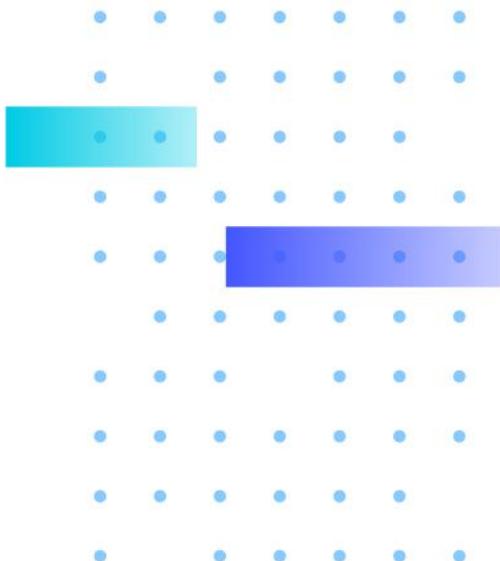




A Delta Group Company

URL COMMAND LIST FOR ONEFW

Version 3.13c
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Revision History

Version	Issue date	Editor	Comment
V1.0a	2015/03/11	Kelly	1. Initial draft
V1.0b	2015/04/24	Kelly	1. Fixed bugs
V1.0c	2015/05/18	Kelly	1. Fixed bugs 2. Add fisheye parameters and cgi 3. Remove videoinpreview and imagepreview parameters 4. Remove event_i<0~2>_exttriggerstatusN parameters 5. Remove videoin_c0_s<0~m-1>_<codec>_smartstream_background_qvalue, and videoin_c0_s<0~m-1>_<codec>_smartstream_foreground_qvalue 6. Modify capability parameters a、 modify the parameters of capability_daynight group to capability_daynight_cX group b、 remove capability_image_wdrc c、 remove capability_nir

Version	Issue date	Editor	Comment
			<ul style="list-style-type: none"> d、 add capability_image_c<n>_defog_mode/ capability_image_c<n>_defog_strength/ capability_image_c<n>_defog_supportlevel/ capability_image_c<n>_defog_affect e、 remove capability_image_c<n>_defog/ capability_image_c<n>_defog_affect f、 add capability_fisheyelocaldewarp_c<n> g、 add capability_videoin_c0_fisheye_mounttype h、 add capability_image_c<n>_lensconfiguration_support i、 add capability_videoin_c<n>_nprivacymask j、 remove capability_media_snapshot_sizepersecond
V1.0d	2015/5/26	Logic	<ol style="list-style-type: none"> 1. Fix bugs 2. Modify description of exposurewin group 3. Add recording_i<0~1>_maxretentiontime description 4. Modify capability parameters <ul style="list-style-type: none"> a、 remove capability_image_c0_blc b、 add capability_image_c0_aespeedsupportlevel
V1.0e	2015/6/11	Logic	<ol style="list-style-type: none"> 1. Fix bugs 2. Remove daymode from profile policy 3. Add "Area Zoom" eptz camctrl cgi description
V1.0f	2015/6/26	Logic	<ol style="list-style-type: none"> 1. Fix bugs 2. Make description that polygon qvga and polygon px in motion are not recommended to use 3. Add PIR group 4. Modify the description of capability_remotefocus, camctrl_c<0~(n-1)>_isptz, network_rtsp_s<0~capability_nmediastream-1>_accessname and network_http_s<0~capability_nmediastream-1>_accessname
V1.1a	2015/07/23	Kelly	<ol style="list-style-type: none"> 1. Add videoin_minexposure parameter
V1.1b	2015/08/05	Kelly	<ol style="list-style-type: none"> 1. Add capability_image_c<0~(n-1)>_wdrpro_description parameter 2. Modify the lens configuration interface and cgi 3. Fix bugs
V1.2a	2015/08/17	Kelly	<ol style="list-style-type: none"> 1. Modify capability_camctrl_httptunnel to capability_camctrl_ptztunnel 2. Remove camctrl_enablehttptunnel parameter

Version	Issue date	Editor	Comment
			<ul style="list-style-type: none"> 3. Modify the description of capability_videoin_c<0~(n-1)>_mode<0~(m-1)>_defaultsetting_s<0~(j-1) group 4. Modify the description of capability_fisheye 5. Modify the description of capability_smartstream group
V1.3a	2015/09/01	Kelly	<ul style="list-style-type: none"> 1. Add vadp_schedule group 2. Modify the value type of capability_image_c<0~(n-1)>_wdrpro_description, capability_image_c<0~(n-1)>_wdrpro_supportlevel, capability_image_c<0~(n-1)>_wdrc_supportlevel, capability_image_c<0~(n-1)>_defog_supportlevel 3. Modify the description of capability_camctrl_ptztunnel, capability_image_c<0~(n-1)>_wdrc_supportlevel, capability_tamperingmode 4. Add these parameters: capability_videoin_c<0~(n-1)>_dgop_support, videoin_c<0~(n-1)>_s<0~(m-1)>_h264_dgop_enable, videoin_c<0~(n-1)>_s<0~(m-1)>_h265_dgop_enable, eptz_c<0~(n-1)>_rotatespeed
V1.4a	2015/09/21	Kelly	<ul style="list-style-type: none"> 1. Modify the description of videoin_c<0~(n-1)>_whitebalance, videoin_c<0~(n-1)>_minexposure, videoin_c<0~(n-1)>_maxexposure, videoin_c<0~(n-1)>_piris_mode, videoin_c<0~(n-1)>_piris_position, videoin_c<0~(n-1)>_maxgain, videoin_c<0~(n-1)>_mingain, ircutcontrol_sensitivity, image_c<0~(n-1)>_eis_mode, exposurewin_c<0~(n-1)>_mode, capability_image_c<0~(n-1)>_wbmode, eptz_c<0~(n-1)>osdzoom capability_image_c<0~(n-1)>_privacymask_wintype, capability_ptzenabled (Bit6/Bit8/Bit9) 2. Add these parameter: videoin_c<0~(n-1)>_exposuremode, videoin_c<0~(n-1)>_gainvalue, videoin_c<0~(n-1)>_shuttervalue, videoin_c<0~(n-1)>_zoomratiodisplay, image_c<0~(n-1)>_eis_strength, image_c<0~(n-1)>_dis_mode, image_c<0~(n-1)>_dis_strength, image_c<0~(n-1)>_freeze,

Version	Issue date	Editor	Comment
			<p>capability_thermal_controlmode,</p> <p>capability_daynight_c<0~(n-1)>_blackwhitemode,</p> <p>capability_daynight_c<0~(n-1)>_ircutsensitivity_type,</p> <p>capability_daynight_c<0~(n-1)>_ircutsensitivity_supportlevel,</p> <p>capability_image_c<0~(n-1)>_is_mode,</p> <p>capability_image_c<0~(n-1)>_is_strength,</p> <p>capability_image_c<0~(n-1)>_is_supportlevel,</p> <p>capability_image_c<0~(n-1)>_is_affect,</p> <p>capability_image_c<0~(n-1)>_sensortype,</p> <p>capability_image_c<0~(n-1)>_exposure_modetype,</p> <p>capability_image_c<0~(n-1)>_exposure_rangetype,</p> <p>capability_image_c<0~(n-1)>_exposure_shuttervaluetype,</p> <p>capability_image_c<0~(n-1)>_exposure_gainvaluetype,</p> <p>capability_image_c<0~(n-1)>_exposure_automode_affect,</p> <p>capability_image_c<0~(n-1)>_exposure_shutterprioritymode_affect,</p> <p>capability_image_c<0~(n-1)>_exposure_irisprioritymode_affect,</p> <p>capability_image_c<0~(n-1)>_exposure_manualmode_affect,</p> <p>capability_image_c<0~(n-1)>_privacymask_ncolor</p> <ul style="list-style-type: none"> 3. Add 3D privacy mask group 4. Add capability_smartsensor_c<0~(n-1)> group 5. Add capability_peripheral_c<0~(n-1)> 6. Add camera PTZ control group for SD series 7. Add uart control group for SD series 8. Add auto tracking group
V1.4b	2015/10/21	Kelly	<ul style="list-style-type: none"> 1. Add camctrl/recall/preset cgi descriptions for Mechanical PTZ products. 2. Add these parameters: <p>videoin_c<0~(n-1)>_s<0~(m-1)>_h264_cbr_quant,</p> <p>videoin_c<0~(n-1)>_s<0~(m-1)>_h265_cbr_quant,</p> <p>videoin_c<0~(n-1)>_s<0~(m-1)>_mpeg_cbr_quant,</p> <p>videoin_c<0~(n-1)>_s<0~(m-1)>_h264_cbr_qpercent,</p> <p>videoin_c<0~(n-1)>_s<0~(m-1)>_h265_cbr_qpercent,</p> <p>videoin_c<0~(n-1)>_s<0~(m-1)>_mpeg_cbr_qpercent,</p> <p>capability_videoin_c<0~(n-1)>_cameraunit_name,</p> <p>capability_localstorage_smartsd,</p> <p>capability_image_c<0~(n-1)>_autotrack_support</p>

Version	Issue date	Editor	Comment
			<ul style="list-style-type: none"> 3. Modify the security level of videoin_c<0~(n-1)>_zoomratiodisplay to 1/4. 4. Modify the security level of uart_i<0~(n-1)>_uartmode to 4/7. 5. Modify the description of auto tracking group. 6. Modify the best term for DGOP - Dynamic intra frame period 7. Rename xxx_dgop_xxx to xxx_dintraperiod_xxx
V1.5a	2015/11/19	Kelly	<ul style="list-style-type: none"> 1. Delete image_c<0~(n-1)>_profile_i<0~(m-1)>_eis parameter 2. Remove capability_smartsensor_c<0~(n-1)>_iristotalrange to capability_image_c<0~(n-1)>_smartsensor_iristotalrange 3. Add these parameters: event_i<0~2>_action_goto_sync, event_i<0~2>_action_autotrack_enable
V1.5b	2015/12/16	Kelly	<ul style="list-style-type: none"> 1. Remove capability_videoin_c<0~(n-1)>_mode<0~(m-1)>_defaultsetting group 2. Remove smart stream v1.0 parameters 3. Add smart stream v2.0 parameters (smartstream2 group) 4. Add capability_camctrl_c<0~(n-1)> group 5. Add capability_ptz_c<0~(n-1)> group 6. Add capability_smartstream_version parameter 7. Remove capability_smartstream_supportquality and capability_smartstream_supportmaxbitrate parameters 8. Modify the security level of eptz_c<0~(n-1)> group for fisheye 9. Remove the unused parameter: camctrl_c<0~(n-1)>_horizontalalignment
V1.5c	2015/12/25	Kelly	<ul style="list-style-type: none"> 1. Remove the unused baudrate: 110,300,600,1200,3600,7200 in SD uart group. 2. Reserve the value 0 of motion_c0_win_sensitivity for compatibility. 3. Modify the cgi descriptions of Lens configuration. 4. Add Smart SD cgi descriptions in chapter 8.
V1.5d	2016/01/06	Kelly	<ul style="list-style-type: none"> 1. Modify the cgi descriptions of camea control/preset locations/recall in chapter 8.
V1.5e	2016/01/11	Kelly	<ul style="list-style-type: none"> 1. Modify the descriptions of remotefocus. 2. Remove capability_image_c<0~(n-1)>_backfocus parameter.
V1.6a	2016/01/14	Kelly	<ul style="list-style-type: none"> 1. Modify the value of privacymask3d_c<0~(n-1)>_color parameter. 2. Remove camctrl_c<0~(n-1)>_osdzoom parameter. 3. Modify the description of SmartSD cgi in chapter 8.
V1.7a	2016/01/29	Kelly	<ul style="list-style-type: none"> 1. Modify autotrack group to channel base.

Version	Issue date	Editor	Comment
V1.8a	2016/03/28	Kelly	<p>1. Modify the descriptions of these parameters:</p> <p>capability_daynight_c<0~(n-1)>_ircutsensitivity_type, capability_daynight_c<0~(n-1)>_ircutsensitivity_supportlevel, ircutcontrol_sensitivity, network_rtsp_s<0~(n-1)>_multicast_ipaddress, privacymask3d_c<0~(n-1)>_win_i<0~(m-1)>_pan, privacymask3d_c<0~(n-1)>_win_i<0~(m-1)>_tilt</p> <p>2. Add these parameters:</p> <p>network_rtsp_s<0~(n-1)>_multicast_videoinipaddress, network_rtsp_s<0~(n-1)>_multicast_audioipaddress, network_rtsp_s<0~(n-1)>_multicast_metadataipaddress</p>
V1.8b	2016/05/10	Kelly	<p>1. Add hlc value type to these existing parameters:</p> <p>capability_image_c<0~(n-1)>_exposure_winmode, exposurewin_c<0~(n-1)>_mode, exposurewin_c<0~(n-1)>_profile_i0_mode</p> <p>2. Add smartsd value type to capability_supporttriggertype parameter</p> <p>3. Add these parameters:</p> <p>ircutcontrol_extledmode, camctrl_c<0~(n-1)>_focusmode, capability_image_c<0~(n-1)>_exposure_hlcmode_affect, capability_daynight_c<0~(n-1)>_extled_interface, capability_camctrl_c<0~(n-1)>_focusmode, capability_videoin_c<0~(n-1)>_rotationaffect, capability_videoin_c<0~(n-1)>_minresolution, capability_videoin_c<0~(n-1)>_mode<0~(m-1)>_eptz, capability_videoin_c<0~(n-1)>_mode<0~(m-1)>_wdrpro, capability_videoin_c<0~(n-1)>_mode<0~(m-1)>_minresolution</p> <p>4. Add camera PTZ control group for IZ series</p> <p>5. Modify the descriptions of these parameters:</p> <p>action_goto_sync, action_autotrack_enable, capability_image_c<0~(n-1)>_wdrpro_affect, capability_image_c<0~(n-1)>_wdrc_affect, videoin_c<0~(n-1)>_aespeedsupportssensitivity, videoin_c<0~(n-1)>_profile_i0_aespeedsupportssensitivity</p>
V1.8c	2016/05/10	Kelly	<p>1. Modify the value range description of these parameters:</p>

Version	Issue date	Editor	Comment
			<p>videoin_c<0~(n-1)>_s<0~(m-1)>_resolution, videoin_c<0~(n-1)>_s<0~(m-1)>_mjpeg_qvalue, ircutcontrol_extledmode</p> <ol style="list-style-type: none"> 2. Modify the description of roi_c<0~(n-1)> group 3. Modify the description of eptz_c<0~(n-1)>_s<0~(m-1)> group 4. Modify the value of camctrl_c<0~(n-1)>_cameraid 5. Modify the camctrl cgi for querying API.
V1.8d	2016/06/04	Kelly	<ol style="list-style-type: none"> 1. Add these parameters: <code>capability_image_c<0~(n-1)>_exposure_hlcmode_supportwindow</code> 2. Add getmaxratio/getmaxdratio parameters in the camctrl cgi for querying API. 3. Modify the description of these parameters: <code>image_c<0~(n-1)>_gammacurve</code> <code>image_c<0~(n-1)>_profile_i0_gammacurve</code> 4. Modify the value range description of <code>image_c0_restoreatwb</code>
V1.9a	2016/07/06	Kelly	<ol style="list-style-type: none"> 1. Add these parameters: <code>capability_image_c<0~(n-1)>_aespeedsupportensitivity</code> 2. Add wireless group 3. Add wireless cgi <code>(connect_ap.cgi/getwirelessinfo.cgi/getwlsignalstrength.cgi/start_wps.cgi)</code> in chapter 8. 4. Add these parameters: <code>capability_newtwork_dualmode</code>, <code>capability_wireless_apmode_enable</code>, <code>capability_wireless_apmode_ssidprefix</code>, <code>capability_image_c<0~(n-1)>_exposure_qualityprioritymode_affect</code> 5. Modify the description of these parameters: <code>videoin_c<0~(n-1)>_exposuremode</code>, <code>videoin_c<0~(n-1)>_profile_i<0~(m-1)>_exposuremode</code> 6. Remove these parameters: <code>capability_peripheral_c<0~(n-1)>_watersprary_support</code>, <code>capability_peripheral_c<0~(n-1)>_wiper_support</code> 7. Add camclean group and cgi (<code>washerctrl.cgi</code>)
V1.9b	2016/08/03	Sarah	<ol style="list-style-type: none"> 1. Modify the description of ircutcontrol group
V1.9c	2016/08/24	Sarah	<ol style="list-style-type: none"> 1. Add these parameters:

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			<p>capability_peripheral_c<0~(n-1)>_shockdetection_support camctrl_preset_i<0~(capability_npreset -1)>_focussetting</p> <ol style="list-style-type: none"> 2. Add shock group 3. Add the focus setting cgi in camctrl group 4. Modify the camctrl cgi for set the ptz preset with focus mode
V1.9d	2016/09/09	Sarah	<ol style="list-style-type: none"> 1. Add these parameters: <code>capability_peripheral_c<0~(n-1)>_devicecontrol,</code> <code>capability_peripheral_c<0~(n-1)>_heater_support,</code> 2. Remove these parameters: <code>capability_thermal_support,</code> <code>capability_thermal_controlmode,</code> <code>capability_thermal_temperaturedetection,</code> <code>capability_peripheral_c<0~(n-1)>_shockdetection_support,</code> 3. Modify the description of these parameters: <code>capability_peripheral_c<0~(n-1)>_washer_support</code> 4. Remove washerctrl.cgi 5. Add peripheral cgi 6. Remove camclean group
V1.9e	2016/10/14	Sarah	<ol style="list-style-type: none"> 1. Add these parameters: <code>capability_image_c<0~(n-1)>_focuswindow_nwindow,</code> <code>capability_image_c<0~(n-1)>_focuswindow_range,</code> 2. Modify the description of focuswindow group
V2.0a	2016/10/28	Sarah	<ol style="list-style-type: none"> 1. Modify the description of these parameters: <code>capability_image_c<0~(n-1)>_focuswindow_range,</code> 2. Modify the security level of these parameters: <code>network_pppoe_pass,</code> <code>network_ieee8021x_password,</code> <code>network_ieee8021x_privatekeypassword,</code> <code>ddns_<provider>_passwordkey,</code> <code>server_i<0~4>_http_passwd,</code> <code>server_i<0~4>_ftp_passwd,</code> <code>server_i<0~4>_email_passwd,</code> <code>server_i<0~4>_ns_passwd,</code> <code>snmp_authpwrw,</code> <code>snmp_authpwro,</code> <code>snmp_encryptpwrw,</code> <code>snmp_encryptpwro,</code>

Version	Issue date	Editor	Comment
			<p>security_use_i0_pass,</p> <p>3. Add these parameters:</p> <p>network_ftp_enable,</p> <p>event_i<0~2>_action_cutsom<0~2>_enable,</p> <p>event_i<0~2>_action_cutsom<0~2>_name,</p> <p>4. Modify the cgi descriptions of camea control/preset locations/recall/3D privacy mask/fisheye local dewarp camera control/IP filtering for ONVIF/ virtual input/IP filtering/ePTZ preset locations/ePTZ recall/ePTZ camera control/account management in chapter 8</p>
V2.1a	2016/12/07	Sarah	<p>1. Add these parameters:</p> <p>capability_audio_aecswitch,</p> <p>audioin_c0_aec_enable,</p> <p>2. Modify the description of these parameters:</p> <p>event_i<0~2>_action_goto_sync,</p>
V2.1b	2017/01/04	Sarah	<p>1. Modify the description of these parameters:</p> <p>audioin_c0_aec_enable,</p> <p>capability_image_c<0~(n-1)>_exposure_hlcmode_supportwindow,</p> <p>capability_image_c<0~(n-1)>_exposure_hlcmode_affect,</p> <p>event_i<0~2>_action_goto_sync,</p> <p>ircutcontrol_bwmode</p> <p>2. Remove these parameters:</p> <p>event_i<0~2>_action_cutsom<0~2>_enable,</p> <p>event_i<0~2>_action_cutsom<0~2>_name,</p> <p>3. Rename aec parameter:</p> <p>capability_audio_aecswitch -> capability_audio_aecmode</p> <p>4. Add these parameters:</p> <p>capability_audio_aecaffect</p>
V2.1c	2017/01/18	Kelly	<p>1. Fix typo: aecaffect -> audio_aecaffect</p>
V2.2a	2017/02/07	Kelly	<p>1. Modify the description of these parameters:</p> <p>capability_videoout_codec,</p> <p>event_i<0~2>_di,</p> <p>capability_ptzenabled</p> <p>2. Add these parameters:</p> <p>capability_image_c<0~(n-1)>_dnrstrength,</p> <p>capability_shockalarm_support,</p>

Version	Issue date	Editor	Comment
			<p>capability_presettourdirection, capability_daynight_c<0~(n-1)>_optimizedir, camctrl_c0_tour_i<0~19>_direction</p>
V2.2b	2017/03/16	Kelly	<ol style="list-style-type: none"> 1. Remove the unused baudrate: 110,3600,7200 in uart group. 2. Modify the description of these parameters: <code>capability_image_c<0~(n-1)>_exposure_hlcmode_affect</code> 3. Remove these parameters: <code>capability_peripheral_c<0~(n-1)>_washer_support,</code> <code>capability_peripheral_c<0~(n-1)>_washer_mode,</code> <code>capability_peripheral_c<0~(n-1)>_heater_support</code> 4. Add these parameters for IZ camera: <code>camctrl_c<0~(n-1)>_returnhome,</code> <code>camctrl_c<0~(n-1)>_returnhomeinterval,</code> <code>camctrl_c<0~(n-1)>_idleaction_enable,</code> <code>camctrl_c<0~(n-1)>_idleaction_type,</code> <code>camctrl_c<0~(n-1)>_idleaction_interval</code>
V2.2c	2017/04/27	Kelly	<ol style="list-style-type: none"> 1. Modify the description of these parameters: <code>capability_camctrl_c<0~(n-1)>_focusmode</code>
V2.3a	2017/06/01	Kelly	<ol style="list-style-type: none"> 1. Add these parameters: <code>capability_videoin_c<0~(n-1)>_cmosfreq_support,</code> <code>image_c<0~(n-1)>_xoffset,</code> <code>image_c<0~(n-1)>_yoffset,</code> <code>capability_image_c<0~(n-1)>_deinterlace_support,</code> <code>capability_image_c<0~(n-1)>_deinterlace_mode,</code> <code>image_c<0~(n-1)>_deinterlace_enable,</code> <code>image_c<0~(n-1)>_deinterlace_mode,</code> <code>capability_image_c<0~(n-1)>_dnrtype,</code> <code>status_c<0~(n-1)>_signal_detect,</code> <code>status_c<0~(n-1)>_signal_type,</code> <code>videoin_c<0~(n-1)>_s<0~(m-1)>_ratiocorrect</code> 2. Modify the description of these parameters: <code>capability_supporttriggertypes,</code> <code>capability_image_c<0~(n-1)>_basicsetting,</code> <code>capability_image_c<0~(n-1)>_exposure_modetype,</code> <code>capability_image_c<0~(n-1)>_exposure_shuttervaluetype,</code> <code>capability_image_c<0~(n-1)>_exposure_gainvaluetype,</code> <code>capability_image_c<0~(n-1)>_exposure_levelrange,</code>

Version	Issue date	Editor	Comment
			<p>capability_image_c<0~(n-1)>_exposure_winmode, capability_image_c<0~(n-1)>_exposure_windomain, capability_image_c<0~(n-1)>_exposure_wintype, capability_image_c<0~(n-1)>_exposure_winnum, capability_image_c<0~(n-1)>_exposure_ntsc_totalrange, capability_image_c<0~(n-1)>_exposure_pal_totalrange, capability_image_c<0~(n-1)>_exposure_maxrange, capability_image_c<0~(n-1)>_exposure_minrange, capability_image_c<0~(n-1)>_exposure_rangetype, capability_image_c<0~(n-1)>_exposure_hlcmode_affect, capability_image_c<0~(n-1)>_exposure_hlcmode_supportwindow, capability_localstorage_smartsd, capability_localstorage_manageable, capability_localstorage_seamless, capability_localstorage_modnum, capability_localstorage_modversion, capability_localstorage_stormgrversion, capability_localstorage_supportededge, capability_localstorage_slconnnum</p> <p>3. Modify the description of these groups: exposurewin_c<0~(n-1)>_win_i<0~(k-1)>, exposurewin_c<0~(n-1)>_profile_i<0~(m-1)>_win_i<0~(k-1)></p>
V2.3b	2017/07/10	Kelly	<p>1. Modify the description of these parameters:</p> <p>videoin_exposurelevel, videoin_enablepreview, videoin_c<0~(n-1)>_exposurelevel, videoin_c<0~(n-1)>_exposuremode, videoin_c<0~(n-1)>_enablepreview, event_i<0~2>_action_cf_enable, event_i<0~2>_action_cf_folder, event_i<0~2>_action_cf_media, event_i<0~2>_action_cf_datefolder, event_i<0~2>_action_cf_backup, chap 8.5 Account management, chap 8.20 Remotefocus / chap 8.21 Backfocus</p> <p>2. Modify the security level of these parameters:</p>

Version	Issue date	Editor	Comment
			<p>videoin_c<0~(n-1)>_s<0~(m-1)>_ratiocorrect</p> <p>3. Add optimizedir.cgi</p>
V2.4a	2017/08/03	Kelly	<p>1. Modify the description of these parameters:</p> <p>uart_i<0~(n-1)>_stopbit, capability_supporttriggertypes, event_i<0~2>_trigger, videoin_cX_sX_h265_profile</p> <p>2. Add these parameters:</p> <p>capability_videoin_c<0~(n-1)>_h26X_profile, capability_nrecording, capability_audio_audioclip, capability_videoin_c<0~(n-1)>_smartfps_support, capability_videoin_c<0~(n-1)>_smartq_support, capability_layout_redirection, videoin_c<0~(n-1)>_s<0~(m-1)>_h26X_smartq_enable, videoin_c<0~(n-1)>_s<0~(m-1)>_smartfps_enable, audioclip_i<0~1>_name, audioout_c<0~(n-1)>_volume, event_i<0~2>_action_audioclip_enable, event_i<0~2>_action_audioclip_media</p>
V2.4b	2017/11/02	Kelly	<p>1. Add these parameters:</p> <p>capability_image_c<0~(n-1)>_lens_alignment, capability_image_c<0~(n-1)>_lens_alignmentlevel, image_c<0~(n-1)>_lens_alignment, capability_videoin_c<0~(n-1)>_rotationangle, capability_videoin_c<0~(n-1)>_orientation, audioclip_i<0~1>_size</p> <p>2. Modify the description of these parameters:</p> <p>network_rtp_videoport, network_rtp_audioport, videoin_c<0~(n-1)>_s<0~(m-1)>_h264_cbr_quant, videoin_c<0~(n-1)>_s<0~(m-1)>_h264_cbr_qpercent, videoin_c<0~(n-1)>_s<0~(m-1)>_h265_cbr_quant, videoin_c<0~(n-1)>_s<0~(m-1)>_h265_cbr_qpercent, videoin_c<0~(n-1)>_s<0~(m-1)>_mjpeg_cbr_quant, videoin_c<0~(n-1)>_s<0~(m-1)>_mjpeg_cbr_qpercent</p>
V2.4c	2017/12/5	Kelly	<p>1. Modify the description of these parameters:</p>

Version	Issue date	Editor	Comment
			<p>videoin_c<0~(n-1)>_s<0~(m-1)>_smartfps_enable, videoin_c<0~(n-1)>_s<0~(m-1)>_h264_smartq_enable, videoin_c<0~(n-1)>_s<0~(m-1)>_h265_smartq_enable, videoin_c<0~(n-1)>_mounttype, capability_videoin_c<0~(n-1)>_fisheye_mounttype</p> <p>2. Add this parameter: capability_videoin_c<0~(n-1)>_mounttype</p>
V2.4d	2018/01/05	Kelly	<p>1. Modify the description of these parameters: capability_videoin_c<0~(n-1)>_rotationangle, videoin_c<0~(n-1)>_mounttype</p> <p>2. Modify the value range of these parameters: capability_videoin_c<0~(n-1)>_mounttype</p>
V2.5a	2018/02/05	Kelly	<p>1. Modify the value type of these parameters: image_c<0~(n-1)>_scene_mode, capability_image_c<0~(n-1)>_scenemode_supporttype</p> <p>2. Remove these parameters: capability_image_c<0~(n-1)>_scenemode_visibility_affect, capability_image_c<0~(n-1)>_scenemode_noiseless_affect, capability_image_c<0~(n-1)>_scenemode_lpcparkinglot_affect, capability_image_c<0~(n-1)>_scenemode_lpcstree_affect, image_c<0~(n-1)>_scene_enable, image_c<0~(n-1)>_profile_i0_scene_enable, image_c<0~(n-1)>_profile_i0_scene_mode</p> <p>3. Add these parameters for WebAPI version 0309d: capability_daynight_c<0~(n-1)>_mode, capability_daynight_c<0~(n-1)>_builtinwled, capability_image_c<0~(n-1)>_lens_ldc_support, image_c<0~(n-1)>_lens_ldc_mode</p> <p>4. Replace "capability_whitelight" with "capability_daynight_c<n>_builtinwled"</p> <p>5. Modify the security level of system_info_serialnumber</p>
V2.5b	2018/03/26	Kelly	<p>1. Modify the security level of system_info_serialnumber</p> <p>2. Modify the description of these parameters: image_c<0~(n-1)>_lens_ldc_mode, capability_daynight_c<0~(n-1)>_builtinwled, capability_smartstream_version</p> <p>3. Modify the value type of these parameters:</p>

Version	Issue date	Editor	Comment
			<p>capability_daynight_c<0~(n-1)>_mode, capability_motion_wintype, camctrl_c<0~(n-1)>_idleaction_type, capability_videoin_c<0~(n-1)>_lens_type, ircutcontrol_sensitivity</p>
V2.6a	2018/05/23	Kelly	<ol style="list-style-type: none"> 1. Modify the description of these parameters: <code>videoin_c<0~(n-1)>_s<0~(m-1)>_mjpeg_cbr_quant,</code> <code>ircutcontrol_disableirled,</code> <code>videoin_c<0~(n-1)>_profile_i<0~(m-1)>_exposurelevel,</code> <code>videoin_c<0~(n-1)>_profile_i<0~(m-1)>_exposuremode,</code> <code>videoin_color,</code> <code>videoin_c0_color</code> 2. Add these parameters for WebAPI version 0310a: <code>capability_image_c<0~(n-1)>_exposure_bracketing_mode,</code> <code>capability_image_c<0~(n-1)>_exposure_bracketing_range,</code> <code>videoin_c<0~(n-1)>_bracketing_level,</code> <code>capability_image_c<0~(n-1)>_palette_support,</code> <code>capability_image_c<0~(n-1)>_palette_mode,</code> <code>image_c<0~(n-1)>_palette_mode,</code> <code>capability_videoin_c<0~(n-1)>_color_support,</code> <code>capability_videoin_c<0~(n-1)>_eptz_zoomratio</code> 3. Add thermalsensor type in capabiltiy_image_c<0~(n-1)>_sensortype 4. Remove the [&update=<value>] parameter
V2.7a	2018/09/11	Kelly	<ol style="list-style-type: none"> 1. Modify security level of <code>image_c<0~(n-1)>_palette_mode</code> 2. Modify the description of these parameters: <code>event_i<0~2>_trigger</code> 3. Modify the value type of these parameters: <code>capability_image_c<0~(n-1)>_wbmode,</code> <code>videoin_c<0~(n-1)>_whitebalance,</code> <code>videoin_c<0~(n-1)>_profile_i0_whitebalance</code> 4. Add these parameters for WebAPI version 0311a: <code>capability_daynight_c<0~(n-1)>_spectrum_support,</code> <code>capability_daynight_c<0~(n-1)>_spectrum_mode,</code> <code>ircutcontrol_spectrum_mode,</code> <code>capability_image_c<0~(n-1)>_exposure_meteringmode,</code> <code>videoin_c<0~(n-1)>_meteringmode,</code>

Version	Issue date	Editor	Comment
			<p>videoin_c<0~(n-1)>_profile_i0_meteringmode, capability_image_c<0~(n-1)>_hlm, image_c<0~(n-1)>_hlm, image_c<0~(n-1)>_profile_i0_hlm</p> <p>5. Add auto and deblur mode in capability_image_c<0~(n-1)>_scenemode_supporttype</p> <p>6. Add center mode in capability_image_c<0~(n-1)>_exposure_winmode</p>
V2.7b	2018/11/12	Sarah	<p>1. Add Ipcfreeway mode in capability_image_c<0~(n-1)>_scenemode_supporttype</p> <p>2. Modify these parameters for WebAPI version 0311b: <code>ddns_provider</code></p> <p>3. Remove these parameters for WebAPI version 0311b: <code>ddns_{provider}_servername</code></p> <p>4. Add these parameters for WebAPI version 0311c: <code>capability_nevent,</code> <code>capability_daynight_illuminators group,</code> <code>capability_media_num,</code> <code>ircutcontrol_illuminators group,</code> <code>network_http per channel group,</code> <code>audioclip_prerecord_seconds,</code> <code>system_restoreexceptlen,</code> <code>timeshift_c<0~(n-1)>_enable,</code> <code>seamlessrecording_c<0~(n-1)> group,</code> <code>media_i<0~(n-1)>_snapshot_channel,</code> <code>media_i<0~(n-1)>_videoclip_channel,</code> <code>recording_j<0~(n-1)>_channel</code></p> <p>5. Modify the value type of these parameters for WebAPI version 0311c: <code>ipfilter_maxconnection,</code> <code>capability_localstorage_seamless,</code> <code>network_http_s<0~(m-1)>_accessname,</code> <code>network_rtsp_s<0~(m-1)>_accessname,</code> <code>videoin_c<0~(n-1)>_s<0~(m-1)>_mjpeg_qvalue,</code> <code>chap 8.20 Remotefocus</code></p> <p>6. Modify the description of these parameters for WebAPI version 0311c:</p>

Version	Issue date	Editor	Comment
			<p>audioin group, event group, recording group, media group, capability_daynight_c<0~(n-1)> group, ircutcontrol group, seamlessrecording group, capability_localstorage_seamless, capability_localstorage_slconnnum, focuswindow_c<0~(n-1)> win_i0_home, timeshift_enable, chap 8.20 Remotefocus / chap 8.21 Backfocus</p> <p>7. Remove these parameters for WebAPI version 0311c: ircutcontrol_extledmode, capability_protocol_maxgenconnection</p>
V2.7c	2018/12/10	Grace	<p>1. Add ircutcontrol_c<0~(n-1)> group 2. Modify the description of these parameters for WebAPI version: capability_daynight_illuminators group, network_rtsp_s<0~(n-1)>_multicast group, ircutcontrol group, ircutcontrol_illuminators group,</p> <p>3. Modify the description of these parameters: capability_videoin_c<0~(n-1)>_mounttype, event_i<0~(n-1)>_trigger, roi_c<0~(n-1)>_s<0~(m-1)>_size, focuswindow_c<0~(n-1)>_win_i0_size, videoin_c<0~(n-1)>_s<0~(m-1)>_h264 group, videoin_c<0~(n-1)>_s<0~(m-1)>_h265 group, videoin_c<0~(n-1)>_s<0~(m-1)>_mjepg group</p> <p>4. Add these parameters for WebAPI version 0311c: event_i<0~(n-1)>_tampering</p>
V2.7d	2019/01/09	Grace	<p>1. Remove these parameters: capability_daynight_illuminators group, ircutcontrol_illuminators group,</p>

Version	Issue date	Editor	Comment
			<p>seamlessrecording_c<0~(n-1)> group, timeshift_c<0~(n-1)>_enable, Ircutcontrol_c<0~(n-1)></p>
V2.8a	2019/03/06	Grace	<ol style="list-style-type: none"> 1. Modify for querying API to for query API 2. Add thermal control CGI
V2.9a	2019/05/21	Grace	<ol style="list-style-type: none"> 1. Remove audioclip_i<0~(n-1)>_prerecord_seconds and add audioclip_prerecord_seconds 2. Modify the description of the these parameters: videoin_c<0~(n-1)>_s<0~(m-1)>_h264_cbr_quant, videoin_c<0~(n-1)>_s<0~(m-1)>_h264_cbr_qpercent, videoin_c<0~(n-1)>_s<0~(m-1)>_h265_cbr_quant, videoin_c<0~(n-1)>_s<0~(m-1)>_h265_cbr_qpercent, videoin_c<0~(n-1)>_s<0~(m-1)>_mpeg_cbr_quant, videoin_c<0~(n-1)>_s<0~(m-1)>_mpeg_cbr_qpercent, rtsp_s<0~(capability_nmediastream*capability_nvideoin)-1>_accessname, ircutcontrol group, seamlessrecording group, 3. Remove these parameters for WebAPI version 0312a: autocleanup group, recording_i<0~(n-1)>_limitsize, recording_i<0~(n-1)>_cyclic, recording_i<0~(n-1)>_cyclesize, recording_i<0~(n-1)>_reserveamount 4. Add these parameters for WebAPI version 0312a: capability_storage_management group, disk_i<0~(n-1)>_autocleanup_mode, disk_i<0~(n-1)>_cyclic_reserve, disk_i<0~(n-1)>_type, recording_i<0~(n-1)>_foldername, event_i<0~(n-1)>_foldername, timeshift_c<0~(n-1)>_enable, capability_daynight_illuminator group, ircutcontrol_c<0~(n-1)> group, ircutcontrol_illuminators group, seamlessrecording_c<0~(n-1)> group, network_service_bonjour group

Version	Issue date	Editor	Comment
			<p>5. Remove description of nonexisted parameters of capability_peripheral group</p> <p>6. Remove syslog.cgi</p>
2.9b	2019/09/09	Grace	<p>1. Add descriptions for network_bonjour and seamlessrecording_c<0~(n-1)> group</p> <p>2. Modify descriptions for capability_image_c<0~(n-1)>_wdrpro_affect, capability_image_c<~(n-1)>_wdrc_affect, capability_image_c<0~(n-1)>_is_affect, capability_image_c<0~(n-1)>_exposure_automode_affect, capability_image_c<0~(n-1)>_exposure_shutterprioritymode_affect, capability_image_c<0~(n-1)>_exposure_irisprioritymode_affect, capability_image_c<0~(n-1)>_exposure_qualityprioritymode_affect, capability_image_c<0~(n-1)>_exposure_manualmode_affect</p> <p>3. Not support structure of parameters without channel format.</p>
2.9c	2019/10/22	Grace	<p>1. Add audio clip control CGI.</p> <p>2. Add optimizedir_c<0~(n-1)>_supportmode for Optimized IR control CGI.</p> <p>3. Modify security level for ircutcontrol_illuminators_external group.</p> <p>4. Modify the description of the following parameters: image_c<0~(n-1)>_scene_mode, videoin_c<0~(n-1)>_wdrpro_mode, videoin_c<0~(n-1)>_profile_i<0~(m-1)>_wdrpro_mode</p>
3.0a	2019/11/19	Grace	<p>1. Remove fdcamctrl.cgi because onefw does not support fdcamctrl.cgi.</p> <p>2. Add channel support for remotefocus.cgi</p> <p>3. Add fisheyedewarp_c<0~(n-1)>_s<0~(m-1)>_region_r<0~(i-1)>_pan, fisheyedewarp_c<0~(n-1)>_s<0~(m-1)>_region_r<0~(i-1)>_tilt, fisheyedewarp_c<0~(n-1)>_s<0~(m-1)>_region_r<0~(i-1)>_zoom</p>
3.0b	2019/12/9	Grace	1. Parameter groups without channel informations are not supported for capability_nvideoin > 1.
3.0c	2020/3/11	Grace	<p>1. Add Format SD card CGI</p> <p>2. Add trigger time for setdo CGI</p>

Version	Issue date	Editor	Comment
			3. Modify ircutcontrol group description 4. Add vadp_hyperlink group
3.0d	2020/3/25	Grace	1. Add capability_videoin_c0_localdewarp_panorama_pancontrol. 2. Add streamprofile group 3. Add metadata group 4. Add videoin_c<0~(n-1)>_s<0~(m-1)>_multicast group 5. Add audioin_c<0~(n-1)>_s0_multicast group 6. Add metadata_c<0~(n-1)>_s0_multicast group
3.0e	2020/04/08	Grace	1. Modify descriptions of videoin_c<0~(n-1)>_s<0~(m-2)>_fisheyedewarpmode, videoin_enableblc, videoin_ptzstatus
3.1a	2020/4/30	Grace	1. Add PIM-SSM stream URI. 2. Remove event_customtaskfile group 3. Remove eptz support for fisheye 4. Add these parameters for WebAPI version 0314a: capability_securecam_support, capability_securecam_version, capability_protocol_ftp_server, capability_protocol_ftp_client, network_sftp group, server_i<0~4>_sftp group, vadp_developer_mode
3.1b	2020/6/3	Grace	1. Single quote is not supported for HTTP GET. 2. Modfiy usage for remotefocus.cgi. 3. Nas storage location path format is modified after WebAPI version 0312a, please refer the description of capability_storage_management_device, server_i<0~4>_ns_location for more details. 4. Modify “Get SDP of Streams” section to support multi-channel
3.1c	2020/6/10	Grace	1. videoin_c<0~(n-1)>_i<0~(n-1)>_profile_policy, audioin_c0_i<0~(n-1)_profile_policy, image_c<0~(n-1)>_i<0~(n-1)>_profile_policy does not support night mode when capability_daynight_c<0~(n-1)>_support=0 2. Logical “OR” is not supported when using mediaType for lsctrl.cgi.
3.1d	2020/07/01	Grace	1. exposurewin_c<0~(n-1)>_profile_i<0~(m-1)>_win_i<0~(k-1)>_policy

Version	Issue date	Editor	Comment
			<p>motion_c<0~(n-1)>_profile_i<0~(m-1)>_policy does not support night mode when capability_daynight_c<0~(n-1)>_support=0</p> <ol style="list-style-type: none"> 2. Modify remotefocus.cgi for control/query API 3. Modify capability criterion for sftp
3.2a	2020/07/16	Grace	<ol style="list-style-type: none"> 1. Add these parameters for WebAPI version 0314b: capability_taics_support, capability_taics_level, system_connection_timeout, layout_defaultpassword group, system_utctime, system_tz, media_i<0~(n-1)>_videoclip_profiletoken 2. Add error messages for editaccount.cgi
3.2b	2020/08/19	Grace	<ol style="list-style-type: none"> 1. Add these parameters for WebAPI version 0314b: recording_i<0~(n-1)>_recordingjob_SourceToken_Token
3.2c	2020/08/26	Grace	<ol style="list-style-type: none"> 1. Remove the support of exportDst.cgi and upload_dst.cgi for WebAPI version 0314b
3.2d	2020/9/1	Grace	<ol style="list-style-type: none"> 1. lsctrl.cgi changes to read-only
3.3a	2020/9/24	Grace	<ol style="list-style-type: none"> 1. Add these parameters for WebAPI version 0315a: capability_cameralink_support, capability_cameralink_num, capability_cameralink_version, event_i<0~(n-1)>_action_cameralink_id, cameralink group 2. Modify these parameters for WebAPI version 0315b: vadp_module_save2sd, vadp_module_i<0~(n-1)>_path, vadp_module_i<0~(n-1)>_initscr
3.3b	2020/10/26	Grace	<ol style="list-style-type: none"> 1. Add these parameters for WebAPI version 0316a: capability_extension_di_num, capability_extension_do_num, capability_image_c<0~(n-1)>_focussystem_mode, extension_connected, focussystem group 2. Update timezone list for WebAPI verion 0316b: system_daylight_timezones

Version	Issue date	Editor	Comment
			3. Modify description of these parameters: capability_videoin_c<0~(n-1)>_mode<0~(m-1)>_wdrpro, capability_image_c<0~(n-1)>_wdrpro_mode
3.3c	2020/11/30	Kelly	1. Modify the security level of cameralink_i<0~(n-1)>_passwd 2. Add these parameters for WebAPI version 0315a: cameralink_i<0~(n-1)>_gotopreset_enable 3. Modify description of these parameters: roi_c<0~(n-1)>_s<0~(m-1)>_home, roi_c<0~(n-1)>_s<0~(m-1)>_size 4. Fix the typos: Digital input #1 parameter is di0 not di1 Digital output #1 parameter is do0 not do1
3.3d	2021/01/06	Kelly	1. Add these parameters: capability_image_c<0~(n-1)>_scenemode_signallight_affect, capability_image_c<0~(n-1)>_scenemode_railtrack_affect 2. Modify the value description of these parameters: capability_image_c<0~(n-1)>_scenemode_supporttype, image_c<0~(n-1)>_scene_mode
3.4a	2021/02/22	Kelly	1. Not support these parameters anymore: event_i<0~(n-1)>_action_cf_datefolder event_i<0~(n-1)>_action_server_i<0~(m-1)>_datefolder 2. Modify the description of these parameters: privacymask_c<0~(n-1)>_win_i<0~(m-1)>_left, privacymask_c<0~(n-1)>_win_i<0~(m-1)>_top, privacymask_c<0~(n-1)>_win_i<0~(m-1)>_width, privacymask_c<0~(n-1)>_win_i<0~(m-1)>_height 3. Add these parameters for WebAPI version 0317a: uart_i<0~(n-1)> group for SC series products, camctrl_c<0~(n-1)>_tour_i<0~19>_enabletrack, capability_protocol_ibis, capability_camctrl_c<0~(n-1)>_digitalzoom_support, capability_videoin_c<0~(n-1)>_mode<0~(m-1)>_is_mode, capability_videoin_c<0~(n-1)>_mode<0~(m-1)>_digitalzoom_support
3.5a	2021/04/14	Kelly	1. Add downloadMedias.cgi in Chap 8.16 Storage Managements 2. Modify the description of these parameters: capability_camctrl_ptztunnel,

Version	Issue date	Editor	Comment
			<p>capability_camctrl_privilege,</p> <p>event_i<0~(capability_nevent)-1>_action_autotrack_enable,</p> <p>event_i<0~(capability_nevent)-1>_action_cameralink_id</p> <p>3. Remove the unused parameter: capability_test_ac</p> <p>4. Add these parameters for WebAPI version 0317b:</p> <ul style="list-style-type: none"> Add “presetreached” in capability_supporttriggertype, Add “presetreached” in event_i<0~(capability_nevent)-1>_trigger, <p>event_i<0~(capability_nevent)-1>_action_tour_enable,</p> <p>event_i<0~(capability_nevent)-1>_action_tour_name</p>
3.6a	2021/06/23	Kelly	<p>1. Add these parameters for WebAPI version 0317c:</p> <p>capability_api_logoversion,</p> <p>2. Add these parameters for WebAPI version 0317d:</p> <p>event_iX_action_autotrack_name,</p> <p>cameralink_iX_autotrack_index</p>
3.6b	2021/08/12	Kelly	<p>1. Modify the description of these parameters:</p> <p>capability_image_c<0~(n-1)>_exposure_shuttervaluetype,</p> <p>capability_image_c<0~(n-1)>_exposure_gainvaluetype</p> <p>2. Modify the value content of these parameters for WebAPI version 0318a:</p> <p>capability_supporttriggertype,</p> <p>event_i<0~(capability_nevent)-1>_trigger</p>
3.7a	2021/12/06	Kelly	<p>1. Add these parameters for WebAPI version 0319a:</p> <p>capability_onvif_dbsize,</p> <p>capability_peripheral_c<0~(n-1)>_devicemonitor_support,</p> <p>capability_peripheral_c<0~(n-1)>_devicemonitor_tempnum,</p> <p>capability_peripheral_c<0~(n-1)>_devicemonitor_heaternum</p> <p>2. Add devicemonitor.cgi in Chap. 8</p> <p>3. Not support videoin_c<0~(n-1)>_s<0~(m-1)>_enableeptz parameter anymore</p>
3.8a	2022/10/25	Kelly	<p>1. Add these parameters for WebAPI version 0320a~0321a:</p> <p>capability_security_certificate_method,</p> <p>capability_network_ntpnum,</p> <p>system_ntpserver_i<0~4>,</p> <p>capability_image_c<0~(n-1)>_lens_alignmentmode,</p> <p>capability_daynight_illuminators_optimize_target,</p> <p>capability_daynight_illuminators_optimize_strength,</p>

Version	Issue date	Editor	Comment
			<p>ircutcontrol_illuminators_optimize_target_enable, ircutcontrol_illuminators_optimize_target_supportlists, ircutcontrol_illuminators_optimize_target_type, ircutcontrol_illuminators_optimize_target_strength</p> <p>2. Modify the value content of these parameters for WebAPI version 0320a~0321a:</p> <p>https_method, https_status, ddns_provider, system_updateinterval, capability_image_c<0~(n-1)>_wbmode, videoin_c<0~(n-1)>_whitebalance, videoin_c<0~(n-1)>_profile_i0_whitebalance</p> <p>3. Modify the description of these parameters:</p> <p>system_ntp, audioin_c<0~(n-1)>_s0_g726_bitstreampackingmode</p> <p>4. Remove expresslink group for WebAPI version 0320a</p> <p>5. Correct these parameters usage:</p> <p>disk_i<0~(n-1)>_autocleanup_enabled, disk_i<0~(n-1)>_autocleanup_maxage</p> <p>6. Add lensalignment.cgi in Chap. 8</p>
3.8b	2023/02/14	Eileen	<p>1. Add these parameters for WebAPI version 0322a~0322c:</p> <p>capability_videoin_c<0~(n-1)>_lens_minfocallength, capability_videoin_c<0~(n-1)>_lens_maxfocallength, capability_videoin_c<0~(n-1)>_mode<0~(m-1)>_eptzoomratio, capability_image_c<0~(n-1)>_is_setfocallength, capability_security_accountblock, capability_security_auditlog, capability_security_password_customized, capability_security_password_minlength, capability_security_password_maxlength, capability_security_sessiontimeout, capability_security_systemnotify, image_c<0~(n-1)>_eis_focallength, image_c<0~(n-1)>_profile_i<0~(m-1)>_eis_focallength, security_accountblock_enable, security_accountblock_checkip,</p>

Version	Issue date	Editor	Comment
			<p>security_accountblock_triggercondition_failtimes, security_accountblock_triggercondition_failinterval, security_accountblock_action_blocktime, system_session_timeout_enable, system_session_timeout_interval, system_loginmsg, auditlog group</p> <p>2. Modify the description of these parameters: <code>https_policy</code> <code>eptz_c<0~(n-1)>_s<0~(m-1)> group</code></p> <p>3. Modify the the security level of layout_defaultpassword group</p> <p>4. Remove the parameter: system_connection_timeout</p> <p>5. Add accountblock.cgi and auditlog.cgi in Chap. 8</p>
3.8c	2023/05/25	Eileen	<p>1. Remove these parameters:</p> <p><code>capability_daynight_illuminators_optimize_target</code>, <code>capability_daynight_illuminators_optimize_strength</code>, <code>ircutcontrol_illuminators_optimize_target_enable</code>, <code>ircutcontrol_illuminators_optimize_target_supportlists</code>, <code>ircutcontrol_illuminators_optimize_target_type</code>, <code>ircutcontrol_illuminators_optimize_target_strength</code></p>
3.9a	2023/06/12	Eileen	<p>1. Add these parameters for WebAPI version 0323a~0323c:</p> <p><code>capability_protocol_tlsversion</code>, <code>capability_media_snapshot_maxframerate</code>, <code>capability_image_c<0~(n-1)>_privacymask_types</code>, <code>https_tls_enabledversions</code>, <code>videoin_c<0~(n-1)>_s<0~(m-1)>_snapshotfps</code>, <code>privacymask_c<0~(n-1)>_type</code>, <code>privacymask3d_c<0~(n-1)>type</code></p> <p>2. Modify the description of these parameters:</p> <p><code>capability_media_snapshot_maxpreevent</code> <code>capability_media_snapshot_maxpostevent</code> <code>media_i<0~(n-1)>_snapshot_maxpreevent</code> <code>media_i<0~(n-1)>_snapshot_maxpostevent</code></p>
3.10a	2023/11/24	Eileen	<p>1. Add these parameters for WebAPI version 0324a:</p> <p><code>capability_image_c<0~(n-1)>_privacymask_wintype</code>, <code>capability_aipowered_support</code>, <code>capability_aipowered_supportfeatures</code>,</p>

Version	Issue date	Editor	Comment
			<p>capability_aipowered_version,</p> <p>capability_aipowered_objectlists,</p> <p>capability_aipowered_deblur_strength,</p> <p>capability_aipowered_illuminator_strength,</p> <p>capability_aipowered_illuminator_supportlevel,</p> <p>capability_aipowered_wdrpro_strength,</p> <p>capability_aipowered_wdrpro_supportlevel,</p> <p>capability_image_c<0~(n-1)>_deblur_support,</p> <p>capability_videoin_c<0~(n-1)>_overlay_support,</p> <p>capability_videoin_c<0~(n-1)>_overlay_mode,</p> <p>capability_videoin_c<0~(n-1)>_overlay_type,</p> <p>capability_videoin_c<0~(n-1)>_overlay_num,</p> <p>capability_videoin_c<0~(n-1)>_overlay_version,</p> <p>capability_videoin_c<0~(n-1)>_overlay_dateformat,</p> <p>capability_videoin_c<0~(n-1)>_overlay_timeformat,</p> <p>capability_cameralink_version,</p> <p>privacymask3d_c<0~(n-1)>_type,</p> <p>image_c<0~(n-1)>_deblur_mode,</p> <p>aipowered_c<0~(n-1)>_objecttype,</p> <p>aipowered_c<0~(n-1)>_deblur_enable,</p> <p>aipowered_c<0~(n-1)>_wdrpro_enable,</p> <p>aipowered_c<0~(n-1)>_wdrpro_strength,</p> <p>aipowered_c<0~(n-1)>_profile_i<0~(i-1)>_wdrpro_enable,</p> <p>aipowered_c<0~(n-1)>_profile_i<0~(i-1)>_wdrpro_strength,</p> <p>aipowered_c<0~(n-1)>_illuminator_enable,</p> <p>aipowered_c<0~(n-1)>_illuminator_strength,</p> <p>videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)>_enable,</p> <p>videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)>_attribute,</p> <p>videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)>_position,</p> <p>videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)>_text_string,</p> <p>videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)>_text_type,</p> <p>videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)>_text_dateformat,</p> <p>videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)>_text_timeformat,</p> <p>videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)>_text_size,</p> <p>videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)>_text_color,</p>

Version	Issue date	Editor	Comment
			<p>videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)>_text_bgcolor, videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)>_text_transparent, videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)>_text_bgtransparent, network_http_secondary_enable, network_http_secondary_port, event_i<0~(i-1)>_action_autotrack_policy, camerlink_i<0~(i-1)>_autotrack_policy</p> <p>2. Add 3D Polygon Privacy Mask group 3. Modify the security level of privacymask3d_c<0~(i-1)>_win group 4. Modify 3D Privacy Mask group to 3D Rectangle Privacy Mask group 5. Modify the description of network_http_alternateport 6. Add setpm3d.cgi and vadpctrl.cgi in Chap. 8</p>
3.10b	2024/01/11	Eileen	<p>1. Modify the description of these parameters:</p> <p>network_http_alternateport, videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)>_text_string, videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)>text_dateformat, videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)>text_timeformat, capability_aipowered_illuminator_strength, capability_aipowered_deblur_strength, capability_aipowered_wdrpro_strength, capability_videoin_c<0~(n-1)>_overlay_mode, capability_videoin_c<0~(n-1)>_overlay_num, 7.26 3D Privacy mask, fisheyedewarp_c<0~(n-1)> s<0~(m-2)> group, 8.46 VADP control</p>
3.10c	2024/03/28	Eileen	<p>1. Modify the description of these parameters:</p> <p>aipowered group, capability aipowered group</p>
3.11a	2024/03/28	Eileen	<p>1. Add these parameters for WebAPI version 0325a:</p> <p>capability_dynamictext_support, capability_videoin_c<0~(n-1)>_overlay_imgformat,</p>

Version	Issue date	Editor	Comment
			<p>videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<1~(i-1)>_image_index, videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<1~(i-1)>_image_transparent, dynamictext group, capability_aipowered_scenedetect_support, capability_aipowered_scenedetect_supportfeatures, aipowered_c<0~(n-1)>_scenemode_enable, aipowered_c<0~(n-1)>_whitebalance_enable, aipowered_c<0~(n-1)>_exposuremode_enable, capability_security_tpm_support, capability_security_tpm_version, 8.47 Upload Overlay Image File 8.48 Overlay Image Control</p>
3.11b	2024/05/31	Eileen	<ol style="list-style-type: none"> 1. Add these parameters for WebAPI version 0325a: overlay group 2. Modify the description of videoin_c<0~(n-1)>_s<0~(m-1)>_overlay0_attribute 3. Modify aipowered group to realsight group 4. Modify 7.27.5 capability_aipowered group to capability_realsight group 5. Add the description of 8.47 Upload Overlay Image Files
3.11c	2024/07/22	Eileen	<ol style="list-style-type: none"> 1. Modify of the description of Realsight group
3.11d	2024/08/08	Eileen	<ol style="list-style-type: none"> 1. Remove 8.12 Event/Control HTTP Tunnel Channel
3.12a	2024/09/05	Eileen	<ol style="list-style-type: none"> 1. Add these parameters for WebAPI version 0326a ~ 0326c: server_i<0~4>_https_url, server_i<0~4>_https_username, server_i<0~4>_https_passwd, capability_viewingwin_support, capability_videoin_c<0~(n-1)>_mode<0~(m-1)> _viewingwin_support, 2. Modify of the description of server_i<0~4>_type
3.12b	2024/10/08	Eileen	<ol style="list-style-type: none"> 1. Modify of the description of roi group
3.12c	2024/10/22	Eileen	<ol style="list-style-type: none"> 1. Add these parameters for WebAPI version 0326d: ircutcontrol_illuminators_builtin_whitedled_strength ircutcontrol_illuminators_smartybrid_delay 2. Modify of the description of: capability_daynight_illuminators_spectrum_mode

Version	Issue date	Editor	Comment
			ircutcontrol_illuminators_spectrum
3.13a	2024/11/18	Eileen	<p>1. Add these parameters for WebAPI version 0327a:</p> <p>capability_realsight_sm(codec)_support capability_realsight_sm(codec)_support capability_sm(codec)_nwindow_number realsight_c<0~(n-1)>_s<0~(m-1)>_h264_sm(codec)_mode realsight_c<0~(n-1)>_s<0~(m-1)>_h265_sm(codec)_mode videoin_c<0~(n-1)>_s<0~(m-1)>_h264_sm(codec)_mode videoin_c<0~(n-1)>_s<0~(m-1)>_h265_sm(codec)_mode vadp_module_i<0~(i-1)>_removable snmptrap_enable snmptrap_server_ip snmptrap_server_port system_info_lastmodifiedtime system_info_fwid capability_image_c<0~(n-1)>_wdrpro_supportmode videoin_c<0~(n-1)>_wdrpro_wdrmode videoin_c<0~(n-1)>_profile_iY_wdrpro_wdrmode</p> <p>2. Modify of the description of:</p> <p>capability_realsight_supportfeatures capability_sm(codec)_nwindow_hybrid_autotracking capability_sm(codec)_nwindow_autotracking capability_sm(codec)_nwindow_manual capability_sm(codec)_nwindow_hybrid_manual</p>
3.13b	2024/01/08	Eileen	<p>1. Modify of the description of:</p> <p>7.8.2 Overlay Settings for Video Streaming</p> <p>videoin_c<0~(n-1)>_s<0~(m-1)>_h264_ratecontrolmode videoin_c<0~(n-1)>_s<0~(m-1)>_h265_ratecontrolmode videoin_c<0~(n-1)>_s<0~(m-1)>_mj(codec)_ratecontrolmode videoin_c<0~(n-1)>_s<0~(m-1)>_h264_maxvbrbitrate videoin_c<0~(n-1)>_s<0~(m-1)>_h265_maxvbrbitrate videoin_c<0~(n-1)>_s<0~(m-1)>_mj(codec)_maxvbrbitrate videoin_c<0~(n-1)>_s<0~(m-1)>_h264_bitrate videoin_c<0~(n-1)>_s<0~(m-1)>_h265_bitrate videoin_c<0~(n-1)>_s<0~(m-1)>_mj(codec)_bitrate videoin_c<0~(n-1)>_s<0~(m-1)>_mj(codec)_qvalue</p> <p>2. Remove these parameters:</p>

Version	Issue date	Editor	Comment
			<p>capability_nwindow_number capability_nwindow_manual capability_nwindow_hybrid_manual capability_smartstream_nwindow_autotracking capability_smartstream_nwindow_hybrid_autotracking 3. Add new chapter 9. New APIs</p>
3.13c	2024/03/06	Eileen	<p>1. Modify of the description of: videoin_c<0~(n-1)>_s<0~(m-1)>_mjpeg_qvalue capability_realsight_scenedetect_supportfeatures realsight_c<0~(n-1)>_s<0~(m-1)>_h264_sm(codec)_mode realsight_c<0~(n-1)>_s<0~(m-1)>_h265_sm(codec)_mode 7.32 Region of Interest</p>

1 Overview

For some customers who already have their own web site or web control application, a Network Camera/Video server can be easily integrated through URLs. This document provides the supersets of URL commands for VIVOTEK products.

