

WELDEX HTTP API Specification

Motion, Video Signal And Event Recipients Configuration

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Revision History:

REVISION	DATE	AUTHOR	COMMENT
0.1	2013-11-18	bkkim@weldex.com	Motion configuration
0.2	2013-11-18	"	Video configuration
0.3	2013-12-05	"	Manage Event Recipients
0.3.1	2013-12-06	"	Added Contents of Received Messages
0.4	2014-02-05	"	Additional Description for -1 Error Added How to get Event Information by Polling
0.4.1	2014-02-11	"	Modified Return values of get_alarm_status API
0.5	2014-02-14	"	Forced IFrame added
0.6	2014-02-21	"	Added NO_MOTION Description
0.6.1	2014-05-10	"	Modified 8.2 example error.
0.7	2015-03-27	"	Modified API to support additional motion blocks (8x6)
0.8	2018-11-07	"	Update the description of the Motiontbl parameters for Firmware 1.0.0 or higher

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1. Overview

This document defines the Motion Configuration Interface & the Video Signal Interface between the WELDEX IP CAMERA and the Application. All interfaces are based on HTTP.
Motion related parameter information can be searched or updated,
Although only NTSC/PAL can be updated, more functions will be added in the future

1.1. General CGI URL syntax

Texts in the < > and [] specify information that are actually being used in the environment. If no information is provided in the [], it can be omitted.

There are two parameter transmission types: <parameter>=<value> and XML. Table 1,2 contains examples.

If a <vaule> has been returned a parameter has been requested. If XML has been returned, all elements have been requested.

Request	http://<servername>:HTTP_PORT[/<subdir>]/<cgi>.<ext>[?<action>=<value>[&<argument>=<value>...]]
Return	HTTP Code: <code> Content-Type: <type> <parameter>=<value> ...
Example	[Request list of network] http://192.168.0.201/cgi/wparam.cgi?action=search_video&param=videotbl.image_source [Return list of network] 0

Table 1 CGI URL Syntax (parameter)

Request	http://<servername>:HTTP_PORT[/<subdir>]/<cgi>.<ext>[?<action>=<value>[&<argument>=<value>...]]
Return	HTTP Code: <code> Content-Type: <type> <XML Data>
Example	[Request list of network] http://192.168.0.201/param.cgi?action=search_motion&param=all [Return list of motion] <?xml version="1.0" encoding="UTF-8" standalone="yes" ?> <root> <motion enable="1" block="FFFFFFFFFFFFFF" sensitivity="5" upload_jpeg="300" send_mail="0" record_video="0" alarm_out="0" play_alarm_audio="0" /> </root>

Table 2 CGI URL Syntax (XML)

1.2. CGI Module URL (fast cgi)

1.2.1. Motion Configuration URL – motion configuration interface

- Search parameter
http://192.168.0.201:80/fcgi/wparam.cgi?action=search_motion
- Update parameter
http://192.168.0.201:80/fcgi/wparam.cgi?action=update_motion

1.2.2. Video Signal Configuration URL – video configuration interface

- Search parameter
http://192.168.0.201:80/fcgi/wparam.cgi?action=search_video
- Update parameter
http://192.168.0.201:80/fcgi/wparam.cgi?action=update_video

1.2.3. Event Recipients Configuration URL – Manage of Event recipients interfaces

- get count of recipients
http://192.168.0.201:80/fcgi/wparam.cgi?action=get_recipient_count
- get all of recipients
http://192.168.0.201:80/fcgi/wparam.cgi?action=get_recipient_all
- get a particular recipient
http://192.168.0.201:80/fcgi/wparam.cgi?action=get_recipient
- edit a particular recipient
http://192.168.0.201:80/fcgi/wparam.cgi?action=edit_recipient
- add a new recipient
http://192.168.0.201:80/fcgi/wparam.cgi?action=add_recipient
- remove a particular recipient
http://192.168.0.201:80/fcgi/wparam.cgi?action=del_recipient

2. Search_Motion

Search for a single parameter or multiple parameters. Response time: 3~10 seconds.

