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A UTC Fire & Security Company

UltraView Encoder 10 and UltraView Decoder 10 User Manual

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Manufacturer

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FCC compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Class B: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

There is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

European Union directives

1999/5/EC (R&TTE directive): Hereby, UTC Fire & Security declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

2002/96/EC (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.

Contact information

For contact information, see www.interlogix.com.

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Content

Overview

Introduction

The UltraView Encoder 10 and UltraView Decoder 10 are part of a mobile surveillance solution that addresses the needs of remote site applications typically found in highway, transportation, and city surveillance. These applications form the backbone of the deployed UltraView EVP solutions.

UltraView Encoder 10 and UltraView Decoder 10 are compatible with other UltraView EVP products and have:

- Scalable H.264 SVC streaming / H.264-SVC video decoder
- Low latency with max of <150 ms
- Upgradable platform

Also support:

- PTZ port, alarm input, and relay output
- Basic analytics

and can operate in various environmental conditions, for example, it can be used indoors within a light industrial environment.

Two models are available:

- UltraView Encoder 10 unit is a small size form-factor single channel encoder. It comprises a DM6446, capable of converting a PAL or NTSC analog video input to digital, scaling and compressing it to H.264 SVC.
- UltraView Decoder 10 unit is a small size form-factor single channel decoder, capable of converting a H.264 SVC stream into a PAL or NTSC analog video output.

Note: The USB port is used as an extension port, enabling a full range of additional features, all accessed through the main unit. Currently not available, reserved for future use.

Product content

The unit package includes:

- 1 box containing the unit and installation sheet
- 1 box containing 12 VDC power supply (optional)

Hardware requirements

The unit requires the following:

- Cat 5 network cable
- 110 V or 220 V main power supply or 12 VDC power supply
- BNC video cable

Software requirements

The UltraView Encoder 10 unit requires the following:

- UltraView Central Configuration Server version 4.1.1 (or later) or UltraView Video Security Center version 4.1.1 (or later)
- NTP Server

The UltraView Decoder 10 unit requires the following:

- UltraView Central Configuration Server version 4.2 (or later) or UltraView Video Security Center version 4.2 (or later)
- NTP Server

Before you begin

Inspect the package and contents for visible damage. If any components are damaged or missing, do not use the unit; contact the supplier immediately. If you need to return the unit, you must ship it in the original box.

References and related documentation

- UltraView Central Configuration Server (CCS) user manual
- UltraView Video Security Center (VSC) user manual

Note: Always consult the technical support team before making any hardware configuration changes; as this may void warranty against damages and limit support.

UltraView Encoder 10

Physical description and technical specifications

This section provides detailed specifications of UltraView Encoder 10.

Figure 1: UltraView Encoder 10

Video input

- PAL or NTSC analogue camera

Video encoding

- H.264-SVC (Spatial & Temporal scalability)
- Unicast and multicast connection
- Resolution up to 4CIF
- Frame rates up to 30 (NTSC) or 25 (PAL)
- Bit rates up to 3 Mbps

Security

- Password protection for restricted access to setup and management.

Installation, management, and maintenance

- Internet Explorer 5.x (or later)

System integration

UltraView Encoder 10:

- UltraView SDK 4.1.1 (or later)

Supported protocols

- HTTP, TCP, UDP, IGMP, SMTP, DHCP, DNS

Connectors

- Ethernet 10BaseT or 100BaseTX (RJ-45)
- USB 2.0 Hi-Speed (host, Mini-A)
- Terminal connector (Phoenix P/N: FK-MC 0,5/9-ST-2,5)
- BNC composite video
- Power 8-16 VDC, min. 5 W
- 1 dry contact input
- 1 open collector output
- 1 serial (RS-485)

Processors and memory

- CPU: TI DM6446
- System: Linux 2.6 kernel
- RAM: 128 MB
- Flash memory: 32 MB

Operating conditions

- Temperature: −10°C (14°F) to 50°C (122°F)
- Humidity: 20% to 80% RH (non-condensing)

Dimensions (H × W × D) and weight

- 19 × 72 × 95 mm
- 300 g (excluding power adapter)

Power supply and consumption

The UltraView Encoder 10 is equipped with a 12 VDC, 5 W power supply. Power consumption is 5 W (full-load across the whole temperature range).

There is no on-board battery to secure data retention when the power is off. The time and date synchronization is done through a NTP server on the network, and this server is necessary for the correct operation of UltraView Encoder 10.

Functionality and features

UltraView Encoder 10 represents an extension of the UltraView EVP family of digital video devices, providing customers with a single channel real-time embedded Digital Video Server (DVS) utilizing the scalable H.264 video compression developed within the H.264 SVC program.

