integer</p> <p><DriverNo>: 1, ...</p> <p><CamNo>: 1, ...</p> <p><Pan>: -180 ... 180¹, 10000</p> <p><Tilt>: -180 ... 180¹, 10000</p>	1/7	<p>Holds all necessary information about the preset position.</p> <p><Name>: The name of the preset position.</p> <p><Type>: The type of preset position, "server" for server preset positions, "device" for device preset positions.</p> <p><No>: The number of the server preset position, -1 for device preset positions.</p> <p><DevicePresetNo>: The number of the device preset position, not significant if <Type> = "server" and the position is not emulated by a driver preset position.</p> <p><DriverNo>: The number (index) of the concerned driver.</p>

		<p><Zoom>: 1 ... 9999¹, 10000</p> <p><Focus>: 1 ... 9999¹, 10000</p> <p><Iris>: 1 ... 9999¹, 10000</p> <p><Home>: true, false</p>		<p><CamNo>: The number of the concerned camera.</p> <p><Pan>: The pan position if known, else 10000.</p> <p><Tilt>: The tilt position if known, else 10000.</p> <p><Zoom>: The zoom position if known, else 10000.</p> <p><Focus>: The focus position if known, else 10000.</p> <p><Iris>: The iris position if known, else 10000.</p> <p><Home>: true if the preset position is the home position for the camera, else false.</p> <p>Example of a server preset position (number 3) emulated by a device preset position (number 12): Entrance~server:3:12:1:2:45:-10:10000:10000:10000:false</p>
Label	None	Same as <Name> above.	1/7	Exists merely to facilitate web page implementation. Only exists if <Type> above is set to "server".

¹ May be overridden by configuration file for driver.

² Except for Name, delimited by ~.

2.9 Input

Description: Parameters for hardware input(s).

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Input]

Parameter name	Default value	Valid values	Security level (get/set)	Description
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NbrOfInputs	4	An unsigned integer.	6/6	Number of inputs.
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2.9.1 Input.I#

Description: Parameters for hardware input(s).

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Input.I#] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
Name	AlarmIn#+1	A string	6/6	The name of the input.
Trig	closed	open, closed	6/6	Determines when to trig.
PresetNbr	None		6/6	
Position	1		6/6	

* **Note:** The # is replaced with a group number starting from zero, e.g. Input.I0.

2.10 Output

Description: Parameters for hardware output(s).

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Output]

Parameter name	Default value	Valid values	Security level (get/set)	Description
NbrOfOutputs	1	An unsigned integer	6/6	Number of outputs.

2.10.1 Output.O#

Description: Parameters for hardware output(s).

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Output.O#] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
Name	Output #+1	A string	6/6	The name of the output.
Active	closed	open, closed	6/6	The active state of the output.
Button	none	none, pulse, actinact	6/6	The button type associated with this output.
PulseTime	0	An integer	6/6	The pulsetime for the pulse button connected to this output, if any.
Mode	alarm		6/6	
Motion	off		6/6	
SensorIn	off		6/6	
BufferEnabled	off		6/6	
Period	always		6/6	
Duration	10		6/6	

* **Note:** The # is replaced with a group number starting from zero, e.g. Output.I0.

2.11 Schedule

2.11.1 Schedule.FTPAlarmSend

Description:

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Schedule.FTPAlarmSend]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Sun	0,0000,2400		6/6	
Mon	0,0000,2400		6/6	
Tue	0,0000,2400		6/6	
Wed	0,0000,2400		6/6	
Thu	0,0000,2400		6/6	
Fri	0,0000,2400		6/6	
Sat	0,0000,2400		6/6	

2.11.2 Schedule.FTPAlarmPeriod

Description:

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Schedule.FTPAlarmPeriod]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Sun	0,0000,2400		6/6	
Mon	0,0000,2400		6/6	
Tue	0,0000,2400		6/6	
Wed	0,0000,2400		6/6	
Thu	0,0000,2400		6/6	
Fri	0,0000,2400		6/6	

Sat	0,0000,2400		6/6	
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2.11.3 Schedule.SMTPAlarmSend

Description:

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Schedule.SMTPAlarmSend]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Sun	0,0000,2400		6/6	
Mon	0,0000,2400		6/6	
Tue	0,0000,2400		6/6	
Wed	0,0000,2400		6/6	
Thu	0,0000,2400		6/6	
Fri	0,0000,2400		6/6	
Sat	0,0000,2400		6/6	