This section specifies the external HTTP-based application programming interface. The HTTP-based camera interface provides the functionality to request a single image, to control camera functions (PTZ, output relay etc.), and to get and set internal parameter values. The image and CGI-requests are handled by the built-in Web server.

2 Style Convention

In URL syntax and in descriptions of CGI parameters, a text within angle brackets denotes a content that is to be replaced with either a value or a string. When replacing the text string, the angle brackets shall also be replaced. An example of this is the description of the name for the server, denoted with <servername> in the URL syntax description below, which is replaced with the string myserver in the URL syntax example, also below.

URL syntax is written with the word "**Syntax:**" written in bold face followed by a box with the reference syntax as seen below. The name of the server is written as <servername>. This is intended to be replaced with the name of the actual server. This can either be a name, e.g., "mywebcam" or "thecam.adomain.net" or the associated IP number for the server, e.g., 192.168.0.220.

Special notes will be marked in **RED**.

Syntax:

`http://<servername>/cgi-bin/viewer/video.jpg`

Description of returned data is written with "**Return:**" in bold face followed by the returned data shown in a box. All data is returned as HTTP formatted, i.e., starting with the string HTTP and line separated with a Carriage Return and Line Feed (CRLF) printed as \r\n.

Return:

`HTTP/1.0 <HTTP code><HTTP text>\r\n`

URL syntax examples are written with "**Example:**" in bold face followed by a short description and a light grey box with the example.

Example: Request a single snapshot image

`http://mywebserver/cgi-bin/viewer/video.jpg`

3 General CGI URL Syntax and Parameters

CGI parameters are written in lower-case and as one word without any underscores or other separators. When the CGI request includes internal camera parameters, these parameters must be written exactly as they are named in the camera or video server. The CGIs are organized in functionally-related directories under the cgi-bin directory. The file extension .cgi is required.

Syntax:

```
http://<servername>/cgi-bin/<subdir>[/<subdir>...]/<cgi>.<ext>  
[?<parameter>=<value>[&<parameter>=<value>...]]
```

Example: Set digital output #1 to active

```
http://mywebserver/cgi-bin/dido/setdo.cgi?do0=1
```

4 Security Level

SECURITY LEVEL	SUB-DIRECTORY	DESCRIPTION
0	anonymous	Unprotected.
1 [view]	viewer	Can view, listen, and talk to camera.
4 [operator]	operator	Operator access rights can modify most of the camera's parameters except some privileges and network options.
6 [admin]	admin	Administrator access rights can fully control the camera's operations.
7	N/A	Internal APIs. Unable to be changed by any external interfaces.

A viewer account can access all APIs with security level 0 and 1. An operator account can access all APIs with security level 0, 1, or 4. An admin account can access all APIs except internal APIs.

Access management is based on the URL directory structure and is described in following paragraphs.

5 Get Server Parameter Values

Note: The access right depends on the URL directory.

Method: GET/POST

Syntax:

```
http://<servername>/cgi-bin/anonymous/getparam.cgi?<parameter>
[&<parameter>...]
```

```
http://<servername>/cgi-bin/viewer/getparam.cgi?<parameter>
[&<parameter>...]
```

```
http://<servername>/cgi-bin/operator/getparam.cgi?<parameter>
[&<parameter>...]
```

```
http://<servername>/cgi-bin/admin/getparam.cgi?<parameter>
[&<parameter>...]
```

Where the *<parameter>* should be *<group>[_<name>]* or *<group>[.<name>]*. If you do not specify any parameters, all the parameters on the server will be returned. If you specify only *<group>*, the parameters of the related group will be returned.

When querying parameter values, the current parameter values are returned.

A successful control request returns parameter pairs as follows:

Return:

```
HTTP/1.0 200 OK\r\n
Content-Type: text/html\r\n
Content-Length: <length>\r\n
\r\n
<parameter pair>
```

where *<parameter pair>* is

```
<parameter>=<value>\r\n
[<parameter pair>]
```

<length> is the actual length of content.

Example: Request IP address and its response

```
Request:
```

```
http://192.168.0.123/cgi-bin/admin/getparam.cgi?network_ipaddress
```

Response:

```
HTTP/1.0 200 OK\r\n
Content-Type: text/html\r\n
Content-Length: 33\r\n
\r\n
network.ipaddress=192.168.0.123\r\n
```

6 Set Server Parameter Values

Note: The access right depends on the URL directory.

Method: GET/POST

Syntax:

```
http://<servername>/cgi-bin/anonymous/setparam.cgi? <parameter>=<value>
[&<parameter>=<value>...][&return=<return page>]

http://<servername>/cgi-bin/viewer/setparam.cgi? <parameter>=<value>
[&<parameter>=<value>...][&return=<return page>]

http://<servername>/cgi-bin/operator/setparam.cgi? <parameter>=<value>
[&<parameter>=<value>...][&return=<return page>]

http://<servername>/cgi-bin/admin/setparam.cgi? <parameter>=<value>
[&<parameter>=<value>...][&return=<return page>]
```

PARAMETER	DESCRIPTION
<parameter>	A full path like: "videoin_c0_s0_h264_resolution", "videoin_c0_s0_h264_maxframe", etc.
<value>	The assigned <value> to the <parameter>.
<return page>	Redirect to the page <return page> after the <parameter> is assigned. The <return page> can be a full URL path or relative path according to the current path. If you omit this parameter, it will redirect to an empty page. (Note: The return page can be a general HTML file (.htm, .html). It cannot be a CGI command or have any extra parameters. This parameter must be placed at the end of the parameter list.)

Return:

```
HTTP/1.0 200 OK\r\n
Content-Type: text/html\r\n
Content-Length: <length>\r\n
\r\n
<parameter pair>
```

where <parameter pair> is

<parameter>=<value>\r\n

[<parameter pair>]

Only the parameters that you set and are readable will be returned.

Example: Set the IP address of server to 192.168.0.123:

Request:

http://myserver/cgi-bin/admin/setparam.cgi?network_ipaddress=192.168.0.123

Response:

HTTP/1.0 200 OK\r\n

Content-Type: text/html\r\n

Context-Length: 33\r\n

\r\n

network.ipaddress=192.168.0.123\r\n

7 Available Parameters on the Server

Valid values:

VALID VALUES	DESCRIPTION
string[<n>]	Text strings shorter than 'n' characters. The characters “‘’,‘<’,&‘>’ are invalid.
string[n~m]	Text strings longer than `n` characters and shorter than `m` characters. The characters “‘’,‘<’,&‘>’ are invalid.
password[<n>]	The same as string but displays‘*’ instead.
<integer>	Any single integer number in 32-bits. The range is -2147483648~2147483647.
<positive integer>	Any single positive integer number in 32-bits. The range is 1~ 4294967295.
<m> ~ <n>	Any number between ‘m’ and ‘n’.
domain name[<n>]	A string limited to a domain name shorter than ‘n’ characters (eg. www.ibm.com).
email address [<n>]	A string limited to an email address shorter than ‘n’ characters (eg. joe@www.ibm.com).
<ip address>	A string limited to an IP address (eg. 192.168.1.1).
<mac address>	A string limited to contain a MAC address without hyphens or colons.
<boolean>	A boolean value of 1 or 0 represents [Yes or No], [True or False], [Enable or Disable].
<value1>, <value2>, <value3>, ...	Enumeration. Only given values are valid.
blank	A blank string.
everything inside <>	A description
integer primary key	SQLite data type. A 32-bit signed integer. The value is assigned a unique integer by the server.
<text>	SQLite data type. The value is a text string, stored using the database encoding (UTF-8, UTF-16BE or UTF-16-LE).
<coordinate>	x, y coordinate (eg. 0,0)
<window size>	window width and height (eg. 800x600)
<W,H>	The format for coordinate in 2D. W is the pixel number of width. H is the pixel number of height. EX: (176,144)

VALID VALUES	DESCRIPTION
<WxH>	The format for resolution. W is the pixel number of width. H is the pixel number of height. Ex: 1920x1080, 2048x1536
available	The API is listed in product WebAPIs.
non-available	The API is not in product WebAPIs.
valid	The API is listed in product WebAPIs, and is functional.
non-valid	The API is listed in product WebAPIs, but is malfunction in this status.
<decimal>	Any decimal number expressed in 32-bits ranging from 1.18e-38~3.40e+38.

NOTE: The camera should not be restarted when parameters are changed.

7.1 System

Group: **system**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
hostname	string[64]	1/6	Host name of server (Network Camera, Wireless Network Camera, Video Server, Wireless Video Server).
ledoff	<boolean>	6/6	Turn on (0) or turn off (1) all led indicators.
date	<YYYY/MM/DD> , keep, auto	6/6	Current date of system. Set to 'keep' to keep date unchanged. Set to 'auto' to use NTP to synchronize date.
time	<hh:mm:ss>, keep, auto	6/6	Current time of the system. Set to 'keep' to keep time unchanged. Set to 'auto' to use NTP to synchronize time.
datetime	<MMDDhhmm YYYY.ss>	6/6	Another current time format of the system.
loginmsg	string[512]	0/6	Set a system use notification message (Warnings, system use policy etc.) before authenticating.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* Only available when "capability_security_systemnotify" is 1
ntp <i><Not recommended to use this></i>	<domain name>, <ip address>, <blank>	6/6	NTP server. *Do not use "skip to invoke default server" for default value. * We replace "system_ntp" with "system_ntpserver_i0" since httpversion 0320a.
ntpserver_i<0~4>	<domain name>, <ip address>, <blank>	6/6	NTP server. * We support this parameter when the version number (httpversion) is equal or greater than 0320a.
timezoneindex <i><Not recommended to use this></i>	-489 ~ 529	6/6	Indicate timezone and area. -440: GMT-11:00 Midway Island, Samoa -400: GMT-10:00 Hawaii -360: GMT-09:00 Alaska -320: GMT-08:00 Las Vegas, San Francisco, Vancouver -280: GMT-07:00 Mountain Time, Denver -281: GMT-07:00 Arizona -240: GMT-06:00 Central America, Central Time -241: GMT-06:00 Mexico City -242: GMT-06:00 Saskatchewan -200: GMT-05:00 Eastern Time, New York, Toronto -201: GMT-05:00 Bogota, Lima, Quito, Indiana -180: GMT-04:00 Caracas -160: GMT-04:00 Atlantic Time(Canada), La Paz -140: GMT-03:30 Newfoundland -120: GMT-03:00 Brasilia, Buenos Aires, Georgetown, Greenland, Sao Paulo -121: GMT-03:00 Santiago

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>-80: GMT-02:00 Mid-Atlantic</p> <p>-40: GMT-01:00 Azores, Cape Verde Is.</p> <p>0: GMT Casablanca, Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London</p> <p>40: GMT 01:00 Amsterdam, Berlin, Rome, Stockholm, Vienna, Madrid, Paris, Warsaw, Budapest, Bern</p> <p>41: GMT 01:00 Amsterdam, Berlin, Rome, Stockholm, Vienna, Madrid, Paris, Warsaw, Budapest, Bern</p> <p>80: GMT 02:00 Athens, Helsinki, Riga</p> <p>81: GMT 02:00 Cairo</p> <p>82: GMT 02:00 Lebanon</p> <p>83: GMT 02:00</p> <p>120: GMT 03:00 Baghdad, Kuwait, Riyadh, Nairobi</p> <p>121: GMT 03:00 Iraq, Minsk</p> <p>140: GMT 03:30 Tehran</p> <p>160: GMT 04:00 Abu Dhabi, Muscat, Baku, Tbilisi, Yerevan, Moscow, St. Petersburg</p> <p>180: GMT 04:30 Kabul</p> <p>200: GMT 05:00 Islamabad, Karachi, Tashkent</p> <p>220: GMT 05:30 Calcutta, Chennai, Mumbai, New Delhi</p> <p>230: GMT 05:45 Kathmandu</p> <p>240: GMT 06:00 Ekaterinburg, Almaty, Astana, Dhaka, Sri Jayawardenepura</p> <p>260: GMT 06:30 Rangoon</p> <p>280: GMT 07:00 Bangkok, Hanoi, Novosibirsk, Jakarta</p> <p>320: GMT 08:00 Beijing, Chongqing, Hong Kong, Kuala Lumpur, Singapore, Taipei, Krasnoyarsk</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>360: GMT 09:00 Osaka, Sapporo, Tokyo, Seoul</p> <p>380: GMT 09:30 Adelaide, Darwin</p> <p>400: GMT 10:00 Brisbane, Canberra, Melbourne, Sydney, Guam</p> <p>401: GMT 10:00 Vladivostok</p> <p>440: GMT 11:00 Magadan, Solomon Is., New Caledonia, Vladivostok</p> <p>480: GMT 12:00</p> <p>481: GMT 12:00 Auckland, Wellington, Fiji, Marshall Is.</p> <p>-480: GMT 12:00 Eniwetok, Kwajalein</p> <p>520: GMT 13:00 Nuku'Alofa</p> <p>* We replace this parameter with "system_tz" when the version number (httpversion) is equal or greater than 0314b.</p>
daylight_enable	<boolean>	6/6	Enable automatic daylight saving time in time zone.
daylight_auto_begintime	string[19]	6/7	Display the current daylight saving start time.
daylight_auto_endtime	string[19]	6/7	Display the current daylight saving end time.
daylight_timezones	, -360,-320,-280,-240,-241,-200,-140,-121,-40,0,40,41,80,82,83,140,380,480	6/7	<p>List time zone index which support daylight saving time.</p> <p>* The timezone list can't be modified for the version number (httpversion) equal or greater than 0316b, we recommend using "system_tz" for customized time settings instead.</p>
updateinterval	0,1, 60, 3600, 86400, 604800, 2592000	6/6	0/1 to Disable/Enable automatic time adjustment, otherwise, it indicates the seconds between NTP automatic update intervals.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
utctime	<string>	6/7	Current UTC timestamp. * We support this parameter when the version number (httpversion) is equal or greater than 0314b.
tz	<POSIX TZ string>	6/6	POSIX timezone setting. * We support this parameter when the version number (httpversion) is equal or greater than 0314b.
restore	0, <positive integer>	7/6	Restore the system parameters to default values after <value> seconds.
reset	0, <positive integer>	7/6	Restart the server after <value> seconds if <value> is non-negative.
restoreexceptnet	0, <positive integer>	7/6	Restore the system parameters to default values except (ipaddress, subnet, router, dns1, dns2, pppoe). This command can cooperate with other “restoreexceptXYZ” commands. When cooperating with others, the system parameters will be restored to the default value except for a union of the combined results.
restoreexceptdst	0, <positive integer>	7/6	Restore the system parameters to default values except all daylight saving time settings. This command can cooperate with other “restoreexceptXYZ” commands. When cooperating with others, the system parameters will be restored to default values except for a union of combined results.
restoreexceptlang	0, <positive integer>	7/6	Restore the system parameters to default values except the custom language file the user has uploaded.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			This command can cooperate with other “restoreexceptXYZ” commands. When cooperating with others, the system parameters will be restored to the default value except for a union of the combined results.
restoreexceptvadp	0, <positive integer>	7/6	Restore the system parameters to default values except the vadp parameters and VADP modules that stored in the system. This command can cooperate with other “restoreexceptXYZ” commands. When cooperating with others, the system parameters will be restored to the default value except for a union of the combined results.
restoreexceptfocusvalu e	0, <positive integer>	7/6	Restore the system parameters to default values except zoom and focus value. This command can cooperate with other “restoreexceptXYZ” commands. When cooperating with others, the system parameters will be restored to the default value except for a union of the combined results. * Only available when "capability_image_c<0~(n-1)>_remotefocus" != 0.
restoreexceptlen	0, <positive integer>	7/6	Restore the system parameters to default values except lens profile. This command can cooperate with other “restoreexceptXYZ” commands. When cooperating with others, the system parameters will be restored to the default value except for a union of the combined results.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* Only available when "capability_image_c<0~(n-1)>_lensconfiguration_support" != 0.
connection_timeout <i><Not support anymore></i>	<integer>	6/6	Session connection timeout interval. * Only available when "capability_taics_support" = 1. * Not support this parameter anymore when the version number (httpversion) is equal or greater than 0322a.
session_timeout_enable	<boolean>	6/6	Enable or disable session connection timeout. * Only available when "capability_security_sessiontimeout" is 1.
session_timeout_interval	60~3600	6/6	Session connection timeout interval. * Only available when "capability_security_sessiontimeout" is 1.

7.1.1 System.Info

Subgroup of **system: info** (The fields in this group are unchangeable.)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
modelname	string[40]	0/7	Internal model name of the server
extendedmodelname	string[40]	0/7	ODM specific model name of server (eg. DCS-5610). If it is not an ODM model, this field will be equal to "modelname"
serialnumber	<mac address>	1/7	12 characters MAC address (without hyphens).
firmwareversion	string[40]	0/7	Firmware version, including model, company, and version number in the format:<MODEL-BRAND-VERSION>
fwid	<string>	1/7	Firmware Identifier.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* We support this parameter when the version number (httpversion) is equal or greater than 0327a.
language_count	<positive integer>	0/7	Number of webpage languages available on the server.
language_i<0~(count-1)>	string[16] language_i0 : English language_i1 : Deutsch language_i2 : Español language_i3 : Français language_i4 : Italiano language_i5 : 日本語 language_i6 : Português language_i7 : 简体中文 language_i8 : 繁體中文	0/7	Available language lists.
customlanguage_max_count	0,<positive integer>	0/6	Maximum number of custom languages supported on the server.
customlanguage_count	0,<positive integer>	0/6	Number of custom languages which have been uploaded to the server.
customlanguage_i<0~(maxcount-1)>	string	0/6	Custom language name.

7.2 Status

Group: **status**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
di_i<0~(k-1)> <i><product dependent></i>	<boolean>	1/7	<p>0 => Inactive, normal 1 => Active, triggered (capability_ndi > 0)</p> <p>k is determined by the below criterion:</p> <p>The following applies for capability_extension_di_num >= 0</p> <ul style="list-style-type: none"> * if extension_connected=1, k=capability_ndi * if extension_connected=0, k=capability_ndi+ capability_extension_di_num <p>Otherwise,</p> <ul style="list-style-type: none"> * k=capability_ndi
do_i<0~(k-1)> <i><product dependent></i>	<boolean>	1/7	<p>0 => Inactive, normal 1 => Active, triggered (capability_ndo > 0)</p> <p>k is determined by the below criterion:</p> <p>The following applies for capability_extension_do_num >= 0</p> <ul style="list-style-type: none"> * if extension_connected=1, k=capability_ndo * if extension_connected=0, k=capability_ndo+ capability_extension_do_num <p>Otherwise,</p> <ul style="list-style-type: none"> * k=capability_ndo
onlinenum_rtsp	0,<positive integer>	6/7	Current number of RTSP connections.
onlinenum_httppush	0,<positive integer>	6/7	Current number of HTTP push server connections.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
onlinenum_sip	0,<positive integer>	6/7	Current number of SIP connections. * Only available when "capability_protocol_sip" > 0
eth_i0	<string>	1/7	Get network information from mii-tool.
vi_i<0~(capability_nvi-1)> <product dependent>	<boolean>	1/7	Virtual input 0 => Inactive 1 => Active (capability_nvi > 0)

7.2.1 Status per Channel

Group: **status_c<0~(n-1)>** for n channel products

n denotes the value of "capability_nvideoin"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
signal_detect	<boolean>	1/7	Indicates whether the video source is connected or not. * Only available when capability_videoin_type is 0 or 1.
signal_type	ntsc,pal	1/7	The actual modulation type. * Only available when capability_videoin_type is 0 or 1.
daynight	day, night	1/7	Indicate the current light status.

7.3 Digital Input Behavior Define

Group: **di_i<0~(k-1)>** for k is the value of "capability_ndi" (**capability_ndi > 0**)

k is determined by the below criterion:

The following applies for capability_extension_di_num >= 0

* if extension_connected=1, k=capability_ndi

* if extension_connected=0, k=capability_ndi+ capability_extension_di_num

Otherwise,

* k=capability_ndi

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
normalstate	high, low	1/1	Indicates open circuit or closed circuit (inactive status)

7.4 Digital Output Behavior Define

Group: **do_i<0~(k-1)>** for k is the value of "capability_ndo" (**capability_ndo > 0**)

k is determined by the below criterion:

The following applies for capability_extension_do_num >= 0

- * if extension_connected=1, k=capability_ndo
- * if extension_connected=0, k=capability_ndo+ capability_extension_do_num

Otherwise,

- * k=capability_ndo

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
normalstate	open, grounded	1/1	Indicate open circuit or closed circuit (inactive status)

7.5 Security

Group: **security**

NAME	VALUE	SECURIT Y (get/set)	DESCRIPTION
privilege_do	view, operator, admin	1/6	Indicate which privileges and above can control digital output (capability_ndo > 0)
privilege_camacctrl	view, operator, admin	1/6	Indicate which privileges and above can control PTZ (capability_ptzenabled > 0 or capability_eptz > 0 or capability_fisheye > 0)
user_i0_name	string[64]	6/7	User name of root
user_i<1~20>_name	string[64]	6/7	User name

NAME	VALUE	SECURIT Y (get/set)	DESCRIPTION
user_i0_pass	password[6~4]	7/6	Root password
user_i<1~20>_pass	password[6~4]	7/6	User password
user_i0_privilege	view, operator, admin	6/7	Root privilege
user_i<1~20>_privilege	view, operator, admin	6/6	User privilege
accountblock_enable	<boolean>	1/6	Enable or disable to block the user account if the number of login attempts is exceeded. * Only available when "capability_security_accountblock" is 1
accountblock_checkip	0, 1	1/6	0: Block for the account 1: Block the account for source IP * Only available when "capability_security_accountblock" is 1
accountblock_triggercondition_failtimes	1 ~ 20	1/6	Indicates how many times of consecutive login fails. The user account will be blocked if usage limit reached. * Only available when "capability_security_accountblock" is 1
accountblock_triggercondition_failinterval	1 ~ 86400	1/6	Interval of consecutive fails (seconds). * Only available when "capability_security_accountblock" is 1

NAME	VALUE	SECURITY Y (get/set)	DESCRIPTION
accountblock_action_blocktime	1 ~ 2592000	1/6	Account block duration(seconds). * Only available when "capability_security_accountblock" is 1
referer_referercheck	on, off	1/6	Turn on/off referrer check.

7.6 Network

Group: **network**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
preprocess	<positive integer>	6/6	<p>An 32-bit integer, each bit can be set separately as follows:</p> <p>Bit 0 => HTTP service; Bit 1=> HTTPS service; Bit 2=> FTP service; Bit 3 => Two way audio and RTSP Streaming service;</p> <p>To stop service before changing its port settings. It's recommended to set this parameter when change a service port to the port occupied by another service currently. Otherwise, the service may fail.</p> <p>Stopped service will auto-start after changing port settings.</p> <p>Ex: Change HTTP port from 80 to 5556, and change RTP port for video from 5556 to 20480. Then, set preprocess=9 to stop both service first.</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			"/cgi-bin/admin/setparam.cgi? network_preprocess=9&network_http_ port=5556& network_rtp_videoport=20480"
type	lan, pppoe	6/6	Network connection type.
resetip	<boolean>	6/6	1 => Get ipaddress, subnet, router, dns1, dns2 from DHCP server at next reboot. 0 => Use preset ipaddress, subnet, rounter, dns1, and dns2.
ipaddress	<ip address>	6/6	IP address of server.
subnet	<ip address>	6/6	Subnet mask.
router	<ip address>	6/6	Default gateway.
dns1	<ip address>	6/6	Primary DNS server.
dns2	<ip address>	6/6	Secondary DNS server.
wins1	<ip address>	6/6	Primary WINS server.
wins2	<ip address>	6/6	Secondary WINS server.

7.6.1 802.1x

Subgroup of **network: ieee8021x (capability_protocol_ieee8021x > 0)**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	6/6	Enable/disable IEEE 802.1x
eapmethod	eap-peap, eap-tls	6/6	Selected EAP method
identity_peap	string[64]	6/6	PEAP identity
identity_tls	string[64]	6/6	TLS identity
password	string[200]	7/6	Password for TLS
privatekeypassword	string[200]	7/6	Password for PEAP
ca_exist	<boolean>	6/6	CA installed flag
ca_time	0,<positive integer>	6/7	CA installed time. Represented in EPOCH
ca_size	0,<positive integer>	6/7	CA file size (in bytes)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
certificate_exist	<boolean>	6/6	Certificate installed flag (for TLS)
certificate_time	0,<positive integer>	6/7	Certificate installed time. Represented in EPOCH
certificate_size	0,<positive integer>	6/7	Certificate file size (in bytes)
privatekey_exist	<boolean>	6/6	Private key installed flag (for TLS)
privatekey_time	0,<positive integer>	6/7	Private key installed time. Represented in EPOCH
privatekey_size	0,<positive integer>	6/7	Private key file size (in bytes)

7.6.2 QOS

Subgroup of **network: qos_cos** (**capability_protocol_qos_cos > 0**)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	6/6	Enable/disable CoS (IEEE 802.1p)
vlanid	1~4095	6/6	VLAN ID
video	0~7	6/6	Video channel for CoS
audio <product dependent>	0~7	6/6	Audio channel for CoS (capability_naudioin > 0)
eventalarm	0~7	6/6	Event/alarm channel for CoS
management	0~7	6/6	Management channel for CoS
eventtunnel	0~7	6/6	Event/Control channel for CoS

Subgroup of **network: qos_dscp** (**capability_protocol_qos_dscp > 0**)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	6/6	Enable/disable DSCP
video	0~63	6/6	Video channel for DSCP
audio	0~63	6/6	Audio channel for DSCP (capability_naudioin > 0)
eventalarm	0~63	6/6	Event/alarm channel for DSCP
management	0~63	6/6	Management channel for DSCP
eventtunnel	0~63	6/6	Event/Control channel for DSCP

7.6.3 IPV6

Subgroup of **network: ipv6** (**capability_protocol_ipv6 > 0**)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	6/6	Enable IPv6.
addonipaddress	<ip address>	6/6	IPv6 IP address.
addonprefixlen	0~128	6/6	IPv6 prefix length.
addonrouter	<ip address>	6/6	IPv6 router address.
addondns	<ip address>	6/6	IPv6 DNS address.
allowoptional	<boolean>	6/6	Allow manually setup of IP address setting.

7.6.4 FTP

Subgroup of **network: ftp**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
port	21, 1025~65535	6/6	Local ftp server port.
enable	<boolean>	6/6	Enable ftp.

7.6.5 HTTP

Subgroup of **network: http**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
port	80, 1025 ~ 65535	1/6	HTTP port.
alternateport	1025~65535	6/6	Alternate HTTP port. * We replace this parameter with "network_http_c<0~(capability_nvideoin-1)>_s<0~(capability_nmediastream-1)>_secondary_port" when the version number (httpversion) is equal or greater than 0324a.
secondary_port	1025~65535	6/6	Secondary http port.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* We support this parameter when the version number (httpversion) is equal or greater than 0324a.
secondary_enable	<boolean>	6/6	Enable secondary http port * We support this parameter when the version number (httpversion) is equal or greater than 0324a
authmode	basic, digest	1/6	HTTP authentication mode.
s<0~(capability_nmed iastream*capability_n videoin)- 1)>_accessname <product dependent> <Not recommended to use this>	string[32]	1/6	<p>Http server push access name for stream N, N=</p> <p>1~(capability_nmediastream*capability_nvdeooin)-1).</p> <p>(capability_protocol_spush_mjpeg =1 and capability_nmediastream > 0)</p> <p>The value are shown as</p> <p>video1s1.mjpg = c0_s0_accessname, (channel1stream1)</p> <p>video1s2.mjpg = c0_s1_accessname, (channel1stream2)</p> <p>video1s3.mjpg = c0_s2_accessname, (channel1stream3)</p> <p>video1s4.mjpg = c0_s3_accessname, (channel1stream4)</p> <p>etc.</p> <p>* We replace this parameter with</p> <p>"network_http_c<0~(capability_nvdeooin -1)>s<0~(capability_nmediastream- 1)>_accessname</p> <p>" when the version number (httpversion) is equal or greater than 0311c.</p>

7.6.6 HTTP per Channel

Subgroup of **network: http_c<0~(n-1)>** for n channel products

n denotes the value of "capability_nvdeooin"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
s<0~(capability_nmedia stream-1)>_accessname <product dependent>	string[32]	1/6	<p>Http server push access name for channel N and stream M, N= 1~ capability_nvideoin, M= 1~ capability_nmediastream.</p> <p>(capability_protocol_spush_mjpeg =1 and capability_nmediastream > 0)</p> <p>The value are shown as</p> <p>video1s1.mjpg = c0_s0_accessname, (channel1stream1)</p> <p>video1s2.mjpg = c0_s1_accessname, (channel1stream2)</p> <p>video2s1.mjpg = c1_s0_accessname, (channel2stream1)</p> <p>video2s2.mjpg = c1_s1_accessname, (channel2stream2)</p> <p>etc.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0311c.</p>

7.6.7 HTTS Port

Subgroup of **network: https** (**capability_protocol_https > 0**)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
port	443, 1025 ~ 65535	1/6	HTTPS port.

7.6.8 RTSP

Subgroup of **network: rtsp** (**capability_protocol_rtsp > 0**)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
port	554, 1025 ~ 65535	1/6	RTSP port. (capability_protocol_rtsp=1)
authmode	disable,	1/6	RTSP authentication mode.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
	basic, digest		(capability_protocol_rtsp=1)
s<0~(capability_nmed iastream*capability_n videoin)- 1)>_accessname <product dependent>	string[32]	1/6	<p>RTSP access name for channel and stream.</p> <p>(capability_protocol_spush_mjpeg =1 and capability_nmmediastream > 0)</p> <p>The value are shown as</p> <p>live1s1.sdp = s0_accessname, (channel1stream1)</p> <p>live1s2.sdp = s1_accessname, (channel1stream2)</p> <p>live1s3.sdp = s2_accessname, (channel1stream3)</p> <p>live1s4.sdp = s3_accessname, (channel1stream4)</p> <p>etc.</p> <p>* Values start with prefix “cgi-bin” are prohibited. For example, “c, cg, cgi, cgi-, cgi-b, cgi-bi, cgi-bin” are not allowed.</p> <p>* We modify the value of RTSP access name after version number(httpversion) is 0311c</p>
c<0~(capability_nvde oin)- 1>_s<0~(capability_n mediastream)- 1)>_accessname <product dependent>	string[32]	1/6	<p>RTSP access name for channel N stream M, N= 1~ capability_nvdeoin, M = 1~capability_nmmediastream.</p> <p>The value are shown as</p> <p>live1s1.sdp = c0_s0_accessname, (channel1stream1)</p> <p>live1s2.sdp = c0_s1_accessname, (channel1stream2)</p> <p>live1s3.sdp = c0_s2_accessname, (channel1stream3)</p> <p>live1s4.sdp = c0_s3_accessname, (channel1stream4)</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			etc. * Values start with prefix "cgi-bin" are prohibited. For example, "c, cg, cgi, cgi-, cgi-b, cgi-bi, cgi-bin" are not allowed. * We modify the value of RTSP access name after version number(httpversion) is 0311c
pimssm_enable	<boolean>	7/6	To enable the feature of Protocol Independent Multicast - Source Specific Multicast. * We support this parameter when the version number (httpversion) is equal or greater than 0313a.

7.6.9 RTSP Multicast

Subgroup of **network: rtsp_s<0~(n-1)>_multicast**

n denotes the value of "capability_nmediastream * capability_nvideoin"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
alwaysmulticast	<boolean>	4/4	Enable always multicast.
ipaddress	<ip address>	4/4	Multicast video IP address. * We replace "network_rtsp_s<0~(n-1)>_multicast_ipaddress" with "network_rtsp_s<0~(n-1)>_multicast_videoipaddress". * Reserved for compatibility, and suggest don't use this since [httpversion] > 0304a
videoipaddress	<ip address>	4/4	Multicast video IP address. * We support this parameter when the version number (httpversion) is equal or greater than 0304a.
audioipaddress <product dependent>	<ip address>	4/4	Multicast audio IP address.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* We support this parameter when the version number (httpversion) is equal or greater than 0304a. * Only available when capability_naudioin > 0
metadataipaddres s	<ip address>	4/4	Multicast metadata IP address. * We support this parameter when the version number (httpversion) is equal or greater than 0304a.
videoport	1025 ~ 65535	4/4	Multicast video port.
audioport <product dependent>	1025 ~ 65535	4/4	Multicast audio port. * Only available when capability_naudioin > 0
metadataport	1026~6553 4	4/4	Multicast metadata port.
ttl	1 ~ 255	4/4	Multicasttime to live value.

7.6.10 SIP Port

Subgroup of **network: sip** (**capability_protocol_sip** > 0)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
port	1025 ~ 65535	1/6	SIP port.

7.6.11 RTP Port

Subgroup of **network: rtp**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
videoport	1025 ~ 65535	6/6	Video channel port for RTP.
audioport	1025 ~ 65535	6/6	Audio channel port for RTP.
metadataport	1025 ~ 65535	6/6	Metadata channel port for RTP.

7.6.12 PPPoE

Subgroup of **network: pppoe** (**capability_protocol_pppoe > 0**)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
user	string[128]	6/6	PPPoE account user name.
pass	password[64]	7/6	PPPoE account password.

7.6.13 Bonjour

Subgroup of **network: service_bonjour**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	6/6	Enable bonjour service feature. * We support this parameter when the version number (httpversion) is equal or greater than 0312a.
servicename	<string>	6/6	A friendly name for bonjour service. * We support this parameter when the version number (httpversion) is equal or greater than 0312a.

7.6.14 SFTP server

* Only available when bit 1 of "capability_protocol_ftp_server" is 1.

Subgroup of **network: sftp**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
port	22, 1025~65535	6/6	Local sftp server port.
enable	<boolean>	6/6	Enable sftp.

7.7 IP Filter

Group: **ipfilter**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	6/6	Enable access list filtering.
admin_enable	<boolean>	6/6	Enable administrator IP address.
admin_ip	string[43]	6/6	Administrator IP address.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
maxconnection	1~ "capability_protocol_maxconnection"	6/6	Maximum number of (s).
type	0, 1	6/6	Ipfilter policy : 0 => allow 1 => deny
ipv4list_i<0~9>	Single address: <ip address> Network address: <ip address / network mask> Range address:<start ip address - end ip address>	6/6	IPv4 address list.
ipv6list_i<0~9>	string[43]	6/6	IPv6 address list.

7.8 Video Input

<Not Recommended to use>

Group: **videoin**

* We do not support this parameter when "capability_nvideoin > 1".

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
cmosfreq	50, 60	4/4	CMOS frequency. * Only available when capability_videoin_type is 2. * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
whitebalance <product dependent>	auto, panorama, manual, rbgain,	4/4	Modes of white balance. "auto": Auto white balance by individual sensor.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
	widerange, outdoor, indoor, sodiumauto, snowauto, snowpanorama etc (Available values are listed in "capability_image_ c<0~(n- 1)>_wbmode")		<p>"panorama": Auto white balance by panoramic view.</p> <p>"rbgain": Use rgain and bgain to set white balance manually.</p> <p>"manual": 2 cases:</p> <ul style="list-style-type: none"> a. if "rbgain" is not supported, this means keep current white balance status. b. if "rbgain" is supported, "rgain" and "bgain" are updated to the current values which is got from white balance module. Then, act as rbgain mode <p>"widerange": Auto Tracing White balance (2000K to 10000K).</p> <p>"outdoor": auto white balance mode specifically for outdoor.</p> <p>"indoor": auto white balance mode specifically for indoor.</p> <p>"sodiumauto": sodium vapor lamps.</p> <p>"snowauto": Auto white balance by individual sensor, focusing on high colour temperature, snow.</p> <p>"snowpanorama": Auto white balance by panoramic view, focusing on high colour temperature, snow.</p> <p>* Only available when "capability_image_c<0~(n-1)>_wbmode" != "-"</p> <p>* We do not support this parameter when "capability_nvideoin > 1".</p> <p>* This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.</p>
exposurelevel	0~12	4/4	Exposure level

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>"0,12": This range takes the concept from DC's exposure tuning options.</p> <p>The definition is:</p> <ul style="list-style-type: none"> 0: EV -2.0 1: EV -1.7 2: EV -1.3 3: EV -1.0 4: EV -0.7 5: EV -0.3 6: EV 0 7: EV +0.3 8: EV +0.7 9: EV +1.0 10: EV +1.3 11: EV +1.7 12: EV +2.0 <p>* Only available when "capability_image_c<0~(n-1)>_exposure_mode" !=0</p> <p>* We do not support this parameter when "capability_nvideoin > 1".</p> <p>* This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.</p>
irismode	fixed, indoor, outdoor <product independent>	4/4	<p>Control DC-Iris mode.</p> <p>"outdoor": Auto-setting DC-Iris to get best quality, but easy to meet rolling or flicker effect in indoor environment.</p> <p>"indoor": Avoid rolling and flicker effect first.</p> <p>"fixed": Open the iris to maximum.</p> <p>* Only available when "capability_image_c<0~(n-1)>_iristype"=dciris</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<ul style="list-style-type: none"> * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
enableblc <i><Not support anymore></i>	<boolean>	4/4	<p>Enable backlight compensation.</p> <ul style="list-style-type: none"> * Not support this parameter anymore when the version number (httpversion) is equal or greater than 0301a. * It's recommended to use "exposurewin_c<0~(n-1)>_mode" to switch on/off BLC.
color	0, 1	4/4	<p>0 =>monochrome 1 => color</p> <ul style="list-style-type: none"> * Only available when "capability_videoin_c<0~(n-1)>_color_support" is 1. * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
flip	<boolean>	4/4	<p>Flip the image.</p> <ul style="list-style-type: none"> * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
mirror	<boolean>	4/4	<p>Mirror the image.</p> <ul style="list-style-type: none"> * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
rotate	0,90,180,270	1/4	The rotation angle of image.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>Support only in Rotation mode.</p> <ul style="list-style-type: none"> * Only available when "capability_videoin_c<0~(n-1)>_rotation"=1 * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
ptzstatus <i><Not support anymore></i>	0,<positive integer>	1/7	<p>A 32-bit integer, each bit can be set separately as follows:</p> <ul style="list-style-type: none"> Bit 0 => Support camera control function; 0(not support), 1(support) Bit 1 =>Built-in or external camera; 0 (external), 1(built-in) Bit 2 => Support pan operation; 0(not support), 1(support) Bit 3 => Support tilt operation; 0(not support), 1(support) Bit 4 => Support zoom operation; 0(not support), 1(support) Bit 5 => Support focus operation; 0(not support), 1(support)(SD/PZ/IZ series only) * Not support this parameter anymore when the version number (httpversion) is equal or greater than 0309a.
text	string[64]	1/4	<p>Enclose caption.</p> <ul style="list-style-type: none"> * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
imprinttimestamp	<boolean>	4/4	Overlay time stamp on video.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<ul style="list-style-type: none"> * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
minexposure <i><product dependent></i>	<p><1~32000>, <5~32000>, <1~8000>, <5~8000>, etc.</p> <p>* Available value is listed in "capability_image_c<0~(n-1)>_exposure_minrange"</p>	4/4	<p>Minimum exposure time 1~32000 => 1s ~ 1/32000s 5~32000 => 1/5s ~ 1/32000s 1~8000 => 1s ~ 1/8000s 5~8000 => 1/5s ~ 1/8000s etc.</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposure_minrange" != "-" * Only valid when "piris_mode"=manual or "irismode"=fixed * Only available when "capability_image_c<0~(n-1)>_exposure_rangetype" is "twovalues". * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.</p>
maxexposure <i><product dependent></i>	<p><1~32000>, <5~32000>, <1~8000>, <5~8000>, etc.</p> <p>* Available value is listed in "capability_image_c<0~(n-</p>	4/4	<p>Maximum exposure time 1~32000 => 1s ~ 1/32000s 5~32000 => 1/5s ~ 1/32000s 1~8000 => 1s ~ 1/8000s 5~8000 => 1/5s ~ 1/8000s etc.</p> <p>* This parameter may also restrict image frame rate from sensor due to sensor generates a frame per exposure time. Ex: If this is set to 1/5s</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
	1)>_exposure_maxrange"		<p>~ 1/8000s and camera takes 1/5s on the night, then sensor only outputs 5 frame/s.</p> <ul style="list-style-type: none"> * Only available when "capability_image_c<0~(n-1)>_exposure_maxrange" != "-" * Only valid when "piris_mode"=manual or "irismode"=fixed * Only available when "capability_image_c<0~(n-1)>_exposure_rangetype" is "twovalues". * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
enablepreview	<boolean>	1/4	<p>Usage for UI of exposure settings. Preview settings of video profile.</p> <ul style="list-style-type: none"> * Only available when "capability_image_c<0~(n-1)>_exposure_mode" !=0 * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.

7.8.1 Video Input Setting per Channel

Group: **videoin_c<0~(n-1)>** for n channel products, and m is stream number

n denotes the value of "capability_nvideoin", m denotes the value of "capability_nmediastream"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
cmosfreq	50, 60	4/4	CMOS frequency.

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
			* Only available when "capability_videoin_type" is 2
mode	0 ~ "capability_videoin_c<0~(n-1)>_nmode"-1	4/4	Indicate the video mode on use.
whitebalance <product dependent>	auto, panorama, manual, rbgain, widerange, outdoor, indoor, sodiumauto, snowauto, snowpanorama, etc (Available values are listed in "capability_image_c<0~(n-1)>_wbmode")	4/4	Modes of white balance. " auto "panorama "rbgain "manual a. if "rbgain" is not supported, this means keep current white balance status. b. if "rbgain" is supported, "rgain" and "bgain" are updated to the current values which is got from white balance module. Then, act as rbgain mode "widerange "outdoor "indoor "sodiumauto "snowauto "snowpanorama

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
			<ul style="list-style-type: none"> * Only available when "capability_image_c<0~(n-1)>_wbmode" !="-"
rgain	0~100	4/4	<p>Manual set rgain value of gain control setting.</p> <p>0: Weak <-> 100: Strong</p> <ul style="list-style-type: none"> * Only available when "rbgain" is listed in "capability_image_c<0~(n-1)>_wbmode". * Only valid when "videoin_c<0~(n-1)>_whitebalance" != auto * Normalized range.
bgain	0~100	4/4	<p>Manual set bgain value of gain control setting.</p> <p>0: Weak <-> 100: Strong</p> <ul style="list-style-type: none"> * Only available when "rbgain" is listed in "capability_image_c<0~(n-1)>_wbmode". * Only valid when "videoin_c<0~(n-1)>_whitebalance" != auto * Normalized range.
exposurelevel	0~12	4/4	<p>Exposure level "0,12": This range takes the concept from DC's exposure tuning options. The definition is:</p> <ul style="list-style-type: none"> 0: EV -2.0 1: EV -1.7 2: EV -1.3 3: EV -1.0 4: EV -0.7 5: EV -0.3 6: EV 0 7: EV +0.3 8: EV +0.7 9: EV +1.0 10: EV +1.3

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
			<p>11: EV +1.7 12: EV +2.0 * Only available when "capability_image_c<0~(n-1)>_exposure_mode" !=0</p>
exposuremode <product dependent>	auto, shutterpriority, irispriority, qualitypriority, manual, etc (Available options are listed in "capability_image_c<0~(n-1)>_exposure_modetype")	4/4	<p>Select exposure mode.</p> <p>"auto": Automatically adjust the Iris, Gain and Shutter Speed to fit the exposure level.</p> <p>"shutterpriority": Manually adjust with variable Shutter Speed, and keep adjusting Iris, Gain automatically.</p> <p>"irispriority": Manually adjust with variable Iris, and keep adjusting Gain and Shutter speed automatically.</p> <p>"qualitypriority": Automatically adjust the Iris, Gain and Shutter Speed by VIVOTEK quality algorithm.</p> <p>"manual": Manually adjust with variable Shutter, Iris and Gain.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0302a.</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposure_mode" !=0</p>
irismode	fixed, indoor, outdoor <product dependent>	4/4	<p>Control DC-Iris mode.</p> <p>"outdoor": Auto-setting DC-Iris to get best quality, but easy to meet rolling or flicker effect in indoor environment.</p> <p>"indoor": Avoid rolling and flicker effect first.</p> <p>"fixed": Open the iris to maximum.</p>

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
			* Only available when "capability_image_c<0~(n-1)>_iristype"=dciris
piris_mode <i><product dependent></i>	manual, indoor, outdoor,-	1/4	Control P-Iris mode. " outdoor"indoor"manual"-": not support. (only available when "capability_image_c<0~(n-1)>_sensortype" is "smartsensor") * Only available when "capability_image_c<0~(n-1)>_iristype"=piris
piris_position <i><product dependent></i>	1~100	1/4	Manual set P-Iris. 1: Open <-> 100: Close * Only valid when "piris_mode"=manual or "capability_image_c<0~(n-1)>_sensortype" is "smartsensor" * Only available when "capability_image_c<0~(n-1)>_iristype"=piris
enableblc <i><Not support anymore></i>	<boolean>	4/4	Enable backlight compensation * Not support this parameter anymore when the version number (httpversion) is equal or greater than 0301a. * It's recommended to use "exposurewin_c<0~(n-1)>_mode" to switch on/off BLC.
maxgain	0~100	4/4	Maximum gain value.

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
			<p>0: Low <-> 100: High</p> <p>* Only available when "capability_image_c<0~(n-1)>_agc_maxgain" != "-"</p> <p>* Only valid when "piris_mode"=manual or "irismode"=fixed</p> <p>* Normalized range.</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposure_rangetype" is "twovalues".</p>
mingain	0~100	4/4	<p>Minimum gain value.</p> <p>0: Low <-> 100: High</p> <p>* Only available when "capability_image_c<0~(n-1)>_agc_mingain" != "-"</p> <p>* Only valid when "piris_mode"=manual or "irismode"=fixed</p> <p>* Normalized range.</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposure_rangetype" is "twovalues".</p>
gainvalue	0~100	4/4	<p>Gain value.</p> <p>0: Low <-> 100: High</p> <p>* Only available when "capability_image_c<0~(n-1)>_agc_maxgain" != "-" and "capability_image_c<0~(n-1)>_exposure_rangetype" is "onevalue".</p> <p>* Normalized range.</p>

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
			* We support this parameter when the version number (httpversion) is equal or greater than 0302a.
color	0, 1	4/4	0 =>monochrome 1 => color * Only available when "capability_videoin_c<0~(n-1)>_color_support" is 1.
flip	<boolean>	4/4	Flip the image.
mirror	<boolean>	4/4	Mirror the image.
rotate	0,90,180,270	1/4	The rotation angle of image. Support only in Rotation mode (capability_videoin_c<0~(n-1)>_rotation=1)
ptzstatus <Not support anymore>	0,<positive integer>	1/7	A 32-bit integer, each bit can be set separately as follows: Bit 0 => Support camera control function; 0(not support), 1(support) Bit 1 => Built-in or external camera; 0 (external), 1(built-in) Bit 2 => Support pan operation; 0(not support), 1(support) Bit 3 => Support tilt operation; 0(not support), 1(support) Bit 4 => Support zoom operation; 0(not support), 1(support) Bit 5 => Support focus operation; 0(not support), 1(support)(SD/PZ/IZ series only) * Not support this parameter anymore when the version number (httpversion) is equal or greater than 0309a.
text	string[64]	1/4	Enclose caption.
imprintimestamp	<boolean>	4/4	Overlay time stamp on video.

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
textonvideo_position	top, bottom	4/4	Text on video string position
textonvideo_size	20~40	4/4	Text on video font size
textonvideo_fontpath	/usr/share/font/Default.ttf , /mnt/flash2/upload.ttf	4/4	Choose camera default font file (/usr/share/font/Default.ttf) or user uploaded font file(/mnt/flash2/upload.ttf).
textonvideo_uploadfilename	Depends on the font file name uploaded by user	1/7	Show the uploaded font file name.
minexposure <i><product dependent></i>	<1~32000>, <5~32000>, <1~8000>, <5~8000>, etc. * Available value is listed in "capability_image_c<0~(n-1)>_exposure_minrange"	4/4	Minimum exposure time 1~32000 => 1s ~ 1/32000s 5~32000 => 1/5s ~ 1/32000s 1~8000 => 1s ~ 1/8000s 5~8000 => 1/5s ~ 1/8000s etc. * Only available when "capability_image_c<0~(n-1)>_exposure_minrange" != "-" * Only valid when "piris_mode"=manual or "irismode"=fixed * Only available when "capability_image_c<0~(n-1)>_exposure_rangetype" is "twovalues".
maxexposure <i><product dependent></i>	<1~32000>, <5~32000>, <1~8000>, <5~8000>, etc. * Available value is listed in "capability_image_c<0~(n-1)>_exposure_maxrange"	4/4	Maximum exposure time 1~32000 => 1s ~ 1/32000s 5~32000 => 1/5s ~ 1/32000s 1~8000 => 1s ~ 1/8000s 5~8000 => 1/5s ~ 1/8000s etc. * This parameter may also restrict image frame rate from sensor due to sensor generates a frame per exposure time. Ex: If this is set to 1/5s

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
			<p>~ 1/8000s and camera takes 1/5s on the night, then sensor only outputs 5 frame/s.</p> <ul style="list-style-type: none"> * Only available when "capability_image_c<0~(n-1)>_exposure_maxrange" != "-" * Only valid when "piris_mode"=manual or "irismode"=fixed * Only available when "capability_image_c<0~(n-1)>_exposure_rangetype" is "twovalues".
shuttervalue <product dependent>	<p><1~32000>, <5~32000>, <1~8000>, <5~8000>, etc.</p> <p>* Available value is listed in "capability_image_c<0~(n-1)>_exposure_maxrange"</p>	4/4	<p>Exposure time 1~32000 => 1s ~ 1/32000s 5~32000 => 1/5s ~ 1/32000s 1~8000 => 1s ~ 1/8000s 5~8000 => 1/5s ~ 1/8000s etc.</p> <p>* This parameter may also restrict image frame rate from sensor due to sensor generates a frame per exposure time. Ex: If this is set to 1/5s ~ 1/8000s and camera takes 1/5s on the night, then sensor only outputs 5 frame/s.</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposure_maxrange" != "-" and "capability_image_c<0~(n-1)>_exposure_rangetype" is "onevalue".</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0302a.</p>

NAME	VALUE	SECURITY get/set)	DESCRIPTION
enablepreview	<boolean>	1/4	Usage for UI of exposure settings. Preview settings of video profile. * Only available when "capability_image_c<0~(n-1)>_exposure_mode" !=0
meteringmode	auto, blc, hlc * Available value is listed in "capability_image_c<0~(n-1)>_exposure_meteringmode"	4/4	" auto"blc"hlc * We support this parameter when the version number (httpversion) is equal or greater than 0311a.
crop_position	<coordinate> (x,y)	1/7	Crop left-top corner coordinate.
crop_size	<window size> (WxH)	1/7	Crop width and height. (width must be 16x or 32x and height must be 8x)
zoomratiodisplay	<boolean>	1/4	Indicates multiple of zoom in is "on-screen display" or not. * We support this parameter when the version number (httpversion) is equal or greater than 0302a.
bracketing_level	1~100	4/4	<ul style="list-style-type: none"> ● The total available lists (capability_image_c<0~(n-1)>_exposure_bracketing_range) will be normalized to 1~100 scale. ● For example, the total available list is 7. (2x,3x,4x,5x,6x,7x,8x) ● 1 ~ 14 that correspond with 2x. ● 15 ~ 30 that correspond with 3x.