Main product features are:

- Video surveillance system: 1 channel input
- Mechanical system: Self contained unit
- Ethernet connectivity: 10/100 Ethernet port
- GUI: Embedded Web Server for basic configuration
- I/O connectivity: Dry contact and RS-485 serial port
- Electrical: 12 VDC, 5 W power supply

Encoding

UltraView Encoder 10 resides on an IP network. The product primary purpose is to convert PAL or NTSC analog video source to IP video.

Analytics

UltraView Encoder 10 support embedded analytics.

This includes the established EVP analytics:

- Activity Detection (AD)
- Camera Maintenance Agents (CMA)

These analytics are embedded on the DaVinci chip instead of being run on a PC platform.

Configuration

The unit is normally configured from CCS. Default configuration is set to D1 PAL at 2 Mbps at 25 fps. The unit is designed to connect video, power on, and stream video automatically via a static address. Additionally, there is support for DHCP and a fixed IP address configuration via a web browser.

Interface ports

Camera input channels

- Input format: PAL or NTSC
- Input connection: BNC
- Input signal type: Vp-p at 75 Ω
- Frame rate (capture): Frame rates up to 30 (NTSC) or 25 (PAL)
- Color system: Color, black & white and monochrome
- Number of video channels: 1
- Power supply: Not required

Digital inputs

- Number: 1
- Type: TTL (compliant with 48 V input voltage)
- Connector Type: Pin terminal

Digital outputs

- Number: 1
- Type: Open collector (compliant with 48 V external power)
- Connector type: Pin terminal

Serial ports

- Number: 1
- Type: RS-485 Master input or output pass through
- Connector type: Pin terminal

USB ports

- Number: 1
- Type: USB 2.0 Hi-Speed (host, Mini-A)

Ethernet ports

- Number: 1
- Type: 802.3 type 10/100 Mbps (RJ-45)
- DHCP: Yes

Status

The following LED is visible on the front panel

- Status LED: Green or Red (see section “Front panel LED” on page 20 for more information)

Factory reset

- Number: 1
- Type: Pinhole

UltraView Decoder 10

Physical description and technical specifications

This section provides detailed specifications of UltraView Decoder 10.

Figure 2: UltraView Decoder 10

Video output

- PAL or NTSC analogue camera

Video decoding

- H.264-SVC video stream
- Resolution up to 4CIF
- Frame rates up to 30 (NTSC) or 25 (PAL)
- Bit rates up to 3 Mbps

Security

- Password protection for restricted access to setup and management.

Installation, management and maintenance

- Internet Explorer 5.x (or later)

System integration

- UltraView SDK 4.2.0 (or later)

Supported protocols

- HTTP, TCP, UDP, IGMP, SMTP, DHCP, DNS

Connectors

- Ethernet 10Base-T/100Base-TX (RJ-45)
- USB 2.0 Hi-Speed (host, Mini-A)
- Terminal connector (Phoenix P/N: FK-MC 0,5/9-ST-2,5)
- BNC composite video

- Power 8-16 VDC, min. 5 W
- 1 dry contact input
- 1 open collector output
- 1 serial (RS-485)

Processors and memory

- CPU: TI DM6446
- System: Linux 2.6 kernel
- RAM: 128 MB
- Flash memory: 32 MB

Operating conditions

- Temperature: −10°C (14°F) to 50°C (122°F)
- Humidity: 20-80% RH (non-condensing)

Dimensions (H × W × D) and weight

- 19 × 72 × 95 mm
- 300 g excluding power adapter

Power supply and consumption

The UltraView Decoder 10 is equipped with a 12 VDC, 5 W power supply. Power consumption is 5 W (full-load across the whole temperature range)

There is no on-board battery to secure data retention when power is off. The time and date synchronization is done through a NTP server on the network, and this server is necessary for the correct operation of UltraView Decoder 10.

Functionality and features

UltraView Decoder 10 represents an extension of the UltraView EVP family of digital video devices, providing customers with a single channel embedded video decoder, compatible with any stream of the H.264 SVC product family.

Main product features are:

- Video surveillance system: 1 channel output
- Mechanical system: Self contained unit
- Ethernet connectivity: 10/100 Ethernet port
- GUI: Embedded web server for basic configuration
- I/O connectivity: Dry contact and RS-485 serial port
- Electrical: 12 VDC, 5 W power supply

Decoding

UltraView Decoder 10 resides on an IP network. The product primary purpose is to convert an H.264-SVC video stream into a PAL or NTSC analog video signal.