[Parameter list]

Request param	Receive value
motiontbl.enable	0 or 1
motiontbl.block	000 ~ FFF 3-digit hexadecimal. (this should be 3 or 12 digits when update parameter, 12 digits for 1.x version)
motiontbl.blocks48	000000000000~FFFFFFFFFFFFFF 12-digit hexadecimal. (Not support update API)
motiontbl.sensitivity	1~10
motiontbl.unload_jpeg	0~5
motiontbl.send_mail	0~5
motiontbl.record_video	0~5
motiontbl.alarm_out	0~5
motiontbl.play_alarm_audio	0~5
all	All of the above XML

2.1. Search_Motion single parameter

Search for a single parameter. Response time: 3~10 seconds.

Method : GET

Example	[Request] http://192.168.0.201:80/fcgi/wparam.cgi?action=search_motion&param=motiontbl.enable
	[Return] 0
Example using curl	

2.2. Search_Motion multi parameters

Search for two or more parameters. Response time: 3-10 seconds

Method : GET

Example for multi parameters	[Request] http://192.168.0.201:80/fcgi/wparam.cgi?action=search_motion&param=motiontbl.enable&param=motiontbl.block
	[Return] 0 FFF

2.3. Search all

Search for all parameters. Response time: 3-10 seconds.

Method : GET

Example	<p>[Request] http://192.168.0.201:80/fcgi/wparam.cgi?action=search_motion&param=all</p> <p>[Return]</p> <pre><?xml version="1.0" encoding="UTF-8" standalone="yes" ?> <root> <motion enable="1" block="FFF" sensitivity="5" upload_jpeg="300" send_mail="0" record_video="0" alarm_out="0" play_alarm_audio="0" /> </root></pre>
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2.4. Search Motion for Firmware version 1.x

Since FW version 1.x, the Motion 48 Grid has been added.

Please, refer to the following examples. You can see the **blocks48** parameter for the motion 48 grid settings. The others are same as firmware version 0.x.

Search all parameters	<p>[Request] http://192.168.0.201:80/fcgi/wparam.cgi?action=search_motion&param=all</p> <p>[Return]</p> <pre><?xml version="1.0" encoding="UTF-8" standalone="yes" ?> <root> <motion enable="1" block="FFF" blocks48="eeeeffffeeee" sensitivity="5" upload_jpeg="0" send_mail="0" record_video="0" alarm_out="0" play_alarm_audio="0" /> </root></pre>
Search particular parameter	<p>[Request] http://192.168.0.201:80/fcgi/wparam.cgi?action=search_motion&param=motiontbl.block&param=motiontbl.blocks_48</p> <p>[Return]</p> <pre>FFF eeeeffffeeee</pre>
Known issue	<p>The names of blocks48 used in search all(blocks48) and search particular(blocks_48) are different. It will be updated with the same name as soon as possible. And the blocks_48 will be deprecated.</p>

3. Update_Motion

Update a single parameter or multiple parameters.

[Parameter list]

Parameter Name	Value
motiontbl.enable	0 or 1
motiontbl.block	000000000000~FFFFFFFFFFFFFF 12 digit-hexadecimal. It should be 3 digits
motiontbl.sensitivity	1~10
motiontbl.unload_jpeg	0~5
motiontbl.send_mail	0~5
motiontbl.record_video	0~5
motiontbl.alarm_out	0~5
motiontbl.play_alarm_audio	0~5

3.1. Update single parameter

Update a single parameter. Response time: 3~10 seconds.

Method : GET

Example	[Request]
	http://192.168.0.201/cgi/wparam.cgi?action=update_motion&motiontbl.enable=1
	[Return]
	OK

3.2. Update particular parameters

Update multiple parameters. Response time: 3~10 seconds.

In particular, there is a difference between the existing 0.x version and the 1.x version in the MotionGrid configuration.

Since version 1.x, you can set both the 12 grid and the 48 grid with the **motiontbl.block** parameter. You only need to change the number of input digits.