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
			<p>*Only available when "capability_image_c<0~(n-1)>_exposure_bracketing_mode"=1.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0310a.</p>
s<0~(m-1)>_enableptz <Not support anymore>	<boolean>	4/4	Indicate whether stream suprts eptz or not
s<0~(m-1)>_codectype	<p>Listed at "capability_videoin_codec"</p> <p>Possible values are: mjpeg, h264,h265</p> <product dependent>	1/4	Codec type for this stream
s<0~(m-1)>_resolution	<p>Available options are list in "capability_videoin_c<0~(n-1)>_resolution".</p> <p>Besides, available options is referred to "capability_videoin_c<0~(n-1)>_maxresolution" and "capability_videoin_c<0~(n-1)>_minresolution"</p>	1/4	Video resolution in pixels.
s<0~(m-1)>_smartfps_enable	<boolean>	4/4	<p>Enable "Smart fps" function.</p> <p>* Only available when "capability_videoin_c<0~(n-1)>_smartfps_support" is 1.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0309a.</p>
s<0~(m-1)>_h264_dint	<boolean>	4/4	Enable "Dynamic intra frame period".

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
raperiod_enable			<p>* Only available when "capability_videoin_c<0~(n-1)>_dintraperiod_support" is 1.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0301c.</p>
s<0~(m-1)>_h264_intra period	250, 500, 1000, 2000, 3000, 4000	4/4	The time interval between two I-frames (Intra coded picture). The unit is millisecond (ms).
s<0~(m-1)>_h264_rate controlmode	cbr, vbr	1/4	<p>cbr: Constant bit rate mode.</p> <p>vbr: Fixed quality mode, all frames are encoded in the same quality.</p>
s<0~(m-1)>_h264_quant	1~5, 99, 100	4/4	Set the pre-defined quality level: 1: Medium 2: Standard 3: Good 4: Detailed 5: Excellent 100: Use the quality level in "qpercent" 99: Use the quality level in "qvalue" * Only valid when "h264_ratecontrolmode"= vbr.
s<0~(m-1)>_h264_qvalue	0~51	4/4	Manual video quality level input. The Q value which is used by encoded library directly. * Only valid when "h264_ratecontrolmode"= vbr and s<0~(m-1)>_h264_quant = 99.
s<0~(m-1)>_h264_qpercent	1~100	4/4	Select customized quality in a normalized full range. 1: Worst quality 100: Best quality * Only valid when "h264_ratecontrolmode"= vbr and "quant"= 100.

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
s<0~(m-1)>_h264_maxvbrbitrate	20000~"capability_videoin_c<0~(n-1)>_h264_maxbitrate"	1/4	<p>The maximum allowed bit rate in fixed quality mode.</p> <p>When the bit rate exceeds this value, frames will be dropped to restrict the bit rate.</p> <p>* Only valid when "h264_ratecontrolmode"= vbr</p>
s<0~(m-1)>_h264_cbr_quant	1~5, 100	4/4	<p>Set the pre-defined quality level:</p> <p>1: Medium 2: Standard 3: Good 4: Detailed 5: Excellent</p> <p>100: Use the quality level in "cbr_qpercent"</p> <p>* Only available when "h264_ratecontrolmode"= cbr.</p>
s<0~(m-1)>_h264_cbr_qpercent	1~100	4/4	<p>Select customized quality in a normalized full range.</p> <p>1: Worst quality 100: Best quality</p> <p>* Only valid when "h264_ratecontrolmode"= cbr and "quant"= 100.</p>
s<0~(m-1)>_h264_bitrate	20000~"capability_videoin_c<0~(n-1)>_h264_maxbitrate"	1/4	<p>The target bit rate in constant bit rate mode.</p> <p>* Only valid when "h264_maxvbrbitrate"= cbr</p>
s<0~(m-1)>_h264_prioritypolicy	framerate,imagequality	4/4	<p>Set prioritypolicy</p> <p>* Only valid when "h264_ratecontrolmode"= cbr</p>
s<0~(m-1)>_h264_maxframe	1~"capability_videoin_c<0~(n-1)>_h264_max framerate"	1/4	<p>The maximum frame rates of a H264 stream at different resolutions("capability_videoin_c<0~(n-1)>_resolution") are recorded in</p>

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
			"capability_videoin_c<0~(n-1)>_h264_maxframerate"
s<0~(m-1)>_h264_profile	0~2 * Available values can also be <string> listed in "capability_videoin_c<n>_h264_profile"	1/4	Indicate H264 profiles 0: baseline 1: main 2: high * It's recommended to use available values from "capability_videoin_c<n>_h264_profile".
s<0~(m-1)>_h264_smartq_enable	<boolean>	4/4	Enable "Smart Q" function. * Only available when "capability_videoin_c<0~(n-1)>_smartq_support" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0309a.
s<0~(m-1)>_h265_dintraperiod_enable	<boolean>	4/4	Enable "Dynamic intra frame period". * Only available when "capability_videoin_c<0~(n-1)>_dintraperiod_support" is 1 and h265 is listed in "capability_videoin_codec". * We support this parameter when the version number (httpversion) is equal or greater than 0301c.
s<0~(m-1)>_h265_intraperiod	250, 500, 1000, 2000, 3000, 4000	4/4	The time interval between two I-frames (Intra coded picture). The unit is millisecond (ms). * Only available when h265 is listed in "capability_videoin_codec".
s<0~(m-1)>_h265_ratecontrolmode	cbr, vbr	1/4	cbr: Constant bit rate mode. vbr: Fixed quality mode, all frames are encoded in the same quality. * Only available when h265 is listed in "capability_videoin_codec".

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
s<0~(m-1)>_h265_quant	1~5, 99, 100	4/4	<p>Set the pre-defined quality level:</p> <ul style="list-style-type: none"> 1: Medium 2: Standard 3: Good 4: Detailed 5: Excellent <p>100: Use the quality level in "qpercent"</p> <p>99: Use the quality level in "qvalue"</p> <ul style="list-style-type: none"> * Only available when h265 is listed in "capability_videoin_codec". * Only valid when "h265_ratecontrolmode"= vbr
s<0~(m-1)>_h265_qvalue	0~51	4/4	<p>Manual video quality level input. The Q value which is used by encoded library directly.</p> <ul style="list-style-type: none"> * Only available when h265 is listed in "capability_videoin_codec". * Only valid when "h265_ratecontrolmode"= vbr and s<0~(m-1)>_h265_quant = 99.
s<0~(m-1)>_h265_qpercent	1~100	4/4	<p>Select customized quality in a normalized full range.</p> <ul style="list-style-type: none"> 1: Worst quality 100: Best quality <ul style="list-style-type: none"> * Only available when h265 is listed in "capability_videoin_codec". * Only valid when "h265_ratecontrolmode"= vbr and "quant"= 100.
s<0~(m-1)>_h265_maxvbrbitrate	20000~"capability_videoin_c<0~(n-1)>_h265_maxbitrate"	1/4	<p>The maximum allowed bit rate in fixed quality mode.</p> <p>When the bit rate exceeds this value, frames will be dropped to restrict the bit rate.</p>

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
			<p>* Only available when h265 is listed in "capability_videoin_codec".</p> <p>* Only valid when "h265_ratecontrolmode"= vbr</p>
s<0~(m-1)>_h265_cbr_quant	1~5, 100	4/4	<p>Set the pre-defined quality level:</p> <p>1: Medium 2: Standard 3: Good 4: Detailed 5: Excellent</p> <p>100: Use the quality level in "cbr_qpercent"</p> <p>* Only available when h265 is listed in "capability_videoin_codec" and "h265_ratecontrolmode"= cbr.</p>
s<0~(m-1)>_h265_cbr_qpercent	1~100	4/4	<p>Select customized quality in a normalized full range.</p> <p>1: Worst quality 100: Best quality</p> <p>* Only available when h265 is listed in "capability_videoin_codec".</p> <p>* Only valid when "h265_ratecontrolmode"= cbr and "quant"= 100.</p>
s<0~(m-1)>_h265_bitrate	20000~"capability_videoin_c<0~(n-1)>_h265_maxbitrate"	1/4	<p>The target bit rate in constant bit rate mode.</p> <p>* Only available when h265 is listed in "capability_videoin_codec".</p> <p>* Only valid when "h265_ratecontrolmode"= cbr</p>
s<0~(m-1)>_h265_prioritypolicy	framerate,imagequality	4/4	<p>Set prioritypolicy</p> <p>* Only available when h265 is listed in "capability_videoin_codec".</p>

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
			* Only valid when "h265_ratecontrolmode"= cbr
s<0~(m-1)>_h265_maxframe	1~"capability_videoin_c<0~(n-1)>_h265_maxframerate"	1/4	The maximum frame rates of a H265 stream at different resolutions("capability_videoin_c<0~(n-1)>_resolution") are recorded in "capability_videoin_c<0~(n-1)>_h265_maxframerate" * Only available when h265 is listed in "capability_videoin_codec".
s<0~(m-1)>_h265_profile	Available values are listed in "capability_videoin_c<0~(n-1)>_h265_profile"	1/4	Indicate H265 profiles * Only available when h265 is listed in "capability_videoin_codec".
s<0~(m-1)>_h265_smartq_enable	<boolean>	4/4	Enable "Smart Q" function. * Only available when h265 is listed in "capability_videoin_codec". * Only available when "capability_videoin_c<0~(n-1)>_smartq_support" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0309a.
s<0~(m-1)>_mjpeg_ratecontrolmode	cbr, vbr	1/4	cbr : Constant bit rate mode. vbr : Fixed quality mode, all frames are encoded in the same quality.
s<0~(m-1)>_mjpeg_quant	1~5, 99, 100	4/4	* Only valid when "mjpeg_ratecontrolmode"= vbr. Set the pre-defined quality level: 1: Medium 2: Standard 3: Good 4: Detailed 5: Excellent

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
			<p>100: Use the quality level in "qpercent"</p> <p>99: Use the quality level in "qvalue"</p>
s<0~(m-1)>_mpeg_qvalue	<p>10~200 (Only valid when "capability_api_httpversion" format is XXXXX_1 or XXXXX_4 ex: 0301a_1 or 0301a_4) or 1~99 (Only valid when "capability_api_httpversion" format is XXXXX_2, ex: 0301a_2) or 1~100 (Only valid when "capability_api_httpversion" format is XXXXX_3, ex: 0301a_3) or 1~90 (Only valid when "capability_api_httpversion" format is XXXXX_5, ex: 0301a_5) or 0~100 (Only valid when "capability_api_httpversion" format is XXXXX_6, ex: 0301a_6)</p> <p style="color: red;"><product dependent></p>	4/4	<p>Manual video quality level input. The Q value which is used by encoded library directly.</p> <p>* Only valid when "mpeg_ratecontrolmode"= vbr and s<0~(m-1)>_mpeg_quant = 99</p>

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
s<0~(m-1)>_mpeg_qp ercent	1~100	4/4	Select customized quality in a normalized full range. 1: Worst quality 100: Best quality * Only valid when "mpeg_ratecontrolmode"= vbr and s<0~(m-1)>_mpeg_quant = 100.
s<0~(m-1)>_mpeg_ma xvbrbitrate	20000~"capability_videoin _c<0~(n- 1)>_mpeg_maxbitrate"	1/4	The maximum allowed bit rate in fixed quality mode. When the bit rate exceeds this value, frames will be dropped to restrict the bit rate. * Only valid when "mpeg_ratecontrolmode"= vbr
s<0~(m-1)>_mpeg_cbr _quant	1~5, 100	4/4	Set the pre-defined quality level: 1: Medium 2: Standard 3: Good 4: Detailed 5: Excellent 100: Use the quality level in "cbr_qpercent" * Only valid when "mpeg_ratecontrolmode"= cbr.
s<0~(m-1)>_mpeg_cbr _qpercent	1~100	4/4	Select customized quality in a normalized full range. 1: Worst quality 100: Best quality * Only valid when "mpeg_ratecontrolmode"= cbr and "quant"= 100.
s<0~(m-1)>_mpeg_bit rate	20000~"capability_videoin _c<0~(n- 1)>_mpeg_maxbitrate"	1/4	The target bit rate in constant bit rate mode.

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
			* Only valid when "mpeg_ratecontrolmode"= cbr
s<0~(m-1)>_mpeg_prioritypolicy	framerate,imagequality	4/4	Set prioritypolicy * Only valid when "mpeg_ratecontrolmode"= cbr
s<0~(m-1)>_mpeg_maxframe	1~"capability_videoin_c<0~(n-1)>_mpeg_max framerate"	1/4	The maximum frame rates of a mjpeg stream at different resolutions("capability_videoin_c<0~(n-1)>_resolution") are recorded in "capability_videoin_c<0~(n-1)>_mpeg_max framerate"
s<0~(m-1)>_ratiocorrect	<boolean>	1/4	Change resolution to fit 4:3 ratio. For PAL: D1/4CIF(720/704x576) -> (768x576) CIF(352x288)->(384x288) For NTSC: D1/4CIF(720/704x480) -> (640x480) CIF(352x240)->(320x240) * Only available when capability_videoin_type is 0 or 1.
s<0~(m-1)>_snapshotfps	1 ~ "capability_media_snapshot_max framerate"	4/4	Set the amount of frames per second for snapshot.
wdrpro_mode <product dependent>	0, 1, 2	4/4	0: Disable WDR Pro. 1: Enable WDR Pro. * Only valid when "capability_image_c<0~(n-1)>_wdrpro_mode" = 1 2: Enable WDR Pro II. * Only valid when "capability_image_c<0~(n-1)>_wdrpro_mode" = 2
wdrpro_strength <product dependent>	1~100	4/4	The strength of WDR Pro. The bigger value means the stronger strength of WDR Pro.

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
			* Only available when "capability_image_c<0~(n-1)>_wdrpro_strength" is 1
wdrpro_wdrmode <product dependent>	auto, dcg, dol, (Available values are listed in " capability_image_c<0~(n-1)>_wdrpro_supportmode ")	4/4	The mode of clearHDR. * Only available when "capability_image_c<0~(n-1)>_wdrpro_supportmode" is not "-". * We support this parameter when the version number (httpversion) is equal or greater than 0327a.
wdrc_mode <product dependent>	<boolean>	4/4	Enable WDR enhanced. * Only available when "capability_image_c<0~(n-1)>_wdrc_mode" is 1
wdrc_strength <product dependent>	1~100	4/4	The strength of WDR enhanced. The bigger value means the stronger strength of WDR enhanced. * Only available when "capability_image_c<0~(n-1)>_wdrc_mode" is 1
aespeed_mod e <product dependent>	<boolean>	4/4	Turning AE converge speed on or off. 0: off 1: on * Only available when "capability_image_c<0~(n-1)>_aespeed" is 1
aespeed_spe dlevel <product dependent>	1~100	4/4	The speed level of AE converge speed. 1~20: level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high)

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
			<p>The higher speed level meas shorter AE converged time during AE executing.</p> <p>* Only available when "capability_image_c<0~(n-1)>_aespeed" is 1</p>
aespeed_sensitivity <product dependent>	1~100	4/4	<p>The sensitivity of AE converge speed.</p> <p>1~20: level 1</p> <p>21~40: level 2</p> <p>41~60: level 3</p> <p>61~80: level 4</p> <p>81~100: level 5</p> <p>Level 1~4(low ~ high)</p> <p>The higher sensitivity level meas that it is easy to be trigger while scene changed.</p> <p>* Only available when "capability_image_c<0~(n-1)>_aespeed" is 1 and "capability_image_c<0~(n-1)>_aespeedsupportensitivity" is 1.</p>
flickerless <product dependent>	<boolean>	4/4	<p>Turn on(1) or turn off(0) the flickerless mode</p> <p>* Only available when "capability_image_c<0~(n-1)>_flickerless" is 1.</p>
mounttype	ceiling, wall, floor	1/6	<p>Hardware installation.</p> <p>* Only available when "capability_videoin_c<0~(n-1)>_mounttype" != "-".</p>
enablewatermark <product dependent>	0, 1	1/6	<p>0: Not to add watermarks on images</p> <p>1: Add watermarks on images</p> <p>* Only available when "capability_fisheye" > 0</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
s<0~(m-2)>_fisheyede warpmode <product dependent>	'1O, 1P, 2P, 1R, 4R' for ceiling/floor mount '1O, 1P, 1R, 4R' for wall mount <product dependent> * Available value is listed in "capability_videoin_c<0~(n- 1)>_localdewarp_typeceili ngmount" and "capability_videoin_c<0~(n- 1)>_localdewarp_typewall mount"	1/4	Local dewarp mode. "1O" is original mode (disable). Supported dewarp mode is different by mount type. * Only available when "capability_fisheyelocaldewarp_c<0~(capability_nvideoin)-1>" > 0

Group: **videoin_c<0~(n-1)>_s<0~(m-1)>_h264_smartstream2** (**capability_smartstream_support=1** and **capability_smartstream_version>=2.0**)

Group: **videoin_c<0~(n-1)>_s<0~(m-1)>_h265_smartstream2** (**capability_smartstream_support=1**, **capability_smartstream_version>=2.0** and h265 is listed in "capability_videoin_codec")

n denotes the value of "capability_nvideoin", m denotes the value of " capability_nmmediastream"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	4/4	Enable or Disable smart codec function
mode	autotracking,manual,hybrid	4/4	Set Smart stream mode " autotracking"capability_smartstream_mode_autot racking" is 1. "manual"capability_smartstream_mode_man ual" is 1. "hybrid"capability_smartstream_mode_hybr id" is 1.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
qualitypriority	-5,-4,-3,-2,-1,1,2,3,4,5	4/4	<p>The differential value of Q between the regions of interest (ROI) and the areas of non-interest (non-ROI) of the display image.</p> <p>If the value is a positive number, the video quality of ROI is better than the non-ROI areas. The level is from 1 to 5. Level 5 is the maximum level of the quality difference between the ROI and non-ROI areas.</p> <p>If the value is a negative number, the video quality of non-ROI areas is better than the ROI. The level is from -1 to -5. Level -5 is the maximum level of the quality difference between the ROI and non-ROI areas.</p>

Group: **videoin_c<0~(n-1)>_s<0~(m-1)>_h264_smartstream2_win_i<0~(k-1)>**

(capability_smartstream_support=1, capability_smartstream_version>=2.0 and capability_smartstream_mode_manual = 1)

Group: **videoin_c<0~(n-1)>_s<0~(m-1)>_h265_smartstream2_win_i<0~(k-1)>**

(capability_smartstream_support=1, capability_smartstream_version>=2.0 and h265 is listed in "capability_videoin_codec" and capability_smartstream_mode_manual = 1)

n denotes the value of "capability_nvideoin", m denotes the value of " capability_nmmediastream", k denotes the value of "capability_smartstream_nwindow_manual".

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	4/4	Enable or disable the window.
home	0~320,0~240	4/4	Left-top corner coordinate of the window.
size	0~320x0~240	4/4	Width and height of the window

7.8.1.1 Alternative Video Input Profiles per Channel

In addition to the primary setting of video input, there can be alternative profile video input setting for each channel which might be for different scene of light (daytime or nighttime).

Group: **videoin_c<0~(n-1)>_profile_i<0~(m-1)>** for n channel products and m profile

n denotes the value of "capability_nvideoin" and m denotes the value of "capability_nvideoinprofile" (**capability_nvideoinprofile> 0**)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	4/4	Enable/disable this profile setting
policy	night, schedule <product dependent>	4/4	The mode which the profile is applied to. * Not support "policy=day" anymore when the version number (httpversion) is equal or greater than 0301a. * "policy=night" is only available when "capability_daynight_c<0~(n-1)>_support > 0".
begintime	hh:mm	4/4	Begin time of schedule mode.
endtime	hh:mm	4/4	End time of schedule mode.
minexposure <product dependent>	<1~32000>, <5~32000>, <1~8000>, <5~8000>, etc. * Available value is listed in "capability_image_c<0~(n-1)>_exposure_minrange"	4/4	Minimum exposure time 1~32000 => 1s ~ 1/32000s 5~32000 => 1/5s ~ 1/32000s 1~8000 => 1s ~ 1/8000s 5~8000 => 1/5s ~ 1/8000s etc. * Only available when "capability_image_c<0~(n-1)>_exposure_minrange" != "-" * Only valid when "piris_mode"=manual or "irismode"=fixed * Only available when "capability_image_c<0~(n-1)>_exposure_rangetype" is "twovalues".
maxexposure <product dependent>	<1~32000>, <5~32000>, <1~8000>, <5~8000>, etc.	4/4	Maximum exposure time 1~32000 => 1s ~ 1/32000s 5~32000 => 1/5s ~ 1/32000s 1~8000 => 1s ~ 1/8000s 5~8000 => 1/5s ~ 1/8000s

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
	<p>* Available value is listed in "capability_image_c<0~(n-1)>_exposure_maxrange"</p>		<p>etc.</p> <p>* This parameter may also restrict image frame rate from sensor due to sensor generates a frame per exposure time. Ex: If this is set to 1/5s ~ 1/8000s and camera takes 1/5s on the night, then sensor only outputs 5 frame/s.</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposure_maxrange" != "-"</p> <p>* Only valid when "piris_mode"=manual or "irismode"=fixed</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposure_rangetype" is "twovalues".</p>
shuttervalue <product dependent>	<p><1~32000>, <5~32000>, <1~8000>, <5~8000>, etc.</p> <p>* Available value is listed in "capability_image_c<0~(n-1)>_exposure_maxrange"</p>	4/4	<p>Exposure time 1~32000 => 1s ~ 1/32000s 5~32000 => 1/5s ~ 1/32000s 1~8000 => 1s ~ 1/8000s 5~8000 => 1/5s ~ 1/8000s etc.</p> <p>* This parameter may also restrict image frame rate from sensor due to sensor generates a frame per exposure time. Ex: If this is set to 1/5s ~ 1/8000s and camera takes 1/5s on the night, then sensor only outputs 5 frame/s.</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposure_maxrange" != "-" and "capability_image_c<0~(n-</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>1)>_exposure_rangetype" is "onevalue".</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0302a.</p>
enableblc <i><Not support anymore></i>	<boolean>	4/4	<p>Enable backlight compensation.</p> <p>* Not support this parameter anymore when the version number (httpversion) is equal or greater than 0301a.</p> <p>* It's recommended to use "exposurewin_c<n>_mode" to switch on/off BLC.</p>
exposurelevel	0~12	4/4	<p>Exposure level</p> <p>"0,12": This range takes the concept from DC's exposure tuning options.</p> <p>The definition is:</p> <ul style="list-style-type: none"> 0: EV -2.0 1: EV -1.7 2: EV -1.3 3: EV -1.0 4: EV -0.7 5: EV -0.3 6: EV 0 7: EV +0.3 8: EV +0.7 9: EV +1.0 10: EV +1.3 11: EV +1.7 12: EV +2.0 <p>*Only available when "capability_image_c0_exposure_mode" != 0</p>
exposuremode <i><product dependent></i>	auto, shutterpriority, irispriority,	4/4	Select exposure mode.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
	<p>qualitypriority, manual, etc</p> <p>(Available options are listed in "capability_image_c<0~(n-1)>_exposure_modtype")</p>		<p>"auto": Automatically adjust the Iris, Gain and Shutter Speed to fit the exposure level.</p> <p>"shutterpriority": Manually adjust with variable Shutter Speed, and keep adjusting Iris, Gain automatically.</p> <p>"irispriority": Manually adjust with variable Iris, and keep adjusting Gain and Shutter speed automatically.</p> <p>"qualitypriority": Automatically adjust the Iris, Gain and Shutter Speed by VIVOTEK quality algorithm.</p> <p>"manual": Manually adjust with variable Shutter, Iris and Gain.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0302a.</p> <p>* Only available when "capability_image_c0_exposure_mod" != 0</p>
whitebalance <i><product dependent></i>	<p>auto, panorama, manual, rbgain, widerange, outdoor, indoor, sodiumauto, snowauto, snowpanorama etc</p> <p>(Available values are listed in "capability_image_c<0~(n-1)>_wbmode")</p>	4/4	<p>Modes of white balance.</p> <p>"auto": Auto white balance by individual sensor.</p> <p>"panorama": Auto white balance by panoramic view.</p> <p>"rbgain": Use rgain and bgain to set white balance manually.</p> <p>"manual": 2 cases:</p> <ul style="list-style-type: none"> a. if "rbgain" is not supported, this means keep current white balance status. b. if "rbgain" is supported, "rgain" and "bgain" are updated to the current values which is got from white balance module. Then, act as rbgain mode

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>"widerange": Auto Tracing White balance (2000K to 10000K).</p> <p>"outdoor": auto white balance mode specifically for outdoor.</p> <p>"indoor": auto white balance mode specifically for indoor.</p> <p>"sodiumauto": sodium vapor lamps.</p> <p>"snowauto": Auto white balance by individual sensor, focusing on high colour temperature, snow.</p> <p>"snowpanorama": Auto white balance by panoramic view, focusing on high colour temperature, snow.</p> <p>* Only available when "capability_image_c<0~(n-1)>_wbmode" !="-"</p>
rgain	0~100	4/4	<p>Manual set rgain value of gain control setting.</p> <p>0: Weak <-> 100: Strong</p> <p>* Only available when "rbgain" is listed in "capability_image_c<0~(n-1)>_wbmode".</p> <p>* Only valid when "videoin_c<0~(n-1)>_whitebalance" != auto</p> <p>* Normalized range.</p>
bgain	0~100	4/4	<p>Manual set bgain value of gain control setting.</p> <p>0: Weak <-> 100: Strong</p> <p>* Only available when "rbgain" is listed in "capability_image_c<0~(n-1)>_wbmode".</p> <p>* Only valid when "videoin_c<0~(n-1)>_whitebalance" != auto</p> <p>* Normalized range.</p>
maxgain	0~100	4/4	<p>Maximum gain value.</p> <p>0: Low <-> 100: High</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<ul style="list-style-type: none"> * Only available when "capability_image_c<0~(n-1)>_agc_maxgain" != "-" * Only valid when "piris_mode"=manual or "irismode"=fixed * Normalized range. * Only available when "capability_image_c<0~(n-1)>_exposure_rangetype" is "twovalues".
mingain	0~100	4/4	<p>Minimum gain value. 0: Low <-> 100: High</p> <ul style="list-style-type: none"> * Only available when "capability_image_c<0~(n-1)>_agc_mingain" != "-" * Only valid when "piris_mode"=manual or "irismode"=fixed * Normalized range. * Only available when "capability_image_c<0~(n-1)>_exposure_rangetype" is "twovalues".
gainvalue	0~100	4/4	<p>Gain value. 0: Low <-> 100: High</p> <ul style="list-style-type: none"> * Only available when "capability_image_c<0~(n-1)>_agc_maxgain" != "-" and "capability_image_c<0~(n-1)>_exposure_rangetype" is "onevalue". * Normalized range. * We support this parameter when the version number (httpversion) is equal or greater than 0302a.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
meteringmode	auto, blc, hlc * Available value is listed in "capability_image_c<0~(n-1)>_exposure_meteringmode"	4/4	" auto"blc"hlc* We support this parameter when the version number (httpversion) is equal or greater than 0311a.
piris_mode <product dependent>	manual, indoor, outdoor,-	1/4	Control P-Iris mode. " outdoor"indoor"manual"-": not support (only available when "capability_image_c<0~(n-1)>_sensortype" is "smartsensor") * Only available when "capability_image_c<0~(n-1)>_iristype"=piris
piris_position <product dependent>	1~100	1/4	Manual set P-Iris. 1: Open <-> 100: Close * Only valid when "piris_mode"=manual or "capability_image_c<0~(n-1)>_sensortype" is "smartsensor" * Only available when "capability_image_c<0~(n-1)>_iristype"=piris
irismode	fixed, indoor, outdoor <product dependent>	4/4	Control DC-Iris mode.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>"outdoor": Auto-setting DC-Iris to get best quality, but easy to meet rolling or flicker effect in indoor environment.</p> <p>"indoor": Avoid rolling and flicker effect first.</p> <p>"fixed": Open the iris to maximum.</p> <p>* Only available when "capability_image_c<0~(n-1)>_iristype"=dciris</p>
wdrpro_mode <product dependent>	0, 1, 2	4/4	<p>0: Disable WDR Pro.</p> <p>1: Enable WDR Pro.</p> <p>* Only valid when "capability_image_c<0~(n-1)>_wdrpro_mode" = 1</p> <p>2: Enable WDR Pro II.</p> <p>* Only valid when "capability_image_c<0~(n-1)>_wdrpro_mode" = 2</p>
wdrpro_strength <product dependent>	1~100	4/4	<p>The strength of WDR Pro.</p> <p>The bigger value means the stronger strength of WDR Pro.</p> <p>* Only available when "capability_image_c<0~(n-1)>_wdrpro_strength" is 1</p>
wdrpro_wdrmode <product dependent>	auto, dcg, dol, (Available values are listed in " capability_image_c<0~(n-1)>_wdrpro_supportmode ")	4/4	<p>The mode of clearHDR.</p> <p>* Only available when "capability_image_c<0~(n-1)>_wdrpro_supportmode" is not "-".</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0327a.</p>
wdrc_mode	<boolean>	4/4	Enable WDR enhanced.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
<product dependent>			* Only available when "capability_image_c<0~(n-1)>_wdrc_mode" is 1
wdrc_strength <product dependent>	1~100	4/4	The strength of WDR enhanced. The bigger value means the stronger strength of WDR enhanced. * Only available when "capability_image_c<0~(n-1)>_wdrc_mode" is 1
aespeed_mod e <product dependent>	<boolean>	4/4	Turning AE converge speed on or off. 0: off 1: on * Only available when "capability_image_c<0~(n-1)>_aespeed" is 1
aespeed_spee dlevel <product dependent>	1~100	4/4	The speed level of AE converge speed. 1~20: level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high) The higher speed level meas shorter AE converged time during AE executing. * Only available when "capability_image_c<0~(n-1)>_aespeed" is 1
aespeed_sensi tivity <product dependent>	1~100	4/4	The sensitivity of AE converge speed. 1~20: level 1 21~40: level 2 41~60: level 3 61~80: level 4 81~100: level 5 Level 1~4(low ~ high)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>The higher sensitivity level meas that it is easy to be trigger while scene changed.</p> <p>* Only available when "capability_image_c<0~(n-1)>_aespeed" is 1 and "capability_image_c<0~(n-1)>_aespeedsupportensitivity" is 1.</p>
flickerless <i><product dependent></i>	<boolean>	4/4	<p>Turn on(1) or turn off(0) the flickerless mode</p> <p>* Only available when "capability_image_c<0~(n-1)>_flickerless" is 1</p>

7.8.2 Overlay Settings for Video Streaming

Group: **videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)> (capability_videoin_c0~(n-1)>_overlay_support = 1)**

n denotes the value of "capability_nvideoin", m denotes the value of "capability_nmediastream"

i denotes the value of "capability_videoin_c0~(n-1)>_overlay_num"

* If "capability_videoin_c<0~(n-1)>_overlay_mode" is "channelbase", videoin_c<0~(n-1)>_s<1~(m-1)>_overlay<0~(i-1)> group security level is **6/7**

NAME	VALUE	SECURITY(get/set)	DESCRIPTION
enable	<boolean>	6/6	<p>Enable overlay.</p> <ul style="list-style-type: none"> * If "capability_videoin_c<0~(n-1)>_overlay_mode" is "channelbase", videoin_c<0~(n-1)>_s<1~(m-1)>_overlay<0~(i-1)>_enable security level is 6/7 * We support this parameter when the version number (httpversion) is equal or greater than 0324a.
attribute	text, image, indicator * Available values are listed in "capability_videoin_c<0~(n-1)>_overlay_type"	6/6	<p>Overlay attribute.</p> <ul style="list-style-type: none"> * "videoin_c<0~(n-1)>_s<0~(m-1)>_overlay0_attribute" is only support "text" type overlay. (videoin_c<0~(n-1)>_s<0~(m-1)>_overlay0_attribute can only set to text) * If "capability_videoin_c<0~(n-1)>_overlay_mode" is "channelbase", videoin_c<0~(n-1)>_s<1~(m-1)>_overlay<0~(i-1)>_attribute security level is 6/7 * We support this parameter when the version number (httpversion) is equal or greater than 0324a.

position	upperleft, uperright, lowerleft, lowerright, <coordinate>	6/6	<p>The position of overlay.</p> <p>"upperleft <p>"uperright <p>"lowerleft <p>"lowerright <p>"<coordinate>": x,y coordinate (eg. 0,0)</p> <ul style="list-style-type: none"> * If "capability_videoin_c<0~(n-1)>_overlay_mode" is "channelbase", videoin_c<0~(n-1)>_s<1~(m-1)>_overlay<0~(i-1)>_position security level is 6/7 * We support this parameter when the version number (httpversion) is equal or greater than 0324a. </p></p></p></p>
text_string	string[64]	6/6	<p>Text overlay string.</p> <ul style="list-style-type: none"> * If "capability_videoin_c<0~(n-1)>_overlay_mode" is "channelbase", videoin_c<0~(n-1)>_s<1~(m-1)>_overlay<0~(i-1)>_text_string security level is 6/7 * Only valid when "videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)>_text_type" is "plaintext" or "custom". * We support this parameter when the version number (httpversion) is equal or greater than 0324a.

text_type	plaintext, dateandtime, date, time, custom	6/6	<p>Type of text overlay.</p> <p>"plaintext": The plain type means the overlay is shown as a text string.</p> <p>"date": The date type means the overlay is shown as a date.</p> <p>"time": The time type means the overlay is shown as a time.</p> <p>"dateandtime": The dateandtime type means the overlay is shown as date and time.</p> <p>"custom": The custom type means the overlay can be shown as any kind of type above.</p> <p>* If "capability_videoin_c<0~(n-1)>_overlay_mode" is "channelbase", videoin_c<0~(n-1)>_s<1~(m-1)>_overlay<0~(i-1)>_text_type security level is 6/7</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0324a.</p>
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text_dateform at	MM/dd/yyyy, dd/MM/yyyy, yyyy/MM/dd, M/d/yyyy, dddd MMMM dd yyyy, MMMM dd yyyy, dd MMMM yyyy, yyyy-MM-dd * Available values are listed in "capability_videoin_c<0~(n-1)>_overlay_dateformat"	6/6	Date format of text overlay. "MM/dd/yyyy" : e.g. 03/06/2013 "dd/MM/yyyy" : e.g. 06/03/2013 "yyyy/MM/dd" : e.g. 2013/03/06 M/d/yyyy : e.g. 3/6/2013 dddd MMMM dd yyyy : e.g. Wednesday, March 06, 2013 MMMM dd yyyy : e.g. March 06, 2013 dd MMMM yyyy : e.g. 06 March, 2013 yyyy-MM-dd : e.g. 2013-06-03 * If "capability_videoin_c<0~(n-1)>_overlay_mode" is "channelbase", videoin_c<0~(n-1)>_s<1~(m-1)>_overlay<0~(i-1)>_text_dateformat security level is 6/7 * Only valid when videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)>_text_type is "date" or "dateandtime". * We support this parameter when the version number (httpversion) is equal or greater than 0324a.
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text_timeformat	h:mm:ss tt, hh:mm:ss tt, H:mm:ss, HH:mm:ss * Available values are listed in "capability_videoin_c<0~(n-1)>_overlay_timeformat"	6/6	Time format of text overlay. " h:mm:ss tt ": e.g. 2:14:21 PM " hh:mm:ss tt ": e.g. 02:14:21 PM " H:mm:ss ": e.g. 14:14:21 " HH:mm:ss ": e.g. 14:14:21 * If "capability_videoin_c<0~(n-1)>_overlay_mode" is "channelbase", videoin_c<0~(n-1)>_s< 1 >(m-1)>_overlay<0~(i-1)>_text_timeformat security level is 6/7 * Only valid when videoin_c<0~(n-1)>_s<0~(m-1)>_overlay<0~(i-1)>_text_type is "time" or "dateandtime". * We support this parameter when the version number (httpversion) is equal or greater than 0324a.
text_size	10~60	6/6	Text overlay font size. * If "capability_videoin_c<0~(n-1)>_overlay_mode" is "channelbase", videoin_c<0~(n-1)>_s< 1 >(m-1)>_overlay<0~(i-1)>_text_size security level is 6/7 * We support this parameter when the version number (httpversion) is equal or greater than 0324a.

text_color	white, black, blue, #RRGGBB	6/6	<p>Text overlay font color. "#RRGGBB": Examples of hexadecimal values. #FFFFFF for white, #000000 for black, #FF0000 for red, #6633FF for blue, and #669900 for green.</p> <p>* If "capability_videoin_c<0~(n-1)>_overlay_mode" is "channelbase", videoin_c<0~(n-1)>_s<1~(m-1)>_overlay<0~(i-1)>_text_color security level is 6/7</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0324a.</p>
text_bgcolor	black, white, #RRGGBB	6/6	<p>Text overlay background color. "#RRGGBB": Examples of hexadecimal values. #FFFFFF for white, #000000 for black, #FF0000 for red, #6633FF for blue, and #669900 for green.</p> <p>* If "capability_videoin_c<0~(n-1)>_overlay_mode" is "channelbase", videoin_c<0~(n-1)>_s<1~(m-1)>_overlay<0~(i-1)>_text_bgcolor security level is 6/7</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0324a.</p>

text_transparent	0~100	6/6	<p>Text overlay transparency.</p> <p>* If "capability_videoin_c<0~(n-1)>_overlay_mode" is "channelbase", videoin_c<0~(n-1)>_s<1~(m-1)>_overlay<0~(i-1)>_text_transparent security level is 6/7</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0324a.</p>
text_bgtransparent	0~100	6/6	<p>Text overlay background transparency.</p> <p>* If "capability_videoin_c<0~(n-1)>_overlay_mode" is "channelbase", videoin_c<0~(n-1)>_s<1~(m-1)>_overlay<0~(i-1)>_text_bgtransparent security level is 6/7</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0324a.</p>

Group: **videoin_c<0~(n-1)>_s<1~(m-1)>_overlay<0~(i-1)>** (**capability_videoin_c0~(n-1)>_overlay_support = 1**)

n denotes the value of "capability_nvideoin", m denotes the value of "capability_nmmediastream"

i denotes the value of "capability_videoin_c0~(n-1)>_overlay_num"

* If "capability_videoin_c<0~(n-1)>_overlay_mode" is "channelbase", this group security level is **6/7**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
image_index	0~5	6/6	The index of the image overlay. * We support this parameter when the version number (httpversion) is equal or greater than 0325a.
image_transparent	0~100	6/6	Image overlay transparency. * We support this parameter when the version number (httpversion) is equal or greater than 0325a.

7.8.3 Multicast Settings for Video Streaming

Group: **videoin_c<0~(n-1)>_s<0~(m-1)>_multicast** (**capability_media_streamprofiles_support = 1**)

n denotes the value of "capability_nvideoin", m denotes the value of "capability_nmmediastream"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
ipaddress	<ip address>	4/4	Multicast video IP address.
port	1025 ~ 65535	4/4	Multicast video port.
ipversion	IPv4, IPv6	4/4	The version of internet protocol.
ttl	1 ~ 255	4/4	Multicast video time to live value.

7.9 Time Shift Settings

Group: **timeshift** for n channel products and m stream

n denotes the value of "capability_nvideoin", m denotes the value of "capability_nmmediastream"

(**capability_timeshift > 0**)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable <Not recommended to use>	<boolean>	4/4	Enable time shift streaming. * We replace this parameter with "timeshift_c<0~(n-1)>_enable" when the version number (httpversion) is equal or greater than 0312a.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
c<0~(n-1)>_enable	<boolean>	4/4	Enable time shift streaming. * We support this parameter when the version number (httpversion) is equal or greater than 0312a.
c<0~(n-1)>_s<0~(m-1)>_allow	<boolean>	4/4	Enable time shift streaming for specific stream.

7.10 IR Cut Control

<Not recommended to use this>

Group: **ircutcontrol** (**capability_nvideoinprofile** > 0 and **capability_daynight_c<0~(n-1)>_support** > 0)
n denotes the value of "capability_nvideoin"

* We do not support these parameters when "capability_nvideoin > 1"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
mode <i><Not recommended to use this></i>	auto, day, night, di, schedule...etc * Available values are listed in "capability_daynight_c<0~(n-1)>_mode" <i><product dependent></i>	6/6	Set IR cut control mode * We replace this parameter with "ircutcontrol_c0_mode" when the version number (httpversion) is equal or greater than 0312a. * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
sir <i><product dependent></i>	<boolean>	6/6	Enable/disable Smart IR * Only available when "capability_daynight_c<0~"capability_nvideoin"-1>_smartir" is 1

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
<Not recommended to use this>			<ul style="list-style-type: none"> * We replace this parameter with "ircutcontrol_c<0~(n-1)>_sir" when the version number (httpversion) is equal or greater than 0312a. * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
daymodebegintime <Not recommended to use this>	00:00~23:59	6/6	<p>Day mode begin time</p> <ul style="list-style-type: none"> * We replace this parameter with "ircutcontrol_c<0~(n-1)>_daymodebegintime" when the version number (httpversion) is equal or greater than 0312a. * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
daymodeendtime <Not recommended to use this>	00:00~23:59	6/6	<p>Day mod end time</p> <ul style="list-style-type: none"> * We replace this parameter with "ircutcontrol_c<0~(n-1)>_daymodeendtime" when the version number (httpversion) is equal or greater than 0312a. * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
disableirled <Not recommended to use this>	<boolean>	6/6	<p>Enable/disable built-in IR led</p> <ul style="list-style-type: none"> * Only available when "capability_daynight_c<0~"capability_nvideoin"-1>_builtinir > 0".

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<ul style="list-style-type: none"> * We replace this parameter with "ircutcontrol_illuminators_builtin_irled_enabled" when the version number (httpversion) is equal or greater than 0312a. * We do not support this parameter when "capability_nvvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
enableextled <Not recommended to use this>	<boolean>	1/6	<ul style="list-style-type: none"> Enable/disable external IR led * Only available when "capability_daynight_c<0~"capability_nvvideoin"-1>_externalir > 0". * We replace this parameter with "ircutcontrol_illuminators_external_d o_enabled" when the version number (httpversion) is equal or greater than 0312a. * We do not support this parameter when "capability_nvvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
enablelewled <Not recommended to use this>	<boolean>	6/6	<ul style="list-style-type: none"> Enable/disable built-in White led * Only available when " capability_daynight_c<0~"capability_nvvideoin"-1>_builtinwled > 0". * We replace this parameter with "ircutcontrol_illuminators_builtin_whitel ed_enabled" when the version number (httpversion) is equal or greater than 0312a. * We do not support this parameter when "capability_nvvideoin > 1".

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<ul style="list-style-type: none"> * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
bwmode <Not recommended to use this>	<boolean>	6/6	<ul style="list-style-type: none"> Switch to B/W in night mode if enabled. * Only available when "capability_daynight_c<0~(n-1)>_blackwhitemode" is 1. * We replace this parameter with "ircutcontrol_c<0~(n-1)>_bwmode" when the version number (httpversion) is equal or greater than 0312a. * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
sensitivity <Not recommended to use this>	low,normal,high,1~10 0	6/6	<ul style="list-style-type: none"> Sensitivity of day/night control. There are two value format: "low,normal,high "1~100 * Only available when "capability_daynight_c<0~(n-1)>_ircutsensitivity_type" is not "-". * We replace this parameter with ircutcontrol_c<0~(n-1)>_sensitivity" when the version number (httpversion) is equal or greater than 0312a. * We do not support this parameter when "capability_nvideoin > 1".

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
spectrum_mode <Not recommended to use this>	visible, ir, irenhanced, blueenhanced, smarthybrid, <product dependent> * Available values are listed in "capability_daynight_c<0~(n-1)>_spectrum_mode" .	6/6	Set spectrum method . * Only available when "capability_daynight_c<0~(n-1)>_spectrum_support" is 1. * We replace this parameter with "ircutcontrol_illuminators_spectrum_mode" when the version number (httpversion) is equal or greater than 0312a. * We do not support this parameter when "capability_nvvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.

7.10.1 IR cut control setting per channel

Group: **ircutcontrol_c<0~(n-1)>** for n channel products (**capability_daynight_c<0~(n-1)>_support > 0**)

n denotes the value of "capability_nvvideoin"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
mode	auto, day, night, di, schedule...etc * Available values are listed in "capability_daynight_c<0~(n-1)>_mode"	6/6	Set IR cut control mode * We support this parameter when the version number (httpversion) is equal or greater than 0312a.

	<product dependent>		
sir <product dependent>	<boolean>	6/6	<p>Enable/disable Smart IR</p> <p>* Only available when "capability_daynight_c<0~"capability_nvideoin"-1>_smartir" is 1</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0312a.</p>
daymodebegintime	00:00~23:59	6/6	<p>Day mode begin time</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0312a.</p>
daymodeendtime	00:00~23:59	6/6	<p>Day mod end time</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0312a.</p>
bwmode	<boolean>	6/6	<p>Switch to B/W in night mode if enabled.</p> <p>* Only available when "capability_daynight_c<0~(n-1)>_blackwhitemode" is 1.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0312a.</p>
sensitivity	low,normal,high,1 ~100	6/6	<p>Sensitivity of day/night control.</p> <p>There are two value format:</p> <p>"low,normal,high": if capability_daynight_c<0~(n-1)>_ircutsensitivity_type=options</p> <p>"1~100": if capability_daynight_c<0~(n-1)>_ircutsensitivity_type=normalize</p>

			<ul style="list-style-type: none"> * Only available when "capability_daynight_c<0~(n-1)>_ircutsensitivity_type" is not "-". * We support this parameter when the version number (httpversion) is equal or greater than 0312a.
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7.10.2 IR cut control Illuminators

Group: **ircutcontrol_illuminators** (`capability_daynight_c<0~(n-1)>_support > 0`)

n denotes the value of "capability_nvideoin"

k is determined by the below criterion:

The following applies for `capability_extension_do_num >= 0`

- * if `extension_connected=1`, k=`capability_ndo`
- * if `extension_connected=0`, k=`capability_ndo+ capability_extension_do_num`

Otherwise,

- * k=`capability_ndo`

NAME	VALUE	SECURIT Y (get/set)	DESCRIPTION
<code>builtin_irled_enabled</code>	<boolean>	6/6	<ul style="list-style-type: none"> Enable/disable built-in IR led * Only available when "capability_daynight_illuminators_builtin_support > 0" and "irled" is listed in "capability_daynight_illuminators_builtin_type" * We support this parameter when the version number (httpversion) is equal or greater than 0312a.
<code>builtin_whiteldd_enabled</code>	<boolean>	6/6	<ul style="list-style-type: none"> Enable/disable built-in white led. * Only available when "capability_daynight_illuminators_builtin_support > 0" and "whiteldd" is listed in "capability_daynight_illuminators_builtin_type"

			* We support this parameter when the version number (httpversion) is equal or greater than 0312a.
builtin_whitedled_strengt h	1~100	6/6	<p>Indicate the strength of the white led.</p> <p>* Only available when "whitedled" is listed in "capability_daynight_illuminators_builtin_type"</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0326d.</p>
external_do_enabled	<boolean>	1/6	<p>Enable/disable external led mounted on do1.</p> <p>* Only available when "capability_daynight_illuminators_external_support > 0" and "do" is listed in "capability_daynight_illuminators_external_interface".</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0312a.</p>
external_do<2~(k)>_enable d	<boolean>	1/6	<p>Enable/disable external led mounted on do<2~(k)>.</p> <p>* Only available when "capability_ndo > 1"</p> <p>* Only available when "capability_daynight_illuminators_external_support > 0" and "do<2~(k)>" are listed in "capability_daynight_illuminators_external_interface".</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0312a.</p>
spectrum_mode	visible, ir, irenhanced,	6/6	Set spectrum method.

	blueenhanced, smarthybrid, <product dependent> * Available values are listed in "capability_daynig ht_illuminators _spectrum_mode" .		* We support this parameter when the version number (httpversion) is equal or greater than 0312a. * Only available when "capability_daynight_illuminators_ spectrum_support > 0".
smarthybrid_delay	30~300	6/6	How many seconds will the visible light remain on after the end of the event in illuminator smart hybrid mode. * Only available when "smarthybrid" is listed in "capability_daynight_illuminators_s pectrum_mode" * We support this parameter when the version number (httpversion) is equal or greater than 0326d.

7.11 RealSight

Group: **realsight_c<0~(n-1)>**

n denotes the value of "capability_nvideoin" , m denotes the value of "capability_nmmediastream", and k denotes the value of "capability_nvideoinprofile"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
objecttype	people, vehicle * Available values are listed in "capability_realsight_ objectlists"	4/4	Indicate current object type. * Only available when capability_realsight_support = 1 * We support this parameter when the version number (httpversion) is equal or greater than 0325d.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
deblur_enable	<boolean>	4/4	<p>Enable/disable realsight deblur.</p> <ul style="list-style-type: none"> * Only available when capability_realsight_support = 1 * Only available when "deblur" is listed in "capability_realsight_supportfeatures". * Only valid when "image_c<0~(n-1)>_deblur_mode" is 1 * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
illuminator_enable	<boolean>	4/4	<p>Enable/disable realsight illuminator.</p> <ul style="list-style-type: none"> * Only available when capability_realsight_support = 1 * Only available when "illuminator" is listed in "capability_realsight_supportfeatures". * Only valid when "ircutcontrol_c<0~(n-1)>_sir" is 1 * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
illuminator_strength	1~100	4/4	<p>The strength of realsight illuminator. The bigger value means the stronger strength of realsight illuminator.</p> <ul style="list-style-type: none"> * Only available when capability_realsight_support = 1 * Only available when "capability_realsight_illuminator_strength" is 1. * Only valid when "realsight_c<0~(n-1)>_illuminator_enable" is 1

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<ul style="list-style-type: none"> * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
wdrpro_enable	<boolean>	4/4	<ul style="list-style-type: none"> Enable/disable realsight WDR Pro. * Only available when capability_realsight_support = 1 * Only available when "wdrpro" is listed in "capability_realsight_supportfeatures". * Only valid when "videoin_c<0~(n-1)>_wdrpro_mode" is not 0 * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
wdrpro_strength	1~100	4/4	<ul style="list-style-type: none"> The strength of realsight WDR Pro. The bigger value means the stronger strength of realsight WDR Pro. * Only available when capability_realsight_support = 1 * Only available when "capability_realsight_wdrpro_strength" is 1. * Only valid when "realsight_c<0~(n-1)>_wdrpro_enable" is 1 * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
profile_i<0~(k-1)>_wdrpro_enable	<boolean>	4/4	<ul style="list-style-type: none"> Enable/disable realsight WDR Pro profile setting. * Only available when capability_realsight_support = 1 * Only available when "wdrpro" is listed in "capability_realsight_supportfeatures".