2.11.4 Schedule.SMTPAlarmPeriod

Description:

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Schedule.SMTPAlarmPeriod]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Sun	0,0000,2400		6/6	
Mon	0,0000,2400		6/6	

Tue	0,0000,2400		6/6	
Wed	0,0000,2400		6/6	
Thu	0,0000,2400		6/6	
Fri	0,0000,2400		6/6	
Sat	0,0000,2400		6/6	

2.11.5 Schedule.AlarmOutSend

Description:

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Schedule.AlarmOutSend]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Sun	0,0000,2400	A string	6/6	
Mon	0,0000,2400	A string	6/6	
Tue	0,0000,2400	A string	6/6	
Wed	0,0000,2400	A string	6/6	
Thu	0,0000,2400	A string	6/6	
Fri	0,0000,2400	A string	6/6	
Sat	0,0000,2400	A string	6/6	

2.11.6 Schedule.AlarmOutTimer

Description:

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Schedule.AlarmOutTimer]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Sun	0,0000,2400	A string	6/6	
Mon	0,0000,2400	A string	6/6	
Tue	0,0000,2400	A string	6/6	
Wed	0,0000,2400	A string	6/6	
Thu	0,0000,2400	A string	6/6	
Fri	0,0000,2400	A string	6/6	
Sat	0,0000,2400	A string	6/6	

2.12 AlarmBuffer

Description:

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[AlarmBuffer]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Enabled	no	yes, no	6/6	Enable/Disable alarm buffer.

2.12.1 AlarmBuffer.Capacity

Description:

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[AlarmBuffer.Capacity]

Parameter name	Default value	Valid values	Security level (get/set)	Description
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PreAlarm	5		6/6	
PostAlarm	5		6/6	

2.12.2 AlarmBuffer.RecordTime

Description:

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[AlarmBuffer.RecordTime]

Parameter name	Default value	Valid values	Security level (get/set)	Description
PreAlarm	5		6/6	
PostAlarm	5		6/6	

2.13 Serial

Description: Controls the functionality/purpose of the serial ports and some configuration that is shared by various applications. Note that some applications have their own settings for baudrate, parity etc.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Serial]

Parameter name	Default value	Valid values	Security level (get/set)	Description
NbrOfPorts	2	An unsigned integer	6/6	Number of serial ports.
PurposePort#	0: OFF 1: PTZ	OFF, TCPIP, PTZ,	6/6	The current usage of the serial port.

		Generic		<p>OFF = Unused.</p> <p>TCPIP = Serial server.</p> <p>PTZ = Pan Tilt Zoom. Supports PTZ control and serial port control according to Video HTTP API. Requires an installed PTZ driver.</p> <p>Generic = Supports serial port control according to Video HTTP API. Works with or without installed PTZ driver.</p>
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2.13.1 Serial.Ser#

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Serial.Ser#] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
PortMode	RS232	RS232, RS485 ¹	6/6	<p>Serial port protocol.</p> <p>May be read-only depending on hardware.</p>
BaudRate	38400	300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, (for RS485 also 230400 and 460800)	6/6	The baudrate used in the serial communication.

DataBits	8	7, 8	6/6	The number of data bits.
StopBits	1	1, 2	6/6	The number of stop bits.
Parity	None	None, Even, Odd	6/6	The parity.

* **Note:** The # is replaced with a number, e.g. Serial.Ser1.

¹Product-dependent. Check the product specification.

2.14 GuardTour

Description:

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[GuardTour]

Parameter name	Default value	Valid values	Security level (get/set)	Description
ActiveGroup	G0	G0 !V G3	6/6	Active GuardTour setting.

2.14.1 GuardTour.G#

Description:

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[GuardTour.G#]*

Parameter name	Default value	Valid values	Security level (get/set)	Description
Running	no	yes,	6/6	The product has Guard

		no		Tour support.
Name	GourdTour#+1	A string	6/6	Name of GuardTour setting
CamNbr	1		6/6	
RandomEnabled	no	yes, no	6/6	

* **Note:** The # is replaced with a number, e.g. GuardTour.G0.

2.14.2 GuardTour.G#.Tour.T#

Description:

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[GuardTour.G#.Tour.T#]*

Parameter name	Default value	Valid values	Security level (get/set)	Description
PresetNbr	2	An unsigned integer	6/6	Number of serial ports.
Position	1		6/6	
MoveSpeed	70		6/6	
WaitTime	2		6/6	
WaitTimeViewType	Seconds		6/6	

* **Note:** The # is replaced with a number, e.g. GuardTour.G0.Tour.T0.