To set 12 motion grid, enter 3 digits (see Section 4.2) or 48 digits to enter 12 motion digits (see Section 4.3). See the following examples for the using of this API parameter.

Method : GET

Enable motion	[Request] http://192.168.0.201:80/cgi/wparam.cgi?action=update_motion&motiontbl.enable=1 [Return] OK
Setting motion grid 12	[Request] http://192.168.0.201:80/cgi/wparam.cgi?action=update_motion&motiontbl.enable=1&motiontbl.block=FFF [Return] OK
Setting motion grid 48 for firmware 1.x	[Request] http://192.168.0.201:80/cgi/wparam.cgi?action=update_motion&motiontbl.enable=1&motiontbl.block=DDDDEEEEEFFF [Return] OK

4. Details for Motion Configuration Parameters

4.1. motiontbl.enable

0:disabled, 1:enabled

4.2. motiontbl.block

Each block is a hexadecimal number, and it should be 3 digits.
There are a total of 12 blocks and it's a bits set of each line.
Range: 000-FFF

Examples)

57

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4.3. motiontbl.blocks48(As a result of the search_motion API since VER 1.x)

This parameter is for version 1.x. Each block is a hexadecimal number, and it should be 12 digits.
There are a total of 48 blocks and it's a bits set of each line.
Range: 000000000000 ~ FFFFFFFFFFFFFFFF

Examples)

Example 3

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4.4. motiontbl.sensitivity

Set motion sensitivity
Values: 1~10.

4.5. motiontbl.upload_jpeg

This function uploads local JPEG images to ftp server during motion events.

Value	Description
0	OFF
1	Active for 10 seconds
2	Active for 30 seconds
3	Active for 60 seconds
4	Active for 5 minutes
5	Active for 10 minutes

4.6. motiontbl.send_mail

During motion event, it sends an email with the motion event JPEG image attachment using the SMTP settings stored in the unit.

Values:

Value	Description
0	OFF
1	Active for 10 seconds
2	Active for 30 seconds
3	Active for 60 seconds
4	Active for 5 minutes
5	Active for 10 minutes

4.7. motiontbl.record_video

Stores motion event video to the local SD card.

Values:

Value	Description
0	OFF
1	Active for 10 seconds
2	Active for 30 seconds
3	Active for 60 seconds
4	Active for 5 minutes
5	Active for 10 minutes

4.8. motiontbl.alarm_out

Alarm output duration during motion event.

Values:

Value	Description
0	OFF
1	Active for 10 seconds
2	Active for 30 seconds
3	Active for 60 seconds
4	Active for 5 minutes
5	Active for 10 minutes

4.9. motiontbl.play_alarm_audio

Alarm audio during motion event.

Values:

Value	Description
0	OFF
1	Active for 10 seconds
2	Active for 30 seconds
3	Active for 60 seconds
4	Active for 5 minutes
5	Active for 10 minutes

5. Search_Video

Search for a single or multiple parameters. Response time: 3~10.

[Parameter list]

Request param	Receive value
videotbl.image_source	0 :NTSC or 1:PAL

5.1. Search_Video single parameter

Search for a single parameter. Response time: 3~10 seconds.

Method : GET

Example	[Request] http://192.168.0.201:80/fcgi/wparam.cgi?action=search_video&param=videotbl.image_source
	[Return] 0

6. Update_Video

Update multiple parameters. Response time: 3~10 seconds.

[Parameter list]

Parameter Name	Value
videotbl.image_source	0:NTSC or 1:PAL

6.1. Update single parameter

Update a single parameter. Response time: 15~20 sec.

Method : GET

Example	[Request] http://192.168.0.201/fcgi/wparam.cgi?action=update_video&videotbl.image_source=1
	[Return] OK

7. Details for Video Configuration Parameters

7.1. videotbl.image_source

0:NTSC, 1:PAL

8. Manage Event Recipients

8.1. Get Event Recipients Information

Get Event Recipient information. Response time: 3~10 seconds.

8.1.1. Get Event Recipients Count

Get Event Recipient server count. Integer number is used.