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<ul style="list-style-type: none"> * Only valid when "videoin_c<0~(n-1)>_wdrpro_mode" is not 0 * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
profile_i<0~(k-1)>_wdrpro_strength	1~100	4/4	<p>The strength of realsight wdrpro profile setting.</p> <p>The bigger value means the stronger strength of realsight WDR Pro profile setting.</p> <ul style="list-style-type: none"> * Only available when capability_realsight_support = 1 * Only available when "capability_realsight_wdrpro_strength" is 1. * Only valid when "realsight_c<0~(n-1)>_profile_i<0~(m-1)>_wdrpro_enable" is 1 * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
scenemode_enable	<boolean>	4/4	<p>Enable/disable realsight scene mode.</p> <ul style="list-style-type: none"> * When this value is set to "1", both "realsight_c<0~(n-1)>_whitebalance_enable" and "realsight_c<0~(n-1)>_exposuremode_enable" must also be set to "1". * Only valid when "capability_realsight_scenedetect_support" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
whitebalance_enable	<boolean>	4/4	Enable/disable realsight white balance mode.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<ul style="list-style-type: none"> * Only valid when "realsight_c<0~(n-1)>_scenemode_enable" is 1. * Only available when "whitebalance" is listed in "capability_realsight_scenedetect_supportfeatures". * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
exposuremode_enable	<boolean>	4/4	<p>Enable/disable realsight exposure mode.</p> <ul style="list-style-type: none"> * Only valid when "realsight_c<0~(n-1)>_scenemode_enable" is 1. * Only available when "exposuremode" is listed in "capability_realsight_scenedetect_supportfeatures". * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
profile_i<0~(k-1)>_whitebalance_enable	<boolean>	4/4	<p>Enable/disable realsight white balance profile mode.</p> <ul style="list-style-type: none"> * Only valid when "realsight_c<0~(n-1)>_scenemode_enable" is 1. * Only available when "whitebalance" is listed in "capability_realsight_scenedetect_supportfeatures". * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
profile_i<0~(k-1)>_exposuremode_enable	<boolean>	4/4	<p>Enable/disable realsight exposure profile mode.</p> <ul style="list-style-type: none"> * Only valid when "realsight_c<0~(n-1)>_scenemode_enable" is 1.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<ul style="list-style-type: none"> * Only available when "exposuremode" is listed in "capability_realsight_scenedetect_supportfeatures". * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
s<0~(m-1)>_h264_smartcodec_mode	realsight, autotracking	4/4	<p>Smart codec mode of h264.</p> <ul style="list-style-type: none"> * Only available when "capability_realsight_smartcodec_support" is 1. <p>We support this parameter when the version number (httpversion) is equal or greater than 0327a.</p>
s<0~(m-1)>_h265_smartcodec_mode	realsight, autotracking	4/4	<p>Smart codec mode of h265.</p> <ul style="list-style-type: none"> * Only available when "capability_realsight_smartcodec_support" is 1. <p>We support this parameter when the version number (httpversion) is equal or greater than 0327a.</p>

7.12 Image Setting per Channel

Group: **image_c<0~(n-1)>** for n channel products and m profile

n denotes the value of "capability_nvideoin" and m denotes the value of "capability_nvideoinprofile"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
brightness <Not recommended to use this>	-5~5,100	4/4	<ul style="list-style-type: none"> -5: Darker <-> 5: Bright 100: Use "image_c<n>_brightnesspercent"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<ul style="list-style-type: none"> * Only available when bit 0 of "capability_image_c<0~(n-1)>_basicsetting" is 1 * We replace "brightness" with "brightnesspercent". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
contrast <i><Not recommended to use this></i>	-5~5,100	4/4	<ul style="list-style-type: none"> -5: Less contrast <-> 5: More contrast 100: Use "image_c<0~(n-1)>_contrastpercent" * Only available when bit 1 of "capability_image_c<0~(n-1)>_basicsetting" is 1. * We replace "contrast" with "contrastpercent". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
saturation <i><Not recommended to use this></i>	-5~5,100	4/4	<ul style="list-style-type: none"> -5: Less saturation <-> 5: More saturation 100: Use "image_c<n>_saturationpercent" * Only available when bit 2 of "capability_image_c<0~(n-1)>_basicsetting" is 1. * We replace "saturation" with "saturationpercent". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
sharpness <i><Not recommended to use this></i>	-3~3,100	4/4	<ul style="list-style-type: none"> -3: Softer <-> 3: Sharper 100: Use "image_c<0~(n-1)>_sharpnesspercent"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<ul style="list-style-type: none"> * Only available when bit 3 of "capability_image_c<0~(n-1)>_basicsetting" is 1. * We replace "sharpness" with "sharpnesspercent". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
brightnesspercent	0~100	4/4	<p>Set brightness in the normalized range. 0: Darker <-> 100: Bright</p> <ul style="list-style-type: none"> * Only available when bit 0 of "capability_image_c<0~(n-1)>_basicsetting" is 1.
contrastpercent	0~100	4/4	<p>Set contrast in the normalized range. 0: Less contrast <-> 100: More contrast</p> <ul style="list-style-type: none"> * Only available when bit 1 of "capability_image_c<0~(n-1)>_basicsetting" is 1
saturationpercent	0~100	4/4	<p>Set saturation in the normalized range. 0: Less saturation <-> 100: More saturation</p> <ul style="list-style-type: none"> * Only available when bit 2 of "capability_image_c<0~(n-1)>_basicsetting" is 1.
sharpnesspercent	0~100	4/4	<p>Set sharpness in the normalized range. 0: Softer <-> 100: Sharper</p> <ul style="list-style-type: none"> * Only available when bit 3 of "capability_image_c<0~(n-1)>_basicsetting" is 1
gammacurve <i><product dependent></i>	0~100	4/4	<p>0: Fine-turned gamma curve by Vivotek. 1: Gamma value = 0.01</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>2: Gamma value = 0.02 3: Gamma value = 0.03 ... 100: Gamma value = 1</p> <p>* Note: Although we set gamma value to 100 level, but not all gamma values are valid. Internal module will take the closest valid one. For example, 1~45 may all be mapped to gamma value = 0.45, etc.</p> <p>* Only available when "capability_image_c<0~(n-1)>_gammacurve" is 1</p>
lowlightmode <product dependent>	<boolean>	4/4	<p>Enable/disable low light mode.</p> <p>* Only available when "capability_image_c<0~(n-1)>_lowlightmode" is 1</p>
hlm <product dependent>	<boolean>	4/4	<p>Enable/disable hightlight mask.</p> <p>* Only available when "capability_image_c<0~(n-1)>_hlm" is 1</p>
dnr_mode <product dependent>	<boolean>	4/4	<p>3D noise reduction.</p> <p>0:disable 1:enable</p> <p>* Only available when "capability_image_c<0~(n-1)>_dnr" is 1</p>
dnr_strength <product dependent>	1~100	4/4	<p>Strength of 3DNR</p> <p>* Only available when "capability_image_c<0~(n-1)>_dnr" is 1</p>
defog_mode <product dependent>	<boolean>	4/4	<p>Enable/disable defog mode.</p> <p>0:disable 1:enable</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* Only available when "capability_image_c<0~(n-1)>_defog_mode" is 1
defog_strength <i><product dependent></i>	1~100	4/4	Strength of defog * Only available when "capability_image_c<0~(n-1)>_defog_mode" is 1
eis_mode <i><product dependent></i>	<boolean>	4/4	Electronic image stabilizer 0:disable 1:enable * Only available when 'eis' is listed in "capability_image_c<0~(n-1)>_is_mode".
eis_strength <i><product dependent></i>	1~100	4/4	Strength of electronic image stabilizer * Only available when 'eis' is listed in "capability_image_c<0~(n-1)>_is_mode".
eis_focallength <i><product dependent></i>	2800~80000	4/4	The focal length (unit: micrometers) of the optics. This is used when no feedback on optical zoom setting is available. (capability_image_c<0~(n-1)>_remotefocus = 4) * Only available when capability_image_c<0~(n-1)>_is_setfocallength is 1 * Only valid when capability_image_c<0~(n-1)>_remotefocus is 4 * We support this parameter when the version number (httpversion) is equal or greater than 0322a
dis_mode <i><product dependent></i>	<boolean>	4/4	Digital image stabilizer 0:disable 1:enable

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* Only available when 'dis' is listed in "capability_image_c<0~(n-1)>_is_mode".
dis_strength <product dependent>	1~100	4/4	Strength of digital image stabilizer * Only available when 'dis' is listed in "capability_image_c<0~(n-1)>_is_mode".
scene_mode <product dependent>	visibility, noiseless, lpcparkinglot, lpcstreet, lpchighway, auto, deblur, lpcfrenway, signallight, railtrack <product dependent> * Available values are listed in "capability_image_c<0~(n-1)>_scenemode_supporttype"	4/4	Value of scene mode * Only available when "capability_image_c<0~(n-1)>_scenemode_support" is 1
restoreatwb	<positive integer>	4/4	Restore of adjusting white balance of image according to mode settings
freeze <product dependent>	<boolean>	4/4	Enable/disable Image freeze while patrolling. 0: disable 1: enable * Only available when "capability_image_c<0~(n-1)>_freeze" is 1
deinterlace_enable	<boolean>	4/4	Enable/disable deinterlace function. 0: disable 1: enable

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* Only available when "capability_image_c<0~(n-1)>_deinterlace_support" is 1.
deinterlace_mode	spatial,blend	4/4	<p>Users can choose between two different deinterlacing techniques: Spatical mode provides the best image quality, while Blend mode provides better image quality (than not using the deinterlace function at all).</p> <p>* Only available when "capability_image_c<0~(n-1)>_deinterlace_support" is 1.</p>
xoffset	0~100	4/4	<p>Adjusting the image to proper position horizontally.</p> <p>* Only available when the bit 4 of capability_image_c<0~(n-1)>_basicsetting is 1.</p>
yoffset	0~100	4/4	<p>Adjusting the image to proper position vertically.</p> <p>* Only available when the bit 5 of capability_image_c<0~(n-1)>_basicsetting is 1.</p>
lens_alignment	0~100	4/4	<p>Stitch the sensors together into focused position.</p> <p>* Only available when "capability_image_c<0~(n-1)>_lens_alignment" is 1.</p>
lens_ldc_mode	<boolean>	4/4	<p>Enable/disable lens distortion correction.</p> <p>* Only available when "capability_image_c<0~(n-1)>_lens_ldc_support" is 1.</p>
palette_mode	Available value is listed in	1/4	Set color palette option.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
	"capability_image_c<0~(n-1)>_palette_mode"		* Only available when "capability_image_c<0~(n-1)>_palette_support" is 1.
profile_i<0~(m-1)>_enable	<boolean>	4/4	Enable/disable this profile setting
profile_i<0~(m-1)>_policy	night, schedule <product dependent>	4/4	The mode which the profile is applied to. * Not support "policy=day" anymore when the version number (httpversion) is equal or greater than 0301a. * "policy=night" is only available when "capability_daynight_c<0~(n-1)>_support > 0".
profile_i<0~(m-1)>_begintime	hh:mm	4/4	Begin time of schedule mode.
profile_i<0~(m-1)>_endtime	hh:mm	4/4	End time of schedule mode.
profile_i<0~(m-1)>_brightness <Not recommended to use this>	-5~5,100	4/4	-5: Darker <-> 5: Bright 100: Use "image_c<0~(n-1)>_brightnesspercent" * Only available when bit 0 of "capability_image_c<0~(n-1)>_basicsetting" is 1 * We replace "profile_i0_brightness" with "profile_i0_brightnesspercent". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
profile_i<0~(m-1)>_contrast	-5~5,100	4/4	-5: Less contrast <-> 5: More contrast 100: Use "image_c<0~(n-1)>_contrastpercent"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
<Not recommended to use this>			<p>* Only available when bit 1 of "capability_image_c<0~(n-1)>_basicsetting" is 1.</p> <p>* We replace "profile_i0_contrast" with "profile_i0_contrastpercent".</p> <p>* This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.</p>
profile_i<0~(m-1)>_saturation <Not recommended to use this>	-5~5,100	4/4	<p>-5: Less saturation <> 5: More saturation</p> <p>100: Use "image_c<0~(n-1)>_saturationpercent"</p> <p>* Only available when bit 2 of "capability_image_c<0~(n-1)>_basicsetting" is 1.</p> <p>* We replace "profile_i0_saturation" with "profile_i0_saturationpercent".</p> <p>* This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.</p>
profile_i<0~(m-1)>_sharpness <Not recommended to use this>	-3~3,100	4/4	<p>-5: Less saturation <> 5: More saturation</p> <p>100: Use "image_c<0~(n-1)>_saturationpercent"</p> <p>* Only available when bit 2 of "capability_image_c<0~(n-1)>_basicsetting" is 1.</p> <p>* We replace "profile_i0_saturation" with "profile_i0_saturationpercent".</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
profile_i<0~(m-1)>_brightnesspercent	0~100	4/4	Set brightness in the normalized range. 0: Darker <-> 100: Bright * Only available when bit 0 of "capability_image_c<0~(n-1)>_basicsetting" is 1.
profile_i<0~(m-1)>_contrastpercent	0~100	4/4	Set contrast in the normalized range. 0: Less contrast <-> 100: More contrast * Only available when bit 1 of "capability_image_c<0~(n-1)>_basicsetting" is 1
profile_i<0~(m-1)>_saturationpercent	0~100	4/4	Set saturation in the normalized range. 0: Less saturation <-> 100: More saturation * Only available when bit 2 of "capability_image_c<0~(n-1)>_basicsetting" is 1.
profile_i<0~(m-1)>_sharpnesspercent	0~100	4/4	Set sharpness in the normalized range. 0: Softer <-> 100: Sharper * Only available when bit 3 of "capability_image_c<0~(n-1)>_basicsetting" is 1
profile_i<0~(m-1)>_gammacurve	0~100	4/4	0: Fine-turned gamma curve by Vivotek. 1: Gamma value = 0.01 2: Gamma value = 0.02 3: Gamma value = 0.03 ... 100: Gamma value = 1

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>* Note: Although we set gamma value to 100 level, but not all gamma values are valid. Internal module will take the closest valid one. For example, 1~45 may all be mapped to gamma value = 0.45, etc.</p> <p>* Only available when "capability_image_c<0~(n-1)>_gammacurve" is 1</p>
profile_i<0~(m-1)>_lowlightmode <i><product dependent></i>	<boolean>	4/4	<p>Enable/disable low light mode.</p> <p>* Only available when "capability_image_c<0~(n-1)>_lowlightmode" is 1</p>
profile_i<0~(m-1)>_hlm <i><product dependent></i>	<boolean>	4/4	<p>Enable/disable hightlight mask.</p> <p>* Only available when "capability_image_c<0~(n-1)>_hlm" is 1</p>
profile_i<0~(m-1)>_dnrr_mode <i><product dependent></i>	<boolean>	4/4	<p>3D noise reduction.</p> <p>0:disable 1:enable</p> <p>* Only available when "capability_image_c<0~(n-1)>_dnrr" is 1</p>
profile_i<0~(m-1)>_dnrr_strength <i><product dependent></i>	1~100	4/4	<p>Strength of 3DNR</p> <p>* Only available when "capability_image_c<0~(n-1)>_dnrr" is 1</p>
profile_i<0~(m-1)>_defog_mode <i><product dependent></i>	<boolean>	4/4	<p>Enable/disable defog mode.</p> <p>0:disable 1:enable</p> <p>* Only available when "capability_image_c<0~(n-1)>_defog_mode" is 1</p>
profile_i<0~(m-1)>_defog_strengt h	1~100	4/4	Strength of defog

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
<product dependent>			* Only available when "capability_image_c<0~(n-1)>_defog_mode" is 1
profile_i<0~(m-1)>_eis_mode <product dependent>	<boolean>	4/4	Electronic image stabilizer 0:disable 1:enable * Only available when 'eis' is listed in "capability_image_c<0~(n-1)>_is_mode".
profile_i<0~(m-1)>_eis_strength <product dependent>	1~100	4/4	Strength of electronic image stabilizer * Only available when 'eis' is listed in "capability_image_c<0~(n-1)>_is_mode".
profile_i<0~(m-1)>_eis_focallength <product dependent>	2800~80000	4/4	The focal length (unit: micrometers) of the optics. This is used when no feedback on optical zoom setting is available. (capability_image_c<0~(n-1)>_remotefocus = 4) * Only available when capability_image_c<0~(n-1)>_is_setfocallength is 1 * Only valid when capability_image_c<0~(n-1)>_remotefocus is 4
profile_i<0~(m-1)>_dis_mode <product dependent>	<boolean>	4/4	Digital image stabilizer 0:disable 1:enable * Only available when 'dis' is listed in "capability_image_c<0~(n-1)>_is_mode".
profile_i<0~(m-1)>_dis_strength <product dependent>	1~100	4/4	Strength of digital image stabilizer * Only available when 'dis' is listed in "capability_image_c<0~(n-1)>_is_mode".
deblur_mode	<boolean>	4/4	Enable/disable deblur mode.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<ul style="list-style-type: none"> * Only available when "capability_image_c<0~(n-1)>_deblur_support" is 1 * We support this parameter when the version number (httpversion) is equal or greater than 0324a.

7.13 Exposure Window Setting per Channel

Group: **exposurewin_c<0~(n-1)>** for n channel products

n denotes the value of "capability_nvideoin"

(Only available when "capability_image_c<0~(n-1)>_exposure_mode"=1)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
mode	auto, custom,blc,hlc,center * Available values are listed in "capability_image_c<0~(n-1)>_exposure_winmode"	4/4	<p>"auto": Use full image view as the only exposure window.</p> <p>"custom": Use custom windows.</p> <p>"blc": Use BLC(Back Light Compensation), and the only exposure window is located at the center of view.</p> <p>"hlc": Use HLC (High Light Compensation), and to perform the masking of bright light area.</p> <p>"center": Use Center window as metering area and give the necessary light compensation.</p>

7.13.1 Exposure Window Setting for Each Window

Group: **exposurewin_c<0~(n-1)>_win_i<0~(k-1)>**

n denotes the value of "capability_nvideoin",

k denotes the value of "capability_image_c<0~(n-1)>_exposure_winnum".

(Only available when "capability_image_c<0~(n-1)>_exposure_mode"=1 and when custom is listed in "capability_image_c<0~(n-1)>_exposure_winmode" and valid when "exposurewin_c<0~(n-1)>_mode"=custom or "exposurewin_c<0~(n-1)>_mode"=hlc)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	4/4	Enable or disable the window.
policy	0~1	4/4	0: Indicate exclusive. 1: Indicate inclusive. * Only available when exclusive is listed in "capability_image_c<0~(n-1)>_exposure_wintype".
home	<0~320,0~240>	4/4	Left-top corner coordinate of the window. * Only available when qvga is listed in "capability_image_c<0~(n-1)>_exposure_windowdomain".
size	<0~320x0~240>	4/4	Width and height of the window. * Only available when qvga is listed in "capability_image_c<0~(n-1)>_exposure_windowdomain".
homepx	<0~W,0~H> W: 0~ The current image width - 1 H: 0~ The current image height - 1	4/4	Left-top corner coordinate of the window. * Only available when px is listed in "capability_image_c<0~(n-1)>_exposure_windowdomain".
sizepx	<0~Wx0~ H> W: 0~ The current image width - 1 H: 0~ The current image height - 1	4/4	Width and height of the window. * Only available when px is listed in "capability_image_c<0~(n-1)>_exposure_windowdomain".
homestd	<0~9999,0~9999>	4/4	Left-top corner coordinate of the window. * Only available when std is listed in "capability_image_c<0~(n-1)>_exposure_windowdomain".
sizestd	<0~9999x0~9999>	4/4	Width and height of the window.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* Only available when std is listed in "capability_image_c<0~(n-1)>_exposure_windowdomain".

Group: **exposurewin_c<0~(n-1)>_profile_i<0~(m-1)>** for n channel product and m profile,
 n denotes the value of "capability_nvideoin", m denotes the value of "capability_nvideoinprofile",
 (Only available when "capability_image_c<0~(n-1)>_exposure_mode"=1)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
mode	auto, custom, blc, hlc, center * Available values are listed in "capability_image_c<0~(n-1)>_exposure_winmode"	4/4	The mode indicates how to decide the exposure. "auto": Use full view as the only one exposure window. "custom": Use inclusive and exclusive window. "blc": Use BLC(Back Light Compensation), and the only exposure window is located at the center of view. "hlc": Use HLC (High Light Compensation), and to perform the masking of bright light area. "center": Use Center window as metering area and give the necessary light compensation.

Group: **exposurewin_c<0~(n-1)>_profile_i<0~(m-1)>_win_i<0~(k-1)>** for m profile and n channel product,
 n denotes the value of "capability_nvideoin", m denotes the value of "capability_nvideoinprofile",
 k denotes the value of "capability_image_c<0~(n-1)>_exposure_winnum".
 (Only available when "capability_image_c<0~(n-1)>_exposure_mode"=1 and when custom is listed in "capability_image_c<0~(n-1)>_exposure_winmode" and valid when "exposurewin_c<0~(n-1)>_mode"=custom or "exposurewin_c<0~(n-1)>_mode"=hlc)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	4/4	Enable or disable the window.
policy	0~1	4/4	<p>0: Indicate exclusive. 1: Indicate inclusive.</p> <p>* Only available when exclusive is listed in "capability_image_c<0~(n-1)>_exposure_wintype". * "policy=night" is only available when "capability_daynight_c<0~(n-1)>_support > 0".</p>
home	<0~320,0~240>	4/4	<p>Left-top corner coordinate of the window.</p> <p>* Only available when qvga is listed in "capability_image_c<0~(n-1)>_exposure_windowdomain".</p>
size	<0~320x0~240>	4/4	<p>Width and height of the window.</p> <p>* Only available when qvga is listed in "capability_image_c<0~(n-1)>_exposure_windowdomain".</p>
homepx	<p><0~W,0~H></p> <p>W: 0~ The current image width - 1 H: 0~ The current image height - 1</p>	4/4	<p>Left-top corner coordinate of the window.</p> <p>* Only available when px is listed in "capability_image_c<0~(n-1)>_exposure_windowdomain".</p>
sizepx	<p><0~Wx0~ H></p> <p>W: 0~ The current image width - 1 H: 0~ The current image height - 1</p>	4/4	<p>Width and height of the window.</p> <p>* Only available when px is listed in "capability_image_c<0~(n-1)>_exposure_windowdomain".</p>
homestd	<0~9999,0~9999>	4/4	Left-top corner coordinate of the window.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* Only available when std is listed in "capability_image_c<0~(n-1)>_exposure_windowdomain".
sizestd	<0~9999x0~9999>	4/4	Width and height of the window. * Only available when std is listed in "capability_image_c<0~(n-1)>_exposure_windowdomain".

7.14 Audio Input per Channel

Group: **audioin_c<0~(n-1)> (capability_naudioin>0)**

n denotes the value of "capability_naudioin"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
source <i><Not recommended to use this></i>	micin, linein <i><product dependent></i>	4/4	micin => use built-in microphone input. linein => use external microphone input. * We replace this parameter with "audioin_c<0~(n-1)>_input" when the version number (httpversion) is equal or greater than 0301a.
input	intmic, extmic <i><product dependent></i>	4/4	intmic: Internal (built-in) microphone. (Only available when capability_audio_intmic = 1) extmic: External microphone input. (Only available when capability_audio_extmic =1) * Note: If physical microphone switch is showed on product, this value is updated during booting to fit switch status.
volume_internal	0~100	4/4	Volume when take internal microphone as input source. 0: Minimum 100: Maximum

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* Only available when the channel supports internal microphone (The related bit of "capability_audio_intmic" is equal to 1).
volume_external	0~100	4/4	<p>Volume when take external microphone as input source.</p> <p>0: Minimum 100: Maximum</p> <p>* Only available when the channel supports external microphone (The related bit of "capability_audio_extmic" is equal to 1).</p>
mute	0, 1	1/4	<p>0: Mute off 1: Mute on</p>
gain <Not recommended to use this>	0~100	4/4	<p>Gain of input. (audioin_c<0~(n-1)>_source = linein)</p> <p>* Reserved for compatibility, and suggest don't use this since the version number (httpversion) is equal or greater than 0301a.</p> <p>* We replace "gain" with "volume_internal" and "volume_external". More details, please refer the parameter description of "volume_internal" and "volume_external".</p>
boostmic <Not recommended to use this>	0~100	4/4	<p>Enable microphone boost.</p> <p>Gain of input. (audioin_c<0~(n-1)>_source = micin)</p> <p>* Reserved for compatibility, and suggest don't use this since the</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>version number (httpversion) is equal or greater than 0301a.</p> <p>* We replace "boostmic" with "volume_internal" and "volume_external". More details, please refer the parameter description of "volume_internal" and "volume_external".</p>
s0_codectype	aac4, gamr, g711, g726 (Available codec are listed in "capability_audiostream_codec")	4/4	<p>Set audio codec type for input.</p> <p>aac4: Advanced Audio Coding (AAC) gamr: Adaptive Multi-Rate (AMR) g711: G.711 g726: G.726</p>
s0_aac4_bitrate	16000, 32000, 48000, 64000, 96000, 128000	4/4	<p>Set AAC4 bitrate in bps.</p> <p>* Only available if AAC is supported.</p>
s0_gamr_bitrate	4750, 5150, 5900, 6700, 7400, 7950, 10200, 12200	4/4	<p>AMR encoded bitrate in bps.</p> <p>* Only available if AMR is supported.</p>
s0_g711_mode	pcmu, pcma	4/4	<p>Set G.711 companding algorithm.</p> <p>pcmu: μ-law algorithm pcma: A-law algorithm</p> <p>* Only available if G.711 is supported.</p>
s0_g726_bitrate	16000, 24000, 32000, 40000	4/4	<p>Set G.726 encoded bitrate in bps.</p> <p>* Only available if G.726 is supported.</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
s0_g726_bitstreampackingmode	little, big	4/4	<p>Set G.726 bit streaming packing mode.</p> <p>little: Little-endian bitstream format.</p> <p>big: Big-endian bitstream format.</p> <p>RTP payload formats (ref. RFC3551):</p> <p>little-endian: G726-16, -24, -32, -40/8000</p> <p>big-endian: AAL2-G726-16, -24, -32, -40/8000</p> <p>* Only available if G.726 is supported.</p>
s0_g726_vlcmode	0, 1	4/4	<p>Enable vlcmode for G.726.</p> <p>0: Standard mode.</p> <p>1: Solve compatibility problem with VLC player.</p> <p>* Only available if G.726 is supported.</p>
aec_enable	<boolean>	4/4	<p>Enable acoustic echo cancellation.</p> <p>* Only available when "capability_audio_aecmode" is "manual".</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0306b.</p>
alarm_enable	<boolean>	4/4	Enable audio detection
alarm_level	1~100	4/4	Audio detection alarm level
profile_i0_enable	<boolean>	4/4	Enable/disable this profile setting
profile_i0_policy	night, schedule <product dependent>	4/4	<p>The mode which the profile is applied to.</p> <p>* Not support "policy=day" anymore when the version number (httpversion) is equal or greater than 0301a.</p> <p>* "policy=night" is only available when "capability_daynight_c<0~(n-1)>_support > 0".</p>
profile_i0_begintime	hh:mm	4/4	Begin time of schedule mode.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
profile_i0_endtime	hh:mm	4/4	End time of schedule mode.
profile_i0_alarm_level	1~100	4/4	Audio detection alarm level

7.14.1 Multicast Settings for Audio Streaming

Group: **audioin_c<0~(n-1)>_s0_multicast** (**capability_naudioin > 0** and

capability_media_streamprofiles_support = 1)

n denotes the value of "capability_naudioin"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
ipaddress	<ip address>	4/4	Multicast audio IP address.
port	1025 ~ 65535	4/4	Multicast audio port.
ipversion	IPv4, IPv6	4/4	The version of internet protocol.
ttl	1 ~ 255	4/4	Multicast audio time to live value.

7.15 Audio Output per Channel

Group: **audioout_c<0~(n-1)>** for n channel products (**capability_naudioout>0**)

n denotes the value of "capability_naudioout"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
volume	0~100	4/4	Adjusting audio volume

7.16 Play an Audio Clip

Group: **audioclip_i<0~1>** (**capability_audio_audioclip=1**)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
name	string[40]	1/4	Specify the audio clip name that can be played when an event occurs.
size	0,<positive integer>	1/4	The size of audio clip.

Group: **audioclip** (*capability_audio_audioclip=1*)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
prerecord_seconds	1~10	1/4	Indicates the seconds that can be waited before audio clip start to record.

7.17 Motion Detection Settings

Group: **motion_c<0~(n-1)>** for n channel products

n denotes the value of "capability_nvideoin"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	4/4	Enable motion detection.
win_sensitivity	0 ~ 100	4/4	Sensitivity of all motion detection windows. * The value "0" is reserved for compatibility and will not be used after the version number (httpversion) is equal or greater than 0400a.

7.17.1 Motion Detection for Each Window

Group: **motion_c<0~(n-1)>_win_i<0~(k-1)>**

n denotes the value of "capability_nvideoin", k denotes the value of "capability_nmotion".

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	4/4	Enable motion detection window.
name	string[14]	4/4	Name of motion window.
polygonstd	0 ~ 9999,0 ~ 9999,0 ~ 9999,0 ~ 9999,0 ~ 9999,0 ~ 9999,0 ~ 9999,0 ~ 9999,0 ~ 9999	4/4	Coordinate of polygon window position. (4 points: x0,y0,x1,y1,x2,y2,x3,y3) * Only available when "capability_motion_wintype" = polygon. * Only available when std is listed in "capability_motion_windomain"
objsize	1 ~ 100	4/4	Percent of motion detection window.
sensitivity	0 ~ 100	4/4	Sensitivity of motion detection window.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
<Not recommended to use this>			<ul style="list-style-type: none"> * We replace "sensitivity" with "win_sensitivity". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
polygonpx <Not recommended to use this>	0 ~ W,0 ~ H, 0 ~ W,0 ~ H, 0 ~ W,0 ~ H, 0 ~ W,0 ~ H W: 0~ The current image width -1 H: 0~ The current image height -1	4/4	<p>Coordinate of polygon window position. (4 points: x0,y0,x1,y1,x2,y2,x3,y3)</p> <ul style="list-style-type: none"> * Only available when "capability_motion_wintype" = polygon. * Only available when px is listed in "capability_motion_windomain". * It's recommended to use polygonsd * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
polygon <Not recommended to use this>	0 ~ 320,0 ~ 240, 0 ~ 320,0 ~ 240, 0 ~ 320,0 ~ 240, 0 ~ 320,0 ~ 240	4/4	<p>Coordinate of polygon window position. (4 points: x0,y0,x1,y1,x2,y2,x3,y3)</p> <ul style="list-style-type: none"> * Only available when "capability_motion_wintype" = polygon. * Only available when qvga is listed in "capability_motion_windomain". * It's recommended to use polygonsd * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
left <Not recommended to use this>	0 ~ 320	4/4	<p>Left coordinate of window position.</p> <ul style="list-style-type: none"> * Only available when "capability_motion_wintype" = rectangle. * Only available when qvga is listed in "capability_motion_windomain". * It's recommended to use polygonsd

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
top <Not recommended to use this>	0 ~ 240	4/4	Top coordinate of window position. * Only available when "capability_motion_wintype" = rectangle. * Only available when qvga is listed in "capability_motion_windomain". * It's recommended to use polygonsd * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
width <Not recommended to use this>	0 ~ 320	4/4	Width of motion detection window. * Only available when "capability_motion_wintype" = rectangle. * Only available when qvga is listed in "capability_motion_windomain". * It's recommended to use polygonsd * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
height <Not recommended to use this>	0 ~ 240	4/4	Height of motion detection window. * Only available when "capability_motion_wintype" = rectangle. * Only available when qvga is listed in "capability_motion_windomain". * It's recommended to use polygonsd * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.

Group: **motion_c<0~(n-1)>_profile_i<0~(m-1)>** for m profile and n channel product,
 n denotes the value of "capability_nvideoin", m denotes the vaule of " capability_nmotionprofile ",

(capability_nmotionprofile > 0)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	4/4	Enable profile 1 ~ (m-1).
policy	night, schedule	4/4	The mode which the profile is applied to. * Not support "policy=day" anymore when the version number (httpversion) is equal or greater than 0301a. * "policy=night" is only available when "capability_daynight_c<0~(n-1)>_support > 0".
begintime	hh:mm	4/4	Begin time of schedule mode.
endtime	hh:mm	4/4	End time of schedule mode.
win_sensitivity	0 ~ 100	4/4	Sensitivity of all motion detection windows. * The value "0" is reserved for compatibility and will not be used after the version number (httpversion) is equal or greater than 0400a.

Group: **motion_c<0~(n-1)>_profile_i<0~(m-1)>_win_i<0~(k-1)>** for m profile and n channel product,

n denotes the value of "capability_nvideoin", m denotes the vaule of "capability_nmotionprofile", k denotes the value of "capability_nmotion".

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	4/4	Enable motion detection window.
name	string[14]	4/4	Name of motion window.
polygonstd	0 ~ 9999,0 ~ 9999, 0 ~ 9999,0 ~ 9999, 0 ~ 9999,0 ~ 9999, 0 ~ 9999,0 ~ 9999	4/4	Coordinate of polygon window position. (4 points: x0,y0,x1,y1,x2,y2,x3,y3) * Only available when "capability_motion_wintype" = polygon. * Only available when std is listed in "capability_motion_windomain"
objsize	1 ~ 100	4/4	Percent of motion detection window.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
sensitivity <Not recommended to use this>	0 ~ 100	4/4	Sensitivity of motion detection window. * We replace "sensitivity" with "win_sensitivity". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
polygonpx <Not recommended to use this>	0 ~ W,0 ~ H, 0 ~ W,0 ~ H, 0 ~ W,0 ~ H W: 0~ The current image width -1 H: 0~ The current image height -1	4/4	Coordinate of polygon window position. (4 points: x0,y0,x1,y1,x2,y2,x3,y3) * Only available when "capability_motion_wintype" = polygon. * Only available when px is listed in "capability_motion_windomain". * It's recommended to use polygonsd * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
polygon <Not recommended to use this>	0 ~ 320,0 ~ 240, 0 ~ 320,0 ~ 240, 0 ~ 320,0 ~ 240, 0 ~ 320,0 ~ 240	4/4	Coordinate of polygon window position. (4 points: x0,y0,x1,y1,x2,y2,x3,y3) * Only available when "capability_motion_wintype" = polygon. * Only available when qvga is listed in "capability_motion_windomain". * It's recommended to use polygonsd * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
left <Not recommended to use this>	0 ~ 320	4/4	Left coordinate of window position. * Only available when "capability_motion_wintype" = rectangle. * Only available when qvga is listed in "capability_motion_windomain". * It's recommended to use polygonsd * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
top <Not recommended to use this>	0 ~ 240	4/4	<p>Top coordinate of window position.</p> <ul style="list-style-type: none"> * Only available when "capability_motion_wintype" = rectangle. * Only available when qvga is listed in "capability_motion_windomain". * It's recommended to use polygonsd * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
width <Not recommended to use this>	0 ~ 320	4/4	<p>Width of motion detection window.</p> <ul style="list-style-type: none"> * Only available when "capability_motion_wintype" = rectangle. * Only available when qvga is listed in "capability_motion_windomain". * It's recommended to use polygonsd * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
height <Not recommended to use this>	0 ~ 240	4/4	<p>Height of motion detection window.</p> <ul style="list-style-type: none"> * Only available when "capability_motion_wintype" = rectangle. * Only available when qvga is listed in "capability_motion_windomain". * It's recommended to use polygonsd * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.

7.18 Tampering Detection Settings

Group: **tampering_c<0~(n-1)>** for n channel products (**capability_tampering > 0**)

n denotes the value of "capability_nvideoin"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	4/4	Enable or disable tamper detection.
threshold	0~100	4/4	Threshold of tamper detection.
duration	10~600	4/4	If tampering value exceeds the "threshold" for more than "duration" second(s), then tamper detection is triggered.
ignorewidth	0,<positive integer>	1/7	Indicate the width to offset to start to analysis the image.
dark_enable	<boolean>	4/4	Enable or disable image too dark detection
dark_threshold	0~100	4/4	Threshold of image too dark detection
dark_duration	1~10	4/4	If image too dark value exceeds the "threshold" for more than "duration" second(s), then image too dark detection is triggered.
bright_enable	<boolean>	4/4	Enable or disable image too bright detection
bright_threshold	0~100	4/4	Threshold of image too bright detection
bright_duration	1~10	4/4	If image too bright value exceeds the "threshold" for more than "duration" second(s), then image too bright detection is triggered.
blurry_enable	<boolean>	4/4	Enable or disable image too blurry detection
blurry_threshold	0~100	4/4	Threshold of image too blurry detection
blurry_duration	1~10	4/4	If image too blurry value exceeds the "threshold" for more than "duration" second(s), then image too blurry detection is triggered.

7.19 DDNS

Group: **ddns** (`capability_protocol_ddns > 0`)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	6/6	Enable or disable the dynamic DNS.
provider	DyndnsDynamic, DyndnsCustom	6/6	DyndnsDynamic => dyndns.org (dynamic) DyndnsCustom => dyndns.org
<provider>_hostname	string[128]	6/6	Your DDNS hostname.
<provider>_username	string[64]	6/6	Your user name or email to login to the DDNS service provider
<provider>_passwordkey	string[64]	7/6	Your password or key to login to the DDNS service provider.

7.20 UPnP Presentation

Group: **upnppresentation**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	6/6	Enable or disable the UPnP presentation service.

7.21 UPnP Port Forwarding

Group: **upnpportforwarding**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	6/6	Enable or disable the UPnP port forwarding service.
upnpnatstatus	0~3	6/7	The status of UPnP port forwarding, used internally. 0 = OK, 1 = FAIL, 2 = no IGD router, 3 = no need for port forwarding

7.22 System Log

Group: **syslog**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enableremotelog	<boolean>	6/6	Enable remote log.
serverip	<IP address>	6/6	Log server IP address.
serverport	514, 1025~65535	6/6	Server port used for log.
level	0~7	6/6	Levels used to distinguish the importance of the information: 0: LOG_EMERG 1: LOG_ALERT 2: LOG_CRIT 3: LOG_ERR 4: LOG_WARNING 5: LOG_NOTICE 6: LOG_INFO 7: LOG_DEBUG
setparamlevel	0~2	6/6	Show log of parameter setting. 0: disable 1: Show log of parameter setting set from external. 2. Show log of parameter setting set from external and internal.

7.23 SNMP

Group: **snmp** (*capability_protocol_snmp > 0*)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
v2	<boolean>	6/6	SNMP v2 enabled. 0 for disable, 1 for enable
v3	<boolean>	6/6	SNMP v3 enabled. 0 for disable, 1 for enable
secnamerw	string[31]	6/6	Read/write security name
secnamero	string[31]	6/6	Read only security name
authpwrw	string[8~128]	7/6	Read/write authentication password
authpwro	string[8~128]	7/6	Read only authentication password
authtyperw	MD5,SHA	6/6	Read/write authentication type

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
authtypero	MD5,SHA	6/6	Read only authentication type
encryptpwrw	string[8~128]	7/6	Read/write passwd
encryptpwro	string[8~128]	7/6	Read only password
encrypttyperw	DES	6/6	Read/write encryption type
encrypttypero	DES	6/6	Read only encryption type
rwcommunity	string[31]	6/6	Read/write community
rocommunity	string[31]	6/6	Read only community
syslocation	string[128]	6/6	System location
syscontact	string[128]	6/6	System contact

7.24 SNMP Trap

8. Group: **snmptrap**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	6/6	SNMP trap enabled. 0 for disable, 1 for enable. * We support this parameter when the version number (httpversion) is equal or greater than 0327a
server_ip	<ip address>	6/6	The IP address of the SNMP Trap server. * We support this parameter when the version number (httpversion) is equal or greater than 0327a
server_port	162, 1025~65535	6/6	Port to connect to the server. * We support this parameter when the version number (httpversion) is equal or greater than 0327a

7.25 Layout Configuration

Group: layout

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
logo_default	<boolean>	1/6	0 => Custom logo 1 => Default logo
logo_link	string[128] http://www.vivotek.com	1/6	Hyperlink of the logo
logo_powerbyvvtk_hidden	<boolean>	1/6	0 => display the power by vivotek logo 1 => hide the power by vivotek logo
custombutton_manualtrigger_show	<boolean>	1/6	Show or hide manual trigger (VI) button in homepage 0 -> Hidden 1 -> Visible
theme_option	1~4	1/6	1~3: One of the default themes. 4: Custom definition.
theme_color_font	string[7]	1/6	Font color
theme_color_configfont	string[7]	1/6	Font color of configuration area.
theme_color_titlefont	string[7]	1/6	Font color of video title.
theme_color_controlbackground	string[7]	1/6	Background color of control area.
theme_color_configbackground	string[7]	1/6	Background color of configuration area.
theme_color_videobackground	string[7]	1/6	Background color of video area.
theme_color_case	string[7]	1/6	Frame color
defaultpassword_specialcharacter	!%-.@^_~	4/7	Allowed special characters * We support this parameter when the version number (httpversion) is equal or greater than 0314b.
defaultpassword_type	<positive integer>	4/6	Required character type for password. An 32-bit integer, each bit can be set separately as follows: Bit 0 => Require English alphabet letter (uppercase or lowercase) Bit 1 => Require special character

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>Bit 2 => Require digit number Bit 3 => Require lowercase letter Bit 4 => Require uppercase letter Bit 5 => Allow checking username and password; if "bit=1" means username=password is allowed, otherwise is not allowed. * We support this parameter when the version number (httpversion) is equal or greater than 0314b.</p>
defaultpassword_length	8 ~ 64	4/6	<p>Allowed password length. * We support this parameter when the version number (httpversion) is equal or greater than 0314b.</p>

7.26 Privacy Mask

Group: **privacymask_c<0~(n-1)>** for n channel products and m privacy mask window.

n denotes the value of "capability_nvideoin" and m denotes the value of

"capability_videoin_c<0~(n-1)>_nprivacymask"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	4/4	Enable privacy mask.
type	color, mosaic (* Available values are listed in "capability_imag e_c<0~(n-1)>_ privacymask_typ es")	4/4	Privacy mask type. "color": color Privacy mask "mosaic": mosaic Privacy mask *Only available when capability_image_c0~(n- 1)>_privacymask_types is supported
win_i<0~(m-1)>_enable	<boolean>	4/4	Enable privacy mask window.
win_i<0~(m-1)>_name	string[14]	4/4	Name of the privacy mask window.
win_i<0~(m-1)>_left	0 ~ 320	4/4	Left coordinate of window position. * Only available when "capability_image_c<0~(n- 1)>_privacymask_wintype" = rectangle. * If the image is rotated by 90 or 270 degrees, the range of left coordinate is 0~240.
win_i<0~(m-1)>_top	0 ~ 240	4/4	Top coordinate of window position. * Only available when "capability_image_c<0~(n- 1)>_privacymask_wintype" = rectangle. * If the image is rotated by 90 or 270 degrees, the range of top coordinate is 0~320.
win_i<0~(m-1)>_width	0 ~ 320	4/4	Width of privacy mask window.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<ul style="list-style-type: none"> * Only available when "capability_image_c<0~(n-1)>_privacymask_wintype" = rectangle. * If the image is rotated by 90 or 270 degrees, the range of width is 0~240.
win_i<0~(m-1)>_height	0 ~ 240	4/4	<p>Height of privacy mask window.</p> <ul style="list-style-type: none"> * Only available when "capability_image_c<0~(n-1)>_privacymask_wintype" = rectangle. * If the image is rotated by 90 or 270 degrees, the range of height is 0~320.
win_i<0~(m-1)>_polygon	0 ~ 320,0 ~ 240, 0 ~ 320,0 ~ 240, 0 ~ 320,0 ~ 240, 0 ~ 320,0 ~ 240	4/4	<p>Coordinate of polygon window position.</p> <p>(4 points: x0,y0,x1,y1,x2,y2,x3,y3)</p> <ul style="list-style-type: none"> * Only available when "capability_image_c<n>_privacymask_wintype" = polygon. * Only available when qvga is listed in "capability_image_c<0~(n-1)>_privacymask_windomain".
win_i<0~(m-1)>_polygonpx	0 ~ W,0 ~ H, 0 ~ W,0 ~ H, 0 ~ W,0 ~ H, 0 ~ W,0 ~ H W: 0~ The current image width -1 H: 0~ The current image height -1	4/4	<p>Coordinate of polygon window position.</p> <p>(4 points: x0,y0,x1,y1,x2,y2,x3,y3)</p> <ul style="list-style-type: none"> * Only available when "capability_image_c<0~(n-1)>_privacymask_wintype" = polygon. * Only available when px is listed in "capability_image_c<0~(n-1)>_privacymask_windomain".
win_i<0~(m-1)>_polygonstd	0 ~ 9999,0 ~ 9999, 0 ~ 9999,0 ~ 9999, 0 ~ 9999,0 ~ 9999,0 ~ 9999	4/4	<p>Coordinate of polygon window position.</p> <p>(4 points: x0,y0,x1,y1,x2,y2,x3,y3)</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<ul style="list-style-type: none"> * Only available when "capability_image_c<0~(n-1)>_privacymask_wintype" = polygon. * Only available when std is listed in "capability_image_c<0~(n-1)>_privacymask_windomain".

7.27 3D Privacy Mask

Group: **privacymask3d_c<0~(n-1)>** for n channel products and m privacy mask window.

(**capability_image_c<0~(n-1)>_privacymask_wintype = 3Drectangle** or **capability_image_c<0~(n-1)>_privacymask_wintype = 3Dpolygon**)

n denotes the value of "capability_nvideoin" and m denotes the value of

"capability_videoin_c<0~(n-1)>_nprivacymask"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	4/4	Enable the 3D privacy mask
color	0~" capability_image_c<0~(n-1)>_privacymask_ncolor" -1	4/4	Privacy mask color
type	color, mosaic (* Available values are listed in "capability_image_c<0~(n-1)>_ privacymask_types")	4/4	Privacy mask type. "color": color Privacy mask *Only available when capability_image_c<0~(n-1)>_privacymask_types is supported
win_i<0~(m-1)>_name	string[40]	4/4	Name of the privacy mask window.
win_i<0~(m-1)>_pan	"capability_ptz_c<0~(n-1)>_minpan" ~ "capability_ptz_c<0~(n-1)>_maxpan"	4/7	Pan position of window position. * Only available when bit0 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
win_i<0~(m-1)>_tilt	"capability_ptz_c<0~(n-1)>_mintilt" ~ "capability_ptz_c<0~(n-1)>_maxtilt"	4/7	Tilt position of window position. * Only available when bit1 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
win_i<0~(m-1)>_zoom	"capability_ptz_c<0~(n-1)>_minzoom" ~ "capability_ptz_c<0~(n-1)>_maxzoom"	4/7	Zoom position of window position.
win_i<0~(m-1)>_fliped	<boolean>	4/7	Flip side of window position. 0: Non-flip side 1: Flip side

7.28 Capability

Group: **capability**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
api_httpversion	<string> This number start with 0301a.	0/7	<p>The version of VIVOTEK WebAPI with 4 integers plus 1 alphabet, There are composed by "major version", "minor version", "revision", "_platform". ex: 0301a_1</p> <p><u>Major version</u> Increase the major version when change, remove the old features/interfaces or the firmware has substantially change in architecture and not able to roll back to previous version. This may cause incompatibility with supporting software.</p> <p><u>Minor version</u> Increase the minor version when add new features/interfaces without change the old features and interfaces.</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p><u>Revision</u> Increase the revision when fix bugs without change any features of the output.</p> <p><u>platform</u> This is a constant, it is used to distinguish between different platforms</p> <p><u>API version format:</u> MMmmr_k Where "MM" is the major version, "mm" is the minor version and "r" is the revision. 'M' and 'm' and 'k' are decimal digit from 0 to 9, while 'r' is an alphabetic. EX: 0302b_1 => Major version = 03, minor version = 02, revision = b, platform = 1 The 4 integer numbers are WebAPI version, we use short name: [httpversion] for it in this document. The 5th character is model-based version for API bug-fix and it's default to "a". Ex: If some APIs in a model does not follow the API definition of 0301a_1, we will fix them and change this API value to 0301b_1.</p>
api_logoversion	<string> This number start with 1.0	0/7	<p>Indicate the version of Vivotek log format.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0317c.</p>
bootuptime	<positive integer>	0/7	Server bootup time.
nir	0,	0/7	Number of IR interfaces.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
<Not support anymore>	<positive integer>		(Recommand to use capability_daynight_c<0~"capability_nvideoin"-1>_builtinir for built-in IR and capability_daynight_c<0~"capability_nvideoin"-1>_externalir for external IR) * Not support this parameter anymore when the version number (httpversion) is equal or greater than 0301a.
npir	0, <positive integer>	0/7	Number of PIRs.
ndi	0, <positive integer>	0/7	Number of digital inputs.
nvi	0, <positive integer>	0/7	Number of virtual inputs (manual trigger)
ndo	0, <positive integer>	0/7	Number of digital outputs.
naudioin	0, <positive integer>	0/7	The number of audio input channel. 0 means no audio input support.
naudioout	0, <positive integer>	0/7	The number of audio output channel
nvideoin	<positive integer>	0/7	Number of video inputs.
nvideoout	0, <Positive Integer>	0/7	Number of video out interface.
nvideoinprofile	<positive integer>	0/7	Number of video input profiles.
nmediastream	<positive integer>	0/7	Number of media stream per channels.
naudiosetting <Not support anymore>	<positive integer>	0/7	Number of audio settings per channel. * Not support this parameter anymore when the version number (httpversion) is equal or greater than 0301a. * We replace "naudiosetting" with "naudioin". More details, please refer

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			the parameter description of "volume_internal" and "volume_external".
nuart	0, <positive integer>	0/7	Number of UART interfaces.
nmotion	<positive integer>	0/7	The number of motion window.
nmotionprofile	0, <positive integer>	0/7	Number of motion profiles.
nevent	0, <positive integer>	0/7	Number of event. * We support this parameter when the version number (httpversion) is equal or greater than 0311c.
nrecording	0, <positive integer>	0/7	Number of recording. * We support this parameter when the version number (httpversion) is equal or greater than 0309a.
ptzenabled	0, <positive integer>	0/7	An 32-bit integer, each bit can be set separately as follows: Bit 0 => Support camera control function; 0(not support), 1(support) Bit 1 => (only available when bit0 is 1) Built-in or external video source; 0(external), 1(built-in) Bit 2 => (only available when bit0 is 1) Support pan operation; 0(not support), 1(support) Bit 3 => (only available when bit0 is 1) Support tilt operation; 0(not support), 1(support) Bit 4 => (only available when bit0 is 1) Support zoom operation; 0(not support), 1(support) (only available when RS-485 interface is supported or SD/PZ/PT/PD/video server series)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>Bit 5 => (only available when bit0 is 1) Support focus operation; 0(not support), 1(support)</p> <p>(only available when RS-485 interface is supported or SD/PZ/PT/PD/video server series)</p> <p>Bit 6 => (only available when bit0 is 1) Reserved bit; always 0.</p> <p>Bit 7 => (only available when bit0 is 1) External or built-in PT; 0(built-in), 1(external)</p>
windowless	<boolean>	0/7	Indicate whether to support windowless plug-in.
evctrlchannel	<boolean>	0/7	Indicate whether to support HTTP tunnel for event/control transfer.
joystick	<boolean>	0/7	Indicate whether to support joystick control.
remotefocus <i><Not recommended to use this></i>	0,<positive integer>	0/7	<p>An 4-bit integer, which indicates the supportive application of remotefocus.</p> <p>If the value of this parameter is larger than 0, it means that the camera supports remotefocus function.</p> <p>bit 0 => Indicate whether to support both zoom and focus function.</p> <p>bit 1 => Only support zoom function.</p> <p>bit 2 => Only support focus function.</p> <p>bit 3 => Currently, this is a reserved bit, and the default value is 0.</p> <p>* It's strongly non-recommended to use this.</p> <p>* This is reserved for compatibility and will not be used after the version number (httpversion) is equal or greater than 0400a.</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* We replace "capability_remotefocus" with "capability_image_c0_remotefocus".
npreset	0, <positive integer>	0/7	Number of preset locations
presettourdirection	<boolean>	0/7	Indicate whether to support preset tour direction function. It means users can choose which direction the preset tour goes. * We support this parameter when the version number (httpversion) is equal or greater than 0307a.
eptz	0, <positive integer>	0/7	For "nvideoin" = 1, the definition is as following: A 32-bits integer, each bit can be set separately as follows: Bit 0 => 1st stream supports ePTZ or not. Bit 1 => 2nd stream supports ePTZ or not, and so on. For nvideoin >= 2, the definition is different: First all 32 bits are divided into groups for channel. Ex: nvideoin = 2, bit 0~15 are the 1st group for 1st channel, bit 16~31 are the 2nd group for 2nd channel. nvideoin = 3, bit 0~9 are the 1st group for 1st channel, bit 10~19 are the 2nd group for 2nd channel, bit 20~31 are the 3rd group for 3rd channel. Then, the 1st bit of the group indicates 1st stream of a channel support ePTZ or not. The 2nd bit of the group indicates 2nd stream of a channel support ePTZ or not, and so

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			on. * For most products, the last stream of a channel will not support ePTZ. It is reserved for full view of the channel. For some dual-stream products, both streams support ePTZ.
nanostream	0, <positive integer>	0/7	number of any media stream per channel
iva	<boolean>	0/7	Indicate whether to support Intelligent Video analysis
whitelight <i><Not recommended to use this></i>	<boolean>	0/7	Indicate whether to support white light led. * We replace this parameter with "capability_daynight_c<0~(n-1)>_builtinwled" when the version number (httpversion) is equal or greater than 0309d.
iris	<boolean>	0/7	Indicate whether to support iris control.
supportsd	<boolean>	0/7	Indicate whether to support local storage.
fisheye	<boolean>	0/7	The parameter is used to determine whether the product is fisheye or not.
tampering	<boolean>	0/7	Indicate whether to support tampering detection.
tamperingmode	tamper,toodark,toobright,tooblurry	0/7	Available tampering mode list. * Only available when "capability_tampering" is 1.
adaptiverecording	<boolean>	0/7	Indicate whether to support adaptive recording.
adaptivestreaming	<boolean>	0/7	Indicate whether to support adaptive streaming.
supporttriggertype s	seq,boot,motion,networkfail,recnotify,tampering,vi,vadp,di,volalarm,temperature,pir,	0/7	list all the trigger types which are supported in the camera: "seq" = Periodic condition "boot" = System boot

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
	visignal, backup,smartsd, shockalarm,virestore, presetreached, casingopen, certificateexpiration, <product dependent>		"motion" = Video motion detection "networkfail" = network connection failure "reconnectify" = Recording notification. "tampering" = Tamper detection. "vi" = Virtual input (Manual trigger) "vadp" = VADP trigger. "di"= Digital input. "volalarm" = Audio detection. "temperature" = Temperature detection. "pir" = PIR detection. "visignal" = Video input signal loss. "backup" = Backing up recorded files. "smartsd" = Lifetime detection of SD card. "shockalarm" = Shock detection. "virestore" = Video input signal restore. "presetreached" = When any preset is reached "casingopen" = Casing open detection. "certificateexpiration" = Certificate management expiration. * Only available when [httpversion] >= 0301a
media_num	0,<positive integer>	0/7	Number of media number. * We support this parameter when the version number (httpversion) is equal or greater than 0311c.
storage_dbenabled	<boolean>	0/7	Media files are indexed in database.
protocol_https	<boolean >	0/7	Indicate whether to support HTTP over SSL.
protocol_rtsp	<boolean >	0/7	Indicate whether to support RTSP.
protocol_sip	<boolean>	0/7	Indicate whether to support SIP.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
protocol_ibis	<boolean>	0/7	Indicate whether to support integrated on-board information system (IBIS). * We support this parameter when the version number (httpversion) is equal or greater than 0317a.
protocol_maxconnection	<positive integer>	0/7	The maximum number of allowed simultaneous connections.
protocol_maxgeneralconnection <Not Recommended to use this>	<positive integer>	0/7	The maximum general streaming connections . * We replaced this parameter with "capability_protocol_maxconnection" when the version number (httpversion) is equal or greater than 0311c.
protocol_rtp_multicast_scalable	<boolean>	0/7	Indicate whether to support scalable multicast.
protocol_rtp_multicast_backchannel	<boolean>	0/7	Indicate whether to support backchannel multicast.
protocol_rtp_tcp	<boolean>	0/7	Indicate whether to support RTP over TCP.
protocol_rtp_http	<boolean>	0/7	Indicate whether to support RTP over HTTP.
protocol_spush_mjpeg	<boolean>	0/7	Indicate whether to support server push MJPEG.
protocol_snmp	<boolean>	0/7	Indicate whether to support SNMP.
protocol_ipv6	<boolean>	0/7	Indicate whether to support IPv6.
protocol_pppoe	<boolean>	0/7	Indicate whether to support PPPoE.
protocol_ieee8021x	<boolean>	0/7	Indicate whether to support IEEE802.1x.
protocol_qos_cos	<boolean>	0/7	Indicate whether to support CoS.
protocol_qos_dscp	<boolean>	0/7	Indicate whether to support QoS/DSCP.
protocol_ddns	<boolean>	0/7	Indicate whether to support DDNS.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
protocol_ftp_server	<positive integer>	0/7	An 32-bit integer, each bit can be set separately as follows: Bit 0 => ftp; Bit 1=> sftp; * We support this parameter when the version number (httpversion) is equal or greater than 0314a.
protocol_ftp_client	<positive integer>	0/7	An 32-bit integer, each bit can be set separately as follows: Bit 0 => ftp; Bit 1=> sftp; * We support this parameter when the version number (httpversion) is equal or greater than 0314a.
protocol_tlsversion	1.2,1.3	0/7	Indicates which TLS versions are supported. * We support this parameter when the version number (httpversion) is equal or greater than 0323a.
videoin_type	0, 1, 2	0/7	0 => Interlaced CCD 1 => Progressive CCD 2 => CMOS
videoin_nresolution	<positive integer>	0/7	This equals "capability_videoin_c0_nresolution". * This is kept for compatibility.
videoin_resolution	A list of <WxH> <product dependent>	0/7	This equals "capability_videoin_c0_resolution". * This is kept for compatibility.
videoin_maxframerate	A list of <Integer>	0/7	This equals "capability_videoin_c0_maxframerate". * This is kept for compatibility.
videoin_mjpeg_maxframerate	A list of <Integer> and "-"	0/7	This equals "capability_videoin_c0_mjpeg_maxframerate".

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* This is kept for compatibility.
videoin_h264_max framerate	A list of <Integer> and "<_>"	0/7	This equals "capability_videoin_c0_h264_maxframerate". * This is kept for compatibility.
videoin_codec	mjpeg, h264, h265 <product dependent>	0/7	Available codec of a device, split by comma. The sequence is not limited. EX: FD8183 supports H.264 and MJPEG, then this is "mjpeg,h264". IP9171 supports H.264, MJPEG and H.265, then this is "mjpeg,h264,h265"
videoin_streamcodec	A list of <Positive Integer>	0/7	This equals "capability_videoin_c0_streamcodec". * This is kept for compatibility.
videoin_flexiblebitrate	<boolean>	0/7	Indicate whether to support flexible bit rate control.
videoout_codec	A list of the available codec types separated by commas <product dependent>	0/7	Available codec list. "-": not supported
timeshift	<boolean>	0/7	Indicate whether to support time shift caching stream.
audio_aec	<boolean>	0/7	Indicate whether to support acoustic echo cancellation.
audio_aemode	auto, manual	0/7	Indicate the acoustic echo cancellation control mode. " auto"manual*Only available when "capability_audio_aec" is "1".