Analytics

UltraView Decoder 10 supports embedded analytics display.

This includes the established analytics:

- Activity Detection
- Camera Maintenance Agents

In UltraView Decoder 10, the On Screen Display (OSD) of the analytic result is embedded on the DaVinci chip and is overlaid over the video signal.

Configuration

The unit is normally configured from CCS. Default configuration displays a GE logo. The unit is designed to connect video, power on and stream video automatically via a static address. Additionally, there is support for DHCP and a fixed IP address configuration via a web browser.

Interface ports

Camera output channels

- Output format: PAL or NTSC
- Video connection: BNC
- Output signal type: Vp-p at 75 Ω
- Number of video channels: 1

Digital inputs

- Number: 1
- Type: TTL (compliant with 48 V input voltage)
- Connector Type: Pin terminal

Digital 0utputs

- Number: 1
- Type: Open collector (compliant with 48 V external power)
- Connector type: Pin terminal

Serial ports

- Number: 1
- Type: RS-485 master input or output pass through
- Connector type: Pin terminal

USB ports

- Number: 1
- Type: USB 2.0 Hi-Speed (host, Mini-A)

Ethernet ports

- Number: 1
- Type: 802.3 type 10/100 Mbps (RJ-45)
- DHCP: Yes

Status

The following LED is visible on the front panel:

- Status LED: Green and red, see section “Front panel LED” on page 20 for more information

Factory reset

- Number: 1
- Type: Pinhole

Installing the unit

UltraView Encoder 10 and UltraView Decoder 10 units come with all applicable parts installed. The hardware installation procedure consists of mounting the video equipment on a wall or using DIN rail adapters.

Packing list

The following items should be included with each UltraView Encoder 10 and UltraView Decoder 10 package:

- 1 UltraView Encoder 10 or UltraView Decoder 10 unit
- 1 installation sheet

Note: Power supply needs to be ordered separately.

Installation

Caution: Make sure that the equipment is turned off before proceeding.

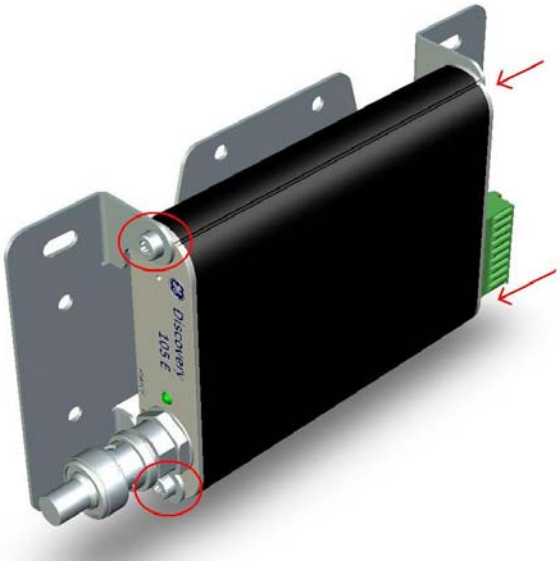
To install the wall mount:

1. Lift the unit safely out of the packing container.
2. As you unpack the unit, check for signs of shipping damage (damaged box, scratches, dents, etc.). If the unit is damaged or fails to meet specifications, notify the Interlogix support team or your local representative immediately. Also notify the carrier. Retain the shipping cartoon and packing material for inspection by the carrier.
3. Ensure the power service at the site is suitable for the video equipment you are installing.
4. Check the packing slip to ensure that all the proper components are present. The wall bracket is by default attached to the unit.
5. It can be easily removed by bending the bracket itself. This may help with the mounting procedure.

Figure 3: Wall bracket

6. Mount the wall bracket on the wall using appropriate screws (not included).
7. Attach the unit to the wall bracket using appropriate fixation points, see Figure 4 below.

Figure 4: Attach device to the bracket



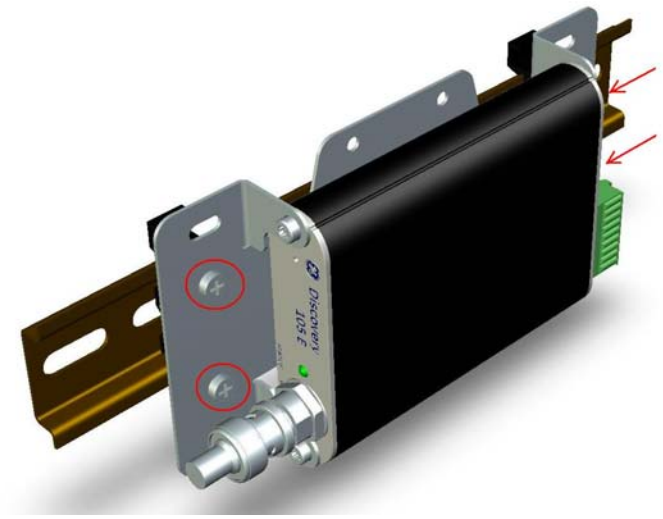
To install the DIN rail adapters:

1. For horizontal mount, attach the DIN rail adapter to the wall mount bracket using the holes in the bracket. See Figure 5 on page 15.