Method : GET

Example	[Request] http://192.168.0.201:80/fcgi/wparam.cgi?action=get_recipient_count
	[Return] 3

8.1.2. Get all of Event Recipient

Get Even Recipient server information stored in the camera. XML

Method : GET

Example	[Request] http://192.168.0.201:80/fcgi/wparam.cgi?action=get_recipient_all
	[Return] <pre><?xml version="1.0" encoding="UTF-8" standalone="yes" ?> <root> <item_list> <recipient> <index>0</index> <label>server1</label> <type>1</type> <url>192.168.0.9</url> <port>56565</port> <user></user> <password></password> <interval>10</interval> <enable>1</enable> </recipient> <recipient> <index>1</index> <label>server2</label> <type>0</type> <url>http://192.168.0.160/fcgi/events.cgi?action=update_event</url> <port>0</port> <user>admin</user> <password>9999</password> <interval>10</interval> <enable>1</enable> </recipient> </item_list> <item_cnt>2</item_cnt> <max_item>10</max_item> </root></pre>

8.1.2.1. Details of Return parameter

<Item_list>	List of Event recipients, Template start
<recipient>	Event recipient server
<index>	Numbering. Zero based.

<label>	Nick name string
<type>	0:HTTP or 1:TCP
<url>	Recipient server's address
<port>	Use only fo TCP server
<user>	Authentication ID for Use Only HTTP server
<pass>	Authentication Passsword for Use Only HTTP server
<interval>	Minimum alarm interval
<enable>	Activation. 0:inactive , 1:active
<item_cnt>	Count of recipient
<max_item>	Maximum Recipient (fixed)

8.1.3. Get a Event Recipient

Get Event Recipient's information designated in key_index or key_label.

Method : GET

Example	[Request] http://192.168.0.201:80/fcgi/wparam.cgi?action=get_recipient&key_index=1 or http://192.168.0.201:80/fcgi/wparam.cgi?action=get_recipient&key_label=server2
	[Return] <root> <recipient> <index>1</index> <label>server1</label> <type>1</type> <url>192.168.0.9</url> <user></user> <password></password> <interval>10</interval> <enable>1</enable> </recipient> </root>

8.1.3.1. Details of Return parameter

<recipient>	Template start
<index>	Numbering. Zero based
<label>	Nick name string
<type>	0:HTTP or 1:TCP
<url>	Recipient server's address
<port>	Use only fo TCP server
<user>	Authentication ID for Use Only HTTP server
<pass>	Authentication Passsword for Use Only HTTP server
<interval>	Minimum alarm interval
<enable>	Activation. 0:inactive , 1:active

8.2. Configure Event Recipient Information

Update/Add Event Recipient information as new items according to key_index, key_label, etc

8.2.1. Add Event Recipient

Add Event Recipient.

Method : GET

Example	Add TCP type event recipient. [Request] "http://192.168.0.11:80/fcgi/wparam.cgi?action=add_recipient&rcp_label=server3&rcp_type=1&rcp_interval=10&rcp_url=192.168.0.9&rcp_port=54545&rcp_enable=1" [Return] OK
----------------	--

8.2.1.1. Details of add parameters

Parameters that should be included.

rcp_lable	Label. Nickname
rcp_type	0:http, 1:tcp
rcp_interval	Transmission interval seconds.
rcp_url	Server url (ip address, domain, http full address)
rcp_port	Use only forTCP Server
rcp_enable	Activation. 0:inactive , 1:active
rcp_user	Authentication ID for Use Only HTTP server
rcp_pass	Authentication Password for Use Only HTTP server

8.2.2. Remove Event Recipient

Remove Event Recipient that matches key_index or key_label.

Method : GET

Example	[Request] http://192.168.0.201:80/fcgi/wparam.cgi?action= del_recipient&key_label=server3 [Return] OK
----------------	--

8.2.2.1. Details of remove parameters

When removing an existing parameter, use only one of the following to execute..

key_label	Input label when adding parameter
key_index	Numbering. This can be obtained when getting server information

8.2.3. Edit Event Recipient

Ediv Event Recipient information that matches key_index or key_label.