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* We support this parameter when the version number (httpversion) is equal or greater than 0306b.
audio_aecaffect	-, maxframerate:fixed:1 5 <product dependent>	0/7	<p>When acoustic echo cancellation function is enabled, some features may become malfunction or be forced to a given value. The affected functions are listed here.</p> <p>The format is "Affect API name":"Policy":"Description"</p> <p>"Policy" can be categorized into following groups:</p> <ul style="list-style-type: none"> - (disabled) : UI turns grey and users can't select it. - (unchanged) : UI keeps the status as before and user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. <p>"Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is disabled. API name can be one word as well, such as "exposurelevel:fixed:6" which means exposurelevel is fixed to level 6.</p> <p>"Description" can be a nonnegative integer or string or NULL.</p> <p>For example:</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>"maxframerate: fixed:15" which means the max frame rate is 15fps when acoustic echo cancellation function is enabled.</p> <p>"-" means no feature is affected.</p> <p>* Only available when "capability_audio_aec" is "1".</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0306b.</p>
audio_mic <i><Not support anymore></i>	<boolean>	0/7	<p>Indicate whether to support built-in microphone input.</p> <p>* Not support this parameter anymore when the version number (httpversion) is equal or greater than 0301a.</p> <p>* We replace "audio_mic" with "audio_intmic".</p>
audio_intmic	<0~Positive Integer>	0/7	<p>Internal (Built-in) Microphone.</p> <p>0: Not support</p> <p>1: Support</p> <p>Bit 0 for CH0, bit 1 for CH1, and so on.</p>
audio_extmic	<0~Positive Integer>	0/7	<p>External Microphone.</p> <p>0: Not support</p> <p>1: Support</p> <p>Bit 0 for CH0, bit 1 for CH1, and so on.</p>
audio_alarm	<0~Positive Integer>	0/7	<p>0: Not support audio alarm.</p> <p>1: Support audio alarm.</p> <p>Bit 0 for CH0, bit 1 for CH1, and so on.</p>
audio_linein <i><Not support anymore></i>	<boolean>	0/7	<p>Indicate whether to support external line input.</p> <p>* Not support this parameter anymore when the version number (httpversion) is equal or greater than 0301a.</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* It will be replaced by audio_intmic and audio_extmic.
audio_lineout	<boolean>	0/7	Indicate whether to support line output.
audio_michardwar eswitch	<boolean>	0/7	Indicate whether the hardware supports built-in/external mic switch
audio_headphoneo ut <Not support anymore>	<boolean>	0/7	Indicate whether to support headphone output. * Not support this parameter anymore when the version number (httpversion) is equal or greater than 0301a.
audio_audioclip	<boolean>	0/7	Indicate whether to support audio clip function. * We support this parameter when the version number (httpversion) is equal or greater than 0309a.
audioin_codec	aac4, gamr, g711, g726, - <product dependent>	0/7	Available audio codec. We take comma to split codec without any space. "aac4": Advanced Audio Coding (AAC) "gamr": Adaptive Multi-Rate (AMR) "g711": G.711 "g726": G.726 "-": Not supported.
audioout_codec	g711, - <product dependent>	0/7	Available codec list for SIP. "-": Not supported.
motion_wintype	rectangle, polygon,-	0/7	The supported motion window type. "polygon": The window is a 2D polygon shape. "rectangle": The window is a 2D rectangle shape. "-": Not supported.
motion_windowmai n	qvga, px, std, -	0/7	The domain to set an motion window. "qvga": a 320x240 range to represent

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			the whole image. "px": Locate a window in the image with pixels. "std": A normalized 0~9999 range. "-": Not supported.
smartstream_support	<boolean>	0/7	Indicate whether smart stream is supported.
smartstream_version	<integer>	0/7	Number of smart stream version. * Only available when "capability_smartstream_support" is 1
smartstream_nstream	<positive integer>	0/7	Number of stream that support smart stream. * Only available when "capability_smartstream_support" is 1
smartstream_window	qvga, px, std, -	0/7	The domain to set an focus window. "qvga": a 320x240 range to represent the whole image. "px": Locate a window in the image with pixels. "std": A normalized 0~9999 range. "-": Not supported. * Only available when "capability_smartstream_support" is 1
smartstream_mode_autotracking	<boolean>	0/7	Indicate whether autotracking smart stream is supported. * Only available when "capability_smartstream_support" is 1
smartstream_mode_manual	<boolean>	0/7	Indicate whether manual smart stream is supported. * Only available when "capability_smartstream_support" is 1
smartstream_mode_hybrid	<boolean>	0/7	Indicate whether hybrid(autotracking+manual) smart stream is supported. * Only available when "capability_smartstream_support" is 1

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
smartstream_nwin_dow_number	0, <positive integer>	0/7	<p>Maximum number of tracking window of manual.</p> <p>* Only available when "capability_smartstream_mode_manual" is 1</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0327a.</p>
smartstream_nwin_dow_manual <Not recommended to use this>	<positive integer>	0/7	<p>Maximum number of tracking window of manual.</p> <p>* Only available when "capability_smartstream_support" is 1</p> <p>* We replace "capability_smartstream_nwindow_manual" with "capability_smartstream_nwindow_number" when the version number (httpversion) is equal or greater than 0327a.</p>
smartstream_nwin_dow_hybrid_manual <Not recommended to use this>	<positive integer>	0/7	<p>Maximum number of tracking window of manual in hybrid mode.</p> <p>* Only available when "capability_smartstream_support" is 1</p> <p>* We replace "capability_smartstream_nwindow_hybrid_manual" with "capability_smartstream_nwindow_number" when the version number (httpversion) is equal or greater than 0327a.</p>
vadp_supportfeature	<positive integer>	0/7	<p>An 32-bit integer, each bit can be set separately as follows:</p> <p>Bit 0 => VADP interface</p> <p>Bit 1 => Capture video raw data</p> <p>Bit 2 => Support encode jpeg</p> <p>Bit 3 => Capture audio raw data</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			Bit 4 => Support event trigger Bit 5 => Support license registration Bit 6 => Support shared memory API Bit 7 => Support digital signature of package Bit 8 => Support snapshot Bit 9 => Support upload encrypted package
vadp_npackage	<positive integer>	0/7	Indicate the maximum number of VADP package that can be uploaded to the device.
camctrl_htptunnel <i><Not support anymore></i>	<boolean>	0/7	Indicate whether to support htptunnel. * Not support this parameter anymore when the version number (httpversion) is equal or greater than 0301b. * It will be replaced by capability_camctrl_ptztunnel.
camctrl_ptztunnel	<boolean>	0/7	Indicate whether to support ptztunnel. * We support this parameter when the version number (httpversion) is equal or greater than 0301b. This equals "capability_camctrl_c0_ptztunnel". * This is kept for compatibility. * Only available when capability_ptzenabled > 0
camctrl_privilege	<boolean>	0/7	Indicate whether to support "Manage Privilege" of PTZ control in the security page. 1: support both /cgi-bin/camctrl/camctrl.cgi and /cgi-bin/viewer/camctrl.cgi

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			0: support only /cgi-bin/viewer/camctrl.cgi This is equivalent to "capability_camctrl_c0_privilege". * This is kept for compatibility. * Only available when capability_ptzenabled > 0
uart_httptunnel	<boolean>	0/7	Indicate whether to support HTTP tunnel for UART transfer.
transmission_mod e	Tx, Rx, Both	0/7	Indicate transmission mode of the machine: TX = server, Rx = receiver box, Both = DVR.
network_wire	<boolean>	0/7	Indicate whether to support Ethernet.
network_wireless	<boolean>	0/7	Indicate whether to support wireless.
network_dualmod e	<boolean>	0/7	Indicate whether network dual mode is supported. * Only available when "capability_network_wireless" is "1". * We support this parameter when the version number (httpversion) is equal or greater than 0305a.
network_ntpnum	<positive integer>	0/7	Maximum number of NTP servers supported. * We support this parameter when the version number (httpversion) is equal or greater than 0320a.
wireless_s802dot1 1b	<boolean>	0/7	Indicate whether to support wireless 802.11b+.
wireless_s802dot1 1g	<boolean>	0/7	Indicate whether to support wireless 802.11g.
wireless_s802dot1 1n	<boolean>	0/7	Indicate whether to support wireless 802.11n.
wireless_beginchan nel	1 ~ 14	0/7	Indicate the begin channel of wireless network

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
wireless_endchannel	1 ~ 14	0/7	Indicate the end channel of wireless network
wireless_encrypt_wep	<boolean>	0/7	Indicate whether to support wireless WEP.
wireless_encrypt_wpa	<boolean>	0/7	Indicate whether to support wireless WPA.
wireless_encrypt_wpa2	<boolean>	0/7	Indicate whether to support wireless WPA2.
wireless_apmode_enable	<boolean>	0/7	Indicate whether wireless AP mode is supported. * Only available when "capability_network_wireless" is "1". * We support this parameter when the version number (httpversion) is equal or greater than 0305a.
wireless_apmode_ssidprefix	<string>	0/7	Indicate the prefix of broadcasted SSID when camera is in wireless AP mode. * Only available when "capability_wireless_apmode_enable" is "1". * We support this parameter when the version number (httpversion) is equal or greater than 0305a.
derivative_brand	<boolean>	0/7	Indicate whether to support the upgrade function for the derivative brand. For example, if the value is true, the VVTK product can be upgraded to VVXX. (TCVV<->TCXX is excepted)
test_ac <i><Not support anymore></i>	<boolean>	0/7	Indicate whether to support test ac key.
version_onvifdaemon	<string>	0/7	Indicate ONVIF daemon version

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
version_onviftesttool	<string>	0/7	Indicate ONVIF test tool version
version_genetec	<string>	0/7	Indicate Genetec daemon version * We support this parameter when the version number (httpversion) is equal or greater than 0312a.
media_totalspace	<positive integer>	0/7	Available memory space (KB) for media.
media_snapshot_maxpreevent	<positive integer>	0/7	Maximum duration (second) before event occurred.
media_snapshot_maxpostevent	<positive integer>	0/7	Maximum duration (second) after event occurred.
media_snapshot_maxsize	<positive integer>	0/7	Maximum size (KB) of a snapshot.
media_snapshot_maxframerate	<positive integer>	0/7	Maximum frames per second for snapshot. * We support this parameter when the version number (httpversion) is equal or greater than 0323a.
media_videoclip_maxsize	<positive integer>	0/7	Maximum size (KB) of a videoclip.
media_videoclip_maxlength	<positive integer>	0/7	Maximum length (second) of a videoclip.
media_videoclip_maxpreevent	<positive integer>	0/7	Maximum duration (second) after event occurred in a videoclip.
media_streamprofiles_support	<boolean>	0/7	Indicates support of stream profile feature. * We support this parameter when the version number (httpversion) is equal or greater than 0313a.
media_streamprofiles_num	<positive integer>	0/7	Maximum number of stream profiles. * We support this parameter when the version number (httpversion) is equal or greater than 0313a.
image_iristype	<string>	0/7	Indicate iris type. ● "piris": P-Iris

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
<Not recommended to use this>			<ul style="list-style-type: none"> ● "dciris": DC-Iris ● "-": No Iris control support <p>* When "capability_iris"=0, this value must be "-".</p> <p>* Note: For some box-type cameras, this value may be varied depending on mounted lens.</p> <p>* We replace "capability_image_iristype" with "capability_image_c0_iristype".</p> <p>* Reserved for compatibility, and suggest don't use this since [httpversion] > 0301a</p>
image_focusassist <Not recommended to use this>	<boolean>	0/7	<p>Indicate whether to support focus assist.</p> <p>* We replace "capability_image_focusassist" with "capability_image_c0_focusassist".</p> <p>* Reserved for compatibility, and suggest don't use this since [httpversion] > 0301a</p>
localStorage_manageable	<boolean>	0/7	<p>Indicate whether manageable local storage is supported.</p> <p>* Only available when "capability_supportsd" is 1 or "capability_storage_dbenabled" is 1.</p>
localStorage_seamless	0, <positive integer>	0/7	<p>Indicate whether seamless recording is supported.</p> <p>One bit represents one channel.</p> <p>Ex: "3" means channel 0 and channel1 support seamless recording .</p> <p>* Only available when "capability_supportsd" is 1 or "capability_storage_dbenabled" is 1.</p>
localStorage_modnum	0, <positive integer>	0/7	The maximum MOD connection numbers.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
<Not recommended to use this>			<p>* Only available when "capability_supportsd" is 1 or "capability_storage_dbenabled" is 1.</p> <p>* We replace this parameter with "capability_storage_management_modnum" when the version number (httpversion) is equal or greater than 0312a.</p>
localStorage_modversion	<string>	0/7	<p>Indicate MOD daemon version.</p> <p>* Only available when "capability_supportsd" is 1 or "capability_storage_dbenabled" is 1.</p>
localStorage_stormgrversion	<string>	0/7	<p>Indicate storage manager daemon version.</p> <p>* Only available when "capability_supportsd" is 1 or "capability_storage_dbenabled" is 1.</p>
localStorage_supportedge	0, <positive integer>	0/7	<p>An 32-bit integer, which indicates the supportive application of edge storage.</p> <p>If the value of this parameter is larger than 0, it means that the camera supports edge recording function.</p> <p>bit 0 : It supports to record directly to an on-board SD-Card.</p> <p>bit 1~: Currently, they are reserved bit, and the default value is 0.</p> <p>* Only available when "capability_supportsd" is 1 or "capability_storage_dbenabled" is 1.</p>
localStorage_slconnum	0,<positive integer>	0/7	<p>The maximum seamless connection number for each channel.</p> <p>* Only available when "capability_supportsd" is 1 or "capability_storage_dbenabled" is 1.</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
localStorage_smart_sd	<boolean>	0/7	The "Lifetime and Log SD Card" feature allows users to obtain the card's remaining lifetime information. 0: Non-support this feature 1: Support this feature * Only Sony, Micron SD card can support this function now. * Only available when "capability_supportsd" is 1 or "capability_storage_dbenabled" is 1.
remoteCamctrl_master	0, <positive integer>	0/7	Indicate whether to support remote auxiliary camera (master side), this value means supporting max number of auxiliary camera.
remoteCamctrl_slave	<boolean>	0/7	Indicate whether to support remote camera control (slave side).
fisheyeLocalDewarp_c<0~(capability_nVideoIn)-1> <product dependent>	0, <positive integer>	0/7	Indicate the supported streams of local dewarp. One bit represents one supported stream. The LSB indicates stream 0. Ex: "3" means stream 0 and stream 1 support local dewarp. * Only available when "capability_fisheye" > 0
shockalarm_support	<boolean>	0/7	Indicate whether to support the shock detection. * We support this parameter when the version number (httpversion) is equal or greater than 0306e.
layout_redirection	<string>	0/7	Indicate which function will be redirected to the vadp package path. "-": Not supported. * We support this parameter when the version number (httpversion) is equal or greater than 0309a.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
securecam_support	<Boolean>	0/7	Indicate support for security camera. * We support this parameter when the version number (httpversion) is equal or greater than 0314a.
securecam_version	<string>	0/7	Indicate the security camera feature phases. * Only available when capability_securecam_support=1. * We support this parameter when the version number (httpversion) is equal or greater than 0314a.
taics_support	<boolean>	0/7	Support the feature for Video Surveillance System Security from TAICS. * We support this parameter when the version number (httpversion) is equal or greater than 0314b.
taics_level	0, <positive integer>	0/7	Indicate the support level for Video Surveillance System Security from TAICS. * Only available when "capability_taics_support" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0314b.
cameralink_support	<Boolean>	0/7	Indicate support for the feature of camera link. * We support this parameter when the version number (httpversion) is equal or greater than 0315a.
cameralink_num	0, <positive integer>	0/7	Indicate the maximum number of receiver camera link. * Only available when "capability_cameralink_support" is 1.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* We support this parameter when the version number (httpversion) is equal or greater than 0315a.
cameralink_version	<integer>	0/7	Indicate the version of camera link feature. * Only available when "capability_cameralink_support" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0324a.
dynamictext_support	<boolean>	0/7	Indicating the overlay can be configured remotely through a UDP connection. * We support this parameter when the version number (httpversion) is equal or greater than 0325a.
viewingwin_support	<boolean>	0/7	For "nvideoin" = 1, the definition is as following: A 32-bits integer, each bit can be set separately as follows: Bit 0 => 1st stream supports viewing window or not. Bit 1 => 2nd stream supports viewing window or not, and so on. For nvideoin >= 2, the definition is different: First all 32 bits are divided into groups for channel. Ex: nvideoin = 2, bit 0~15 are the 1st group for 1st channel, bit 16~31 are the 2nd group for 2nd channel. nvideoin = 3, bit 0~9 are the 1st group for 1st channel, bit 10~19 are the 2nd group for 2nd channel, bit 20~31 are the 3rd group for 3rd channel.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>Then, the 1st bit of the group indicates 1st stream of a channel support viewing window or not. The 2nd bit of the group indicates 2nd stream of a channel support viewing window or not, and so on.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0326a.</p>

7.28.1 Capability for Camctrl

Group: **capability_camctrl_c<0~(n-1)>** n denotes the value of "capability_nvideoin"
(capability_ptzenabled > 0)

* We support this group when the version number (httpversion) is equal or greater than 0303b.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
ptztunnel	<boolean>	0/7	Indicate whether to support ptztunnel in this video input.
privilege	<boolean>	0/7	Indicate whether to support “Manage Privilege” of PTZ control in the security page in this video input. 1: support both /cgi-bin/camctrl/camctrl.cgi and /cgi-bin/viewer/camctrl.cgi 0: support only /cgi-bin/viewer/camctrl.cgi
rs485	<boolean>	0/7	An 32-bit integer, each bit can be set separately as follows: Bit 0 => support rs485-in Bit 1 => support rs485-out
buildinpt	<boolean>	0/7	An 32-bit integer, each bit can be set separately as follows: Bit 0 => support build-in pan Bit 1 => support build-in tilt

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
zoommodule	<boolean>	0/7	<p>Indicate whether to support zoom lens.</p> <p>In our product, only SD series and IZ series use the zoom lens.</p> <p>* Both varifocal and zoom lenses are built with movable elements that permit changing the effective focal length. And the key difference between a varifocal and a zoom lens can be explained by thinking about a lens that has been focused on an object at any focal length. A varifocal will need to be refocused whenever the focal length is adjusted; the zoom will stay in focus when the focal length is adjusted.</p>
focusmode	auto,onetimeauto,spotlight,manual <product dependent>	0/7	<p>Focus mode selection:</p> <p>"auto": Camera will automatically adjust the focus position full time to adapt a clear picture.</p> <p>"onetimeauto": Camera will automatically adjust the focus position one time, which follows any PTZ control.</p> <p>"spotlight": Camera will automatically adjust the focus position full time, and to consider a spotlight avoidance situation.</p> <p>"manual": Turn off the automatically focus function. For user to control the focus position manually as their purpose.</p> <p>* Only available when "capability_camctrl_c<0~(n-1)_zoommodule" is 1.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0304a.</p>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
digitalzoom_support	<boolean>	0/7	Indicate the lens support digital zoom or not. * We support this parameter when the version number (httpversion) is equal or greater than 0317a.

7.28.2 Capability for PTZ

Group: **capability_ptz_c<0~(n-1)>** n denotes the value of "capability_nvideoin"

(capability_ptzenabled > 0 and capability_camctrl_c<0~(n-1)>_zoommodule !=0)

* We support this group when the version number (httpversion) is equal or greater than 0303b.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
panspeedlv	0, <positive integer>	0/7	The maximum speed level of pan motion. *Only available when bit0 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
minpan	0, <positive integer>	0/7	The lower limit for pan position. *Only available when bit0 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
maxpan	0, <positive integer>	0/7	The upper limit for pan position. *Only available when bit0 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
minpanangle	<integer>	0/7	The lower limit for pan angle. *Only available when bit0 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
maxpanangle	<integer>	0/7	The upper limit for pan angle. *Only available when bit0 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
tiltspeedlv	0, <positive integer>	0/7	The maximum speed level of tilt motion. *Only available when bit1 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
mintilt	0, <positive integer>	0/7	The lower limit for tilt position. *Only available when bit1 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
maxtilt	0, <positive integer>	0/7	The upper limit for tilt position. *Only available when bit1 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
mintiltangle	<integer>	0/7	The lower limit for tilt angle. *Only available when bit1 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
maxtiltangle	<integer>	0/7	The upper limit for tilt angle. *Only available when bit1 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
zoomspeedlv	0, <positive integer>	0/7	The maximum speed level of zoom motion. *Only available when the value of "capability_camctrl_c<0~(n-1)>_zoommodule" is "1"
minzoom	0, <positive integer>	0/7	The lower limit for zoom position. *Only available when the value of "capability_camctrl_c<0~(n-1)>_zoommodule" is "1"
maxzoom	0, <positive integer>	0/7	The upper limit for zoom position. *Only available when the value of "capability_camctrl_c<0~(n-1)>_zoommodule" is "1"

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
maxdzoom	0, <positive integer>	0/7	The upper limit for digital zoom position. *Only available when the value of "capability_camctrl_c<0~(n-1)>_zoommodule" is "1"
focusspeedlv	0, <positive integer>	0/7	The maximum speed level of focus motion. *Only available when the value of "capability_camctrl_c<0~(n-1)>_zoommodule" is "1"
minfocus	0, <positive integer>	0/7	The lower limit for focus position. *Only available when the value of "capability_camctrl_c<0~(n-1)>_zoommodule" is "1"
maxfocus	0, <positive integer>	0/7	The upper limit for focus position. *Only available when the value of "capability_camctrl_c<0~(n-1)>_zoommodule" is "1"

7.28.3 Capability for IR Led

Group: **capability_daynight_c<0~(n-1)>** n denotes the value of "capability_nvideoin"

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
support	<boolean>	0/7	Indicate whether the camera supports day/night mode switch
builtinir	<boolean>	0/7	Indicate whether to support built-in IR led. * We replaced this parameter with "capability_daynight_illuminators_builtin_support" when the version number (httpversion) is equal or greater than 0312a.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
builtinwled	<boolean>	0/7	Indicate whether to support built-in white led. * We replaced this parameter with "capability_daynight_illuminators_builtin_type=whiteled" when the version number (httpversion) is equal or greater than 0312a.
externalir	<boolean>	0/7	Indicate whether to support external IR led. * We replaced this parameter with "capability_daynight_illuminators_external_support" when the version number (httpversion) is equal or greater than 0312a.
optimizedir	<boolean>	0/7	Indicate whether to support optimized IR control technology. * We replaced this parameter with "capability_daynight_illuminators_optimizedir" when the version number (httpversion) is equal or greater than 0312a.
smartir	<boolean>	0/7	Indicate whether to support smart IR.
ircutfilter	<boolean>	0/7	Indicate whether to support IR cut.
lightsensor	<boolean>	0/7	Indicate whether to support light sensor.
blackwhitemode	<boolean>	0/7	Indicate whether to support automatically switch to Black & White display during the night mode. * We support this parameter when the version number (httpversion) is equal or greater than 0302a.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
ircutsensitivity_type	<string>	0/7	<p>Indicate the cgi interface of "ircutcontrol_sensitivity".</p> <p>"options": the value of "ircutcontrol_sensitivity" parameter is "low, normal,high".</p> <p>"normalize": the value of "ircutcontrol_sensitivity" parameter is "1~100"</p> <p>"-":not support</p> <ul style="list-style-type: none"> * Only available when "capability_daynight_c<0~(n-1)>_support" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0302a.
ircutsensitivity_supportlevel	0, <positive integer>	0/7	<p>The value indicate the support strength level of ircutsensitivity.</p> <p>* Only available when "capability_daynight_c<0~(n-1)>_support" is 1 and "capability_daynight_c<0~(n-1)>_ircutsensitivity_type" is not "-".</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0302a.</p>
extled_interface	do <product dependent>	0/7	<p>The device interface of external IR led:</p> <p>"do": digital output</p> <p>* Only available when "capability_daynight_c<0~(n-1)>_externalir" is 1</p> <p>* We replaced this parameter with "capability_daynight_illuminators_external_interface" when the version number (httpversion) is equal or greater than 0312a.</p>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
spectrum_support	<boolean>	0/7	<p>Indicate whether to support proposed a brightness enhancement method based on CCM(Color Correction Matrix) model to improve the brightness effect of the images if the IR and blue light exists.</p> <p>* Only available when "capability_daynight_c<0~(n-1)>_support" is 1</p> <p>* We replaced this parameter with "capability_daynight_illuminators_spectrum_support" when the version number (httpversion) is equal or greater than 0312a.</p>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
spectrum_mode	visible,ir,irenhanced, blueenhanced, smarthybrid, <product dependent>	0/7	<p>Indicate the spectrum mode.</p> <p>"visible": The ideal default setting for visible light.</p> <p>"ir": The ideal default setting for IR light.</p> <p>"irenhanced": This CCM model increases the brightness effect of IR light.</p> <p>"blueenhanced": This CCM model increases the brightness effect of blue light.</p> <p>"smarthybrid": IR & visible light mixed fill light mode.</p> <p>*Only available when "capability_daynight_c<0~(n-1)>_support" is 1 and "capability_daynight_c<0~(n-1)>_spectrum_support" is 1</p> <p>* We replaced this parameter with "capability_daynight_illuminators_spectrum_mode" when the version number (httpversion) is equal or greater than 0312a.</p>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
mode	auto,daynight,di,di2, di3,di4,schedule,- <product dependent>	0/7	<p>Indicate the day / night switch mode.</p> <p>"auto": The Camera automatically judges the current operation mode by the level of ambient light detected.</p> <p>"daynight": support day mode and night mode. In day mode, the camera streams color video. In night mode, the camera streams black and white video in low light environments.</p> <p>"di": the camera automatically switches the current mode when a ditigal input 1 is triggered.</p> <p>"di2": the camera automatically switches the current mode when a ditigal input 2 is triggered.</p> <p>"di3": the camera automatically switches the current mode when a ditigal input 3 is triggered.</p> <p>"di4": the camera automatically switches the current mode when a ditigal input 4 is triggered.</p> <p>"schedule": The Camera switches between day mode and night mode based on a specified schedule.</p> <p>"-": not support</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0309d.</p>

7.28.4 Capability for IR Illuminators

Group: **capability_daynight_illuminators**

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION

optimizedir	<boolean>	0/7	Indicate whether to support optimized IR control technology. * We support this parameter when the version number (httpversion) is equal or greater than 0312a.
builtin_support	<boolean>	0/7	Indicate whether to support built-in led. * We support this parameter when the version number (httpversion) is equal or greater than 0312a.
builtin_type	irled,whiteled,- <product dependent>	0/7	Indicate whether to support built-in led type. "irled": IR led "whiteled": white led "-": not support * We support this parameter when the version number (httpversion) is equal or greater than 0312a.
external_support	<boolean>	0/7	Indicate whether to support external led. * We support this parameter when the version number (httpversion) is equal or greater than 0312a.
external_interface	do,do2,do3,do4 <product dependent> * Available values are do, do<2~(capability_nd o)>	0/7	The device interface of external led: "do": digital output 1 "do2": digital output 2 "do3": digital output 3 "do4": digital output 4 * We support this parameter when the version number (httpversion) is equal or greater than 0312a. * Only available when "capability_daynight_illuminators_external_support" is 1

spectrum_support	<boolean>	0/7	<p>Indicate whether to support proposed a brightness enhancement method based on CCM(Color Correction Matrix) model to improve the brightness effect of the images if the IR and blue light exists.</p> <ul style="list-style-type: none"> * Only available when "capability_daynight_c<0~(n-1)>_support" is 1 * We support this parameter when the version number (httpversion) is equal or greater than 0312a.
spectrum_mode	visible,ir,irenhanced,blueenhanced,smarthybrid, <product dependent>	0/7	<p>Indicate the spectrum mode.</p> <p>"visible": The ideal default setting for visible light.</p> <p>"ir": The ideal default setting for IR light.</p> <p>"irenhanced": This CCM model increases the brightness effect of IR light.</p> <p>"blueenhanced": This CCM model increases the brightness effect of blue light.</p> <p>"smarthybrid": IR & visible light mixed fill light mode.</p> <ul style="list-style-type: none"> *Only available when "capability_daynight_c<0~(n-1)>_support" is 1 and "capability_daynight_illuminators_spectrum_support" is 1 * We support this parameter when the version number (httpversion) is equal or greater than 0312a.

7.28.5 Capability for Realsight

Group: **capability_realsight**

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
support	<boolean> <product dependent>	0/7	Indicate whether to support realsight technology. * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
supportfeatures	illuminator, deblur, wdrpro, smartcodec, <product dependent>	0/7	Indicate the supported realsight features. * Only available when "capability_realsight_support" is 1 * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
version	<string>	0/7	Indicate the version of realsight feature. * Only available when "capability_realsight_support" is 1 * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
objectlists	people, vehicle	0/7	Indicate the supported object types. * Only available when "capability_realsight_support" is 1 * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
illuminator_strength	0, 1	0/7	0: Non-support tuning strength of realsight illuminator 1: Support tuning strength of realsight illuminator * Only available when "capability_realsight_support" is 1 * Only available when "illuminator" is listed in "capability_realsight_supportfeatures". * We support this parameter when the version number (httpversion) is equal or greater than 0325d.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
illuminator_supportlevel	0, <positive integer>	0/7	Indicate the support strength level of realsight illuminator. * Only available when "capability_realsight_illuminator_strength" is 1 * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
deblur_strength	0, 1	0/7	0: Non-support tuning strength of realsight deblur 1: Support tuning strength of realsight deblur * Only available when "capability_realsight_support" is 1 * Only available when "deblur" is listed in "capability_realsight_supportfeatures". * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
wdrpro_strength	0, 1	0/7	0: Non-support tuning strength of realsight WDR Pro 1: Support tuning strength of realsight WDR Pro * Only available when "capability_realsight_support" is 1 * Only available when "wdrpro" is listed in "capability_realsight_supportfeatures". * We support this parameter when the version number (httpversion) is equal or greater than 0325d.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
wdrpro_supportlevel	0, <positive integer>	0/7	Indicate the support strength level of realsight WDR Pro. * Only available when "capability_realsight_wdrpro_strength" is 1 * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
scenedetect_support	<boolean>	0/7	Indicate whether to support realsight scene detection. * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
scenedetect_supportfeatures	exposuremode, whitebalance <product dependent> >	0/7	Indicate the supported scene detection features. * Only available when "capability_realsight_scenedetect_support" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0325d.
smartcodec_support	<boolean> <product dependent> >	0/7	Indicate whether to support AI smart codec. * We support this parameter when the version number (httpversion) is equal or greater than 0327a.
smartcodec_supportfeatures	realsight, autotracking <product dependent> >	0/7	Indicate whether feature to support in AI smart codec. * Only available when "capability_realsight_smartcodec_support" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0327a.

7.28.6 Capability for Storage Management

Group: **capability_storage_management**

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
ndevice	<positive integer>	0/7	Indicate the number of storage devices. * We support this parameter when the version number (httpversion) is equal or greater than 0312a.
device	sd, nas <product dependent>	0/7	Indicate the supported storage devices. * Only available when "capability_storage_dbenabled" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0312a. * Note: If "nas" storage is supported, the media storage path format is "\<mac address>\date\hour". "\date\hour" format is "\YYYYMMDD\hh".
modnum	0, <positive integer>	0/7	The maximum MOD connection numbers. * Only available when "capability_storage_dbenabled" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0312a.

7.28.7 Capability for Video InputGroup: **capability_videoin_c<0~(n-1)>** n denotes the value of "capability_nvideoin"

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
lens_type	fisheye, fixed, varifocal, changeable, motor, ics,- <product dependent>	0/7	<p>The lens type of this channel.</p> <p>"fisheye <p>"fixed <p>"varifocal <p>"changeable <p>"motor <p>"ics <p>"- <p>* Only available when [httpversion] >= 0301a</p> </p></p></p></p></p></p></p>
lens_minfocallength	<positive integer>	0/7	<p>The maximum focal length of optics unit: micrometers (μm).</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0322a</p>
lens_maxfocallength	<positive integer>	0/7	<p>The minimum focal length of optics unit: micrometers (μm).</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0322a</p>
color_support	<boolean>	0/7	<p>1 : camera can select to display color or black/white video streams.</p> <p>0: camera do not support this feature.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0310a.</p>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
eptz_zoomratio	<string>	0/7	Indicate the support zoom ratio of eptz. "-": not support ePTZ * We support this parameter when the version number (httpversion) is equal or greater than 0310a.
rotation	<boolean>	0/7	Indicate current mode whether support video rotation

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
rotationaffect	- <product dependent>	0/7	<p>When rotation is enabled, some features may become malfunction or be forced to a given value. The affected functions are listed here.</p> <p>The format is "Affect API name":"Policy":"Description"</p> <p>"Policy" can be categorized into following groups:</p> <ul style="list-style-type: none"> - (disabled) : UI turns grey and users can't select it. - (unchanged) : UI keeps the status as before and user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. <p>"Affect API name" can be described in hierarchy, such as</p> <p>"exposurewin.mode.blc:disabled:" which means blc exposure window is disabled. API name can be one word as well, such as "exposurelevel:fixed:6" which means exposurelevel is fixed to level 6.</p> <p>"Description" can be a nonnegative integer or string or NULL.</p> <p>"-" means no feature is affected.</p> <p>* When "rotation"=0, this value must be "-".</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0304b.</p>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
rotationangle	<string>	0/7	The different angles which camera supports for rotation. * Only available when "capability_videoin_c<0~(n-1)>_rotation" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0309b.
orientation	flip,mirror,rotation <product dependent>	0/7	Indicates the camera supports flip, mirror or rotation. * We support this parameter when the version number (httpversion) is equal or greater than 0309b.
streamcodec	<positive integer>	0/7	Represent supported codec types of each stream. This contains a list of positive integers, split by comma. Each one stands for a stream, and the definition is as following: Bit 0: Support MPEG4. Bit 1: Support MJPEG Bit 2: Support H.264 Bit 3: Support H.265
mode	0,<positive integer>	0/7	Indicate current video mode.
nmode	<positive integer>	0/7	Indicate how many video modes supported by this channel.
maxsize	<WxH>	0/7	The maximum resolution of all modes in this channel, the unit is pixel.
nprivacymask	0, <positive integer>	0/7	Number of privacy mask per channel
nresolution	<positive integer>	0/7	The maximum resolution options (listed in "resolution") in current video mode.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
resolution	A list of <WxH> <product dependent>	0/7	Resolution options in current video mode. These options are the possible options for "videoin_c<n>_s<m>_resolution". The last one is the maximum resolution in current mode.
maxresolution	A list of <Integer>	0/7	Represent supported maximum resolution of each stream in current video mode. * The element number is defined as "capability_nmediastream".
minresolution	A list of <Integer>	0/7	Represent supported minimum resolution of each stream in current video mode. * The element number is defined as "capability_nmediastream". * We support this parameter when the version number (httpversion) is equal or greater than 0304b.
maxframerate	A list of <Integer>	0/7	Indicate frame rate that the video source outputs in current video mode. One to one mapping to the resolution in "resolution". * The element number is defined as "nresolution" in this group. * This parameter may be changed when "videoin_c<n>_cmosfreq"=50 or "videoin_c<n>_modulation"=pal. Ex: 30 fps is changed to 25 fps, 60 fps is changed to 50 fps, and so on.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
mjpeg_maxframerate	A list of <Positive Integer> and "-"	0/7	<p>Maximum fps that the device can encoded with MJPEG on resolutions in current video mode.</p> <p>"-" means not support.</p> <ul style="list-style-type: none"> * One to one mapping to the resolution in "resolution". * The element number is defined as "nresolution" in this group. * This parameter may be changed when "videoin_c<n>_cmosfreq"=50 or "videoin_c<n>_modulation"=pal. <p>Ex: 30 fps is changed to 25 fps, 60 fps is changed to 50 fps, and so on.</p> <ul style="list-style-type: none"> * Only available when 'mjpeg' is listed in "capability_videoin_codec".
mjpeg_maxbitrate	<positive integer>, -	0/7	<p>Maximum bitrates of MJPEG.</p> <p>The unit is bps.</p> <p>"-" means MJPEG does not support bit rate control.</p> <ul style="list-style-type: none"> * Only available when 'mjpeg' is listed in "capability_videoin_codec".
h264_maxframerate	A list of <Positive Integer> and "-"	0/7	<p>Maximum fps that the device can encoded with H.264 on resolutions in current video mode.</p> <p>"-" means not support.</p> <ul style="list-style-type: none"> * One to one mapping to the resolution in "resolution". * The element number is defined as "nresolution" in this group. * This parameter may be changed when "videoin_c<n>_cmosfreq"=50 or "videoin_c<n>_modulation"=pal. <p>Ex: 30 fps is changed to 25 fps, 60 fps is changed to 50 fps, and so on.</p> <ul style="list-style-type: none"> * Only available when 'h264' is listed in "capability_videoin_codec".

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
h264_maxbitrate	<positive integer>	0/7	Maximum bitrates of H.264. The unit is bps. * Only available when 'h264' is listed in "capability_videoin_codec".
h264_profile	baseline,main,high <product dependent>	0/7	Indicate H264 profiles * Only available when 'h264' is listed in "capability_videoin_codec". * We support this parameter when the version number (httpversion) is equal or greater than 0309a.
h265_maxframerate	A list of <Positive Integer> and "-"	0/7	Maximum fps that the device can encoded with H.265 on resolutions in current video mode. "-" means not support. * One to one mapping to the resolution in "resolution". * The element number is defined as "nresolution" in this group. * This parameter may be changed when "videoin_c<n>_cmosfreq"=50 or "videoin_c<n>_modulation"=pal. Ex: 30 fps is changed to 25 fps, 60 fps is changed to 50 fps, and so on. * Only available when 'h265' is listed in "capability_videoin_codec".
h265_maxbitrate	<positive integer>	0/7	Maximum bitrates of H.265. The unit is bps. * Only available when 'h265' is listed in "capability_videoin_codec".
h265_profile	main,main10 <product dependent>	0/7	Indicate H265 profiles * Only available when 'h265' is listed in "capability_videoin_codec". * We support this parameter when the version number (httpversion) is equal or greater than 0309a.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
fisheye_mounttype <Not recommended to use this>	ceiling, wall, floor <product dependent>	0/7	Indicate the supported type. wall mount: 180° panoramic view ceiling mount: 360° surround view without blind spots floor mount: 360° surround view without blind spots * Only available when "capability_fisheye" > 0 * It's recommended to use "capability_videoin_c<0~(n-1)>_mounttype"
mounttype	ceiling, wall, floor,- <product dependent> * Available values are listed in "capability_videoin_c<0~(n-1)>_mounttype "	0/7	Indicate the supported mount type. "-": not support * We support this parameter when the version number (httpversion) is equal or greater than 0309c.
dintraperiod_support	<boolean>	0/7	0: Non-support "Dynamic intra frame period" 1: Support "Dynamic intra frame period" "Dynamic intra frame period" can be used to reduce bitrate by reducing the number of I-frame. * We support this parameter when the version number (httpversion) is equal or greater than 0301c.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
cameraunit_name	CU8131, CU8171, CU8161-H, CU8162-H, CU8163-H, CU8361-H, ..., - <product dependent>	0/7	A "camera unit" name of a split-type camera system, which the camera unit and the video core are separated. -: If the camera is not a split-type camera system, the value of this parameter is "-". * We support this parameter when the version number (httpversion) is equal or greater than 0302b.
cmosfreq_support	<boolean>	0/7	0: The power line frequency(50/60Hz) is detected by camera automatically. 1: The power line frequency(50/60Hz) can be set by user. * We support this parameter when the version number (httpversion) is equal or greater than 0308a.
smartfps_support	<boolean>	0/7	Indicate whether to support Smart fps function. * We support this parameter when the version number (httpversion) is equal or greater than 0309a.
smartq_support	<boolean>	0/7	Indicate whether to support Smart Q function. * We support this parameter when the version number (httpversion) is equal or greater than 0309a.
overlay_support	<boolean>	0/7	Indicate whether to support overlay. * We support this parameter when the version number (httpversion) is equal or greater than 0324a.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
overlay_mode	channelbase, streambase, -	0/7	<p>"channelbase": Overlay is based on channel. User can set overlays and they will be applied to all streams.</p> <p>"streambase": Overlay is based on stream. User can set overlays for each stream.</p> <p>"-": not support.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0324a.</p>
overlay_type	text, image, indicator	0/7	<p>Available overlay types.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0324a.</p>
overlay_num	<positive integer>	0/7	<p>Number of overlays per stream.</p> <p>* videoin_c<0~(n-1)>_s<0~(m-1)>_overlay0_attribute must be "text".</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0324a.</p>
overlay_version	<string>	0/7	<p>Indicate the version of overlay feature.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0324a.</p>
overlay_dateformat	MM/dd/yyyy, dd/MM/yyyy, yyyy/MM/dd, M/d/yyyy, dddd MMMM dd yyyy, MMMM dd yyyy, dd MMMM yyyy, yyyy-MM-dd	0/7	<p>Available overlay date format.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0324a.</p>
overlay_timeformat	h:mm:ss tt, hh:mm:ss tt, H:mm:ss, HH:mm:ss	0/7	<p>Available overlay time format.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0324a.</p>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
overlay_imgformat	bmp256	0/7	Indicate the supported file format for image overlay. * We support this parameter when the version number (httpversion) is equal or greater than 0325a.

7.28.8 Capability for Local Dewarp

Group: **capability_videoin_c<0~(n-1)>_localdewarp**

(**capability_fisheyelocaldewarp_c<0~(capability_nvideoin)-1> > 0**)

n denotes the value of "capability_nvideoin"

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
typeceilingmount	1O, 1P, 2P, 1R, 4R	0/7	Available dewarp types of ceiling and floor mount.
typewallmount	1O, 1P, 1R, 4R	0/7	Available dewarp types of wall mount.
resolutionC1P	A list of <WxH>	0/7	Available resolutions of 1P mode of ceiling and floor mount.
resolutionC2P	A list of <WxH>	0/7	Available resolutions of 2P mode of ceiling and floor mount.
resolutionC1R	A list of <WxH>	0/7	Available resolutions of 1R mode of ceiling and floor mount.
resolutionC4R	A list of <WxH>	0/7	Available resolutions of 4R mode of ceiling and floor mount.
resolutionW1P	A list of <WxH>	0/7	Available resolutions of 1P mode of wall mount.
resolutionW1R	A list of <WxH>	0/7	Available resolutions of 1R mode of wall mount.
resolutionW4R	A list of <WxH>	0/7	Available resolutions of 4R mode of wall mount.
panorama_pancontrol	<Boolean>	0/7	Indicate whether to support localdewarp panorama pan control. * We support this parameter when the version number (httpversion) is equal or greater than 0312b.

7.28.9 Capability for Video Mode

Group: **capability_videoin_c<0~(n-1)>_mode<0~(m-1)>** n denotes the value of

"capability_nvideoin", m denotes the value of "capability_videoin_c<0~(n-1)>_nmode"

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
rotation	<boolean>	0/7	Indicate this mode whether support video rotation
is_mode	eis, dis, -	0/7	Indicate this mode whether support image stabilizer mode. "eis": electronic image stabilizer "dis": digital image stabilizer "-": not support * Only available when "capability_image_c<0~(n-1)>_eis" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0317a.
digitalzoom_support	<boolean>	0/7	Indicate this mode whether support digital zoom. * Only available when "capability_camctrl_c<0~(n-1)>_zoommodule" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0317a.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
eptz	0, <positive integer>	0/7	<p>Indicate this mode whether support eptz.</p> <p>For "nvideoin" = 1, the definition is as following:</p> <p>A 32-bits integer, each bit can be set separately as follows:</p> <p>Bit 0 => 1st stream supports ePTZ or not.</p> <p>Bit 1 => 2nd stream supports ePTZ or not, and so on.</p> <p>For nvideoin >= 2, the definition is different:</p> <p>First all 32 bits are divided into groups for channel.</p> <p>Ex:</p> <p>nvideoin = 2, bit 0~15 are the 1st group for 1st channel, bit 16~31 are the 2nd group for 2nd channel.</p> <p>nvideoin = 3, bit 0~9 are the 1st group for 1st channel, bit 10~19 are the 2nd group for 2nd channel, bit 20~31 are the 3rd group for 3rd channel.</p> <p>Then, the 1st bit of the group indicates 1st stream of a channel support ePTZ or not. The 2nd bit of the group indicates 2nd stream of a channel support ePTZ or not, and so on.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0304b.</p>
eptzzoomratio	<string>	0/7	<p>Indicate this mode whether support zoom ratio of eptz.</p> <p>"-": not support ePTZ</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0322a.</p>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
wdrpro	0, 1, 2	0/7	<p>Indicate this mode whether support WDR pro.</p> <p>0: Non-support WDR Pro 1: Support WDR Pro 2: Support WDR Pro II</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0304b.</p>
effectivepixel	<WxH>	0/7	<p>The visible area of full scene in this video mode.</p> <p>The unit is pixel in source.</p> <p>* If "effectivepixel"<"capability_videoin_c<0~(n-1)>_maxsize", then the visible area is located at the center of full scene.</p>
outputsize	<WxH>	0/7	<p>The output size of source, equal to the captured size by device, in this video mode. The unit is pixel.</p> <p>This value is used as a basic coordinate system for many features, like ePTZ, privacy mask, motion, etc.</p> <p>* Source (most for image sensor) may perform scale or binning, etc on image data, and output data with smaller size.</p> <p>This parameter is designed to represent this.</p>
binning	0, 1, 3	0/7	<p>Indicate binning is used or not in this video mode.</p> <p>0: No binning 1: 2x2 binning 3: 3x3 binning</p> <p>* Binning is a technology to increase light sensitivity by combining multiple pixels to one. The drawback is reduced resolution. We design this parameter to disclose this information.</p>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
nresolution	<positive integer>	0/7	How many resolution options in this video mode.
resolution	A list of <WxH>	0/7	Resolution options in this video mode. The last one is the maximum resolution in this video mode. * The element number is defined as "nresolution" in this group.
maxresolution	A list of <Integer>	0/7	Represent supported maximum resolution of each stream in current video mode. * The element number is defined as "capability_nmediastream".
minresolution	A list of <Integer>	0/7	Represent supported minimum resolution of each stream in current video mode. * The element number is defined as "capability_nmediastream". * We support this parameter when the version number (httpversion) is equal or greater than 0304b.
maxframerate	A list of <Positive Integer>	0/7	Indicates frame rate that the video source outputs in this video mode. * One to one mapping to the resolution in "resolution". * The element number is defined as "nresolution" in this group. * This parameter records the frame rate when "videoin_c<0~(n-1)>_cmosfreq"=60 or "videoin_c<0~(n-1)>_modulation"=ntsc

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
maxfps_mjpeg	A list of <Positive Integer> and "-"	0/7	<p>Maximum fps which the device can encoded with MJPEG on resolutions in this video mode.</p> <p>"-" means not support.</p> <ul style="list-style-type: none"> * One to one mapping to the resolution in "resolution". * The element number is defined as "nresolution" in this group. * This parameter records the frame rate when "videoin_c<0~(n-1)>_cmosfreq"=60 or "videoin_c<0~(n-1)>_modulation"=ntsc * Only available when 'mpeg' is listed in "capability_videoin_codec".
maxfps_h264	A list of <Positive Integer> and "-"	0/7	<p>Maximum fps which the device can encoded with H.264 on resolutions in this video mode.</p> <p>"-" means not support.</p> <ul style="list-style-type: none"> * One to one mapping to the resolution in "resolution". * The element number is defined as "nresolution" in this group. * This parameter records the frame rate when "videoin_c<0~(n-1)>_cmosfreq"=60 or "videoin_c<0~(n-1)>_modulation"=ntsc * Only available when 'h264' is listed in "capability_videoin_codec".

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
maxfps_h265	A list of <Positive Integer> and "-"	0/7	<p>Maximum fps which the device can encoded with H.265 on resolutions in this video mode.</p> <p>"-" means not support.</p> <ul style="list-style-type: none"> * One to one mapping to the resolution in "resolution". * The element number is defined as "nresolution" in this group. * This parameter records the frame rate when "videoin_c<0~(n-1)>_cmosfreq"=60 or "videoin_c<0~(n-1)>_modulation"=ntsc * Only available when 'h265' is listed in "capability_videoin_codec".
description	<string[128]>	0/7	Description about this mode.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
viewingwin_support	0, <positive integer>	0/7	<p>Indicate this mode whether support viewing window.</p> <p>For "nvideoin" = 1, the definition is as following:</p> <p>A 32-bits integer, each bit can be set separately as follows:</p> <p>Bit 0 => 1st stream supports viewing window or not.</p> <p>Bit 1 => 2nd stream supports viewing window or not, and so on.</p> <p>For nvideoin >= 2, the definition is different:</p> <p>First all 32 bits are divided into groups for channel.</p> <p>Ex:</p> <p>nvideoin = 2, bit 0~15 are the 1st group for 1st channel, bit 16~31 are the 2nd group for 2nd channel.</p> <p>nvideoin = 3, bit 0~9 are the 1st group for 1st channel, bit 10~19 are the 2nd group for 2nd channel, bit 20~31 are the 3rd group for 3rd channel.</p> <p>Then, the 1st bit of the group indicates 1st stream of a channel support viewing window or not. The 2nd bit of the group indicates 2nd stream of a channel support viewing window or not, and so on.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0326a.</p>

7.28.10 Capability for Image

Group: **capability_image_c<0~(n-1)>** n denotes the value of "capability_nvideoin"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
basicsetting	0, <positive integer>	0/7	A 32-bits integer, each bit can be set separately as follows: Bit 0 => Supports Brightness or not. Bit 1 => Supports Contrast or not. Bit 2 => Supports Saturation or not. Bit 3 => Supports Sharpness or not. Bit 4 => Supports adjusting the image to proper position horizontally or not. Bit 5 => Supports adjusting the image to proper position vertically or not.
hlm	<boolean>	0/7	Highlight Mask: The function will strengthen the image contrast and mask the specified zone of image if any strong spot-light exists. * We support this parameter when the version number (httpversion) is equal or greater than 0311a.
wdrpro_mode	0, 1, 2	0/7	0: Non-support WDR Pro 1: Support WDR Pro 2: Support WDR Pro II
wdrpro_strength	0, 1	0/7	0: Non-support tuning strength of WDR Pro 1: Support tuning strength of WDR Pro * If "capability_image_c<0~(n-1)>_wdrpro"=1, this may be either 0 or 1.
wdrpro_supportlevel	0, <positive integer>	0/7	This contains a list of positive integers, split by comma. If "wdrpro_mode" =1, then the value indicate the support strength level of WDR Pro. If "wdrpro_mode" =2, then the first number indicate the support strength level of WDR Pro, and the second number indicate the support strength level of WDR Pro II.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
wdrpro_affect	-, exposurewin.mode :fixed:auto, exposurelevel:hidden:, exposurelevel:fixed <x>, exposurelevel:fixed <x>/<x>, exposuremode:fixed: auto, gammacurve:disabled; exposurewin.mode .blc:hidden:, exposurewin.mode .hlc:hidden:, exposuretime:hidden:, gaincontrol:hidden: , flickerless:unchanged:, wdrc:enabled:, wdrc:enabled:only once, wdrc:unchanged:, <x>: nonnegative integer <product dependent>	0/7	<p>When WDR Pro is enabled, some features may become malfunction or be forced to a given value. The affected functions are listed here.</p> <p>The format is "Affect API name":"Policy":"Description"</p> <p>"Policy" can be categorized into following groups:</p> <ul style="list-style-type: none"> - (disabled) : UI turns grey and users can't select it. - (unchanged) : UI keeps the status as before and user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. - (onlyonce) : when wdrpro is enabled, wdrc is checked; when wdrpro is disabled, wdrc is unchecked. <p>"Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is disabled. API name can be one word as well, such as "exposurelevel:fixed:6" which means exposurelevel is fixed to level 6.</p> <p>"Description" can be a nonnegative integer or string or NULL.</p> <p>For example:</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>"exposurelevel:fixed:6/8/12" which means exposurelevel is fixed to level 6, level 8 and level 12.</p> <p>"-" means no feature is affected.</p> <p>* When "wdrpro"=0, this value must be "-"</p>
wdrpro_description	<string>	0/7	<p>Description about WDR Pro mode.</p> <p>* Only available when "capability_image_c<0~(n-1)>_wdrpro_mode" > 0</p>
wdrpro_supportmode	-, auto, dcg, dol	6/6	<p>Indicate ClearHDR supported modes.</p> <p>"auto": Automatic adjustment of HDR settings based on scene analysis.</p> <p>"dcg": Uses dual gain modes within a single exposure to capture bright and dark details, expanding dynamic range for static images.</p> <p>"dol": Uses overlapping exposures in quick succession to create HDR video frames, maintaining detail across highlights and shadows in dynamic or fast-moving scenes.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0327a.</p>
wdrc_mode	0, 1	0/7	<p>0: Non-support WDR Enhanced</p> <p>1: Support WDR Enhanced</p>
wdrc_supportlevel	0, <positive integer>	0/7	Indicate the support strength level of WDR Enhanced.
wdrc_affect	-, gammacurve:disabled; <x>: nonnegative integer <product dependent>	0/7	<p>When WDR Enhanced is enabled, some features may become malfunction or be forced to a given value. The affected functions are listed here.</p> <p>The format is "Affect API name":"Policy":"Description"</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>"Policy" can be categorized into following groups:</p> <ul style="list-style-type: none"> - (disabled) : UI turns grey and users can't select it. - (unchanged) : UI keeps the status as before and user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. <p>"Affect API name" can be described in hierarchy, such as</p> <p>"exposurewin.mode.blc:disabled:" which means blc exposure window is disabled. API name can be one word as well, such as</p> <p>"exposurelevel:fixed:6" which means exposurelevel is fixed to level 6.</p> <p>"Description" can be a nonnegative integer or string or NULL.</p> <p>For example:</p> <p>"exposurelevel:fixed:6/8/12" which means exposurelevel is fixed to level 6, level 8 and level 12.</p> <p>"-" means no feature is affected.</p> <p>* When "wdrc"=0, this value must be "-"</p>
dnr	0,1	0/7	0: Non-support 3D digital noise reduction 1: Support 3D digital noise reduction
dnrstrength	<positive integer>	0/7	Indicate the support strength level of 3D digital noise reduction.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<ul style="list-style-type: none"> * Only available when "capability_image_c<0~(n-1)>_dnr" > 0. * We support this parameter when the version number (httpversion) is equal or greater than 0306d.
dnrtype	2d,3d	0/7	<p>Description about DNR type.</p> <ul style="list-style-type: none"> * Only available when "capability_image_c<0~(n-1)>_dnr" > 0. * We support this parameter when the version number (httpversion) is equal or greater than 0308a.
eis	0,1	0/7	<p>0: Non-support electronic image stabilizer 1: Support electronic image stabilizer</p>
is_mode	eis, dis, -	0/7	<p>Indicate the image stabilizer mode.</p> <p>"eis": electronic image stabilizer "dis": digital image stabilizer "-": not support</p> <ul style="list-style-type: none"> * We support this parameter when the version number (httpversion) is equal or greater than 0302a.
is_strength	<boolean>	0/7	<p>0: Non-support tuning strength of image stabilizer mode. 1: Support tuning strength of image stabilizer mode.</p> <ul style="list-style-type: none"> * Only available when "capability_image_c<0~(n-1)>_is_mode" is not "-". * We support this parameter when the version number (httpversion) is equal or greater than 0302a.
is_supportlevel	0, <positive integer>	0/7	Indicate the support strength level of image stabilizer mode.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>* Only available when "capability_image_c<0~(n-1)>_is_mode" is not "-".</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0302a.</p>
is_affect	-, <x>: nonnegative integer <product dependent>	0/7	<p>When Is mode is not "-", some features may become malfunction or be forced to a given value. The affected functions are list here. The format is "Affect API name":"Policy":"Description"</p> <p>"Policy" can be categorized into following groups:</p> <ul style="list-style-type: none"> - (disabled) : UI turns grey and users can't select it. - (unchanged) : UI keeps the status as before and user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. <p>"Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc: disabled:" which means blc exposure window is disabled. API name can be one word as well, such as "exposurelevel:fixed:6" which means exposurelevel is fixed to level 6.</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>"Description" can be a nonnegative integer or string or NULL.</p> <p>"-" means no feature is affected.</p> <ul style="list-style-type: none"> * Only available when "capability_image_c<0~(n-1)>_is_mode" is not "-". * We support this parameter when the version number (httpversion) is equal or greater than 0302a.
is_setfocallength	0,1	0/7	<p>Indicate the product support set focal length in image stabilization mode or not.</p> <ul style="list-style-type: none"> * We support this parameter when the version number (httpversion) is equal or greater than 0322a
scenemode_support	0,1	0/7	<p>0: Non-support scene mode 1: Support scene mode</p>
scenemode_supportty pe <product dependent>	visibility, noiseless, lpcparkinglot, lpcstreet, lpchighway, auto, deblur, lpcfreetway, signallight, railtrack <product dependent>	0/7	<p>list all the scene mode which are supported in the camera.</p> <ul style="list-style-type: none"> * Only available when "capability_image_c<0~(n-1)>_scenemode_support" is 1
scenemode_signalligh t_affect <product dependent>	-, flickerless:unchang ed:, wdrpro:unchanged : <product dependent>	0/7	<p>When scene mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here.</p> <p>The format is "Affect API name":"Policy":"Description"</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>"Policy" can be categorized into following groups:</p> <ul style="list-style-type: none"> - (disabled) : UI turns grey and users can't select it. - (unchanged) : UI keeps the status as before and user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. <p>"Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc: disabled:" which means blc exposure window is disabled. API name can be one word as well, such as "exposurelevel:fixed:6" which means exposurelevel is fixed to level 6.</p> <p>"Description" can be a nonnegative integer or string or NULL.</p> <p>"-" means no feature is affected.</p> <p>* Only available when "signallight" is listed in "capability_image_c<0~(n-1)>_scenemode_supporttype" and "capability_image_c<0~(n-1)>_scenemode_support" is 1.</p>
scenemode_railtrack_affect	-,	0/7	When scene mode is enabled, some features may become malfunction or