2.15 Audio

2.15.1 AudioSource.A#

Description: Parameters for each audio source (audio input/chip).

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[AudioSource.A#] *

Parameter name	Default value	Valid values	Security level (get/set)	Description
AudioEncoding	g711	g711, g721, g723 aac ¹	6/6	The audio codec to use.
MicrophonePower	on	on, off	6/6	Enable/disable power on audio input connector.
OutputGain	0	mute, -60, -57, -54 ... -3, 0, 3, 6 ... 21, 24, 27, 30	4/4	Gain setting in dB for sound transmitted to client(s).
SpeakerPower	on	on, off	6/6	Enable/disable power on audio input connector.
InputGain	0	mute, -60, -57, -54 ... -3, 0, 3, 6 ... 21, 24, 27, 30	6/6	Gain settings in dB for sound received from client.

* **Note:** the # is replaced with a group number starting from zero, e.g. AudioSource.A0

¹ Product-dependent. Check the corresponding Property parameter.

² Product-dependent.

2.16 Layout

Description: Parameters that define how the live view page looks and works.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Layout]

Parameter name	Default value	Valid values	Security level (get/set)	Description
DefaultVideoFormat	mpeg4	mjpeg, mpeg4	6/6	The default video format to be shown.

2.17 Syslog

Description: Parameters for system log.

Configuration file: /etc/device.conf

Security level (create/delete): 6/6

[Syslog]

Parameter name	Default value	Valid values	Security level (get/set)	Description
EnableRemoteLog		on, off	6/6	Enable/Disable Remote system log.
ServerIp	None	A string	6/6	Syslog server IP address.
ServerPort	514	1 ... 65536	6/6	Syslog server port number.

2.18 Properties

Description: Contains information about the firmware and system of the product. It also contains information about product dependent functionality and functionality that have no ordinary parameters. All user levels should be able to access the property parameters.

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Properties]

Parameter name	Default value	Valid values	Security level (get/set)	Description
BoardID		A string	6/0	

SerialNum		A string	6/0	
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Note: The Properties parameters are product dependent. If a parameter does not exist, the functionality is not supported.

2.18.1 Properties.Firmware

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Properties.Firmware]

Parameter name	Default value	Valid values	Security level (get/set)	Description
BuildDate		A string	6/0	
Version		A string	6/0	

2.18.2 Properties.Hardware

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Properties.Hardware]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Version		A string	6/0	

2.18.3 Properties.Image

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Properties.BoardID]

Parameter	Default value	Valid	Security	Description
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name		values	level (get/set)	
Format	mpeg4,mjpeg	A string	6/0	The supported formats separated by commas.
Resolution	176x120,352x240,704x480, 176x144,352x288,704x576	A string	6/0	The supported resolutions separated by commas.

2.18.4 Properties.PTZ

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Properties.PTZ]

Parameter name	Default value	Valid values	Security level (get/set)	Description
PTZ ¹	yes	yes, no	6/0	The product has Pan Tilt Zoom support.

¹ Product dependent. If the parameter does not exist, the functionality is not supported.

2.18.5 Properties.Motion

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Properties.Motion]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Motion ¹	yes	yes, no	6/0	The product has Motion Detection support.

¹ Product dependent. If the parameter does not exist, the functionality is not supported.

2.18.6 Properties.Audio

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Properties.Audio]

Parameter name	Default value	Valid values	Security level (get/set)	Description
Audio ¹	yes	yes, no	6/0	The product has audio support.
Format	g711	g711,g721,g723,aac ¹	6/0	The supported audio codec separated by commas.

¹ Product dependent. If the parameter does not exist, the functionality is not supported.

2.18.7 Properties.System

Configuration file: /etc/device.conf

Security level (create/delete): 7/7

[Properties.System]

Parameter name	Default value	Valid values	Security level (get/set)	Description
IDE	no	yes, no	6/0	
PCI	no	yes, no	6/0	
USB	no	yes, no	6/0	
RTC	no	yes, no	6/0	
SDC	no	yes, no	6/0	
LCD	no	yes,	6/0	

		no		
UART1	yes	yes, no	6/0	
UART2	yes	yes, no	6/0	
UART3	no	yes, no	6/0	
UART4	no	yes, no	6/0	