Method : GET

Example	Changing Event Recipient Labeled "server3" to type 1. [Request] http://192.168.0.201:80/cgi/wparam.cgi?action=edit_recipient&key_label=server3&rcp_type=1 [Return] OK
----------------	---

8.2.3.1. Details of edit parameters

When editing an existing parameter, use only one of the following to execute.

key_label	Input label when adding parameter
key_index	Numbering. This can be obtained when getting server information

Items that can be edited:

rcp_lable	Label. Nickname
rcp_type	0:http, 1:tcp
rcp_interval	Transmission interval seconds.
rcp_url	Server url (ip address, domain, http full address)
rcp_port	Use only forTCP Server
rcp_enable	Activation. 0:inactive , 1:active
rcp_user	Authentication ID for Use Only HTTP server
rcp_pass	Authentication Passsword for Use Only HTTP server

8.3. Contents of Received Messages

Contents of Received Messages during an Event.

8.3.1. Received Message of http server

For http server, the following information will be transmitted using get method.

Transmission address	Method : GET http://serveraddr/cgi/server.cgi?action=update_event&etype=1&etime=1386289621 1) http://serveraddr/cgi/server.cgi?action=update_event Server address and recipient module 2) &etype=1&etime=1386289621 This is the actual transmitted information. If the server uses a different implementation, this item can be modified per customer's request.
Descriptions	
etype	Event type , 0: External trigger, 1: MOTION ON, 2: MOTION_OFF
etime	Event Occur time(the time as the number of seconds since the Epoch, 1970-01-01 00:00:00 +0000 (UTC))

8.3.2. Received Message of TCP server

The following information will be transmitted for the TCP server.

There are various methods of integration TCP server depending on the preferred method of the customers. These items can be modified/adjusted based on the requests of the customers.

Contents	<event> <etype>1</etype> <etime>1386289621</etime> <ename>MOTION</ename> </event>
Descriptions -	
event	Start template
etype	Event type, 0: external Trigger, 1: Motion On Trigger, 2: Motion Off Trigger
etime	Event Occur time(the time as the number of seconds since the Epoch, 1970-01-01 00:00:00 +0000 (UTC))
ename	Event name

9. How to Get Event Information

Event Information can be obtained from the IP camera using HTTP. It uses polling method.

9.1. Get Event Information

Method : GET

Example	[Request] http://192.168.0.201:80/fcgi/events.cgi?action=get_alarm_status [Return] <?xml version="1.0" encoding="UTF-8"?> <event_info> <motion_detected>128</motion_detected> <sensor_detected>256</sensor_detected> <alarm_detected>512</alarm_detected> <netlost_detected>1024</netlost_detected> <motion_detected_blocks>0010F0FF1FFF</motion_detected_blocks> </event_info>
----------------	---

9.2. Event Information Description

motion_detected	128:Motion Event. 0:No Motion Event
sensor_detected	256:Sensor Event, 0:No Sensor Event
alarm_detected	512:Alarm Event, 0:no Alarm Event
netlost_detected	1024:Network connection lost event. Currently not implemented
motion_detected_blocks	48 Information on blocks that detected motion. Refer to 4.2.

10. Forced I Frame

Forced Key Frame insertion to the stream during an event.

Method : GET

Example	[Request] http://192.168.0.201:80/fcgi/wparam.cgi?action=set_fiframe&stream_number=0"
	[Return] OK

[Parameter list]

stream_number	0~2: stream number for the Key Frame. Currently 0 is used for h264.

11. ERROR CODE

Number	Name	Description
-2	Label exist	Already exist recipient label
-1	General Error	General error This is general error that occurs during Update or Search. Retry or refresh is possible
0	Succeed	Succeed
1	Invalid Action Parameter	Incorrect use of action name. search_motion or update_motion should be used
2	Invalid Parameter	Use of an invalid parameter (not defined parameter)
3	Invalid Parameter Value	Incorrect delivery of the parameter value