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
<product dependent>	flickerless:unchanged; wdrpro:unchanged: : <product dependent>		<p>be forced to a given value. The affected functions are list here.</p> <p>The format is "Affect API name":"Policy":"Description"</p> <p>"Policy" can be categorized into following groups:</p> <ul style="list-style-type: none"> - (disabled) : UI turns grey and users can't select it. - (unchanged) : UI keeps the status as before and user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. <p>"Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc: disabled:" which means blc exposure window is disabled. API name can be one word as well, such as "exposurelevel:fixed:6" which means exposurelevel is fixed to level 6.</p> <p>"Description" can be a nonnegative integer or string or NULL.</p> <p>"--" means no feature is affected.</p> <p>* Only available when "railtrack" is listed in "capability_image_c<0~(n-</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			1)>_scenemode_supporttype" and "capability_image_c<0~(n-1)>_scenemode_support" is 1.
wbmode	auto, panorama, manual, rbgain, widerange, outdoor,indoor, sodiumauto, snowauto, snowpanorama - <product dependent>	0/7	Available white balance mode. "- means white balance is not supported.
iristype	piris, dciris, -	0/7	Indicate iris type. "piris": P-Iris "dciris": DC-Iris "-": No Iris control support * Note: For some cameras, this value may be varied depending on mounted lens.
sensortype	rawsensor, smartsensor, thermalsensor, -	0/7	Indicate sensor type. "rawsensor": Raw sensor "smartsensor": Smart sensor "thermalsensor": Thermal sensor "-": N/A * We support this parameter when the version number (httpversion) is equal or greater than 0302a.
exposure_mode	0,1	0/7	0: Non-support exposure control. 1: Support exposure control.
exposure_modetype	auto, shutterpriority, irispriority, manual	0/7	Available mode of exposure setting. * Only available when "capability_image_c<0~(n-1)>_exposure_mode" is 1.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
	<product dependent>		* We support this parameter when the version number (httpversion) is equal or greater than 0302a.
exposure_rangetype	onevalue, twovalues	0/7	<p>Support interface of exposure range.</p> <p>"onevalue": The parameter is a constant value.</p> <p>"twovalues": Need two parameters to indicate the exposure range.</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposure_mode" is 1.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0302a.</p>
exposure_shuttervaluetype	fixed, maximum, ranged, -	0/7	<p>* One to one mapping to the mode type in "exposure_modetype".</p> <p>"fixed <p>"maximum <p>"ranged <p>"-": not support.</p> <p>* Only available when "shutterpriority" is listed in "capability_image_c<0~(n-1)>_exposure_modetype" and "capability_image_c<0~(n-1)>_exposure_mode" is 1.</p> </p></p></p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>* We support this parameter when the version number (httpversion) is equal or greater than 0302a.</p>
exposure_gainvaluetype	fixed, maximum, ranged, -	0/7	<p>* One to one mapping to the mode type in "exposure_modetype".</p> <p>"fixed <p>"maximum <p>"rangedvideoin_c<0~(n-1)>_mingain)</p> <p>"-": not support.</p> <p>* Only available when "irispriority" or "shutterpriority" is listed in "capability_image_c<0~(n-1)>_exposure_modetype" and "capability_image_c<0~(n-1)>_exposure_mode" is 1.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0302a.</p> </p></p>
exposure_automode_affect	-, exposurewin.mode .blc:hidden:, defog:disabled:, wdrpro:disabled:, exposurelevel:hidd en:, defaultgain:fixed:x or others <x>: nonnegative integer	0/7	<p>When exposure auto mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here.</p> <p>The format is "Affect API name":"Policy":"Description"</p> <p>"Policy" can be categorized into following groups:</p> <ul style="list-style-type: none"> - (disabled) : UI turns grey and users can't select it.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
	<product dependent>		<ul style="list-style-type: none"> - (unchanged) : UI keeps the status as before and user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. <p>"Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is disabled. API name can be one word as well, such as "exposurelevel:fixed:6" which means exposurelevel is fixed to level 6.</p> <p>"Description" can be a nonnegative integer or string or NULL.</p> <p>"-" means no feature is affected.</p> <p>* Only available when auto is listed in "capability_image_c<0~(n-1)>_exposure_modetype" and "capability_image_c<0~(n-1)>_exposure_mode" is 1.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0302a.</p>
exposure_shutterprior itymode_affect	-, exposurewin.mode .blc:hidden:; defog:disabled:; wdrpro:disabled:;	0/7	When exposure shutter priority mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
	exposurelevel:hidden; defaultgain:fixed:x or others <x>: nonnegative integer <product dependent>		<p>The format is "Affect API name":"Policy":"Description"</p> <p>"Policy" can be categorized into following groups:</p> <ul style="list-style-type: none"> - (disabled) : UI turns grey and users can't select it. - (unchanged) : UI keeps the status as before and user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. <p>"Affect API name" can be described in hierarchy, such as</p> <p>"exposurewin.mode.blc:disabled:" which means blc exposure window is disabled. API name can be one word as well, such as</p> <p>"exposurelevel:fixed:6" which means exposurelevel is fixed to level 6.</p> <p>"Description" can be a nonnegative integer or string or NULL.</p> <p>"-" means no feature is affected.</p> <p>* Only available when shutterpriority is listed in "capability_image_c<0~(n-1)>_exposure_modetype" and "capability_image_c<0~(n-1)>_exposure_mode" is 1.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0302a.</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
exposure_irispriority mode_affect	-, exposurewin.mode .blc:hidden:, defog:disabled:, wdrpro:disabled:, exposurelevel:hidd en:, defaultgain:fixed:x or others <x>: nonnegative integer <b style="color:red;"><product dependent>	0/7	<p>When exposure iris priority mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are listed here.</p> <p>The format is "Affect API name":"Policy":"Description"</p> <p>"Policy" can be categorized into following groups:</p> <ul style="list-style-type: none"> - (disabled) : UI turns grey and users can't select it. - (unchanged) : UI keeps the status as before and user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. <p>"Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is disabled. API name can be one word as well, such as "exposurelevel:fixed:6" which means exposurelevel is fixed to level 6.</p> <p>"Description" can be a nonnegative integer or string or NULL.</p> <p>"-" means no feature is affected.</p> <p>* Only available when irispriority is listed in "capability_image_c<0~(n-1)>_exposure_modetype" and</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>"capability_image_c<0~(n-1)>_exposure_mode" is 1.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0302a.</p>
exposure_qualityprior itymode_affect	<p>-, exposurewin.mode .blc:hidden:, defog:disabled:, wdrpro:disabled:, exposurelevel:hidden:, defaultgain:fixed:x or others <x>: nonnegative integer <product dependent></p>	0/7	<p>When exposure quality priority mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here.</p> <p>The format is "Affect API name":"Policy":"Description"</p> <p>"Policy" can be categorized into following groups:</p> <ul style="list-style-type: none"> - (disabled) : UI turns grey and users can't select it. - (unchanged) : UI keeps the status as before and user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. <p>"Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is disabled. API name can be one word as well, such as "exposurelevel:fixed:6" which means exposurelevel is fixed to level 6.</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>"Description" can be a nonnegative integer or string or NULL.</p> <p>"-" means no feature is affected.</p> <ul style="list-style-type: none"> * Only available when qualitypriority is listed in "capability_image_c<0~(n-1)>_exposure_modetype" and "capability_image_c<0~(n-1)>_exposure_mode" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0305a.
exposure_manualmod e_affect	-, exposurewin.mode .blc:hidden:, defog:disabled:, wdrpro:disabled:, exposurelevel:hidden:, icrmode.auto:notsupport: or others <x>: nonnegative integer <product dependent>	0/7	<p>When exposure manual mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are listed here.</p> <p>The format is "Affect API name":"Policy":"Description"</p> <p>"Policy" can be categorized into following groups:</p> <ul style="list-style-type: none"> - (disabled) : UI turns grey and users can't select it. - (unchanged) : UI keeps the status as before and user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. <p>"Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:"</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>which means blc exposure window is disabled. API name can be one word as well, such as "exposurelevel:fixed:6" which means exposurelevel is fixed to level 6.</p> <p>"Description" can be a nonnegative integer or string or NULL.</p> <p>"-" means no feature is affected.</p> <ul style="list-style-type: none"> * Only available when manual is listed in "capability_image_c<0~(n-1)>_exposure_modetype" and "capability_image_c<0~(n-1)>_exposure_mode" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0302a.
exposure_levelrange	-, "0,12"	0/7	<p>Available range for "videoin_c<0~(n-1)>_exposurelevel"</p> <ul style="list-style-type: none"> * When "exposure_mode"=0, this value must be set to "-". * Only available when "capability_image_c<0~(n-1)>_exposure_mode" is 1.
exposure_winmode	auto, custom, blc, hlc, center, - <product dependent>	0/7	<p>Available options for "exposurewin_c<0~(n-1)>_mode"</p> <ul style="list-style-type: none"> * "-" means group: exposurewin is not supported. * When exposure_mode="0", this value must be set to "-". * Only available when "capability_image_c<0~(n-1)>_exposure_mode" is 1.
exposure_meteringmode	auto, blc, hlc	0/7	Available options for "videoin_c<0~(n-1)>_meteringmode"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
	<product dependent>		* Only available when "capability_image_c<0~(n-1)>_exposure_mode" is 1.
exposure_hlcmode_supportwindow	<boolean>	0/7	Indicate whether to support exposure window in hlc mode. * Only available when "capability_image_c<0~(n-1)>_exposure_mode" is 1 and hlc is listed in "capability_image_c<0~(n-1)>_exposure_winmode".
exposure_hlcmode_affect	-, sir:hidden: or others <x>: nonnegative integer <product dependent>	0/7	When hlc mode is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here. The format is "Affect API name":"Policy":"Description" "Policy" can be categorized into following groups: - (disabled) : UI turns grey and users can't select it. - (unchanged) : UI keeps the status as before and user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is disabled. API name can be one word

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>as well, such as "exposurelevel:fixed:6" which means exposurelevel is fixed to level 6.</p> <p>"Description" can be a nonnegative integer or string or NULL.</p> <p>"-" means no feature is affected.</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposure_mode" is 1 and hlc is listed in "capability_image_c<0~(n-1)>_exposure_winmode".</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0304a.</p>
exposure_wintype	inclusive, exclusive, -	0/7	<p>The supported exposure window type.</p> <p>"inclusive": The image inside a window is the target area of exposure control.</p> <p>"exclusive": The image inside a window is omitted by exposure control.</p> <p>"-": Not supported.</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposure_mode" is 1.</p>
exposure_windomain	qvga, px, std, -	0/7	<p>The domain to set an exposure window.</p> <p>"qvga": a 320x240 range to represent the whole image.</p> <p>"px": Locate a window in the image with pixels.</p> <p>"std": A normalized 0~9999 range.</p> <p>"-": Not supported.</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposure_mode" is 1.</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
exposure_winnum	0, <Positive Integer>	0/7	<p>Indicate the number of custom exposure windows.</p> <p>* If no "custom" is listed in "exposure_winmode", this should be 0.</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposure_mode" is 1.</p>
exposure_ntsc_totalrange	A list of <Positive Integer>	0/7	<p>Available total range for NTSC analog output.</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposure_mode" is 1.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0301a.</p>
exposure_pal_totalrange	A list of <Positive Integer>	0/7	<p>Available total range for PAL analog output.</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposure_mode" is 1.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0301a.</p>
exposure_maxrange	"1,32000", "1,8000", -, or others <product dependent>	0/7	<p>Available range for "videoin_c<n>_maxexposure"</p> <p>"1,32000" => 1s ~ 1/32000s</p> <p>"1,8000" => 1s ~ 1/8000s</p> <p>etc.</p> <p>"-" means maximum exposure time is not available.</p> <p>* When "exposure_mode"=0, this value must be set to "-".</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposure_mode" is 1.</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
exposure_minrange	"1,32000", "1,8000", -, or others <product dependent>	0/7	<p>Available range for "videoin_c<n>_minexposure"</p> <p>"1,32000" => 1s ~ 1/32000s</p> <p>"1,8000" => 1s ~ 1/8000s</p> <p>etc.</p> <p>"-" means minimum exposure time is not available.</p> <p>* When "exposure_mode"=0, this value must be set to "-".</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposure_mode" is 1.</p>
exposureBracketingMode	<boolean>	0/7	<p>0: Non-support Auto Exposure Bracketing (AEB)</p> <p>1: Support Auto Exposure Bracketing (AEB)</p> <p>Auto Exposure Bracketing (AEB) is a term that is used to signify a process where the camera automatically takes two or more exposures but with different exposure values.</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposure_mode" is 1.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0310a.</p>
exposureBracketingRange	A list of ratio For example: 2x,3x,4x	0/7	<p>The input parameter decides how much ratio of exposure compensation will be expanded on the next stream, which is based on the original exposure time (first stream).</p> <p>* Only available when "capability_image_c<0~(n-1)>_exposureBracketingMode" is 1.</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* We support this parameter when the version number (httpversion) is equal or greater than 0310a.
privacymask_wintype	rectangle, polygon, 3Drectangle, 3Dpolygon	0/7	The supported mask window type. "polygon" : The window is a 2D polygon shape. "rectangle" : The window is a 2D rectangle shape. "3Drectangle" : The window is a 3D rectangle shape. "3Dpolygon" : The window is a 3D polygon shape.
privacymask_window ain	qvga, px, std, -	0/7	The domain to set an window. "qvga" : a 320x240 range to represent the whole image. "px" : Locate a window in the image with pixels. "std" : A normalized 0~9999 range. "-" : Not supported.
privacymask_ncolor	<Positive Integer>	0/7	Available total color numbers of privacy mask.
privacymask_types	"color", "color,mosaic"	0/7	Which types of privacy mask are supported. * We support this parameter when the version number (httpversion) is equal or greater than 0323a.
agc_maxgain	"0,100", "-"	0/7	Available range for "videoin_c<n>_maxgain" "0,100" => 0~100 percent "-" means "videoin_c<n>_maxgain" is not available.
agc_mingain	"0,100", "-"	0/7	Available range for "videoin_c<n>_mingain" "0,100" => 0~100 percent

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			"-" means "videoin_c<n>_mingain" is not available.
flickerless	0,1	0/7	0: Non-support flickerless 1: Support flickerless
flickerlessaffect	-, minexposure.lower bound:fixed:x or others <x>: nonnegative integer <product dependent>	0/7	<p>When flickerless is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here.</p> <p>The format is "Affect API name":"Policy":"Description"</p> <p>"Policy" can be categorized into following groups:</p> <ul style="list-style-type: none"> - (disabled) : UI turns grey and users can't select it. - (unchanged) : UI keeps the status as before and user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. <p>"Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:" which means blc exposure window is disabled. API name can be one word as well, such as "exposurelevel:fixed:6" which means exposurelevel is fixed to level 6.</p> <p>"Description" can be a nonnegative integer or string or NULL.</p> <p>"-" means no feature is affected.</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* When "flickerless" = 0, this value must be "-"
defog_mode	0,1	0/7	0: Non-support defog 1: Support defog
defog_strength	0, 1	0/7	0: Non-support tuning strength of defog 1: Support tuning strength of defog * If "capability_image_c<0~(n-1)>_defog_mode"=1, this may be either 0 or 1.
defog_supportlevel	0, <positive integer>	0/7	The value indicate the support strength level of defog.
defog_affect	-, wdrc:unchanged: contrast:hidden: or others <x>: nonnegative integer <product dependent>	0/7	When defog is enabled, some features may become malfunction or be forced to a given value. The affected functions are list here. The format is "Affect API name":"Policy":"Description" "Policy" can be categorized into following groups: - (disabled) : UI turns grey and users can't select it. - (unchanged) : UI keeps the status as before and user can't change it. - (hidden) : UI is hidden. - (fixed) : UI is fixed to one selection or value. - (ranged) : UI is fixed to multiple selections or values. - (enabled) : UI is checked. - (notsupport) : the affected function is not available. "Affect API name" can be described in hierarchy, such as "exposurewin.mode.blc:disabled:"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>which means blc exposure window is disabled. API name can be one word as well, such as "exposurelevel:fixed:6" which means exposurelevel is fixed to level 6.</p> <p>"Description" can be a nonnegative integer or string or NULL.</p> <p>"-" means no feature is affected.</p> <p>* When "defog" = 0, this value must be "-"</p>
aespeed	0,1	0/7	<p>0: Non-support AE speed</p> <p>1: Support AE speed</p>
aespeedsupportlevel	<positive integer>	0/7	<p>The value indicate the support strength level of aespeed.</p> <p>* Only available when "capability_image_c<0~(n-1)>_aespeed" is 1.</p>
aespeedsupportsensitivity	0,1	0/7	<p>0: Non-support tuning the sensitivity of AE converge speed.</p> <p>1: Support tuning the sensitivity of AE converge speed.</p> <p>* Only available when "capability_image_c<0~(n-1)>_aespeed" is 1.</p>
gammacurve	0,1	0/7	<p>0: Non-support tuning Gamma curve</p> <p>1: Support tuning Gamma curve</p>
lowlightmode	-,0,1	0/7	<p>-: Internal parameter, must not open to user.</p> <p>0: Non-support low light mode</p> <p>1: Support low light mode</p>
focusassist	0,1	0/7	<p>0: Non-support focus assist</p> <p>1: Support focus assist</p>
remotefocus	0,<positive integer>	0/7	An 4-bit integer, which indicates the supportive application of remotefocus in this channel.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>If the value of this parameter is larger than 0, it means that the camera supports remotefocus function in this channel.</p> <p>bit 0 => Indicate whether to support both zoom and focus function.</p> <p>bit 1 => Only support zoom function.</p> <p>bit 2 => Only support focus function.</p> <p>bit 3 => Currently, this is a reserved bit, and the default value is 0.</p>
focuswindomain	qvga, px, std, -	0/7	<p>The domain to set a focus window.</p> <p>"qvga": a 320x240 range to represent the whole image.</p> <p>"px <p>"std": A normalized 0~9999 range.</p> <p>"-": Not supported.</p> </p>
focuswindow_nwindow	0,<positive integer>	0/7	Number of focus window
focuswindow_range	<lefrange,rightrange,toprange,lowrange> <product dependent>	0/7	<p>Available range for focuswindow.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0305d.</p> <p>*-: Not supported.</p>
lensconfiguration_support	0,1	0/7	Indicate whether to support different image library configuration files for specific exchangeable lens.
freeze	<boolean>	0/7	<p>0: Non-support image freeze feature</p> <p>1: Support image freeze feature</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0302a.</p>
autotrack_support	<boolean>	0/7	<p>0: Non-support auto tracking feature</p> <p>1: Support auto tracking feature</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			* We support this parameter when the version number (httpversion) is equal or greater than 0302a.
smartsensor_iristotalrange	A list of iris value	0/7	Available total step for iris value. * We support this parameter when the version number (httpversion) is equal or greater than 0302a. * Only available when "capability_image_c<0~(n-1)>_sensortype" is "smartsensor"
deinterlace_support	<boolean>	0/7	Indicate whether to support deinterlace function. * We support this parameter when the version number (httpversion) is equal or greater than 0308a.
deinterlace_mode	spatial, blend	0/7	Spatial mode provides the best image quality, while Blend mode provides better image quality (than not using the deinterlace function at all). * Only available when capability_image_c<0~(n-1)>_deinterlace_support is 1
lens_alignment	<boolean>	0/7	Indicate whether to support lens alignment function. * We support this parameter when the version number (httpversion) is equal or greater than 0309b.
lens_alignmentlevel	<positive integer>	0/7	The value indicate the support level of alignment. * Only available when "capability_image_c<0~(n-1)>_lens_alignment" is 1.
lens_alignmentmode	static,dynamic	0/7	lens alignment mode.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
	<product dependent		<p>static: get alignment (stitch) result based on "distance table".</p> <p>dynamic: get alignment (stitch) result based on image(scene) which based on algorithm.</p> <p>* Only available when "capability_image_c<0~(n-1)>_lens_alignment" is 1.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0321a.</p>
lens_ldc_support	<boolean>	0/7	<p>Indicate whether to support lens distortion correction function.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0309d.</p>
palette_support	<boolean>	0/7	<p>Indicate support color palettes or not. Thermal cameras provide a choice of color palettes on the camera, that help quickly distinguish thermal variations and patterns in an image. The color tones correspond to the apparent surface temperatures of the target.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0310a.</p>
palette_mode	A list of palette options	0/7	<p>Palette options used in thermal surveillance.</p> <p>*Only available when "capability_image_c<0~(n-1)>_palette_support"=1.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0310a.</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
focussystem_mode	AFbyzoom, focusshift, - <product dependent>	0/7	<p>Supported features for remotefocus.</p> <p>"AFbyzoom": Trigger autofocus if zoom is operated.</p> <p>"focusshift": Ability to adjust day/night focus position.</p> <p>"-": Not supported.</p> <p>* Only available when "capability_image_c<0~(n-1)>_remotefocus" > 0</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0316a</p>
deblur_support	<boolean> <product dependent>	0/7	<p>Indicate whether to support deblur mode.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0324a</p>

7.28.11 Capability for Peripheral Device

Group: **capability_peripheral_c<0~(n-1)>** n denotes the value of "capability_nvideoin"

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
devicecontrol	<boolean>	0/7	<p>Indicate whether to support the peripheral device control.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0305c.</p>
devicemonitor_support	<boolean>	0/7	<p>Indicate whether to support overview of all sensors and peripheral devices status on camera.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0319a.</p>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
devicemonitor_tempnum	<integer>	0/7	Number of temperature sensors that can be monitored. * Only available when "capability_peripheral_c<0~(n-1)>_devicemonitor_support" > 0
devicemonitor_heaternum	<integer>	0/7	Number of sensor sensors that can be monitored. * Only available when "capability_peripheral_c<0~(n-1)>_devicemonitor_support" > 0

7.28.12 Capability for Extension Modules

Group: **capability_extension**

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
di_num	<integer>	0/7	The number of supported extension digital input module. * We support this parameter when the version number (httpversion) is equal or greater than 0316a.
do_num	<integer>	0/7	The number of supported extension digital output module. * We support this parameter when the version number (httpversion) is equal or greater than 0316a.

7.28.13 Capability for Onvif

Group: **capability_onvif**

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
dbsize	<integer>	0/7	Indicate the maximum size (Megabyte) of persistent notification storage. * We support this parameter when the version number (httpversion) is equal or greater than 0319a.

7.28.14 Capability for Security

Group: capability_security

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
certificate_method	auto, manual, install, installwithkey	0/7	<p>Create and install certificate method.</p> <p>"auto": Create self-signed certificate automatically.</p> <p>"manual": Create self-signed certificate manually.</p> <p>"install": Create certificate request and install.</p> <p>"installwithkey": Upload a certificate and private key.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0320a.</p>
accountblock	<boolean>	0/7	<p>Indicate whether to support account block.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0322a</p>
auditlog	<boolean>	0/7	<p>Indicate whether to support audit records relevant to security.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0322a</p>
password_customized	<boolean>	0/7	<p>Indicate whether to support custom password policy.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0322a</p>
password_minlength	<boolean>	0/7	<p>The lower limit for password.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0322a</p>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
password_maxlength	<boolean>	0/7	The upper limit for password. * We support this parameter when the version number (httpversion) is equal or greater than 0322a
sessiontimeout	<boolean>	0/7	Indicate whether to support session timeout. * We support this parameter when the version number (httpversion) is equal or greater than 0322a
systemnotify	<boolean>	0/7	Display a system use notification message (Warnings, system use policy etc.) before authenticating. * We support this parameter when the version number (httpversion) is equal or greater than 0322a
tpm_support	<boolean>	0/7	Indicate if this camera support TPM security feature. * We support this parameter when the version number (httpversion) is equal or greater than 0325a
tpm_version	<string>	0/7	The version of the TPM standard. * We support this parameter when the version number (httpversion) is equal or greater than 0325a

7.29 Event Setting

Group: **event_i<0~(n-1)>** n denotes the value of "capability_nevent"
(capability_nevent > 0)

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
name	string[40]	6/6	Identification of this entry.
enable	0, 1	6/6	Enable or disable this event.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
priority	0, 1, 2	6/6	Indicate the priority of this event: "0"= low priority "1"= normal priority "2"= high priority
delay	1~999	6/6	Delay in seconds before detecting the next event.
trigger	boot, di, pir, motion, seq, recnotify, tampering, vi, volalarm, visignal, vadp, smartsd, presetreached, casingopen, certificateexpiration, <product dependent>	6/6	Indicate the trigger condition: "boot" = System boot. "di"= Digital input. "pir"= PIR detection. "motion" = Video motion detection. "seq" = Periodic condition. "visignal" = Video input signal loss. "recnotify" = Recording notification. "tampering" = Tamper detection. "vi"= Virtual input (Manual trigger). "volalarm"= Audio detection. "smartsd"= Lifetime detection of SD card. "shockalarm" = Shock detection. "virestore" = Video input signal restore. "vadp" = VADP trigger. "presetreached" = When any preset is reached. "casingopen" = Casing open detection. "certificateexpiration" = Certificate management expiration. * "smartsd" is only valid when smart SD card is inserted
triggerstatus	string[40]	6/6	The status for event trigger
di	0,<positive integer>	6/6	Indicate the source id of di trigger. This field is required when trigger condition is "di". One bit represents one digital input. The LSB indicates DI 0. * Only available when "capability_ndi" > 0

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
mdwin	0,<positive integer>	6/6	<p>Indicate the source window id of motion detection.</p> <p>This field is required when trigger condition is "md".</p> <p>One bit represents one window.</p> <p>The LSB indicates the 1st window.</p> <p>For example, to detect the 1st and 3rd windows, set mdwin as 5.</p>
mdwin0	0,<positive integer>	6/6	<p>Similar to mdwin. The parameter takes effect when profile 1 of motion detection is enabled.</p>
vi	0,<positive integer>	6/6	<p>Indicate the source id of vi trigger.</p> <p>This field is required when trigger condition is "vi".</p> <p>One bit represents one digital input. The LSB indicates VI 0.</p>
vadp <i><product dependent></i>	0,<positive integer>	6/6	<p>Indicate the source id of vadp event notification.</p> <p>Each bit corresponds to one vadp source, and the LSB indicates source id 0.</p> <p>For example, to detect event from any one of source id 0, 1 and 3, set vadp to 11.</p> <p>* Only available when vadp is listed in "capability_supporttriggertypes"</p>
valevel	0,1	6/6	<p>Select audio detection event.</p> <p>0: not select</p> <p>1: select</p>
valevel0	0,1	6/6	<p>Select audio detection profile event.</p> <p>0: not select</p> <p>1: select</p>
inter	1~999	6/6	<p>Interval of snapshots in minutes.</p> <p>This field is used when trigger condition is "seq".</p>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
weekday	0~127	6/6	<p>Indicate which weekday is scheduled.</p> <p>One bit represents one weekday.</p> <p>bit0 (LSB) = Saturday</p> <p>bit1 = Friday</p> <p>bit2 = Thursday</p> <p>bit3 = Wednesday</p> <p>bit4 = Tuesday</p> <p>bit5 = Monday</p> <p>bit6 = Sunday</p> <p>For example, to detect events on Friday and Sunday, set weekday as 66.</p>
begintime	hh:mm	6/6	Begin time of the weekly schedule.
endtime	hh:mm	6/6	<p>End time of the weekly schedule.</p> <p>(00:00 ~ 24:00 sets schedule as always on)</p>
lowlightcondition <i><product dependent></i>	0, 1	6/6	<p>Switch on white light LED in low light condition</p> <p>0 => Do action at all times</p> <p>1 => Do action in low-light conditions</p>
action_do_i<0~(k-1)>_enable	<boolean>	6/6	<p>Enable or disable trigger digital output.</p> <p>k is determined by the below criterion:</p> <p>The following applies for capability_extension_do_num >= 0</p> <ul style="list-style-type: none"> * if extension_connected=1, k=capability_ndo * if extension_connected=0, k=capability_ndo+ capability_extension_do_num <p>Otherwise,</p> <ul style="list-style-type: none"> * k=capability_ndo <p>* Only available when "capability_ndo" > 0</p>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
action_do_i<0~(k-1)>_duration	1~999	6/6	<p>Duration of the digital output trigger in seconds.</p> <p>k is determined by the below criterion:</p> <p>The following applies for capability_extension_do_num >= 0</p> <ul style="list-style-type: none"> * if extension_connected=1, k=capability_ndo * if extension_connected=0, k=capability_ndo+ capability_extension_do_num <p>Otherwise,</p> <ul style="list-style-type: none"> * k=capability_ndo <p>* Only available when "capability_ndo" > 0</p>
action_cf_enable	<Boolean>	6/6	<p>Enable or disable sending media to SD card.</p> <p>* Only available when "capability_supportsd" > 0</p>
action_cf_folder <i><Not recommended to use this></i>	string[128]	6/6	<p>Path to store media.</p> <p>* Only available when "capability_supportsd" > 0</p>
filename	string[128]	6/6	<p>Path to store media.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0312a.</p>
action_cf_media	NULL, 0~4,101	6/6	<p>Index of the attached media.</p> <p>101 means “Recording Notify”</p> <p>* Only available when "capability_supportsd" > 0</p>
action_cf_datefolder <i><Not support anymore></i>	<boolean>	6/6	<p>Enable this to create folders by date, time, and hour automatically.</p> <p>* Only available when "capability_supportsd" > 0</p>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
action_cf_backup	<Boolean>	6/6	Enable or disable the function that send media to SD card for backup if network is disconnected. * Only available when "capability_supportsd" > 0
action_server_i<0~4>_enable	<boolean>	6/6	Enable or disable this server action.
action_server_i<0~4>_media	NULL, 0~4,101	6/6	Index of the attached media. 101 means "Recording Notify"
action_server_i<0~4>_datefolder <Not support anymore>	<boolean>	6/6	Enable this to create folders by date, time, and hour automatically.
action_goto_enable <product dependent>	<boolean>	6/6	Enable/disable ptz goto preset position on event triggered. * Only available when "capability_ptzenabled" > 0.
action_goto_name <product dependent>	string[40]	6/6	Specify the preset name that ptz goto on event triggered. * Only available when "capability_ptzenabled" > 0.
action_goto_sync <product dependent>	<boolean>	6/6	Capture media after moving to the location. * Only available when the bit4 of capability_ptzenabled is 1 and the bit7 of capability_ptzenabled is 0, or capability_camctrl_c0_zoommodule > 0
action_autotrack_enable <product dependent>	<boolean>	6/6	Enable/disable auto tracking when an event is triggered. * Only available when the bit4 of capability_ptzenabled is 1 and the bit7 of capability_ptzenabled is 0

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
action_autotrack_name <i><product dependent></i>	string[40]	6/6	<p>Indicate the source name of smart tracking advanced when an event is triggered.</p> <p>* Only available when the bit4 of capability_ptzenabled is 1 and the bit7 of capability_ptzenabled is 0, and the camera supports “Smart Tracking Advanced” feature. (Please refer to PTZ Control API for more details)</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0317d.</p>
action_autotrack_policy <i><product dependent></i>	continuous,once	6/6	<p>"continuous": always in autotrack mode, even if the tracked object disappears.</p> <p>"once": autotrack will only be executed once. When the tracking object disappears, the autotrack state will be released.</p> <p>* Only available when capability_cameralink_version is 3.0 or above</p> <p>* Only available when the bit4 of capability_ptzenabled is 1 and the bit7 of capability_ptzenabled is 0</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0324a.</p>
action_tour_enable <i><product dependent></i>	<boolean>	6/6	<p>Enable/disable auto tour function when an event is triggered.</p> <p>* Only available when the bit4 of capability_ptzenabled is 1 and the bit7 of capability_ptzenabled is 0</p>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
action_tour_name <product dependent>	string[40]	6/6	Indicate the source name of auto tour when an event is triggered. * Only available when the bit4 of capability_ptzenabled is 1 and the bit7 of capability_ptzenabled is 0
action_audioclip_enable	<boolean>	6/6	Enable/disable the function the play an audio clip when an event is triggered. * Only available when "capability_audio_audioclip" is 1.
action_audioclip_media	0,<positive integer>	6/6	Indicate the source id of audioclip event notification. * Only available when "capability_audio_audioclip" is 1.
tampering	0,<positive integer>	6/6	Indicate the source channel id of tampering detection. A 4-bit integer, each bit represents each channel. bit 0 => tampering detection for first channel. bit 1 => tampering detection for second channel. bit 2 => tampering detection for third channel. bit 3 => tampering detection for fourth channel. * We support this parameter when the version number (httpversion) is equal or greater than 0311c.
action_cameralink_id	<string>	6/6	Refer to the receiver camera id when an event is triggered. ex. cameralink_i0 refers to the information in cameralink_i0 group. * Only available when "capability_cameralink_support" is 1.

7.30 Server Setting for Event Action

Group: **server_i<0~4>**

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
name	string[40]	6/6	Identification of this entry
type	email, ftp, http, ns, sftp, https,	6/6	Indicate the server type: “email” = email server “ftp” = FTP server “http” = HTTP server “ns” = network storage “sftp” = secure FTP “https” = HTTPS server * “sftp” is only available when bit 1 of “capability_protocol_ftp_client” is 1.
http_url	string[128]	6/6	URL of the HTTP server to upload.
http_username	string[64]	6/6	Username to log in to the server.
http_passwd	string[64]	7/6	Password of the user.
ftp_address	string[128]	6/6	FTP server address.
ftp_username	string[64]	6/6	Username to log in to the server.
ftp_passwd	string[64]	7/6	Password of the user.
ftp_port	0~65535	6/6	Port to connect to the server.
ftp_location	string[128]	6/6	Location to upload or store the media.
ftp_passive	<boolean>	6/6	Enable or disable passive mode. 0 = disable passive mode 1 = enable passive mode
email_address	string[128]	6/6	Email server address.
email_sslmode	<boolean>	6/6	Enable support SSL.
email_port	0~65535	6/6	Port to connect to the server.
email_username	string[64]	6/6	Username to log in to the server.
email_passwd	string[64]	7/6	Password of the user.
email_senderemail	string[128]	6/6	Email address of the sender.
email_recipientemail	string[640]	6/6	Email address of the recipient.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
ns_location	string[128]	6/6	Location to upload or store the media. * For httpversion is equal or greater than 0312a: The media storage path format is “\<mac address>\date\hour”. (Only available when “nas” is included in “capability_storage_management_device”) * For httpversion smaller than 0312a: The media storage format is “\date\hour”. * Note: “\date\hour” format is “\YYYYMMDD\hh”.
ns_username	string[64]	6/6	Username to log in to the server.
ns_passwd	string[64]	7/6	Password of the user.
ns_workgroup	string[64]	6/6	Workgroup for network storage.
https_url	string[128]	6/6	URL of the HTTPS server to upload. * We support this parameter when the version number (httpversion) is equal or greater than 0326a.
https_username	string[64]	6/6	Username to log in to the HTTPS server. * We support this parameter when the version number (httpversion) is equal or greater than 0326a.
https_passwd	string[64]	7/6	Password of the user. * We support this parameter when the version number (httpversion) is equal or greater than 0326a.

7.30.1 Server Setting for Event Action of sftp

Group: **server_i<0~4>_sftp**

* Only available when bit 1 of “capability_protocol_ftp_client” is 1.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
address	string[128]	6/6	Server address
loginmode	passwd, publickey	6/6	authentication method: "passwd" = password authentication. You have to setup sftp_passwd for this login mode to work. "publickey" = Public key authentication is more secure than password authentication. Please see sftpclient.cgi for more detail settings.
username	string[64]	6/6	Username
passwd	string[64]	7/6	User password
port	0~65535	6/6	Server port
location	string[128]	6/6	Login path on server
fingerprint_enable	boolean	6/6	Verify server fingerprint to avoid connect to fake server.
fingerprint_content	<128-bit hash value>	6/6	Server fingerprint(MD5). You can get it by calculate server host key(public) md5.
publickey_pairmode	auto, download, upload	6/6	"autopair": Autopair mode is selected for this event server. "downloadkey": Download key pair mode is selected for this event server. "uploadkey": Upload key pair mode is selected for this event server.
publickey_downloadkeytype	ed25519, rsa, ecdsa	6/6	The keytype used for key pair. "ed25519": faster to generate with higher security level, some old server might not support. "rsa": slower to generate with slightly lower security level than ed25519. "ecdsa": low security level.
publickey_passphrase_enable	boolean	6/6	The private key file be encrypted or not.
publickey_passphrase_content	string[128]	7/6	The encryption passphrase.

7.31 Media Setting for Event Action

Group: **media_i<0~(n-1)>** n denotes the value of "capability_media_num"

(capability_media_num > 0)

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
Name	string[40]	6/6	Identification of this entry
Type	snapshot, systemlog, videoclip, recordmsg	6/6	Media type to send to the server or store on the server.
snapshot_channel	0~"capability_nvideoin"-1	6/6	Indicate the source of media channel. 0 means the first channel. 1 means the second channel. 2 means the third channel. 3 means the fourth channel. * We support this parameter when the version number (httpversion) is equal or greater than 0311c.
snapshot_source	0~"capability_nmediastream"-1	6/6	Indicate the source of media stream. 0 means the first stream. 1 means the second stream and etc. 2 means the third stream and etc. 3 means the fourth stream and etc.
snapshot_prefix	string[16]	6/6	Indicate the prefix of the filename. media_i0=> Snapshot1_ media_i1=> Snapshot2_ media_i2=> Snapshot3_ media_i3=> Snapshot4_ media_i4=> Snapshot5_

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
snapshot_datesuffix	0, 1	6/6	Add date and time suffix to filename: 1 = Add date and time suffix. 0 = Do not add.
snapshot_preevent	0~"capability_media_snapshot_maxpreevent"	6/6	Indicates the time (second) of pre-event
snapshot_postevent	0~"capability_media_snapshot_maxpostevent"	6/6	Indicates the time (second) of post-event.
videoclip_channel	0~"capability_nvideoin"-1	6/6	Indicate the source of media channel. 0 means the first channel. 1 means the second channel. 2 means the third channel. 3 means the fourth channel. * We support this parameter when the version number (httpversion) is equal or greater than 0311c.
videoclip_source	0~"capability_nmediastream"-1	6/6	Indicate the source of media stream. 0 means the first stream. 1 means the second stream and etc. 2 means the third stream and etc. 3 means the fourth stream and etc.
videoclip_prefix	string[16]	6/6	Indicate the prefix of the filename.
videoclip_preevent	0 ~ "capability_media_videoclip_maxpreevent"	6/6	Indicates the time for pre-event recording in seconds.
videoclip_maxduration	1 ~ "capability_media_videoclip_maxlength"	6/6	Maximum duration of one video clip in seconds.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
videoclip_maxsize	50 ~ "capability_media_videoclip_maxsize"	6/6	Maximum size of one video clip file in Kbytes.
videoclip_profilename	string[64]	6/6	Indicate the source for media profile. * We support this parameter when the version number (httpversion) is equal or greater than 0314b.

7.32 Recording

Group: **recording_i<0~(n-1)>** n denotes the value of "capability_nrecording"

(**capability_nrecording > 0**)

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
name	string[40]	6/6	Identification of this entry.
trigger	schedule, networkfail	6/6	The event trigger type schedule: The event is triggered by schedule networkfail: The event is triggered by the failure of network connection.
enable	<boolean>	6/6	Enable or disable this recording.
priority	0, 1, 2	6/6	Indicate the priority of this recording: "0" indicates low priority. "1" indicates normal priority. "2" indicates high priority.
channel	0~"capability_nvideoin"-1	6/6	Indicate the source of recording channel. 0 means the first channel. 1 means the second channel. 2 means the third channel. 3 means the fourth channel. * We support this parameter when the version number (httpversion) is equal or greater than 0311c.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
source	0~"capability_nmediastream"-1	6/6	Indicate the source of media stream. 0 means the first stream. 1 means the second stream and so on.
maxretentiontime	<string>	6/6	To specify the expired time for automatic clean up, and it only takes effect for video clip generated by recording_i <0~1>. Format is “P[Y]Y[MM]M[DDD]DT[hh]H[mm]M[ss]S”, similar with ISO8601 with symbols P Ex. P7D, it means 7 days. P1DT10H, it means 1 days and 10 hours. The parameter takes effect when autocleanup_maxretentiontime_recording_enabled is enabled.
notify	<boolean>	6/6	0: Disable recording notification 1: Enable recording notification
notifyserver	0~31	6/6	Indicate which notification server is scheduled. One bit represents one application server (server_i0~i4). bit0 (LSB) = server_i0. bit1 = server_i1. bit2 = server_i2. bit3 = server_i3. bit4 = server_i4. For example, enable server_i0, server_i2, and server_i4 as notification servers; the notifyserver value is 21.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
weekday	0~127	6/6	Indicate which weekday is scheduled. One bit represents one weekday. bit0 (LSB) = Saturday bit1 = Friday bit2 = Thursday bit3 = Wednesday bit4 = Tuesday bit5 = Monday bit6 = Sunday For example, to detect events on Friday and Sunday, set weekday as 66.
begintime	hh:mm	6/6	Start time of the weekly schedule.
endtime	hh:mm	6/6	End time of the weekly schedule. (00:00~24:00 indicates schedule always on)
prefix	string[16]	6/6	Indicate the prefix of the filename.
dest	cf, 0~4	6/6	The destination to store the recorded data. “cf” means local storage (CF or SD card). “0” means the index of the network storage.
cffolder <Not recommended to use this>	string[128]	6/6	Folder name.
foldername	string[128]	6/6	Folder name. * We support this parameter when the version number (httpversion) is equal or greater than 0312a.
maxsize	100~2000	6/6	Unit: Mega bytes. When this condition is reached, recording file is truncated.
maxduration	60~3600	6/6	Unit: Second When this condition is reached, recording file is truncated.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
adaptive_enable	<boolean>	6/6	Indicate whether the adaptive recording is enabled
adaptive_preevent	0~9	6/6	Indicate when is the adaptive recording started before the event trigger point (seconds)
adaptive_postevent	0~10	6/6	Indicate when is the adaptive recording stopped after the event trigger point (seconds)
recordingjob_SourceToken	string[64]	6/6	Indicate the source for media profile. * We support this parameter when the version number (httpversion) is equal or greater than 0314b.

7.33 HTTPS

Group: **https (capability_protocol_https > 0)**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	6/6	To enable or disable secure HTTP.
policy	<Boolean>	6/6	0: camera support both HTTP and HTTPS. 1: It will force HTTP connection redirect to HTTPS connection.
method	auto, manual, install, installwithkey (Available values are listed in "capability_security_certificate_method")	6/6	"auto": Create self-signed certificate automatically. "manual": Create self-signed certificate manually. "install": Create certificate request and install. "installwithkey": Upload a certificate and private key. (We support this parameter when the version number (httpversion) is equal or greater than 0320a.)
status	-4 ~ 1	6/6	Specify the https status.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			-4 = Private key and certificate mismatch (We support this value when the version number (httpversion) is equal or greater than 0320a.) -3 = Certificate not installed -2 = Invalid public key -1 = Waiting for certificate 0= Not installed 1 = Active
countryname	string[2]	6/6	Country name in the certificate information.
stateorprovincename	string[128]	6/6	State or province name in the certificate information.
localityname	string[128]	6/6	The locality name in the certificate information.
organizationname	string[64] VIVOTEK Inc.	6/6	Organization name in the certificate information.
unit	string[64] VIVOTEK Inc.	6/6	Organizational unit name in the certificate information.
commonname	string[64] www.vivotek.com	6/6	Common name in the certificate information.
validdays	0 ~ 825	6/6	Valid period for the certification.
tls_enabledversions	string[64]	6/6	Indicates whether the camera supports enabling and disabling specific TLS versions. "1.2": Only TLS 1.2 is enabled. "1.3": Only TLS 1.3 is enabled. "1.2,1.3": The camera can use with TLS 1.2 or TLS 1.3. * We support this parameter when the version number (httpversion) is equal or greater than 0323a.

7.34 Storage Management Setting

Group: **disk_i<0~(n-1)>** n denotes the value of "capability_storage_management_ndevice"

(capability_storage_management_ndevice > 0)

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
cyclic_enabled	<boolean>	6/6	Enable cyclic storage method.
cyclic_reserve	10 ~ 99	6/6	The reserved percentage of this disk. * We support this parameter when the version number (httpversion) is equal or greater than 0312a.
type	sd, nas <product dependent>	6/7	The storage device type. * We support this parameter when the version number (httpversion) is equal or greater than 0312a.
autocleanup_mode	targetbase, sourcebase	6/6	Specify the automatic clean up method for storage devices, where “targetbase” indicate the automatic clean up is based on the attached devices such as nas or sd card, whereas “sourcebase” indicate automatic clean up is based on the selected recording track. * We support this parameter when the version number (httpversion) is equal or greater than 0312a.
autocleanup_enabled	<boolean>	6/6	Enable automatic clean up method. Expired and not locked media files will be deleted.
autocleanup_maxage	<positive integer>	6/6	To specify the expired days for automatic clean up.

7.35 Region of Interest

Group: **roi_c<0~(n-1)>** for n channel product and m is the index of video stream which support ePTZ or viewing window. ([capability_eptz > 0](#) or [capability_viewingwin > 0](#))

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
s<0~(m-1)>l	<W,H> <product dependent>	1/6	ROI left-top corner coordinate. * If the minimal window size is 64x64, then the "home"=(0~resolution_W-64, 0~resolution_H-64), which the resolution is equal to the captured size by device in this video mode. * If the stream doesn't support ePTZ or viewing window, the permissions of this parameter must be set as 1/7.
s<0~(m-1)>_size	<WxH> <product dependent>	1/6	ROI width and height. The width value must be multiples of 16 and the height value must be multiples of 8 *If the minimal window size is 64x64, then the "size"=(64~resolution_W, 64~resolution_H), which the resolution is equal to the captured size by device in this video mode. * If the stream doesn't support ePTZ or viewing window, the permissions of this parameter must be set as 1/7.

7.36 ePTZ Setting

Group: **eptz_c<0~(n-1)>** for n channel product. ([capability_eptz > 0](#))

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
osdzoom <i><Not recommended to use this></i>	<boolean>	1/4	Indicates multiple of zoom in is "on-screen display" or not. * Reserved for compatibility, and suggest don't use this since [httpversion] > 0302a * We replace "eptz_c<0~(n-1)>_osdzoom" with "videoin_c<0~(n-1)>_zoomratiodisplay".
smooth	<boolean>	1/4	Enable the ePTZ "move smoothly" feature
tiltspeed	-5 ~ 5	1/7	Tilt speed (It should be set by eCamCtrl.cgi rather than by setparam.cgi.)
panspeed	-5 ~ 5	1/7	Pan speed (It should be set by eCamCtrl.cgi rather than by setparam.cgi.)
zoomspeed	-5 ~ 5	1/7	Zoom speed (It should be set by eCamCtrl.cgi rather than by setparam.cgi.)
autospeed	1 ~ 5	1/7	Auto pan/patrol speed (It should be set by eCamCtrl.cgi rather than by setparam.cgi.)

7.36.1 ePTZ Settings for Each Stream

Group: **eptz_c<0~(n-1)>_s<0~(m-1)>** for n channel product and m is the index of video stream.
(capability_eptz > 0)

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
patrolseq	string[120]	1/4	<p>The patrol sequence of ePTZ. All the patrol position indexes will be separated by ",".</p> <p>* If the stream doesn't support ePTZ, the permissions of this parameter must be set as 7/7.</p>
patroldwelling	string[160]	1/4	<p>The dwelling time (unit: second) of each patrol point, separated by ";".</p> <p>* If the stream doesn't support ePTZ, the permissions of this parameter must be set as 7/7.</p>
preset_i<0~19>_name	string[40]	1/7	<p>Name of ePTZ preset. (It should be set by ePreset.cgi rather than by setparam.cgi.)</p> <p>* If the stream doesn't support ePTZ, the permissions of this parameter must be set as 7/7.</p>
preset_i<0~19>_pos	<W,H> <product dependent>	1/7	<p>Left-top corner coordinate of the preset. (It should be set by ePreset.cgi rather than by setparam.cgi.)</p> <p>* If the stream doesn't support ePTZ, the permissions of this parameter must be set as 7/7.</p>
preset_i<0~19>_size	<WxH> <product dependent>	1/7	<p>Width and height of the preset. (It should be set by ePreset.cgi rather than by setparam.cgi.)</p> <p>* If the stream doesn't support ePTZ, the permissions of this parameter must be set as 7/7.</p>

7.37 Focus Window Setting

Group: **focuswindow_c<0~(n-1)>** for n channel products

n denotes the value of "capability_nvideoin".

(**capability_image_c<0~(n-1)>_focuswindow_nwindow > 0**)

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
win_i0_enable	<boolean>	4/4	Enable or disable the window.
win_i0_home	<W,H> <product dependent>	4/4	Left-top corner coordinate of the window. * If the minimal window size is 192x144, then the "win_i0_home"=(0~resolution_W-192, 0~resolution_H-144), resolution_W and resolution_H based on "capability_image_c<0~(n-1)>_focuswindow_range".
win_i0_size	<WxH> <product dependent>	4/4	Width and height of the window. * The minimal window size is 192x144, and resolution_W and resolution_H is based on "capability_image_c<0~(n-1)>_focuswindow_range".

7.38 Seamless Recording Setting

<Not recommended to use>

Group: **seamlessrecording**

(**capability_localstorage_seamless > 0**)

* We do not support this parameter when "capability_nvideoin > 1".

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
diskmode	seamless, manageable	1/6	<p>“seamless” indicates enable seamless recording.</p> <p>“manageable” indicates disable seamless recording.</p> <p>* We replace this parameter with “seamlessrecording_c<0~(n-1)>_diskmode” when the version number (httpversion) is equal or greater than 0312a.</p> <p>* We do not support this parameter when “capability_nvideoin > 1”.</p> <p>* This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.</p>
maxconnection	3	1/7	<p>Maximum number of connected seamless streaming.</p> <p>* We replace this parameter with “seamlessrecording_c<0~(n-1)>_maxconnection” when the version number (httpversion) is equal or greater than 0312a.</p> <p>* We do not support this parameter when “capability_nvideoin > 1”.</p> <p>* This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.</p>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	1/7	<p>Indicate whether seamless recording is recording to local storage or not at present. (Read only)</p> <ul style="list-style-type: none"> * We replace this parameter with "seamlessrecording_c<0~(n-1)>_triggerrecord" when the version number (httpversion) is equal or greater than 0312a. * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
guid<0~2>_id	string[127]	1/7	<p>The connected seamless streaming ID. (Read only)</p> <ul style="list-style-type: none"> * We replace this parameter with "seamlessrecording_c<0~(n-1)>_guid<0~2>_id" when the version number (httpversion) is equal or greater than 0312a. * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.
guid<0~2>_number	0~3	1/7	<p>Number of connected seamless streaming with guid<0~(k-1)>_id. (Read only)</p> <ul style="list-style-type: none"> * We replace this parameter with "seamlessrecording_c<0~(n-1)>_guid<0~2>_number" when the version number (httpversion) is equal or greater than 0312a. * We do not support this parameter when "capability_nvideoin > 1". * This parameter will not be used after the version number (httpversion) is equal or greater than 0400a.

7.38.1 Seamless recording setting per channel

Group: **seamlessrecording_c<0~(n-1)>** for n channel products

n denotes the value of "capability_nvideoin".

(**capability_localstorage_seamless> 0**)

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
diskmode	seamless, manageable	1/6	<p>"seamless" indicates enable seamless recording.</p> <p>"manageable" indicates disable seamless recording.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0312a.</p>
maxconnection	3	1/7	<p>Maximum number of connected seamless streaming.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0312a.</p>
triggerrecord	<boolean>	1/7	<p>Indicate whether seamless recording is recording to local storage or not at present.</p> <p>(Read only)</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0312a.</p>
guid<0~(k-1)>_id	string[127]	1/7	<p>The connected seamless streaming ID.</p> <p>(Read only)</p> <p>* k denotes the value of "seamlessrecording_c<0~(n-1)>_maxconnection"</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0312a.</p>

guid<0~(k-1)>_number	0~3	1/7	<p>Number of connected seamless streaming with guid<0~(k-1)>_id. (Read only)</p> <p>* k denotes the value of "seamlessrecording_c<0~(n-1)>_maxconnection"</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0312a.</p>
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7.39 VIVOTEK Application Development Platform Setting

Group: **vadp**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
version	<string>	6/7	Indicate the VADP version.
resource_total_memory	0,<positive integer>	6/7	Indicate total available memory size for VADP modules.
resource_total_storage	0,<positive integer>	6/7	Indicate total size of the internal storage space for storing VADP modules.
resource_free_memory	0,<positive integer>	6/7	Indicate free memory size for VADP modules.
resource_free_storage	0,<positive integer>	6/7	Indicate current free storage size for uploading VADP modules.
module_number	0,<positive integer>	6/7	Record the total module number that already stored in the system.
module_order	string[40]	6/6	The execution order of the enabled modules.
module_save2sd	<boolean>	6/6	<p>Indicate if the module should be saved to SD card when user want to upload it.</p> <p>If the value is false, save module to the internal storage space and it will occupy storage size.</p> <p>* This feature is not supported when "capability_securecam_support=1" and the version number of</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			"capability_securecam_version" < "1.0.1.0"
number	string[128]	6/7	This number is used to register license key for VADP application.
status	string[40]	6/7	Indicate the hardware restore status
developer_mode	<Boolean>	6/6	Developer mode provide ways to establish communication between the developer of VADP vendor and your camera. * Only available when capability_securecam_support=1.

7.39.1 VADP Settings for Each Hyperlink

Group: **vadp_hyperlink_i<0~(n-1)>**

Maximum of n=10 hyperlink is supported.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
moduleidx	0,<positive integer>	1/7	Refer to the package index.
title	string[40]	1/7	Name of the vadp hyperlink.
url	string[120]	1/7	The URL address of vadp hyperlink.
status	string[40]	1/7	Value of “on” indicates a valid connection of vadp hyperlink. Value of “off” indicates a invalid connection of vadp hyperlink.

7.39.2 VADP Settings for Each Package

Group: **vadp_module_i<0~(n-1)>** for n VADP package number (**capability_vadp_npackage > 0**)

n denotes the value of "capability_vadp_npackage".

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	6/6	Indicate if the module is enabled or not. If yes, also add the index of this module to the module_order.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
name	string[40]	6/6	Module name
extendedname	string[40]	6/6	Extended module name. If this value is not blank, it will be shown on the VADP UI first instead of vadp_module_i<n>_name.
url	string[120]	6/6	Define the URL string after the IP address if the module provides its own web page.
vendor	string[40]	6/6	The provider of the module.
vendorurl	string[120]	6/6	URL of the vendor.
version	string[40]	6/6	Version of the module.
license	string[40]	6/6	Indicate the license status of the module.
licmsg	string[128]	6/6	Indicate the message that will be shown on license status when mouse over.
path	string[40]	6/7	Record the storage path of the module.
initscr	string[40]	6/7	The script that will handle operation commands from the system.
status	string[40]	6/6	Indicate the running status of the module.
statmsg	string[128]	6/6	Indicate the message that will be shown on the running status when mouse over.
vvtklicensemec	string[40]	6/7	Indicate the module uses VIVOTEK license mechanism
removable	<boolean>	6/6	Indicate if the module can be removable or not. * We support this parameter when the version number (httpversion) is equal or greater than 0327a.

7.39.3 VADP Schedule Settings

Group: **vadp_schedule_i<0~(n-1)>** for n VADP package number

n denotes the value of "capability_vadp_npackage".

(Only available when "capability_vadp_npackage" > 0 and the version number of "vadp_version" >= "1.3.2.0")

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	6/6	Enable or disable the schedule mode to control the execution of the VADP package
begintime	hh:mm	6/6	Begin time of the schedule
endtime	hh:mm	6/6	End time of the schedule

7.39.4 VADP Event Settings

Group: **vadp_event**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
ntrigger	0,<positive integer>	6/7	Indicate the number of topics to be transferred to event manager for trigger.
triggerlist_i<0~(n-1)>_topic	string[256]	6/6	Indicate the event notification with this topic will be transferred to event manager as trigger. n is equal to ntrigger above.

7.39 Camera PTZ Control

Group: **camctrl** (*capability_camctrl_ptztunnel > 0*)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enableptztunnel	<boolean>	1/4	Enable PTZ tunnel for camera control.

Group: **camctrl_c<0~(n-1)>** for n channel products (*capability_ptzenabled > 0*)

n denotes the value of "capability_nvideoin" and k denotes the value of "capability_npreset"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
panspeed	-5 ~ 5	1/4	Pan speed
tiltspeed	-5 ~ 5	1/4	Tilt speed
zoomspeed	-5 ~ 5	1/4	Zoom speed
focusspeed	-5 ~ 5	1/4	Auto focus speed

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
patrolseq	string[120]	1/4	(For external device) The indexes of patrol points, separated by ","
patroldwelling	string[160]	1/4	(For external device) The dwelling time of each patrol point, separated by "," * only available when capability_camctrl_c0_rs485=2
preset_i<0~(k-1)>_name	string[40]	1/4	Name of the preset location.
preset_i<0~(k-1)>_dwelling	0 ~ 999	1/4	The dwelling time of each preset location * only available when capability_camctrl_c0_rs485=2
uart	0 ~ "capability_nuart"-1	1/4	Select corresponding uart (capability_nuart>0). * only available when capability_camctrl_c0_rs485=2
cameraid	0~255	1/4	Camera ID controlling external PTZ camera.
isptz	0 ~ 2	1/4	0: disable PTZ commands. 1: enable PTZ commands with PTZ driver. 2: enable PTZ commands with UART tunnel. * only available when capability_camctrl_c0_rs485=2
disablemdonptz	<boolean>	1/4	Disable motion detection on PTZ operation.

7.40 Camera PTZ Control (IZ Series)

Group: camctrl_c<0~(n-1)> for n channel products (capability_camctrl_c0_zoommodule = 1 and capability_camctrl_c0_buildinpt = 0)

n denotes the value of "capability_nvideoin" and k denotes the value of "capability_npreset"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
ccdtype	string[16]	6/7	(Internal used, read only)
motortype	string[16]	6/7	(Internal used, read only)
cameraid	0 ~ 255	1/4	<p>Camera ID controlling external PTZ camera.</p> <p>Note:</p> <p>Please set your speed dome to the appropriate baud rate, and Camera ID, e.g. 2400bps, camera ID 1,2,3,,,etc.</p> <p>All Camera IDs on the same controlling system (NVR or rs485 keyboard) have to be distinct.</p> <p>Therefore, once you send a controlling signal, each camera will only accept the inputs with the corresponding ID.</p>
panspeed	-5 ~ 5	1/4	Pan speed
tiltspeed	-5 ~ 5	1/4	Tilt speed
zoomspeed	-5 ~ 5	1/4	Zoom speed
autospeed	-5 ~ 5	1/4	Auto pan speed
focusspeed	-5 ~ 5	1/4	Auto focus speed
focusmode	auto,onetimeauto,spotlight,manual * Available values are listed in "capability_camctrl_c<0~(n-1)>_focusmode"	1/4	Indicate the focus control mode.
uart	0 ~ "capability_nuart"-1	1/4	<p>Select corresponding uart (capability_nuart>0).</p> <p>* only available when capability_camctrl_c0_rs485=2</p>
isptz	0 ~ 2	1/4	<p>0: disable PTZ commands.</p> <p>1: enable PTZ commands with PTZ driver.</p>

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			2: enable PTZ commands with UART tunnel. * only available when capability_camctrl_c0_rs485=2
preset_i<0~(k-1)>_name	string[40]	1/4	Name of the preset location.
preset_i<0~(k-1)>_zoom	capability_ptz_c<0~(n-1)>_minzoom ~ capability_ptz_c<0~(n-1)>_maxzoom	1/4	Zoom position at each preset location.
preset_i<0~(k-1)>_focus	capability_ptz_c<0~(n-1)>_minfocus ~ capability_ptz_c<0~(n-1)>_maxfocus	1/4	Focus position at each preset location.
preset_i<0~(k-1)>_dwelling	0 ~ 999	1/4	The dwelling time of each preset location * only available when capability_camctrl_c0_rs485=2
preset_i<0~(k-1)>_focussetting	sync, fixcurrent	1/4	The focus mode of each preset, which is essential and should be grouped with "preset_i<0~(k-1)>_name." * We support this parameter when the version number (httpversion) is equal or greater than 0305b.
patrolseq	string[120]	1/4	(For external device) The indexes of patrol points, separated by ","
patroldwelling	string[160]	1/4	(For external device) The dwelling time of each patrol point, separated by "," * only available when capability_camctrl_c0_rs485=2

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
disablemdonptz	<boolean>	1/4	Disable motion detection on PTZ operation.
defaulthome	<boolean>	1/4	This field tells system to use default home position or not.
axisz	capability_ptz_c<0~(n-1)>_minzoom ~ capability_ptz_c<0~(n-1)>_maxzoom	1/4	Custom home zoom position.
axisf	capability_ptz_c<0~(n-1)>_minfocus ~ capability_ptz_c<0~(n-1)>_maxfocus	1/4	Custom home focus position.
digitalzoom	<boolean>	1/4	Enable/disable digital zoom
zoomenhance	<boolean>	1/4	Enable /disable zoom enhancement
returnhome	<boolean>	1/4	Enable/disable return home while idle.
returnhomeinterval	1~999	1/4	While idle over this time interval, idle action will be taken.
idleaction_enable	<boolean>	1/4	Enable/disable idle action while idle
idleaction_type	home	1/4	This field tells what kind of action should be taken while idle.
idleaction_interval	1~999	1/4	While idle over this time interval, idle action will be taken.

[PLEASE REFER TO PTZ CONTROL API](#)

7.41 Camera PTZ Control (SD Series)

Group: camctrl_c<0~(n-1)> for n channel products (the bit7 of capability_ptzenabled is 0 and the bit4 of capability_ptzenabled is 1)

n denotes the value of "capability_nvideoin" and k denotes the value of "capability_npreset"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
ccdtype	string[16]	6/7	(Internal used, read only)
motortype	string[16]	6/7	(Internal used, read only)
cameraid	1 ~ 255	1/4	<p>Camera ID controlling external PTZ camera.</p> <p>Note:</p> <p>Please set your speed dome to the appropriate baud rate, and Camera ID, e.g. 2400bps, camera ID 1,2,3,,,etc.</p> <p>All Camera IDs on the same controlling system (NVR or rs485 keyboard) have to be distinct. Therefore, once you send a controlling signal, each camera will only accept the inputs with the corresponding ID.</p>
panspeed	-5 ~ 5	1/4	Pan speed
tiltspeed	-5 ~ 5	1/4	Tilt speed
zoomspeed	-5 ~ 5	1/4	Zoom speed
autospeed	-5 ~ 5	1/4	Auto pan speed
focusspeed	-5 ~ 5	1/4	Auto focus speed
focusmode	auto,onetimeauto,spotlight,manual * Available values are listed in "capability_camctrl_c<0~(n-1)>_focusmode"	1/4	Indicate the focus control mode.
preset_i<0~(k-1)>_name	string[40]	1/4	Name of the preset location.
preset_i<0~(k-1)>_pan	capability_ptz_c<0~(n-1)>_minpan ~ capability_ptz_c<0~(n-1)>_maxpan	1/4	Pan position at each preset location.
preset_i<0~(k-1)>_tilt	capability_ptz_c<0~(n-1)>_mintilt ~	1/4	Tilt position at each preset location.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
	capability_ptz_c<0~(n-1)>_maxtilt		
preset_i<0~(k-1)>_zoom	capability_ptz_c<0~(n-1)>_minzoom ~ capability_ptz_c<0~(n-1)>_maxzoom	1/4	Zoom position at each preset location.
preset_i<0~(k-1)>_focus	capability_ptz_c<0~(n-1)>_minfocus ~ capability_ptz_c<0~(n-1)>_maxfocus	1/4	Focus position at each preset location.
preset_i<0~(k-1)>_focussetting	sync, fixcurrent	1/4	The focus mode of each preset, which is essential and should be grouped with "preset_i<0~(k-1)>_name." * We support this parameter when the version number (httpversion) is equal or greater than 0305b.
preset_i<0~(k-1)>_fliped	<boolean>	1/4	Flip side at each preset location.
patrol_i<0~39>_name	string[40]	1/4	(For internal device) The name of patrol location
patrol_i<0~39>_dwelling	0 ~ 999	1/4	(For internal device) The dwelling time of each patrol location
disablemdonptz	<boolean>	1/4	Disable motion detection on PTZ operation.
defaulthome	<boolean>	1/4	This field tells system to use default home position or not.
axisx	capability_ptz_c<0~(n-1)>_minpan ~ capability_ptz_c<0~(n-1)>_maxpan	1/4	Custom home pan position.
axisy	capability_ptz_c<0~(n-1)>_mintilt ~ capability_ptz_c<0~(n-1)>_maxtilt	1/4	Custom home tilt position.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
axiszz	capability_ptz_c<0~(n-1)>_minzoom ~ capability_ptz_c<0~(n-1)>_maxzoom	1/4	Custom home zoom position.
axisff	capability_ptz_c<0~(n-1)>_minfocus ~ capability_ptz_c<0~(n-1)>_maxfocus	1/4	Custom home focus position.
axisflip	<boolean>	1/4	Custom home flip side.
returnhome	<boolean>	1/4	Enable/disable return home while idle.
returnhomeinterval	1~999	1/4	While idle over this time interval, idle action will be taken.
digitalzoom	<boolean>	1/4	Enable/disable digital zoom
idleaction_enable	<boolean>	1/4	Enable/disable idle action while idle
idleaction_type	pan,patrol,tour,home ,objtrack,prev	1/4	This field tells what kind of action should be taken while idle.
idleaction_interval	1~999	1/4	While idle over this time interval, idle action will be taken.
zoomenhance	<boolean>	1/4	Enable /disable zoom enhancement
tour_index	-1, 0~19	1/4	Index of the enabled tour group, from 0 to 19. Set -1 to disable all the tour groups.
tour_i<0~19>_name	string[40]	1/4	Name of the tour.
tour_i<0~19>_type	<boolean>	1/4	0 = Recorded tour 1 = Preset tour
tour_i<0~19>_speed	-5 ~ 5	1/4	Preset tour: pan and tilt speed when moving between presets. Recorded tour: unnecessary.
tour_i<0~19>_direction	forward,backward,random	1/4	User can choose which direction the preset tour goes. "forward" : preset tour goes in forward order.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			<p>"backward": preset tour goes in backward order.</p> <p>"random": the presets of the tour will be recalled randomly.</p> <ul style="list-style-type: none"> * Only available when "capability_presettourdirection" is 1. * We support this parameter when the version number (httpversion) is equal or greater than 0307a.
tour_i<0~19>_checklist	string[512]	1/4	The indexes of preset positions, separated by ","
tour_i<0~19>_dwelltime	string[512]	1/4	Preset tour: time to wait before moving to the next preset position, separated by "," Recorded tour: number of seconds to wait before continuing a loop tour.
tour_i<0~19>_enabletrack	<boolean>	1/4	Whether the "preset tour" enters the tracking mode during the dwell time <ul style="list-style-type: none"> * We support this parameter when the version number (httpversion) is equal or greater than 0317a.

[PLEASE REFER TO PTZ CONTROL API](#)

7.42 UART Control

Group: **uart** (`capability_nuart > 0` and `capability_fisheye = 0`)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
ptzdrivers_i<0~19, 127>_name	string[40]	1/4	Name of the PTZ driver.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
ptzdrivers_i<0~19, 127>_location	string[128]	1/4	Full path of the PTZ driver.
enablehttptunnel	<boolean>	1/4	Enable HTTP tunnel channel to control UART.

Group: **uart_i<0~(n-1)>** n is uart port count (**capability_nuart > 0** and **capability_fisheye = 0**)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
baudrate	300,600,1200,2400, 4800,9600,19200,38 400,57600,115200	4/4	Set baud rate of COM port.
databit	5,6,7,8	4/4	Data bits in a character frame.
paritybit	none, odd, even	4/4	For error checking.
stopbit	1,2	4/4	" 1 ": One stop bit is transmitted to indicate the end of a byte. " 2 ": Two stop bits are transmitted to indicate the end of a byte. If you want to transfer the stopbit for 150% of the normal time used to transfer one bit, the uart_i<0~(n-1)>_stopbit should be set as 2 and the uart_i<0~(n-1)>_databit set as 5 as well.
uartmode	rs485, rs232	4/4	RS485 or RS232.
customdrvcmd_i<0~9>	string[128]	1/4	PTZ command for custom camera. * only available when capability_camctrl_c0_rs485=2
speedlink_i<0~4>_name	string[40]	1/4	Additional PTZ command name. * only available when capability_camctrl_c0_rs485=2
speedlink_i<0~4>_cmd	string[40]	1/4	Additional PTZ command list. * only available when capability_camctrl_c0_rs485=2

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
ptzdriver	0~19, 127 (custom), 128 (no driver)	1/4	The PTZ driver is used by this COM port. * only available when capability_camctrl_c0_rs485=2

7.43 UART Control (SD Series)

Group: **uart_i<0~(n-1)>** n is uart port count (**capability_nuart > 0** and the bit7 of **capability_ptzenabled** is 0, the bit4 of **capability_ptzenabled** is 1)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
cameraid	1~255	4/4	Camera ID controlling external PTZ camera. Note: Please set your speed dome to the appropriate baud rate, and Camera ID, e.g. 2400bps, camera ID 1,2,3,,,etc. All Camera IDs on the same controlling system (NVR or rs485 keyboard) have to be distinct. Therefore, once you send a controlling signal, each camera will only accept the inputs with the corresponding ID.
baudrate	2400,4800,9600,19200,38400,57600,115200	4/4	Set baud rate of COM port.
databit	5,6,7,8	4/4	Data bits in a character frame.
paritybit	none, odd, even	4/4	For error checking.
stopbit	1,2	4/4	" 1 ": One stop bit is transmitted to indicate the end of a byte. " 2 ": Two stop bits are transmitted to indicate the end of a byte. If you want to transfer the stopbit for 150% of the normal time used to

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
			transfer one bit, the uart_i<0~(n-1)>_stopbit should be set as 2 and the uart_i<0~(n-1)>_databit set as 5 as well.
uartmode	rs485	4/7	RS485 mode.

7.44 UART Control (SC Series)

Group: **uart_i<0~(n-1)>** n is uart port count (**capability_nuart > 0** and **capability_ibis = 1**)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
baudrate	1200,2400,4800,9600,19200,38400	4/4	Set baud rate of COM port.
databit	5,6,7,8	4/4	Data bits in a character frame.
paritybit	none, odd, even	4/4	For error checking.
stopbit	1,2	4/4	"1": One stop bit is transmitted to indicate the end of a byte. "2": Two stop bits are transmitted to indicate the end of a byte. If you want to transfer the stopbit for 150% of the normal time used to transfer one bit, the uart_i<0~(n-1)>_stopbit should be set as 2 and the uart_i<0~(n-1)>_databit set as 5 as well.

7.45 Lens Configuration

Group: **lens** for n channel products

n denotes the value of "capability_nvideoin"

(**capability_image_c<0~(n-1)>_lensconfiguration_support = 1**)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
selected	<string>	6/7	Current selected lens profile. e.g. lens_selected=lens_default_i0, it means choose lens configuration is i0 lens of default group.

Group: **lens_default**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
totalnumbers	0,<positive integer>	6/7	Total support number of the default lens profiles

Group: **lens_user**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
totalnumbers	0,<positive integer>	6/7	Total support number of the user lens profiles

Group: **lens_default_i<0~(n-1)>**

n denotes the value of "lens_default_totalnumbers"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
name	<string>	6/7	Default lens name

Group: **lens_user_i<0~(n-1)>**

n denotes the value of "lens_user_totalnumbers"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
name	<string>	6/7	User-defined lens name

7.46 Fisheye Info.

Group: **fisheyeinfo (capability_fisheye > 0)**

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
revisedcenteraxis	<coordinate>	1/7	The actual center axis coordinate

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
radius	0, <positive integer>	1/7	The actual center radius

7.47 Fisheye Local Dewarp Setting

Group: **fisheyedewarp_c<0~(n-1)> (capability_fisheyelocaldewarp_c<0~(n-1)> > 0)**

n denotes the value of "capability_nvideoin", m denotes the value of "capability_nmmediastream"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
panspeed	-5 ~ 5	1/4	Pan speed of regional view
tiltspeed	-5 ~ 5	1/4	Tilt speed of regional view
zoomspeed	-5 ~ 5	1/4	Zoom speed of regional
s<0~(m-2)>_panorama_pansart	0~359	1/4	Initial pan position of panorama view. (only available for 1P and 2P mode at ceiling or floor mount) * Only available when the stream support local dewarp.
s<0~(m-2)>_region_pan	-90~359	1/4	Pan home angle of regional view (for 1R mode) Pan range of ceiling/floor mount is [0~359]. Pan range of wall mount is [-90~90]. * Only available when the stream support local dewarp.
s<0~(m-2)>_region_tilt	-90~90	1/4	Tilt home angle of regional view (for 1R mode) Tilt range of ceiling/floor mount is [0~90]. Tilt range of wall mount is [-90~90]. * Only available when the stream support local dewarp.
s<0~(m-2)>_region_zoom	100~300	1/4	Zoom home ratio of regional view (for 1R mode) * Only available when the stream support local dewarp.

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
s<0~(m-2)>_region_r<0~(i-1)>_pan	-90~359	1/4	Pan home angle of regional view (for 4R mode, i is the view index and range from 0 to 3) Pan range of ceiling/floor mount is [0~359]. Pan range of wall mount is [-90~90]. * Only available when the stream support local dewarp.
s<0~(m-2)>_region_r<0~(i-1)>_tilt	-90~90	1/4	Tilt home angle of regional view (for 4R mode, i is the view index and range from 0 to 3) Tilt range of ceiling/floor mount is [0~90]. Tilt range of wall mount is [-90~90]. * Only available when the stream support local dewarp.
s<0~(m-2)>_region_r<0~(i-1)>_zoom	100~300	1/4	Zoom home ratio of regional view (for 4R mode, i is the view index and range from 0 to 3) * Only available when the stream support local dewarp

7.48 PIR Behavior Define

Group: **pir** (*capability_npir > 0*)

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	1/1	Enable/disable PIR

7.49 Auto Tracking Setting

Group: **autotrack_c<0~(n-1)>** (*capability_image_c<0~(n-1)>_autotrack_support > 0*)

n denotes the value of "capability_nvideoin"

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
objsize_type	-1~2	1/4	Type of object size. -1 : customized width and height 0 : object size = 30 x 30 1 : object size = 10 x 20 2 : object size = 10 x 10
objsize_customized_width	10~320	1/4	The minimum width of tracking target.
objsize_customized_height	10~240	1/4	The minimum height of tracking target.
sensitivity	0~2	1/4	Tracking sensitivity. 0: Low 1: Medium 2: High

7.50 Wireless

Group: **wireless** (`capability_network_wireless > 0`)

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
ssid	string[32]	6/6	SSID for wireless lan settings.
wlmode	Infra, Adhoc	6/6	Wireless mode. Infra: Infrastructure
channel	1~11 or 1~13 or 10~11 or 10~13 or 1~14	6/6	A list of WLAN channels. Countries apply their own regulations to the allowable channels. 1~11: USA and Canada 1~13: Europe 10~11: Spain 10~13: France 1~14: Japan * Only valid when "wireless_wlmode" is "Adhoc"

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
encrypt	none, wep, wpa, wpa2	6/6	Encryption method: none: NONE, wep: WEP, wpa: WPA, wpa2: WPA2PSK
authmode	OPEN, SHARED	6/6	Authentication mode. * Only valid when "wireless_encrypt" is "wep"
keylength	64, 128	6/6	Key length in bits. * Only valid when "wireless_encrypt" is "wep"
keyformat	HEX, ASCII	6/6	Key1 ~ key4 presentation format. * Only valid when "wireless_encrypt" is "wep"
keyselect	1 ~ 4	6/6	Default key number. * Only valid when "wireless_encrypt" is "wep"
key1	password [26]	6/6	WEP key1 for encryption. * Only valid when "wireless_encrypt" is "wep"
key2	password [26]	6/6	WEP key2 for encryption. * Only valid when "wireless_encrypt" is "wep"
key3	password [26]	6/6	WEP key3 for encryption. * Only valid when "wireless_encrypt" is "wep"
key4	password [26]	6/6	WEP key4 for encryption. * Only valid when "wireless_encrypt" is "wep"
algorithm	AES, TKIP	6/6	Algorithm * Only valid when "wireless_encrypt" is "wpa" or "wpa2"
presharedkey	password [64]	6/6	WPA/WPA2PSK mode pre-shared key. * Only valid when "wireless_encrypt" is "wpa" or "wpa2"

7.51 Shock Detection

Group: **shock_c<0~(n-1)>** for n channel products

n denotes the value of "capability_nvideoin" (**capability_shockalarm_support > 0**)

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
alarm_enable	<boolean>	4/4	Enable shock detection's alarm.
alarm_level	1~100	4/4	The value indicate the support strength level of shock detection's alarm.

7.52 Stream Profiles

Group: **streamprofile_i<0~(n-1)>** for n profiles product.

n denotes the value of " capability_media_streamprofiles_num"

(**capability_media_streamprofiles_support = 1**)

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
profilename	<string>	1/6	Friendly name of the profile.
token	<string>	1/7	An unique identifier of the profile.
fixed	<boolean>	1/7	The value indicates whether the profile can be deleted or not. Ex. fixed=1 indicates the profile cannot be deleted.
occupied	<boolean>	1/6	Indicates the action of creating profile. Ex. If occupied=1 indicates the current profile is to be created; otherwise, if occupied=0 indicates the current profile is to be deleted.
alwaysmulticast	<boolean>	1/6	Enable always multicast.
videoconfiguration_enabled	<boolean>	1/6	To enable the selected videoconfiguration source for this profile.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
videoconfiguration_source	c<0~(n-1)>s<0~(m-1)> * n denotes the value of "capability_nvideoin", and m denotes the value of "capability_nmediastream"	1/6	The videoconfiguration source for the profile. Ex. videoconfiguration_source= c<0~(n-1)>s<0~(m-1)> indicates video stream of channel n stream m is selected for the profile.
audioconfiguration_enable	<boolean>	1/6	To enable the selected audioconfiguration source for this profile. * Only available when capability_naudioin > 0
audioconfiguration_source	c<0~(n-1)>s0 * n denotes the value of "capability_naudioin"	1/6	The audioconfiguration source for the profile. Ex. audioconfiguration_source= c<0~(n-1)>s0 indicates audio stream of channel n and stream 1 is selected for the profile. * Only available when capability_naudioin > 0
metadataconfiguration_enable	<boolean>	1/6	To enable the selected metadataconfiguration source for the profile.
metadataconfiguration_source	c<0~(n-1)>s0 * n denotes the value of "capability_nvideoin"	1/6	The metadataconfiguration source for the profile Ex. metadataconfiguration_source= c<0~(n-1)>s0 indicates metadata stream of channel n and stream 1 is selected for the profile.

7.53 Multicast Settings for Metadata Streaming

Group: **metadata_c<0~(n-1)>_s0_multicast** (**capability_media_streamprofiles_support = 1**)

n denotes the value of "capability_nvideoin"

NAME	VALUE	SECURITY (get/set)	DESCRIPTION
ipaddress	<ip address>	4/4	Multicast metadata IP address.
port	1025 ~ 65535	4/4	Multicast metadata port.
ipversion	IPv4, IPv6	4/4	The version of internet protocol.
ttl	1 ~ 255	4/4	Multicast metadata time to live value.

7.54 Camera Link Settings

Group: **cameralink_i<0~(n-1)>** (**capability_cameralink_support = 1**)

n denotes the value of "capability_cameralink_num"

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
name	string[40]	6/6	Identification of this entry.
ipaddress	<ip address>	6/6	The ipaddress of the receiving camera.
username	string[64]	6/6	The username of the receiving camera.
passwd	string[64]	7/6	The password of the receiving camera.
port	0~65535	6/6	The connection port to the receiving camera.
do	<integer>[trigger time]	6/6	Indicate the source id and trigger time of di trigger. Ex. "0[10]" sets do0 with trigger time of 10 s for the receiving camera.
autotrack_enable	<Boolean>	6/6	Enables autotracking for the receiving camera.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
autotrack_index	0,<positive integer>	6/6	<p>PTZ preset index with smart tracking advanced of the receiving camera.</p> <p>* Only valid when the camera supports “Smart Tracking Advanced” feature. (Please refer to PTZ Control API for more details)</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0317d.</p>
autotrack_policy	continuous, once	6/6	<p>"continuous": always in autotrack mode, even if the tracked object disappears.</p> <p>"once": autotrack will only be executed once. When the tracking object disappears, the autotrack state will be released.</p> <p>* Only available when capability_cameralink_version is 3.0 or above</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0324a.</p>
gotopreset_enable	<Boolean>	6/6	Enable the PTZ preset function of the receiving camera.
gotopreset_type	mechanical, digital	6/6	PTZ type of the receiving camera.
gotopreset_index	0, <positive integer>	6/6	PTZ preset index of the receiving camera.
gotopreset_channel	0, <positive integer>	6/6	PTZ preset channel of the receiving camera.
gotopreset_stream	0, <positive integer>	6/6	PTZ preset stream of the receiving camera.

7.55 Extension Module IO

Group: **Extension** (`capability_extension_di_num > 0` or `capability_extension_do_num > 0`)

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
connected	<Boolean>	6/7	Indication if extension module IO is connected.

7.56 Focussystem

Group: **focussystem_c<0~(n-1)> (capability_image_c<0~(n-1)>_remotefocus > 0)**

n denotes the value of "capability_nvideoin"

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
autofocus_enablebyzoom	<Boolean>	7/6	To allow the feature of auto focus when zoom is operated. * Only available when capability_image_c<0~(n-1)>_focussystem_mode=AFbyzoom

7.56.1 Save Day/Night Focus Position

Group: **focussystem_c<0~(n-1)> (capability_image_c<0~(n-1)>_remotefocus > 0 and**

capability_image_c<0~(n-1)>_focussystem_mode=focussshift)

n denotes the value of "capability_nvideoin"

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
focusshift_enable	<Boolean>	6/6	To allow the remotefocus system to apply a shifted day or night position indicated in day_position or night_position.
focusshift_day_position	<blank>, <positive integer>	6/7	A customized IR offset value in lens profile when ICR is switched to day mode. <blank> : default IR offset value is used.
focusshift_day_lastdate	<blank>, <YYYY/MM/DD HH:MM:SS>	6/7	A recorded UTC time when IR offset value is saved during day mode. <blank> : IR offset value hasn't been saved before.
focusshift_night_position	<blank>, <positive integer>	6/7	A customized IR offset value in lens profile when ICR is switched to night mode. <blank> : default IR offset value is used.

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
focusshift_night_lastdate	<blank>, <YYYY/MM/DD HH:MM:SS>	6/7	A recorded UTC time when IR offset value is saved during night mode. <blank>: IR offset value hasn't been saved before.

7.56 Audit Log

Group: **auditlog** (*capability_security_auditlog > 0*)

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
size	64 ~ 512	6/6	Audit log size (in bytes). * We support this parameter when the version number (httpversion) is equal or greater than 0322a.

7.57 Dynamic text

Group: **dynamictext** (*capability_dynamictext_support > 0*)

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
enable	<boolean>	6/6	<p>Enable the overlay can be configured remotely through a UDP connection.</p> <p>All streams will display the same text string which are sent to the camera.</p> <p>For example, stream1, stream2, stream3 will display the same text string simultaneously.</p> <p>NOTE: Users must add "TXT" at the beginning of the text string that they are sending in order to display on the video stream.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0325a.</p>

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
port	1025~65535	6/6	<p>The UDP port that can be configured for dynamic text overlay.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0325a.</p>

7.58 Overlay

Group: **overlay_i<0~(i-1)>**

PARAMETER	VALUE	SECURITY (get/set)	DESCRIPTION
image_filename	<string>	6/7	<p>Indicate the file name of uploaded overlay image.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0325a.</p>
image_resolution	<WxH>	6/7	<p>Indicate the resolution of uploaded overlay image.</p> <p>* We support this parameter when the version number (httpversion) is equal or greater than 0325a.</p>

8 Useful Functions

8.1 Drive the Digital Output (**capability_ndo > 0**)

Note: This request requires Viewer privileges.

Method: GET/POST

Syntax:

```
http://<servername>/cgi-bin/dido/setdo.cgi?do0=<value> [&do1=<value>]
[&do2=<value>][&do3=<value>]
```

Where state is 0 or 1; “0” means inactive or normal state, while “1” means active or triggered state, and trigger time is indicated in seconds.

PARAMETER	VALUE	DESCRIPTION
do<num>	state[trigger time] Where "state" is 0, 1. "0" means inactive or normal state while "1" means active or triggered state. Where "trigger time" is reset time after state change.	Ex: do0=1 Setting digital output #1 to trigger state. Ex: do0=0[30] Setting digital output #1 to normal state, waiting 30 seconds, setting it to trigger state.

Example: Drive the digital output #1 to triggered state, reset do0 after 20 seconds and redirect to an empty page.

[http://myserver/cgi-bin/dido/setdo.cgi?do0=1\[20\]](http://myserver/cgi-bin/dido/setdo.cgi?do0=1[20])

8.2 Query Status of the Digital Input (**capability_ndi > 0**)

Note: This request requires Viewer privileges

Method: GET/POST

Syntax:

```
http://<servername>/cgi-bin/dido/getdi.cgi?[di0][&di1][&di2][&di3]
```

If no parameter is specified, all of the digital input statuses will be returned.

Return:

```
HTTP/1.0 200 OK\r\nContent-Type: text/plain\r\nContent-Length: <length>\r\n\r\n[di0=<state>]\r\n[di1=<state>]\r\n[di2=<state>]\r\n[di3=<state>]\r\n
```

where *<state>* can be 0 or 1.

Example: Query the status of digital input #1 .

Request:

<http://myserver/cgi-bin/dido/getdi.cgi?di0>

Response:

```
HTTP/1.0 200 OK\r\nContent-Type: text/plain\r\nContent-Length: 7\r\n\r\ndi0=1\r\n
```

8.3Query Status of the Digital Output (*capability_ndo* > 0)

Note: This request requires Viewer privileges

Method: GET/POST

Syntax:

[http://<servername>/cgi-bin/dido/getdo.cgi?\[do0\]\[&do1\]\[&do2\]\[&do3\]](http://<servername>/cgi-bin/dido/getdo.cgi?[do0][&do1][&do2][&do3])

If no parameter is specified, all the digital output statuses will be returned.

Return:

```
HTTP/1.0 200 OK\r\nContent-Type: text/plain\r\nContent-Length: <length>\r\n\r\n[do0=<state>]\r\n
```

```
[do1=<state>]\r\n
[do2=<state>]\r\n
[do3=<state>]\r\n
```

where <state> can be 0 or 1.

Example: Query the status of digital output #1.

Request:

<http://myserver/cgi-bin/dido/getdo.cgi?do0>

Response:

```
HTTP/1.0 200 OK\r\n
Content-Type: text/plain\r\n
Content-Length: 7\r\n
\r\n
do0=1\r\n
```

8.4 Capture Single Snapshot

Note: This request requires Normal User privileges.

Method: GET/POST

Syntax:

```
http://<servername>/cgi-bin/viewer/video.jpg?[channel=<value>][&resolution=<value>]
[&quality=<value>][&streamid=<value>]
```

If the request contains invalid parameters, a full FOV snapshot will return.

PARAMETER	VALUE	DESCRIPTION
channel	0~(capability_nvideoin -1)	The channel number of the video source. Default: 0
resolution	Available options are list in "capability_videoin_c<0~(n-1)>_resolution". Besides, available options is referred to "capability_videoin_c<0~(n-1)>_maxresolution" and "capability_videoin_c<0~(n-1)>_minresolution"	The resolution of the image. Default: Returns snapshot of current resolution by [channel] and [streamid].

PARAMETER	VALUE	DESCRIPTION
quality	1~5	The quality of the image.
streamid	0~(capability_nmediastream -1)	<p>The stream number.</p> <p>Default: Returns snapshot of maximum resolution for current channel.</p>

The server will return the most up-to-date snapshot of the selected channel and stream in JPEG format. The size and quality of the image will be set according to the video settings on the server.

Return:

```
HTTP/1.0 200 OK\r\n
Content-Type: image/jpeg\r\n
[Content-Length: <image size>]\r\n
<binary JPEG image data>
```

8.5 Account Management

Note: This request requires Administrator privileges.

Method: POST

Syntax:

```
http://<servername>/cgi-bin/admin/editaccount.cgi?
method=<value>&username=<name>[&userpass=<value>][&privilege=<value>][&return=<return
page>]
```

PARAMETER	VALUE	DESCRIPTION
method	add	Add an account to the server. When using this method, the “username” field is necessary. It will use the default value of other fields if not specified.
	delete	Remove an account from the server. When using this method, the “username” field is necessary, and others are ignored.
	edit	Modify the account password and privilege. When using this method, the “username” field is necessary, and other fields are optional. If not specified, it will keep the original settings.

PARAMETER	VALUE	DESCRIPTION
username	<name>	The name of the user to add, delete, or edit.
userpass	<value>	The password of the new user to add or that of the old user to modify. The default value is an empty string.
privilege	view	The privilege of the user to add or to modify.
	operator	“view”: Viewer privilege.
	admin	“operator”: Operator privilege. “admin”: Administrator privilege.
return	<return page>	Redirect to the page <return page> after the parameter is assigned. The <return page> should be the relative path according to the root of camera. If you omit this parameter, it will redirect to an empty page. * If the <return page> is invalid path, it will ignore this parameter.

Note:

1. Rules of password settings is defined by layout_defaultpassword group.

Example:

Request:

```
http://myserver/cgi-bin/admin/editaccount.cgi?method=add&username=test&userpass=123&privilege=view
```

Response of success:

```
HTTP/1.1 200 OK\r\n
Content-Type: text/html\r\n
Content-Length: 2\r\n
\r\n
```

Response of failure:

```
HTTP/1.1 200 OK\r\n
Content-Type: text/html\r\n
Content-Length: <Error Message Length>\r\n
\r\n
<Error Message>
```

List of error message:

```
ERROR: Add user fail!
ERROR: Delete user fail!
ERROR: Update user's password fail!
```

ERROR: Update user's privilege fail!

8.6 Upgrade Firmware

Note: This request requires Administrator privileges.

Method: POST

Syntax:

<http://<servername>/cgi-bin/admin/upgrade.cgi>

Post data:

```
fimage=<file name>[&return=<return page>]\r\n\r\n<multipart encoded form data>
```

Server will accept the file named <file name> to upgradethe firmware and return with <return page> if indicated.

8.7 ePTZ Camera Control (**capability_eptz > 0** and **Capability_fisheye = 0**)

Note: This request requires camctrl privileges.

Method: GET/POST

Syntax:

```
http://<servername>/cgi-bin/camctrl/eCamCtrl.cgi?channel=<value>&stream=<value>
[&move=<value>] – Move home, up, down, left, right
[&auto=<value>] – Auto pan, patrol
[&zoom=<value>] – Zoom in, out
[&zooming=<value>&zs=<value>] – Zoom without stopping, used for joystick
[&x=<value>&y=<value>&w=<value>&h=<value>&resolution=<value>] - Zoom in, out on a specific
area
[&vx=<value>&vy=<value>&vs=<value>] – Shift without stopping, used for joystick
[&x=<value>&y=<value>&videosize=<value>&resolution=<value>&stretch=<value>] – Click on
image
(Move the center of image to the coordination (x,y) based on resolution or videosize.)
[ [&speedpan=<value>][&speedtilt=<value>][&speedzoom=<value>][&speedapp=<value>] ] – Set
speeds
[&return=<return page>]
```

Example:

```
http://myserver/cgi-bin/camctrl/eCamCtrl.cgi?channel=0&stream=0&move=right
http://myserver/cgi-bin/camctrl/eCamCtrl.cgi?channel=0&stream=1&vx=2&vy=2&vz=2
http://myserver/cgi-bin/camctrl/eCamCtrl.cgi?channel=0&stream=1&x=100&y=100&videosize=640x480&resolution=640x480&stretch=0
```

In zoom operation, there are two ways to control it, scale zoom and area zoom.

1. [Scale zoom]: contains two control method, relative movement and continuous movement
 - a. relative movement -

If you trigger a relative movement, it will only zoom certain ratio and stop by itself.

```
http://IPAddr/cgi-bin/camctrl/eCamCtrl.cgi?stream=0&zoom=tele
http://IPAddr/cgi-bin/camctrl/eCamCtrl.cgi?stream=0&zoom=wide
```

The zoom ratio to move by relative movement is according to the setting of speedzoom [-5~5].

```
http://IPAddr/cgi-bin/camctrl/eCamCtrl.cgi?stream=0&speedzoom=5
```

b. continuous movement -

If you trigger a continuous movement, you have to handle the stop time by yourself.

A continuous movement is convenient to integrate a joystick control.

<http://IPAddr/cgi-bin/camctrl/eCamCtrl.cgi?stream=0&zooming=tele&zs=1>

<http://IPAddr/cgi-bin/camctrl/eCamCtrl.cgi?stream=0&zooming=wide&zs=5>

zooming is used to indicate the moving direction, and zs is used to indicate the speed.

To stop a continuous movement, you have to use the command as below:

<http://IPAddr/cgi-bin/camctrl/eCamCtrl.cgi?stream=0&zoom=stop&zs=0>

2. [Area zoom]: it means to zoom in on a specific area, here is an example for a directly moving

[x, y] is the desired coordinate, and it will be the center after movement

[w, h] is the scaled area size

[resolution] is the base range of this coordinate system

The example shows [w, h] = [864, 488], which means to zoom in to ratio x2.2 based on [1920x1080].

Pay attention to that [x, y, w, h] are essential parameters in an area zoom case, and the stream index is counted from 0 as the first stream.

<http://IPAddr/cgi-bin/camctrl/eCamCtrl.cgi?channel=0&stream=0&x=912&y=297&w=864&h=488&resolution=1920x1080>

PARAMETER	VALUE	DESCRIPTION
channel	<0~(n-1)>	Channel of video source.
stream	<0~(m-1)>	Stream.
move	home	Move to home ROI.
	up	Move up.
	down	Move down.
	left	Move left.
	right	Move right.
auto	pan	Auto pan.
	patrol	Auto patrol.
	stop	Stop auto pan/patrol.
zoom	wide	Zoom larger view with current speed.
	tele	Zoom further with current speed.
zooming	wide or tele	Zoom without stopping for larger view or further view with zs speed, used for joystick control.
zs	0 ~ 6	Set the speed of zooming, "0" means stop.

PARAMETER	VALUE	DESCRIPTION
x	<integer>	The desired coordinate, and it will be the center after movement
y	<integer>	
w	<integer>	The scaled area size
h	<integer>	
resolution	<window size>	The resolution of streaming.
vx	<integer>	The direction of movement, used for joystick control.
vy	<integer>	
vs	0 ~ 7	Set the speed of movement, "0" means stop.
x	<integer>	x-coordinate clicked by user. It will be the x-coordinate of center after movement.
y	<integer>	y-coordinate clicked by user. It will be the y-coordinate of center after movement.
videosize	<window size>	The size of plug-in (ActiveX)window in web page
resolution	<window size>	The resolution of streaming.
stretch	<boolean>	0 indicates that it uses resolution (streaming size) as the range of the coordinate system. 1 indicates that it uses videosize (plug-in size) as the range of the coordinate system.
speedpan	-5 ~ 5	Set the pan speed.
speedtilt	-5 ~ 5	Set the tilt speed.
speedzoom	-5 ~ 5	Set the zoom speed.
speedapp	1 ~ 5	Set the auto pan/patrol speed.
return	<return page>	Redirect to the page <return page> after the parameter is assigned. The <return page> should be the relative path according to the root of camera. If you omit this parameter, it will redirect to an empty page. * If the <return page> is invalid path, it will ignore this parameter.

8.8ePTZ Recall (**capability_eptz > 0** and **capability_fisheye = 0**)

Note: This request requires camctrl privileges.

Method: GET/POST

Syntax:

```
http://<servername>/cgi-bin/camctrl/eRecall.cgi?channel=<value>&stream=<value>&
recall=<value>[&return=<return page>]
```

PARAMETER	VALUE	DESCRIPTION
channel	<0~(n-1)>	Channel of the video source.
stream	<0~(m-1)>	Stream.
recall	Text string less than 40 characters	One of the present positions to recall.
return	<return page>	Redirect to the page <return page> after the parameter is assigned. The <return page> should be the relative path according to the root of camera. If you omit this parameter, it will redirect to an empty page. * If the <return page> is invalid path, it will ignore this parameter.

8.9ePTZ Preset Locations (**capability_eptz > 0** and

capability_fisheye = 0)

Note: This request requires Operator privileges.

Method: GET/POST

Syntax:

```
http://<servername>/cgi-bin/operator/ePreset.cgi?channel=<value>&stream=<value>
[&addpos=<value>][&delpos=<value>][&return=<return page>]
```

PARAMETER	VALUE	DESCRIPTION
channel	<0~(n-1)>	Channel of the video source.
stream	<0~(m-1)>	Stream.

PARAMETER	VALUE	DESCRIPTION
addpos	<Text string less than 40 characters>	Add one preset location to the preset list.
delpos	<Text string less than 40 characters>	Delete preset location from the preset list.
return	<return page>	Redirect to the page <return page> after the parameter is assigned. The <return page> should be the relative path according to the root of camera. If you omit this parameter, it will redirect to an empty page. * If the <return page> is invalid path, it will ignore this parameter.

8.10 IP Filtering for ONVIF

Syntax:<product dependent>

```
http://<servername>/cgi-bin/admin/ipfilter.cgi?type[=<value>]
http://<servername>/cgi-
bin/admin/ipfilter.cgi?method=add<v4/v6>&ip=<ipaddress>[&index=<value>][&return=<return
page>]
http://<servername>/cgi-
bin/admin/ipfilter.cgi?method=del<v4/v6>&index=<value>[&return=<return page>]
```

PARAMETER	VALUE	DESCRIPTION
type	NULL	Get IP filter type
	allow, deny	Set IP filter type
method	addv4	Add IPv4 address into access list.
	addv6	Add IPv6 address into access list.
	delv4	Delete IPv4 address from access list.
	delv6	Delete IPv6 address from access list.
ip	<IP address>	Single address: <IP address> Network address: <IP address / network mask> Range address:<start IP address - end IP address>
index	<value>	The start position to add or to delete.

8.11 UART HTTP Tunnel Channel (**capability_nuart > 0**)

Note: This request requires Operator privileges.

Method: GET and POST

Syntax:

```
http://<servername>/cgi-bin/operator/uartchannel.cgi?[channel=<value>]
```

```
GET /cgi-bin/operator/uartchannel.cgi?[channel=<value>]
```

```
x-sessioncookie: string[22]
accept: application/x-vvtk-tunnelled
pragma: no-cache
cache-control: no-cache
```

```
POST /cgi-bin/operator/uartchannel.cgi
```

```
x-sessioncookie: string[22]
content-type: application/x-vvtk-tunnelled
pragma : no-cache
cache-control : no-cache
content-length: 32767
expires: Sun, 9 Jan 1972 00:00:00 GMT
```

User must use GET and POST to establish two channels for downstream and upstream. The x-sessioncookie in GET and POST should be the same to be recognized as a pair for one session. The contents of upstream should be base64 encoded to be able to pass through a proxy server.

This channel will help to transfer the raw data of UART over the network.

Please see UART tunnel spec for detail information

PARAMETER	VALUE	DESCRIPTION
channel	0 ~ (n-1)	The channel number of UART.

8.12 Get SDP of Streams

Note: This request requires Viewer access privileges.

Method: GET/POST

Syntax:

```
http://<servername>/<network_rtsp_s<0~(n*m)-1>_accessname>
```

n denotes the value of "capability_nvideoin", m denotes the value of "capability_nmediastream".

Example:

For m=2, the values are shown as

```
network_rtsp_s0_accessname = live1s1.sdp  
network_rtsp_s1_accessname = live1s2.sdp  
network_rtsp_s2_accessname = live2s1.sdp  
network_rtsp_s3_accessname = live2s2.sdp  
etc.
```

* For version number(httpversion) above 0311c, the default RTSP access name format is "live<n>s<m>.sdp". Please refer to the "subgroup of network: rtsp" for setting the accessname of SDP.

* You can get the SDP by HTTP GET.

* When using scalable multicast, Get SDP file which contains the multicast information via HTTP.

Note:

* We recommend to use new format to access streaming when capability_media_streamprofiles_support=1, please refer to [Methods for Accessing Streaming](#)

8.13 Open the Network Stream

Note: This request requires Viewer access privileges.

Syntax:

For HTTP push server (MJPEG):

```
http://<servername>/<network_http_s<0~m-1>_accessname>
```

For RTSP (MP4), the user needs to input the URL below into an RTSP compatible player.

```
rtsp://<servername>/<network_rtsp_s<0~m-1>_accessname>
```

"m" is the stream number.

For details on streaming protocol, please refer to the "control signaling" and "data format" documents.

8.14 Send Data (**capability_nuart > 0**)

Note: This request requires Viewer privileges.

Method: GET/POST

Syntax:

```
http://<servername>/cgi-bin/viewer/senddata.cgi?
[com=<value>][&data=<value>][&flush=<value>] [&wait=<value>] [&read=<value>]
```

PARAMETER	VALUE	DESCRIPTION
com	1 ~ <max. com port number>	The target COM/RS485 port number.
data	<hex decimal data>[,<hex decimal data>]	The <hex decimal data> is a series of digits from 0 ~ 9, A ~ F. Each comma separates the commands by 200 milliseconds.
flush	yes,no	yes: Receive data buffer of the COM port will be cleared before read. no: Do not clear the receive data buffer.
wait	1 ~ 65535	Wait time in milliseconds before read data.
read	1 ~ 128	The data length in bytes to read. The read data will be in the return page.

Return:

```
HTTP/1.0 200 OK\r\n
Content-Type: text/plain\r\n
Content-Length: <system information length>\r\n
\r\n
<hex decimal data>\r\n
```

Where hexadecimal data is digits from 0 ~ 9, A ~ F.

8.15 Storage Managements (**capability_storage_dbenabled > 0**)

Method: GET and POST

Note: This request requires **administrator** privileges.

In the past time, all the recorded files could be searched/updated/deleted independently. However, this implementation provides no abstraction of recorded video clips, and which is not easy to use. Thus edge storage API try to provide a higher abstraction of these video clips.

Ability to change database content from lsctrl.cgi was removed, lsctrl.cgi is changed to read-only.

PLEASE REFER TO EDGE STORAGE API

Syntax:

```
http://<servername>/cgi-bin/admin/lsctrl.cgi?cmd=<cmd_type>[&<parameter>=<value>...]
```

The commands usage and their input arguments are as follows.

PARAMETER	VALUE	DESCRIPTION
cmd_type	<string>	Required. Command to be executed, including <i>search</i> and <i>queryStatus</i> .

Command: search

PARAMETER	VALUE	DESCRIPTION
label	<integer primary key>	Optional. The integer primary key column will automatically be assigned a unique integer.
triggerType	<text>	Optional. Indicate the event trigger type. Please embrace your input value with single quotes. Ex. triggerType='vi'
mediaType	<text>	Optional. Indicate the file media type. Ex. mediaType=videoclip * logical “OR” is not supported for this parameter.
destPath	<text>	Optional. Indicate the file location in camera. Please embrace your input value with single quotes. Ex. destPath ='/mnt/auto/CF/NCMF/abc.mp4'
resolution	<text>	Optional. Indicate the media file resolution. Please embrace your input value with single quotes. Ex. resolution='800x600'
isLocked	<boolean>	Optional. Indicate if the file is locked or not. 0: file is not locked. 1: file is locked. A locked file would not be removed from UI or cyclic storage.
triggerTime	<text>	Optional. Indicate the event trigger time. (not the file created time) Format is “YYYY-MM-DD HH:MM:SS” Please embrace your input value with single quotes.

PARAMETER	VALUE	DESCRIPTION
		Ex. triggerTime='2008-01-01 00:00:00' If you want to search for a time period, please apply “TO” operation. Ex. triggerTime='2008-01-01 00:00:00'+TO+'2008-01-01 23:59:59' is to search for records from the start of Jan 1 st 2008 to the end of Jan 1 st 2008.
limit	<positive integer>	Optional. Limit the maximum number of returned search records.
offset	<positive integer>	Optional. Specifies how many rows to skip at the beginning of the matched records. Note that the offset keyword is used after limit keyword.

To increase the flexibility of search command, you may use “OR” connectors for logical “OR” search operations. Moreover, to search for a specific time period, you can use “TO” connector.

Ex. To search records triggered by motion or di or sequential and also triggered between 2008-01-01 00:00:00 and 2008-01-01 23:59:59.

```
http://<servername>/cgi-bin/admin/lsctrl.cgi?cmd=search&triggerType='motion'+OR+'di'+OR+'seq'&triggerTime='2008-01-01 00:00:00'+TO+'2008-01-01 23:59:59'
```

Command: queryStatus

PARAMETER	VALUE	DESCRIPTION
retType	xml or javascript	Optional. Ex. retype=javascript The default return message is in XML format.

Ex. Query local storage status and call for javascript format return message.

```
http://<servername>/cgi-bin/admin/lsctrl.cgi?cmd=queryStatus&retType=javascript
```

There are two cgi commands for download and composing jpegs to avi format.

For download single selected file, you can use “/cgi-bin/admin/**downloadMedias.cgi**”. Just assign the request file path to this cgi.

Syntax:

```
http://<servername>/cgi-bin/admin/downloadMedias.cgi?<File_Path>
```

The <File_Path> is in querystatus return message.

Ex.

```
http://<servername>/cgi-bin/admin/downloadMedias.cgi?/mnt/auto/CF/NCMF/20090310/07/02.mp4
```

Syntax:

```
http://<servername>/cgi-bin/admin/downloadMedias.cgi?type=<type>\[&<parameter>=<value>...\]
```

PARAMETER	VALUE	DESCRIPTION
type	<text>	Required command to be excuted include <i>videoclip</i>
device	<text>	command to be excuted include <i>sd, nas</i>
recordingtoken	<text>	Please refer to Edge Storage API
starttime	<text>	Optional. Format is “YYYY-MM-DD HH:MM:SS” Please embrace your input value with single quotes. Example: starttime=2008-01-01 00:00:00 Notice: you should use UTC time
endtime	<text>	Optional. Format is “YYYY-MM-DD HH:MM:SS” Please embrace your input value with single quotes. Example: starttime = 2008-01-01 00:00:00 Notice: you should use UTC time

For creating an AVI file by giving a list of JPEG files, you can use “/cgi-bin/admin/**jpegtoavi.cgi**”.

Syntax:

```
http://<servername>/cgi-bin/admin/jpegtoavi.cgi?<resolution>=<width>x<height>&<fps>=<num>&<list>=<fileList>
```

PARAMETER	VALUE	DESCRIPTION
resolution	<width>x<height>	Resolution
fps	<positive integer>	Frame rate
list	<fileList>	The JPEG file list. The file path should be embraced by single quotation marks

Ex.

```
http://<servername>/cgi-bin/admin/
jpegtoavi.cgi?resolution=800x600&fps=1&list=' /mnt/auto/CF/NCMF/video1650.jpg', '/mnt/auto/C
F/NCMF/video1651.jpg', '/mnt/auto/CF/NCMF/video1652.jpg',
```

8.16 Virtual Input (capability_nvi > 0)

Note: Change virtual input (manual trigger) status.

Method: GET

Syntax:

```
http://<servername>/cgi-bin/admin/setvi.cgi?vi0=<value>[&vi1=<value>][&vi2=<value>]
[&return=<return page>]
```

PARAMETER	VALUE	DESCRIPTION
vi<num>	state[(duration)nstate] Where "state" is 0, 1. "0" means inactive or normal state while "1" means active or triggered state. Where "nstate" is next state after duration.	Ex: vi0=1 Setting virtual input 0 to trigger state Ex: vi0=0(200)1 Setting virtual input 0 to normal state, waiting 200 milliseconds , setting it to trigger state. Note that when the virtual input is waiting for next state, it cannot accept new requests.
return	<return page>	Redirect to the page <return page> after the parameter is assigned. The <return page> should be the relative path according to the root of camera. If you omit this parameter, it will redirect to an empty page. * If the <return page> is invalid path, it will ignore this parameter.

Return Code	Description
200	The request is successfully executed.
400	The request cannot be assigned, ex. incorrect parameters. Examples: setvi.cgi?vi0=0(10000)1(15000)0(20000)1 No multiple duration.

	setvi.cgi?vi3=0 VI index is out of range. setvi.cgi?vi=1 No VI index is specified.
503	The resource is unavailable, ex. Virtual input is waiting for next state. Examples: setvi.cgi?vi0=0(15000)1 setvi.cgi?vi0=1 Request 2 will not be accepted during the execution time(15 seconds).

8.17 Open Timeshift Stream (**capability_timeshift > 0**,

timeshift_enable=1, timeshift_c<n>_s<m>_allow=1)

Note: This request requires Viewer access privileges.

Syntax:

For HTTP push server (MJPEG):

```
http://<servername>/<network_http_s<m>_accessname>?maxsft=<value>[&tmode=<value>&reftime=<value>&forcechk&minsft=<value>]
```

For RTSP (MP4 and H264), the user needs to input the URL below into an RTSP compatible player.

```
rtsp://<servername>/<network_rtsp_s<m>_accessname>?maxsft=<value>[&tmode=<value>&reftime=<value>&forcechk&minsft=<value>]
```

“n” is the channel index.

“m” is the timeshift stream index.

For details on timeshift stream, please refer to the “TimeshiftCaching” documents.

PARAMETER	VALUE	DEFAULT	DESCRIPTION
maxsft	<positive integer>	0	Request cached stream at most how many seconds ago. The value must be a positive integer. (>0)
tmode	normal, adaptive	normal	Streaming mode: normal => Full FPS all the time. adaptive => Default send only I-frame for MP4 and H.264, and send 1 FPS for MJPEG. If DI or motion

PARAMETER	VALUE	DEFAULT	DESCRIPTION
			window are triggered, the streaming is changed to send full FPS for 10 seconds. (*Note: this parameter also works on non-timeshift streams.) tsmode must exactly match well-defined wording (normal, adaptive), unknown parameters are always ignored.
reftime	mm:ss	The time camera receives the request.	Reference time for maxsft and minsft. (This provides more precise time control to eliminate the inaccuracy due to network latency.) Ex: Request the streaming from 12:20 rtsp://10.0.0.1/live.sdp?maxsft=10&reftime=12:30
forcechk	N/A	N/A	Check if the requested stream enables timeshift, feature and if minsft is achievable. If false, return "415 Unsupported Media Type".
minsft	<positive integer>	0	How many seconds of cached stream client can accept at least. (Used by forcechk) The value must be a positive integer. (>0)

Return Code	Description
400 Bad Request	Request is rejected because some parameter values are illegal.
415 Unsupported Media Type	Returned, if forcechk appears, when minsft is not achievable or the timeshift feature of the target stream is not enabled.

8.18 RemoteFocus (**capability_image_c<0~(n-**

1)>_remotefocus=1)

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax: (**for control API**)

```
http://<servername>/cgi-bin/admin/remotefocus.cgi?channel=<value>&[function=<value>][&direction=<value>][&position=<value>][&s
```

PARAMETER	VALUE	DESCRIPTION
channel	0~"capability_nvideoin"-1	Channel of the video source.
function	zoom, focus, auto, scan, stop, positioning, irisopen, irisenable	zoom - Move focus motor focus – Move focus motor auto – Perform auto focus scan – Perform focus scan stop – Stop current operation positioning – Position the motors irisopen – Fully open iris. It will maintain fully open iris status until sending function=irisenable cgi. irisenable – return back to user setting status of iris.
direction	direct, forward, backward	Motor's moving direction. It works only if function=zoom or function=focus.
position	<motor_start> ~ <motor_end>	Motor's position. It works only if function=zoom or function= focus and direction=direct. <motor_start> : remote_focus_zoom_motor_start or remote_focus_focus_motor_start, <motor_end> : remote_focus_zoom_motor_end or remote_focus_focus_motor_end replied from "function=getstatus"
steps	1 ~ 30	Motor's moving steps. It works only if function=zoom or function=focus and direction=forward and direction=backward. * Motor will stop when it reaches to <motor_start> or <motor_end>. * This parameter is for additional fine-tune, the value is from 1 to 30.
iris	N/A	Open iris or not. It works only if function=auto or function=scan.

Syntax: (for query API)

`http://<servername>/cgi-bin/admin/remotefocus.cgi?channel=<value>&[function=<value>]`

function	getstatus	<p>Information of motors, return value as below:</p> <p>remote_focus_zoom_motor_max: Maximum steps of zoom motor</p> <p>remote_focus_focus_motor_max: Maximum steps of focus motor</p> <p>remote_focus_zoom_motor_start: Start point of zoom motor</p> <p>remote_focus_zoom_motor_end: End point of zoom motor</p> <p>remote_focus_focus_motor_start: Start point of effective focal length</p> <p>remote_focus_focus_motor_end: End point of effective focal length</p> <p>remote_focus_zoom_motor: Current position of zoom motor</p> <p>remote_focus_focus_motor: Current position of focus motor</p> <p>remote_focus_zoom_enable: Current function of zoom motor</p> <p>remote_focus_focus_enable: Current function of focus motor</p> <p>remote_focus_iris_open: The current status of iris. 0: irisable, 1: irisopen</p> <p>Current function of zoom/focus motor, return value as below:</p> <p>0: no service 1: zooming 2: focusing 3: auto focus 4: focus scan 5: positioning (both zoom motor and focus motor) 12: reset focus</p>
----------	-----------	--

8.19 BackFocus (**capability_image_c<0~(n-1)>_remotefocus=4**)

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax: **(for control API)**

http://<servername>/cgi-bin/admin/remotefocus.cgi?channel=<value>&[function=<value>][&direction=<value>][&position=<value>][&s
--

PARAMETER	VALUE	DESCRIPTION
channel	0~"capability_nvideoin"-1	Channel of the video source.

PARAMETER	VALUE	DESCRIPTION
function	focus, auto, scan, stop, positioning, irisopen, irisenable, resetfocus	focus – Move focus motor auto – Perform auto focus scan – Perform focus scan stop – Stop current operation positioning – Position the motors resetfocus – reset focus position to default irisopen – Fully open iris. It will maintain fully open iris status until sending function=irisenable cgi. irisenable – return back to user setting status of iris.
direction	direct, forward, backward	Motor's moving direction. It works only if function= focus.
position	<motor_start> ~ <motor_end>	Motor's position. It works only if function=focus and direction=direct. <motor_start> : remote_focus_zoom_motor_start or remote_focus_focus_motor_start, <motor_end> : remote_focus_zoom_motor_end or remote_focus_focus_motor_end replied from "function=getstatus"
steps	1 ~ 30	Motor's moving steps. It works only if function=focus and direction=forward or direction=backward. * Motor will stop when it reaches to <motor_start> or <motor_end>. * This parameter is for additional fine-tune, the value is from 1 to 30.
iris	N/A	Open iris or not. It works only if function=auto or function=scan.

Syntax: **(for query API)**

`http://<servername>/cgi-bin/admin/remotefocus.cgi?channel=<value>&[function=<value>]`

function	getstatus	<p>Information of motors, return value as below:</p> <p>remote_focus_focus_motor_max: Maximum steps of focus motor</p> <p>remote_focus_focus_motor_start: Start point of effective focal length</p> <p>remote_focus_focus_motor_end: End point of effective focal length</p> <p>remote_focus_focus_motor: Current position of focus motor</p> <p>remote_focus_focus_enable: Current function of focus motor</p> <p>remote_focus_iris_open: The current status of iris. 0: irisable, 1: irisopen</p> <p>Current function of zoom/focus motor, return value as below:</p> <ul style="list-style-type: none"> 0: no service 1: zooming 2: focusing 3: auto focus 4: focus scan 5: positioning (both zoom motor and focus motor) 12: reset focus
----------	-----------	---

8.20 Export Files

Note: This request requires Administrator privileges.

Method: GET

Syntax:

For daylight saving time configuration file:

* This CGI is not supported when the version number (httpversion) is equal or greater than 0314b, please use "system_tz" as a replacement.

<code>http://<servername>/cgi-bin/admin/exportDst.cgi</code>
--

For language file:

<code>http://<servername>/cgi-bin/admin/export_language.cgi?currentlanguage=<value></code>
--

PARAMETER	VALUE	DESCRIPTION
-----------	-------	-------------

currentlanguage	0~20	Available language lists. Please refer to: system_info_language_i0 ~ system_info_language_i19.
-----------------	------	--

For setting backup file:

```
http://<servername>/cgi-bin/admin/export_backup.cgi?backup
```

8.21 Upload Files

Note: This request requires Administrator privileges.

Method: POST

Syntax:

For daylight saving time configuration file:

* This CGI is not supported when the version number (httpversion) is equal or greater than 0314b, please use "system_tz" as a replacement.

```
http://<servername>/cgi-bin/admin/upload_dst.cgi
```

Post data:

```
filename =<file name>\r\n\r\n<multipart encoded form data>
```

For language file:

```
http://<servername>/cgi-bin/admin/upload_lan.cgi
```

Post data:

```
filename =<file name>\r\n\r\n<multipart encoded form data>
```

For setting backup file:

```
http://<servername>/cgi-bin/admin/upload_backup.cgi
```

Post data:

```
filename =<file name>\r\n\r\n<multipart encoded form data>
```

Server will accept the file named <file name> to upload this one to camera.

8.22 Update Lens Configuration (**capability_image_c<0~(n-1)>_>0**)

Note: This request requires Administrator privileges.

Method: GET

Syntax:

For list a name of lens currently used:

```
http://<servername>/cgi-bin/admin/update_lens.cgi?get_currentlens
```

For list all names of lens installed in camera:

```
http://<servername>/cgi-bin/admin/update_lens.cgi?list_lens
```

For choose selected lens configuration:

```
http://<servername>/cgi-bin/admin/update_lens.cgi?choose_lens=<value>
```

You need to reboot manually after you choose another lens configuration.

For choose selected lens configuration and reboot camera:

```
http://<servername>/cgi-bin/admin/update_lens.cgi?choose_reboot_lens=<value>
```

The camera will reboot after using this cgi.

For delete selected lens configuration:

```
http://<servername>/cgi-bin/admin/update_lens.cgi?delete_lens=<value>
```

PARAMETER	VALUE	DESCRIPTION
value	<string>	Available lens name. Please refer to: <code>lens_default_i<0~(n-1)>_name</code> <code>lens_user_i<0~(n-1)>_name</code> n is a positive integer.

Method: POST

Syntax:

For upload user-defined lens configuration:

```
http://<servername>/cgi-bin/admin/update_lens.cgi?upload_lens
```

Post data:

```
upload_lens_profile_input = <file name>\r\n
\r\n
<multipart encoded form data>
```

Server will accept the file named <file name> to upload the lens profile to camera.

8.23 Media on Demand (**capability_localstorage.modnum > 0**)

Media on demand allows users to select and receive/watch/listen to metadata/video/audio contents on demand.

Note: This request requires Viewer access privileges.

Syntax:

```
rtsp://<servername>/mod.sdp?[&stime=<value>][&etime=<value>][&length =<value>][&loctime
=<value>][&file=<value>][&tsmode=<value>]
```

PARAMETER	VALUE	DEFAULT	DESCRIPTION
stime	<YYYYMMDD_HHMMSS.MMM>	N/A	Start time.
etime	<YYYYMMDD_HHMMSS.MMM>	N/A	End time.
length	<positive integer>	N/A	The length of media of interest. The unit is second.
loctime	<boolean>	0	Specify if start/end time is local time format. 1 for local time, 0 for UTC+0
file	<string>	N/A	The media file to be played.
tsmode	<positive integer>	N/A	Timeshift mode, the unit is second.

Ex.

stime	etime	length	file	Description
V	V	X	X	Play recordings between stime and etime rtsp://10.10.1.2/mod.sdp?stime=20110312_040400.000&etime=2011_0312_040 510.000
V	X	V	X	Play recordings for length seconds which start from stime rtsp://10.10.1.2/mod.sdp?stime=20110312_040400.000&length=120

X	V	V	X	Play recordings for length seconds which ends at etime
---	---	---	---	--

rtsp://10.10.1.2/mod.sdp?etime=20110312_040400.000&length=120

X	X	X	V	Play file file
---	---	---	---	----------------

rtsp://10.10.1.2/mod.sdp?filename=/mnt/link0/

8.24 3D Polygon Privacy Mask (**Capability_image_c<0~(n-1)>_privacymask_wintype = 3Dpolygon**)

n denotes the value of "capability_nvideoin"

Note: This request requires admin user privilege

Method: GET/POST

Syntax:

```
http://<servername>/cgi-bin/admin/setpm3d.cgi?
method=<value>&maskname=<value>&polygon=<value>&[videosize=<value>&return=<return
page>]
```

PARAMETER	VALUE	DESCRIPTION
method	add	Add a 3D privacy mask at current location
	delete	Delete a 3D privacy mask
	edit	Edit a 3D privacy mask
maskname	string[40]	3D privacy mask name
polygon	0 ~ 320,0 ~ 240, 0 ~ 320,0 ~ 240, 0 ~ 320,0 ~ 240, 0 ~ 320,0 ~ 240	Coordinate of polygon window position. (4 points: x0,y0,x1,y1,x2,y2,x3,y3) * Only available when qvga is listed in "capability_image_c<0~(n-1)>_privacymask_windomain".
videosize	<window size>	Optimal. The size of plug-in (ActiveX) window in web page is the size of the privacy window size. This field is not necessary, it will use the default value if not specified. 320x180 for 16:9 resolution and 320x240 for 4:3 resolution.
return	<return page>	Redirect to the page <return page> after the parameter is assigned. The <return page> should be the relative path according to the root of camera. If you omit this parameter, it will redirect to an empty page. * If the <return page> is invalid path, it will ignore this parameter.

Example:

```
http://myserver/cgi-bin/admin/setpm3d.cgi?method=add&maskname=Test&polygon=0,0,100,100,200,200,0,0&videosize=320x240
```

Response:

```
HTTP/1.0 200 OK\r\n
Cache-control: no-cache\r\n
Pragma: no-cache\r\n
\r\n
"washer_mode : OK\r\n"
"washer_status : FAIL\r\n"
```

8.25 3D Rectangle Privacy Mask (**Capability_image_c<0~(n-1)>_privacymask_wintype = 3Drectangle**)

n denotes the value of "capability_nvideoin"

Note: This request requires admin user privilege

Method: GET/POST

Syntax:

```
http://<servername>/cgi-bin/admin/setpm3d.cgi?method=<value>&maskname=<value>&[maskheight=<value>&maskwidth=<value>&videosize=<value>&return=<return page>]
```

PARAMETER	VALUE	DESCRIPTION
method	add	Add a 3D privacy mask at current location
	delete	Delete a 3D privacy mask
	edit	Edit a 3D privacy mask
maskname	string[40]	3D privacy mask name
maskheight	integer	3D privacy mask height
maskwidth	integer	3D privacy mask width
videosize	<window size>	Optimal. The size of plug-in (ActiveX) window in web page is the size of the privacy window size. This field is not necessary, it will use the default value if not specified. 320x180 for 16:9 resolution and 320x240 for 4:3 resolution.

PARAMETER	VALUE	DESCRIPTION
return	<return page>	<p>Redirect to the page <return page> after the parameter is assigned. The <return page> should be the relative path according to the root of camera. If you omit this parameter, it will redirect to an empty page.</p> <p>* If the <return page> is invalid path, it will ignore this parameter.</p>

8.26 Camera Control (**capability_camctrl_c<0~(n-1)>_zoommodule = 1**)

Note: This request requires Viewer privileges.

Method: GET/POST

Syntax: **(for control API)**

```
http://<servername>/cgi-bin/camctrl/camctrl.cgi?[channel=<value>][&camid=<value>]
[&move=<value>] – Move home, up, down, left, right
[&focus=<value>] – Focus operation
[&zoom=<value>] – Zoom in, out
[&zooming=<value>&zs=<value>] – Zoom without stopping, used for joystick
[&vx=<value>&vy=<value>&vs=<value>] – Shift without stopping, used for joystick
[&x=<value>&y=<value>&videosize=<value>&resolution=<value>&stretch=<value>] – Click on
image
(Move the center of image to the coordination (x,y) based on resolution or videosize.)
[ [&speedpan=<value>][&speedtilt=<value>][&speedzoom=<value>][&speedapp=<value>][&speedl
ink=<value>] ] – Set speeds
[&return=<return page>]
```

Example:

```
http://myserver/cgi-bin/camctrl/camctrl.cgi?channel=0&camid=1&move=right
http://myserver/cgi-bin/camctrl/camctrl.cgi?channel=0&camid=1&zoom=tele
http://myserver/cgi-bin/camctrl/camctrl.cgi?channel=0&camid=1&x=300&y=200&resolution=704x480&videosize=704x480&streh=1
```

Example: (set the ptz preset with focus mode)

* We support this function when the version number of the PTZ control module is equal or greater than 5.0.0.20.

```
http://myserver/cgi-bin/camctrl/camctrl.cgi?name=xxx&focussetting=sync&cam=getsetpreset
```

PARAMETER	VALUE	DESCRIPTION
channel	<0~(n-1)>	Channel of video source.
camid	0,<positive integer>	Camera ID.
move	home	Move to camera to home position.
	up	Move camera up.

PARAMETER	VALUE	DESCRIPTION
	down	Move camera down.
	left	Move camera left.
	right	Move camera right.
speedpan	-5 ~ 5	Set the pan speed.
speedtilt	-5 ~ 5	Set the tilt speed.
speedzoom	-5 ~ 5	Set the zoom speed.
speedfocus	-5 ~ 5	Set the focus speed.
speedapp	-5 ~ 5	Set the auto pan/patrol speed.
auto	pan	Auto pan.
	patrol	Auto patrol.
	stop	Stop camera.
zoom	wide	Zoom larger view with current speed.
	tele	Zoom further with current speed.
	stop	Stop zoom.
zooming	wide or tele	Zoom without stopping for larger view or further view with zs speed, used for joystick control.
zs	0 ~ 8 <SD8362>	Set the speed of zooming, "0" means stop.
vx	<integer , excluding 0>	The slope of movement = vy/vx, used for joystick control.
vy	<integer>	
vs	0 ~ 127	Set the speed of movement, "0" means stop.
x	<integer>	x-coordinate clicked by user. It will be the x-coordinate of center after movement.
y	<integer>	y-coordinate clicked by user. It will be the y-coordinate of center after movement.
videosize	<window size>	The size of plug-in (ActiveX) window in web page
resolution	<window size>	The resolution of streaming.
stretch	<boolean>	0 indicates that it uses resolution (streaming size) as the range of the coordinate system. 1 indicates that it uses videosize (plug-in size) as the range of the coordinate system.

PARAMETER	VALUE	DESCRIPTION
focus	auto	Auto focus.
	far	Focus on further distance.
	near	Focus on closer distance.
focussetting	sync	Applies the selected focus mode in camctrl_c<0~(n-1)>_focusmode to this preset.
	fixcurrent	Applies the current focus position to this preset.
	* We support this function when the version number of the PTZ control module is equal or greater than 5.0.0.20.	
cam	getsetpreset	Adds a named preset at current position, and return the preset index. * We support this function when the version number of the PTZ control module is equal or greater than 5.0.0.20.

Syntax: **(for query API)**

```
http://<servername>/cgi-bin/camctrl/camctrl.cgi?<parameter> [&<parameter>...]
```

Example:

```
http://myserver/cgi-bin/camctrl/camctrl.cgi?getpan
```

Response:

```
HTTP/1.0 200 OK\r\n
Cache-control: no-cache\r\n
Pragma: no-cache\r\n
\r\n
pan=4117\r\n
```

PARAMETER	VALUE	DESCRIPTION
getversion	<string>	Get the version of the PTZ control module.
getaction	idle, autopan, tracking, tour, patrol,	Get the current status of the camera. * We support this parameter when the version number (getversion) is equal or greater than 5.0.0.12
getpan	0, <positive integer>	Get the current pan position. *Only available when bit0 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"

PARAMETER	VALUE	DESCRIPTION
getpanangle	<integer>	Get the current pan angle. *Only available when bit0 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
gettilt	0, <positive integer>	Get the current tilt position. *Only available when bit1 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
gettiltangle	<integer>	Get the current tilt angle. *Only available when bit1 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getzoom	0, <positive integer>	Get the current zoom position.
getratio	<decimal>	Get the current zoom ratio.
getfocus	0, <positive integer>	Get the current focus position.
getminspeedlv	0, <positive integer>	Get the minimum speed level of the PTZ control. Normally, the speed level is '0,' which denotes halting a continuous movement.
getmaxptspeedlv	0, <positive integer>	Get the maximum speed level of pan/tilt moving. *Only available when "capability_camctrl_c<0~(n-1)>_buildinpt" > 0
getmaxzspeedlv	0, <positive integer>	Get the maximum speed level of zoom moving.
getmaxfspeedlv	0, <positive integer>	Get the maximum speed level of focus moving.
getminpan	0, <positive integer>	Get the lower limit for pan position. *Only available when bit0 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getmaxpan	0, <positive integer>	Get the upper limit for pan position. *Only available when bit0 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getminpanangle	<integer>	Get the lower limit for pan angle. *Only available when bit0 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getmaxpanangle	<integer>	Get the upper limit for pan angle. *Only available when bit0 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getmintilt	0, <positive integer>	Get the lower limit for tilt position. *Only available when bit1 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getmaxtilt	0, <positive integer>	Get the upper limit for tilt position.

PARAMETER	VALUE	DESCRIPTION
		*Only available when bit1 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getmintiltangle	<integer>	Get the lower limit for tilt angle. *Only available when bit1 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getmaxtiltangle	<integer>	Get the upper limit for tilt angle. *Only available when bit1 of "capability_camctrl_c<0~(n-1)>_buildinpt" is "1"
getminzoom	0, <positive integer>	Get the lower limit for zoom position.
getmaxzoom	0, <positive integer>	Get the upper limit for zoom position.
getmaxdzoom	0, <positive integer>	Get the upper limit for digital zoom position.
getmaxratio	<decimal>	Get the maximum ratio of optical zoom. * We support this parameter when the version number (getversion) is equal or greater than 5.0.0.14
getmaxdratio	<decimal>	Get the maximum ratio of digital zoom. * We support this parameter when the version number (getversion) is equal or greater than 5.0.0.14
getminfocus	0, <positive integer>	Get the lower limit for focus position.
getmaxfocus	0, <positive integer>	Get the upper limit for focus position.

8.27 Recall (**capability_camctrl_c<0~(n-1)>_zoommodule = 1**)

Note: This request requires Viewer privileges.

Method: GET

Syntax:

```
http://<servername>/cgi-bin/viewer/recall.cgi?
recall=<value>[&channel=<value>][&return=<return page>]
```

PARAMETER	VALUE	DESCRIPTION
recall	string[30]	One of the present positions to recall.
channel	0~"capability_nvideoin"-1	Channel of the video source.

8.28 Preset Locations (**capability_camctrl_c<0~(n-**

1)>_zoommodule = 1)

Note: This request requires Operator privileges.

Method: GET/POST

Syntax:

```
http://<servername>/cgi-bin/operator/preset.cgi?[channel=<value>]  
[&addpos=<value>][&delpos=<value>][&return=<return page>]
```

PARAMETER	VALUE	DESCRIPTION
addpos	string[30]	Add one preset location to the preset list.
channel	0~"capability_nvideoin"-1	Channel of the video source.
delpos	string[30]	Delete preset location from preset list.
return	<return page>	Redirect to the page <return page> after the parameter is assigned. The <return page> should be the relative path according to the root of camera. If you omit this parameter, it will redirect to an empty page. * If the <return page> is invalid path, it will ignore this parameter.

8.29 SmartSD (**capability_localstorage_smartsd > 0**)

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax:

```
http://<servername>/cgi-bin/admin/smartsd.cgi?function=<value>
```

PARAMETER	VALUE	DESCRIPTION
function	getstatus	<p>Function type</p> <p>getstatus : Information of smartSD internal status return value as below:</p> <p>smartsd_lifetime_num:</p> <p>Accumulated amount of data that has been written.</p> <p>smartsd_lifetime_den:</p> <p>Card-guaranteed amount of data that can be written.</p> <p>smartsd_lifetime_rate:</p> <p>The ratio of smartsd_lifetime_num to smartsd_lifetime_den.</p> <p>It means the accumulated percentage amount of flash block has been written. The range is from 0 to 100 (unit: %). The SD card is recommended to be replaced if the percentage reaches above 90%.</p> <p>smartsd_spare_block_rate:</p> <p>Usage rate of spare blocks.</p> <p>It means the usage percentage of total spare block. The range is from 0 to 100 (unit: %). The SD card is recommended to be replaced if the percentage reaches above 90%.</p> <p>smartsd_data_size_per_unit:</p> <p>Size (in sectors) of data to be written when Life Information1 is updated.</p> <p>smartsd_num_of_sudden_power_failure:</p> <p>Indicates how many times power disconnection occurred during write/erase operations.</p> <p>smartsd_operation_mode:</p> <p>Enables/disables power-off detection and write error notification.</p> <p>smartsd_attached:</p> <p>Indicate the smartSD is attached or not.</p>

8.30 Connect to AP (`capability_network_wireless > 0`)

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax:

```
http://<servername>/cgi-bin/admin/connect_ap.cgi
```

PARAMETER	VALUE	DESCRIPTION
N/A	N/A	Apply the wireless settings and connect to AP.

8.31 Get Wireless Information (**capability_network_wireless > 0**)

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax:

```
http://<servername>/cgi-bin/admin/getwirelessinfo.cgi
```

PARAMETER	VALUE	DESCRIPTION
N/A	N/A	Get wireless information. Camera will return following information. 1. Wireless channel 2. Link quality 3. Signal level 4. Noise level 5. SNR 6. TX Rate 7. RX Rate

8.32 Get Wireless Signal Strength (**capability_network_wireless > 0**)

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax:

```
http://<servername>/cgi-bin/admin/getwlsignalstrength.cgi
```


PARAMETER	VALUE	DESCRIPTION
N/A	N/A	Get wireless signal strength.

8.33 WPS Transaction (**capability_network_wireless > 0**)

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax:

```
http://<servername>/cgi-bin/admin/start_wps.cgi
```

PARAMETER	VALUE	DESCRIPTION
N/A	N/A	Start WPS transaction.

8.34 Peripheral Control (**capability_peripheral_c<0~(n-1)>_devicecontrol > 0**)

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax: (**for control API**)

```
http://<servername>/cgi-bin/admin/peripheral.cgi?channel=<value>&operation=set
[&washer_mode=<value>] – Set washer mode
[&washer_status=<value>] – Set washer status
[&washer_dwelltime=<value>] – Set washer clean time
[&heater_status=<value>] – Set heater status
```

Example:

```
http://myserver/cgi-bin/admin/peripheral.cgi?channel=0&operation=set&washer\_mode=wiper&washer\_status=on
```

Response:

```
HTTP/1.0 200 OK\r\n
Cache-control: no-cache\r\n
Pragma: no-cache\r\n
\r\n
```

```
"washer_mode : OK\r\n"
"washer_status : FAIL\r\n"
```

PARAMETER	VALUE	DESCRIPTION
channel	0~"capability_nvideoin"-1	Channel of the video source.
washer_mode	wiper	Apply the wiper to the mode of washer control system.
	washer	Apply the washer to the mode of washer control system.
washer_status	on	Enable the functionality of washer control system.
	off	Disable the functionality of washer control system.
washer_dwelltime	15~999	Apply washer washer control system operation time (including the time when spraying and wiper actions take place).
heater_status	auto	automatic control the heater component to keep the device in a workable environment.
	trigger	heater component is work in force heater once.

Syntax: **(for query API)**

```
http://<servername>/cgi-bin/admin/peripheral.cgi?channel=<value>&operation=get
[&supportdevice] – Get support peripheral device
[&washer_supportmode] – Get washer support modes
[&washer_mode] – Get washer mode
[&washer_status] – Get washer status
[&washer_dwelltime] – Get washer clean time
[&heater_supportstatus] – Get heater support control status
[&heater_status] – Get heater status
```

Example:

```
http://myserver/cgi-bin/admin/peripheral.cgi?channel=0&operation=get&supportdevice&washer\_status
```

Response:

```
HTTP/1.0 200 OK\r\n
```

```
Cache-control: no-cache\r\n
```

```
Pragma: no-cache\r\n
\r\n
supportdevice=washer,heater\r\n
washer_status=off\r\n
```

PARAMETER	VALUE	DESCRIPTION
channel	0~"capability_nvideoin"-1	Channel of the video source.
supportdevice	N/A	Get support peripheral device.
washer_supportmode	N/A	Get the support mode of washer control system.
washer_mode	N/A	Get the current mode of washer control system. It return the value of "washer_mode"
washer_status	N/A	Get the current status of washer control module. The status is 'off' as default, which means the washer is stopped; and the status 'on' means the washer is running.
washer_dwelltime	N/A	Get the current washer clean period of washer control system.
heater_supportstatus	N/A	Get the support status of heater control system.
heater_status	N/A	Get the current heater status. Normally it will be 'auto', it means the heater device is control by internal algorithm to keep in a suitable environment; Otherwise is 'trigger', it means the heater device is force enable to heat to an internal condition.'trigger' status will be transfer to 'auto' after reach the internal condition.

8.35 Device monitor (`capability_peripheral_c<0~(n-1)>_devicemonitor_support > 0`)

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax:

```
http://<servername>/cgi-bin/admin/devicemonitor.cgi
```

PARAMETER	VALUE	DESCRIPTION
N/A	N/A	<p>Return a status overview of all sensors and peripheral devices on camera.</p> <p>Response:</p> <ul style="list-style-type: none"> devicemonitor_tempsensor_iX_name: the name of temperature sensor devicemonitor_tempsensor_iX_celsius: Current Celsius temperature of the sensor devicemonitor_tempsensor_iX_fahrenheit: Current fahrenheit temperature of the sensor devicemonitor_heater_iY_name: the name of heater sensor devicemonitor_heater_iY_status: Current on/off status of the heater sensor <p>X: 0 ~ (capability_peripheral_c<0~(n-1)>_devicemonitor_tempnum -1) Y: 0 ~ (capability_peripheral_c<0~(n-1)>_devicemonitor_heaternum -1)</p>

Example:

<http://myserver/cgi-bin/admin/devicemonitor.cgi>

Response:

```
HTTP/1.0 200 OK\r\n
Cache-control: no-cache\r\n
Pragma: no-cache\r\n
\r\n
devicemonitor_tempsensor_i0_name=front glass
devicemonitor_tempsensor_i0_celsius=30
devicemonitor_tempsensor_i0_fahrenheit=86
devicemonitor_heater_i0_name=front glass
devicemonitor_heater_i0_status=off
```

8.36 Optimized IR control (**capability_daynight_c<0~(n-1)>_optimizedir > 0**)

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax:

[http://<servername>/cgi-bin/admin/optimizedir.cgi?function=<value>\[&channel=<value>\]](http://<servername>/cgi-bin/admin/optimizedir.cgi?function=<value>[&channel=<value>])

PARAMETER	VALUE	DESCRIPTION
channel	0~"capability_nvideoin"-1	Channel of the video source.

PARAMETER	VALUE	DESCRIPTION
function	getstatus, onetimeauto	<p>"onetimeauto": Camera will automatically adjust the IR zone one time only.</p> <p>"getstatus": Information of optimized IR control status and return value as below:</p> <p>optimizedir_c<0~(n-1)>_irmode:</p> <p>Indicate the IR current mode, available value is “auto” and “manual” mode.</p> <p>optimizedir_c<0~(n-1)>_irnum:</p> <p>The number of IR that camera supports.</p> <p>optimizedir_c<0~(n-1)>_irstrength:</p> <p>Only available when irmode is set as manual. It's a set of integers, which indicate the strength of each IR LED (e.g. 23,45,100,100).</p> <p>optimizedir_c<0~(n-1)>_irstatus:</p> <p>Current IR status, normal / adjusting:</p> <p>"normal": the IR LED strength has been fixed.</p> <p>"adjusting": the IR LED strength is adjusting.</p> <p>optimizedir_c<0~(n-1)>_supportmode:</p> <p>"auto": automatically adjust the IR control.</p> <p>"manual": manual adjustment.</p>

Example:

<http://myserver/cgi-bin/admin/optimizedir.cgi?function=getstatus>

Response:

```
HTTP/1.0 200 OK\r\n
Cache-control: no-cache\r\n
Pragma: no-cache\r\n
\r\n
"optimizedir_c0_irmode='auto'"
"optimizedir_c0_irnum='5'"
"optimizedir_c0_irstrength='1,97,100,100,100'"
"optimizedir_c0_irstatus='normal'"
```

Syntax: **(for control API)**

[http://<servername>/cgi-bin/admin/optimizedir.cgi?channel=<value>&operation=<value>&irmode=manual\[&strength=<value>\]](http://<servername>/cgi-bin/admin/optimizedir.cgi?channel=<value>&operation=<value>&irmode=manual[&strength=<value>]) – Set IR strength

PARAMETER	VALUE	DESCRIPTION
channel	0~"capability_nvideoin"-1	Channel of the video source.
operation	set, settoall	" set ": set the strength of each IR LED separately " settoall
irmode	auto, manual	Irmode needs to be set as manual for adjusting IR LED strength.
strength	1~100	If the operation is set as "set", the number of strength values need to be the same as it of irnum. However, it needs only one value for strength when the operation is set as "settoall".

Example:

<http://myserver/cgi-bin/admin/optimizedir.cgi?channel=0&operation=set&irmode=manual&strength=50,70,50,50,50>

Response:

HTTP/1.0 200 OK\r\n
Cache-control: no-cache\r\n
Pragma: no-cache\r\n
\r\n
"optimizedir_c0_irstrength='50,70,50,50,50'"
"optimizedir_c0_irmode='manual'"

Example:

<http://myserver/cgi-bin/admin/optimizedir.cgi?channel=0&operation=settoall&irmode=manual&strength=100>

Response:

HTTP/1.0 200 OK\r\n
Cache-control: no-cache\r\n
Pragma: no-cache\r\n
\r\n
"optimizedir_c0_irstrength='100,100,100,100,100'"
"optimizedir_c0_irmode='manual'"

Example:

```
http://myserver/cgi-bin/admin/optimizedir.cgi?channel=0&operation=set&irmode=auto&strength=50,70,50,50,50
```

Response:

```
HTTP/1.0 200 OK\r\n
Cache-control: no-cache\r\n
Pragma: no-cache\r\n
\r\n
ERROR: Parameter "irmode" must be set as "manual"!
```

Example:

```
http://myserver/cgi-bin/admin/optimizedir.cgi?channel=0&operation=set&strength=50,70,50,50,50
```

Response:

```
HTTP/1.0 200 OK\r\n
Cache-control: no-cache\r\n
Pragma: no-cache\r\n
\r\n
ERROR: Must have the "irmode=manual" argument!
```

Syntax: **(for query API)**

```
http://<servername>/cgi-bin/admin/optimizedir.cgi?channel=<value>&operation=get
```

[&support_irmode] – list all adjustment mode that IR supports

[&irmode] – Get current IR mode

[&irnum] – Get the number of IR zone

PARAMETER	VALUE	DESCRIPTION
channel	0~"capability_nvideoin"-1	Channel of the video source.
support_irmode	N/A	List all adjustment mode that IR supports
irmode	N/A	Get the current IR control mode.
irnum	N/A	Get the number of IR that camera supports.

Example:

<http://myserver/cgi-bin/admin/optimizedir.cgi?channel=0&operation=get&irmode>

Response:

```
HTTP/1.0 200 OK\r\n
Cache-control: no-cache\r\n
Pragma: no-cache\r\n
\r\n
"optimizedir_c0_irmode='auto'"
```

8.37 Lens Thermal Control (**capabiltiy_image_c<0~(n-**

1)> _sensortype=thermalsensor)

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax: **(for control API)**

<http://<servername>/cgi-bin/admin/thermalctrl.cgi?operation=set&action=<value>>

Example:

<http://myserver/cgi-bin/admin/thermalctrl.cgi?operation=set&action=shuttercompensate>

Response:

```
HTTP/1.0 200 OK\r\n
Cache-control: no-cache\r\n
Pragma: no-cache\r\n
\r\n
OK
```

Example:

<http://myserver/cgi-bin/admin/thermalctrl.cgi?operation=set&action=shuttercompensate>

Response:

```
HTTP/1.0 200 OK\r\n
Cache-control: no-cache\r\n
Pragma: no-cache\r\n
\r\n
ERROR: time out
```

Example:

<http://myserver/cgi-bin/admin/thermalctrl.cgi?operation=set&action=shuttercompensate>

Response:

HTTP/1.0 200 OK\r\nCache-control: no-cache\r\nPragma: no-cache\r\n\r\nERROR: fail

PARAMETER	VALUE	DESCRIPTION
action	shuttercompensate	Camera will do shutter compensate.

Syntax: **(for query API)**

<http://<servername>/cgi-bin/admin/thermalctrl.cgi?operation=get&version=<value>>

PARAMETER	VALUE	DESCRIPTION
version	N/A	Indicate lensctrl thermal version

Example:

<http://myserver/cgi-bin/admin/thermalctrl.cgi?operation=get&version>

Response:

HTTP/1.0 200 OK\r\nCache-control: no-cache\r\nPragma: no-cache\r\n\r\nversion=1120B15

8.38 Audio Clip Control (**capability_audio_audioclip=1**)

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax: **(for control API)**

<a href="http://<servername>/cgi-bin/admin/audioclip.cgi?operation=<value>[&name=<value>][&index=<value>]">http://<servername>/cgi-bin/admin/audioclip.cgi?operation=<value>[&name=<value>][&index=<value>]

PARAMETER	VALUE	DESCRIPTION
operation	startrecording, stoprecording, play, stopplayback, remove, download	" startrecording " = Record a new audio clip. " stoprecording " = Stop an ongoing recording. " play " = Play an audio clip. " stopplayback " = Stop to playback of an audio clip. " remove " = Delete a clip. " download " = Download a clip to the client. * Recording time is limited to 60 seconds.
name	<string>	Name of the audio clip. The audio clip the action applies to. We support two interfaces (name or index) to specify the media clip to be played.
index	0, 1	Number of the audio clip. The audio clip the action applies to. We support two interfaces (name or index) to specify the media clip to be played.

Syntax: **(for control API)**

Add a new audio clip by uploading a file:

* File size is limited to 10MB.

* Support .wav format only

<a href="http://<servername>/cgi-bin/admin/upload_audioclip.cgi[&clipname=<value>][&clipindex=<value>]">http://<servername>/cgi-bin/admin/upload_audioclip.cgi[&clipname=<value>][&clipindex=<value>]

PARAMETER	VALUE	DESCRIPTION
clipname	<string>	Name of the audio clip.
clipindex	0, 1	Number of the audio clip.

8.39 Format SD card

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax: **(for control API)**

<a href="http://<servername>/cgi-bin/admin/format_sdcard.cgi?operation=set[&<parameter>=<value>]">http://<servername>/cgi-bin/admin/format_sdcard.cgi?operation=set[&<parameter>=<value>]

If the user requests a size larger than all stream settings on the server, this request will fail.

If the user requests include an invalid parameter value, we will use the default value.

PARAMETER	VALUE	DESCRIPTION
operation	Set	Set formatting parameters and start formatting
fstype	fat32, ext4	fat32 : High compatibility for PC, but low stability for Data ext4 : Low compatibility for PC, but high stability for Data.
fullformat	0, 1	1 : Completely clean data (fat32 support only)
blockingmode	blocking	blocking : Send an HTTP response at the end of the format. nonblocking : Send an HTTP response at the start of the format
index	0~N	which one SD card

Example:

Request of format SD card:

```
http://myserver/cgi-bin/admin/format_sdcard.cgi?operation=set&fstype=ext4
```

Response of success:

```
HTTP/1.1 200 OK\r\n
Content-Type: text/plain\r\n
Content-Length: 2\r\n
\r\n
ok
```

Response of formatting fail:

```
HTTP/1.1 200 OK\r\n
Content-Type: text/plain\r\n
Content-Length: <Error Message Length>\r\n
\r\n
<Error Message>
```

Syntax: (for query API)

```
http://<servername>/cgi-bin/admin/ format_sdcard.cgi?operation=get
```

PARAMETER	VALUE	DESCRIPTION
-----------	-------	-------------

Get		Get formatting progress(0~100) or result(error message) *It is unnecessary when using the blocking mode.
-----	--	---

Example:

Request of get formatting progress(0~100):

http://myserver/cgi-bin/admin/format_sdcard.cgi?operation=get

Response of success:

HTTP/1.1 200 OK\r\nContent-Type: text/plain\r\nContent-Length: <Success Message Length>\r\n\r\n<Success Message>

List of success message:

0~100 and 100 represents formatting completed

List of error message:

ERROR: You cannot format an SD card repeatedly
ERROR: Format SD failed, but removed all contents success
ERROR: Format SD failed, and failed to remove all contents
ERROR: Please insert SD card
ERROR: Please use ext file system
ERROR: File system type is not supported
ERROR: The device does not exist or is busy
ERROR: Formatted successfully, but cannot create database

8.40 Methods for Accessing Streaming

8.40.1 Get Stream URI (capability_media_streamprofiles_support = 1)

Note: This request requires Viewer access privileges.

Syntax:

For RTSP, the user needs to input the URL below into a RTSP compatible player.

rtsp://<servername>:<port>/media2/stream.sdp?profile=<streamprofile_i><0~(n-1)>_token>[&<parameter>=<value>]

- “n” is the maximum stream profile number (capability_media_streamprofiles_num)
- “streamprofile_i<x>_token” is the unique identifier for each profile, x is within 0~(capability_media_streamprofiles_num)-1.
- port is the rtsp port.

Please refer to the streamprofile group for requesting the stream profile token value for each profile.

PARAMETER	VALUE	DESCRIPTION
pimssm	1	1: Enable the feature of Protocol Independent Multicast - Source Specific Multicast. * This field is only required when using PIM-SSM feature. * Only valid when network_rtsp_pimssm_enable=1.

Example:

Request the streaming of streamprofile_i0_token=Profile200,
 rtsp://192.168.1.1:554/media2/stream.sdp?profile=Profile200

Note:

If the requested certain profile streamprofile_i<x>_occupied=0, which indicates stream profile <x> has not been created, the above method for requesting RTSP streaming will fail.

8.40.2 Get SDP for always multicast

(capability_media_streamprofiles_support = 1)

Note: This request requires Viewer access privileges.

Method: GET/POST

Syntax:

http://<servername>:<port>/media2/<streamprofile_i<0~(n-1)>_filename>.sdp?[<parameter>=<value>]

- “n” is the maximum stream profile number (capability_media_streamprofiles_num)
- “streamprofile_i<x>_filename” is a friendly name for certain profile, x is within 0~(capability_media_streamprofiles_num)-1.
- port is the http port.

Please refer to the streamprofile group for requesting the stream profile name value for each profile.

You can get the SDP by HTTP GET.

When using scalable multicast, Get SDP file which contains the multicast information via HTTP.

PARAMETER	VALUE	DESCRIPTION
pimssm	1	1: Enable the feature of Protocol Independent Multicast - Source Specific Multicast. * This field is only required when using PIM-SSM feature. * Only valid when network_rtsp_pimssm_enable=1.

Note:

1. This method is only valid when always multicast is enabled, i.e. streamprofile_i<x>_alwaysmulticast=1.
2. If the requested certain streamprofile_i<x>_filename is empty, which indicates stream profile <x> doesn't have a valid SDP file, the above method of requesting SDP file will fail.
3. If there existed two or more streamprofile_i<x>_filename which have the same value, the requested SDP file will be overwrite by the last request.

8.41 Accessing SFTP server and client

8.41.1 SFTP server setting for event action

* Only available when bit 1 of "capability_protocol_ftp_client" is 1.

Syntax: (for control API)

<a href="http://<servername>/cgi-bin/admin/sftpcclient.cgi?operation=<value>[&parameter=<value>]">http://<servername>/cgi-bin/admin/sftpcclient.cgi?operation=<value>[&parameter=<value>]

PARAMETER	VALUE	DESCRIPTION
operation	automode, manualmode	"automode": Key pair will be generated, and automatically copy public key to server. "manualmode": Key should be downloaded or uploaded by user. * This field is required.
key	download, upload	"download": Download public key.

		<p>"upload": Upload private key. Only support HTTP POST and “content-type: multipart/form-data”. HTTP headers with its name=”parameter” or name=” uploadKeyFile” will be describing the request body, see examples below.</p> <p>* Required when operation=manualmode</p>
address	<sftp server address or hostname>	sftp server address or hostname * This field is required.
port	<sftp port>	sftp port
index	0~4	Event setting server index * This field is required.
username	string[64]	Sftp server username * This field is required.
passwd	string[64]	Sftp server password * Required when operation=automode.
fingerprint_enable	<Boolean>	Verify fingerprint * Default is 1.
fingerprint_content	<128-bit hash value>	Fingerprint content * Required when fingerprint_enable=1.
passphrase_enable	<Boolean>	Enable passphrase * Only valid when operation=manualmode and key=upload.
passphrase_content	<128-bit hash value >	Passphrase * Only valid when operation=manualmode and key=upload.
location	string[128]	sftp server file location
name	string[40]	Username for server_i<index>_name

		* The default value is sftp<index>.
keytype	ed25519, rsa, ecdsa	<p>"ed25519": faster to generate with higher security level, some old server might not support.</p> <p>"rsa": slower to generate with slightly lower security level than ed25519.</p> <p>"ecdsa": low security level.</p> <p>A keytype will be automatically selected if the parameter is not provided. The selected order will be ed25519/rsa/ecdsa until successful pairing, an error message will return if all keytype failed.</p> <p>* Required when operation=download.</p>

Example of download key:**Request:**

```
http://<servername>/cgi-bin/admin/sftpclient.cgi?operation=manualmode&key=download&index=1&address=<ip>&username=xxx&fingerprint_enable=1&fingerprint_content=<MD5 value>&keytype=ecdsa
```

Response of success:

```
HTTP/1.1 200 OK\r\n
Content-Type: text/plain\r\n
Content-Length: <Success Message Length>\r\n
\r\n
ok
```

Request:

```
http://<servername>/cgi-bin/admin/sftpclient.cgi?operation=manualmode&key=download&index=1&address=<ip>&username=xxx&fingerprint_enable=1&fingerprint_content=<MD5 value>&keytype=test
```

Response of failure:

```
HTTP/1.1 200 OK\r\n
Content-Type: text/plain\r\n
Content-Length: <Error Message Length>\r\n
\r\n
ERROR: Invalid keytype
```

Example of upload private key:

```
POST http://172.16.219.217/cgi-bin/admin/sftpclient.cgi HTTP/1.1
Accept: text/html, application/xhtml+xml, /*/*
Accept-Language: zh-TW
User-Agent: Mozilla/5.0 (Windows NT 6.1; WOW64; Trident/7.0; rv:11.0) like Gecko
Content-Type: multipart/form-data; boundary=-----7e1309282ed0f1a
Accept-Encoding: gzip, deflate
Host: 172.16.219.217
Content-Length: 6123
Connection: Keep-Alive
Pragma: no-cache
Cookie: webptzmode=continuous; activatedmode=digital; g_mode=1; viewsizemode=Auto;
4x3=false; lan=8
Authorization: Basic cm9vdDpGREQwMDAwMA==

-----7e1309282ed0f1a
Content-Disposition: form-data; name="parameter"

operation=manualmode&key=upload&index=1
-----7e1309282ed0f1a
Content-Disposition: form-data; name="uploadKeyFile"; filename="id_rsa"
Content-Type: text/plain

-----BEGIN RSA PRIVATE KEY-----
Proc-Type: 4,ENCRYPTED
DEK-Info: AES-128-CBC,E6B9F3F257EF2DA03BA8A4832BC6386F

NYzaqdoY7OxS0XhviOKncGbMLpxn6n3VRYbeArSBwn+6wA7Y4lknFoMQiuC4HrCa
oHgEex609584TWFBrkR+DfqKB73RCALTeAqAhEtywq75KQTWyHJcpOu8qZxquoKE
TovnyQQANfyNLykEtP7U7Htxbdqg4dqYdFahJEBNs0QHxhmYHTESccKM4NOB0qMY
5+9gwIMZqNlymxGlGwyITMcV7gV6JaY/bX0K4J0B6AhNHjCIOFErrQivp026TXj9
m+bnnrAt7v5uBMH4oclPC8oDHqd1jWwHIBcbqjRPWL37VW5B+YPZQ7FVUP496OKp
riheNLTF6yOtYFw9syyoOnRF+gxpFpQrSO7skENGyv4CO7kH/S7Kpc7qmMgTk/rL
s12230NogZsqghhTJlpg2vX5Ha3wCDIZZVKPUGItQl0MB6t74nsV1o8YVtRovi5F
YX2d8sPIIkcTDWBO498+v98DQ7DH51/i39JoJouRojz+n3ffsSGjY2AKEcTde2xl
v2f81KqAxkraXIIScl1SNEGXQpngXy3IK2GrVw9BzJILMSBuj30Ar2zfTbc0C5VC
YqWK1FcMA5Jb6AvYwmpgijlb52T9P7g07RwFGJpumvaqTchBeSp8pXa3C++DoBdY
9zYohmuSSs52QLoIkTPzDjJJHvnccddPi6VuUkSyaK5x75p0+aoljPjIAQHXbXsmt
8HAdPs9Fwab9GbC2aumH4XT1xoWFnYJ9IBHc3iZRil/nSIPev2YneyyOhJg4tHYD
```

```

swUUEyNC8Q5qrbLfHESDrkHlx0sQiM7A/DyY1akkoxKEFW9LxqsJpcf7LM2TrIX
IjSd+RMqL3yCFzM0aqcQNjd77nDP6+u9RYYyGT8dH5ud7pJVofxl+pvpQN3k5Tl
Pm9IM6OJPDy/Netcu6YEI3ULa6XHkYldqezJDnUfCBHe3OKjhue2FTBRmM2/j9Zl
DkUrO7IQz7X88T/w5+rI2OnDIm3szOhzMCYPtHxf8ygMKXI/DKp3OR2/cu6ayGhb
DezpoSyTjL1fTFINQAymDtP5tbomfESjFDW1fmfD9h1FivqYEy7017djPWrq8mjH
N6nAhlaLVVuTVJ+xxaJAzYiQwMdWY8SGUq062ksDvfixYCQfhXUd629oEX82fJU
8OxF8CM0WEHFCotJVbFjDyT5IP4qln5EMeMIPE8jrmUKEEV+AJw9AbaqvCYUNaH
EVZ7nlYjrnQqMCktYIO/Um8vSiVsOaMFLUdiYJwj2pzyceTzyW19/KEo//8ufOFD
LaSp5EGH6IBCTBfQ9PGeOkB2ZVf0jLFB9Sage8Ln5frWYOAROxzumUJWSvOoBael
15OdV5hApqQjGrn1vbc/kC8p478ZCzx2iDyckPqyVpHSke70T5bV6vcDZcCTrwkA
PHdD4Q0cq7sX0R2OAScwjk2AkaQ+PsLwS05hw1nQBzQrC4m9e8Kmg32RgCGDAES
xpV9dkSkvoaLZmN1qfBwnyOxsjmx9OAOKWzMIW5PoPCR9z8Z1gsiACBnrT+K5ec
NZdgsvxMfdI7vfj6mkO89MvwLX8YEtnFrihIzmDnnVMuHfq6g5kbwlHbHVaoImo
-----END RSA PRIVATE KEY-----

```

-----7e1309282ed0f1a--

Syntax: (for query API)

[http://<servername>/cgi-bin/admin/sftpclient.cgi?operation=<value>\[¶meter=<value>\]](http://<servername>/cgi-bin/admin/sftpclient.cgi?operation=<value>[¶meter=<value>])

PARAMETER	VALUE	DESCRIPTION
operation	getserverhostkey	" getserverhostkey ": Auto scan SFTP server host key. * This field is required.
address	<sftp server address or hostname>	sftp server address or hostname * This field is required.

Example of scanning SFTP server host key:

Request:

<http://<servername>/cgi-bin/admin/sftpclient.cgi?operation=getserverhostkey&address=<ip>>

Response of success:

HTTP/1.1 200 OK\r\n

Content-Type: text/plain\r\n

Content-Length: <Success Message Length>\r\n

```
\r\n
<MD5 value>
```

8.41.2 SFTP Server Setting

* Only available when bit 1 of "capability_protocol_ftp_server" is 1.

Syntax: (for control API)

<a href="http://<servername>/cgi-bin/admin/sftpserver.cgi?operation=<value>">http://<servername>/cgi-bin/admin/sftpserver.cgi?operation=<value>

PARAMETER	VALUE	DESCRIPTION
operation	updatehostkey	<p>"updatehostkey": Re-generate host key for SFTP server.</p> <p>* It might take several seconds to generate key, you can use "gethostkey" after key is generated.</p> <p>* This field is required.</p>

Example of re-generate host key:

Request:

<a href="http://<servername>/cgi-bin/admin/sftpserver.cgi?operation=updatehostkey">http://<servername>/cgi-bin/admin/sftpserver.cgi?operation=updatehostkey

Response of success:

HTTP/1.1 200 OK\r\n

Content-Type: text/plain\r\n

Content-Length: <Success Message Length>\r\n

\r\n

ok

Syntax: (for query API)

<a href="http://<servername>/cgi-bin/admin/sftpserver.cgi?operation=<value>">http://<servername>/cgi-bin/admin/sftpserver.cgi?operation=<value>

PARAMETER	VALUE	DESCRIPTION
operation	gethostkey	<p>"gethostkey": Get host key for SFTP server.</p> <p>* This field is required.</p>

* If “updatehostkey” is not yet finished, you will receive error message.

Example of get host key:

Request:

<http://<servername>/cgi-bin/admin/sftpserver.cgi?operation=gehostkey>

Response of success

HTTP/1.1 200 OK\r\nContent-Type: text/plain\r\nContent-Length: <Success Message Length>\r\n\r\nMD5:a5:8a:7d:e2:2a:f8:c9:a0:ee:93:93:b8:0a:7a:18:97 (RSA)
MD5:7a:f4:07:48:e3:70:d5:89:15:36:6f:d5:25:f2:7e:0d (ED25519)

8.42 Lens alignment control ([capabiltiy_image_c<0~\(n-1\)>_lens_alignment = 1](#) and “dynamic” is listed in [capability_image_c<0~\(n-1\)>_lens_alignmentmode](#))

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax: ([for control API](#))

<http://<servername>/cgi-bin/admin/lensalignment.cgi?operation=set&action=<value>>

PARAMETER	VALUE	DESCRIPTION
action	onetimeauto	Camera will trigger dynamic auto alignment command one time.

Example:

<http://myserver/cgi-bin/admin/lensalignment.cgi?operation=set&action=onetimeauto>

Response:

HTTP/1.0 200 OK\r\nCache-control: no-cache\r\n

```
Pragma: no-cache\r\n\r\nOK
```

8.43 Account Block (**capability_security_accountblock=1**)

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax: **(for control API)**

[http://<servername>/cgi-bin/admin/accountblock.cgi?operation=<value>\[&<parameter>=<value>\]](http://<servername>/cgi-bin/admin/accountblock.cgi?operation=<value>[&<parameter>=<value>])

PARAMETER	VALUE	DESCRIPTION
operation	query, block, unblock	" query"block"unblock * This field is required.
user	<string>	The user account. * This field is required if operation is block or unblock.
srcip	< server address>, any	The source IP. " any * The default value is any.

Example:

Request:

<http://<servername>/cgi-bin/admin/accountblock.cgi?operation=query>

Response of success:

HTTP/1.1 200 OK\r\n

Content-Type: text/xml\r\n

Content-Length: <Success Message Length>\r\n

\r\n

ok

Request:

<http://myserver/cgi-bin/admin/accountblock.cgi?operation=block&user=xxx&srcip=<IP>>

Response of success:

```
HTTP/1.1 200 OK\r\n
Content-Type: text/plain\r\n
Content-Length: <Error Message Length>\r\n
\r\n
```

Request:

```
http://myserver/cgi-bin/admin/accountblock.cgi?operation=block
```

Response of failure:

```
HTTP/1.1 200 OK\r\n
Content-Type: text/plain\r\n
Content-Length: <Error Message Length>\r\n
\r\n
ERROR: Internal server error
```

8.44 Audit Log control (capability_security_auditlog=1)

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax: **(for control API)**

```
http://<servername>/cgi-bin/admin/auditlog.cgi?output\_type=<value>
```

9.

PARAMETER	VALUE	DESCRIPTION
output_type	json, csv	" json ": output json format. " csv ": output csv format. * This field is required.

8.46 VADP control

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax: **(for control API)**

```
http://<servername>/cgi-bin/admin/vadpctrl.cgi?cmd=<cmd\_type>\[&idx=<value>\]
```

PARAMETER	VALUE	DESCRIPTION
-----------	-------	-------------

cmd	start, stop, remove, cleanstorage, packagesize	"start" : start package. "stop" : stop package. "remove" : remove package. "cleanstorage" : clean up all internal storage. "packagesize" : display all package size. * This field is required.
idx	0, <positive integer>	Refer to the package index.

Example:

Request:

<http://myserver/cgi-bin/admin/vadpctrl.cgi?cmd=start&idx=0>

Response of success:

HTTP/1.1 200 OK\r\n

Content-Type: text/plain\r\n

Content-Length: <Success Message Length>\r\n

\r\n

Ok

Request:

<http://myserver/cgi-bin/admin/vadpctrl.cgi?cmd=packagesize>

Response of success:

HTTP/1.1 200 OK\r\n

Content-Type: text/plain\r\n

Content-Length: <Success Message Length>\r\n

\r\n

ok

8.47 Upload Overlay Image Files (**capability_videoin_c<0~(n-1)>_overlay_version > 1.0**)

Note: This request requires Administrator privileges.

Method: POST

* Support bmp format only

* Maximum dimension is 704x704

* Width and height must be 32x

Syntax: **(for control API)**

<a href="http://<servername>/cgi-bin/admin/upload_image.cgi? [&imgname=<value>] [&imgindex=<value>]">http://<servername>/cgi-bin/admin/upload_image.cgi? [&imgname=<value>] [&imgindex=<value>]

PARAMETER	VALUE	DESCRIPTION
imgname	<string>	Name of the image.
imgindex	0 ~ 5	Number of the image.

8.48 Overlay Image Control (**capability_videoin_c<0~(n-**

1)>overlay_version > 1.0

Note: This request requires Administrator privileges.

Method: GET/POST

Syntax: **(for control API)**

`http://<servername>/cgi-bin/admin/overlayimage.cgi?operation=<value>[&name=<value>][&index=<value>]`

PARAMETER	VALUE	DESCRIPTION
operation	list, preview, remove, supportedimgformat	" list " = List all images information on the camera. " preview " = Preview the specified image. The command must include an index or name. " remove " = Delete an image. The command must include an index or name. " supportedimgformat " = Get a list of supported image formats.
name	<string>	Name of the image. The image the action applies to. We support two interfaces (name or index) to specify the image to configure.
index	0 ~ 5	Number of the image. The image the action applies to. We support two interfaces (name or index) to specify the image to configure.

Example:

Request:

<http://<servername>/cgi-bin/admin/overlayimage.cgi?operation=list>

Response of success:

HTTP/1.1 200 OK\r\n

Content-Type: text/plain\r\n

Content-Length: <Success Message Length>\r\n

\r\n

overlay_i0_image_filename=

overlay_i0_image_resolution=

```
overlay_i1_image_filename=
overlay_i1_image_resolution=
overlay_i2_image_filename=test.bmp
overlay_i2_image_resolution=256x128
overlay_i3_image_filename=640x416.bmp
overlay_i3_image_resolution=
overlay_i4_image_filename=
overlay_i4_image_resolution=
overlay_i5_image_filename=
overlay_i5_image_resolution=
```

Request:

<http://<servername>/cgi-bin/admin/overlayimage.cgi?operation=remove&index=0>

Response of success:

HTTP/1.1 200 OK\r\n

Content-Type: text/plain\r\n

Content-Length: <Success Message Length>\r\n

\r\n

Ok

Request:

<http://<servername>/cgi-bin/admin/overlayimage.cgi?operation=preview&filename=vivotek.bmp>

Response of success:

HTTP/1.1 200 OK\r\n

Content-Type: image/bmp\r\n

Content-Length: <Success Message Length>\r\n

\r\n

ok

9 New APIs

Transform Your Integration Workflow with VIVOTEK's OpenAPI and Swagger Tools

VIVOTEK is proud to introduce the development of new APIs using the **OpenAPI Specification**, delivering standardized, interactive, and user-friendly documentation to simplify and elevate your integration experience.

These APIs currently include the following category:

- Certificate Management: APIs designed to enhance **data security** and **streamline certificate-related operations**.

These APIs are designed to meet the needs of integrators, offering reliability, ease of use, and scalability to support seamless system integration.

Getting Started Is Simple

Visit the official website:

https://www.vivotek.com/resource/download_center

Under the SDK category, download the relevant OpenAPI package. Once installed on your camera, you can start exploring and testing the APIs right away!

Why Use OpenAPI with Swagger?

Using Swagger Tools alongside OpenAPI enables you to:

1. **Validate with Ease:** Instantly verify the accuracy of API specifications and ensure seamless integration.
2. **Explore Interactively:** Test APIs directly in your web browser with an intuitive and interactive interface.
3. **Accelerate Development:** Generate a web-based UI using Swagger to quickly test, debug, and deploy APIs.

How to Get Started with Swagger Tools

1. **Install the Swagger Tool:** Download **Swagger Editor** or **Swagger UI** from the official Swagger website.
2. **Load the OpenAPI Specification:** Open the .yaml or .json file included in the downloaded OpenAPI package.
3. **Test and Validate:**
 - Use Swagger Editor to edit or validate your API specifications effortlessly.
 - Use Swagger UI to interact with APIs in real-time.
4. **Deploy the Swagger UI Instance:** For team-wide access, deploy your Swagger-generated UI instance on a server.

Why Choose VIVOTEK OpenAPI?

By embracing OpenAPI with Swagger, you're not just adopting a tool—you're unlocking a faster, more efficient, and reliable integration process. Our APIs empower integrators to build robust solutions while reducing development time and effort.

Don't miss this opportunity to revolutionize your integration workflow. Visit the VIVOTEK Download Center today and experience the power of OpenAPI!

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