Note: you must first detach the mount bracket to get access to the fixation holes.

2. Mount the DIN rail on the rack.

Figure 5: Attach the adapter for horizontal mount

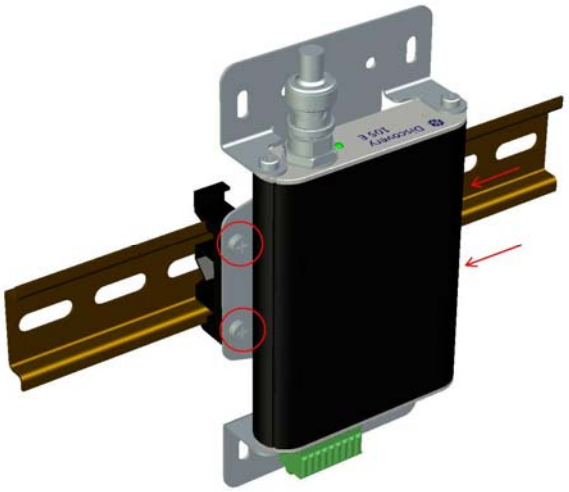


3. For vertical mount, attach the DIN rail adapter to the wall mount bracket using the holes in the bracket, see Figure 6 below.

Note: you must first detach the mount bracket to get access to the fixation holes.

4. Mount the DIN rail on the rack.

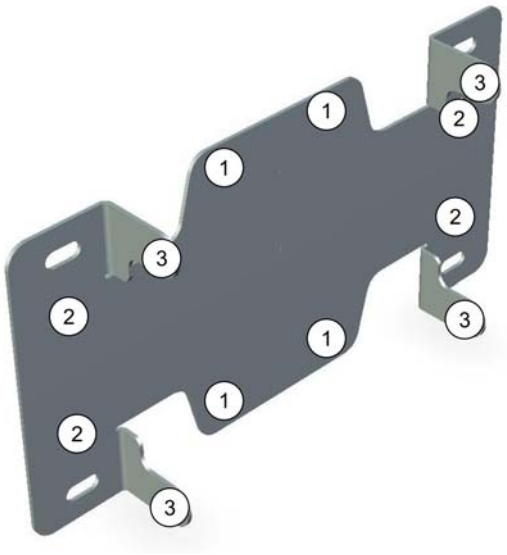
Figure 6: Attach the adapter for vertical mount



Mounting points on the bracket

Figure 7 on page 16 shows three methods of attaching the unit to the wall bracket and to the horizontal mount and vertical mount adapters. Attach points (for all the methods) are highlighted by different numbers.

Figure 7: Mounting points on the bracket



1. Attach to adapter for horizontal mount.
2. Attach to adapter for vertical mount.
3. Attach to the unit for wall mount.

Connecting the power supply

To connect power supply:

1. Connect the power cable to the power supply connector situated on the back of the unit.

- Pin 1 = GND
- Pin 2 = 12 VDC

See Figure 10 on page 18 for the back panel connectors.

2. Connect the opposite end of the power cable to an appropriate power source. The input power to the chassis is self-sensing and should be 110 to 230 V, 50 to 60 Hz.

Note: The socket outlet should be installed near the unit and be easily accessible.

Connecting the unit

Unit front panel

UltraView Encoder 10

The UltraView Encoder 10 front panel contains (see Figure 8 below):

- A single BNC (75 Ω) video input connector, item 1.
- A single status LED, see item 2 (see section “Front panel LED” on page 20 for more information on LED status).
- A pinhole factory reset, see item 3**.** To reset the device to factory configuration press and hold the reset button for 5 sec. The factory default access settings are:
  - http://10.1.2.11
  - Network mask: 255.255.0.0
  - Administration login: admin
  - Password: admin
  - PAL 4CIF 2 Mbps video encode

Figure 8: UltraView Encoder 10 front panel

UltraView Decoder 10

The UltraView Decoder 10 front panel contains (see Figure 9 on page 18):

- A single BNC (75 Ω) video output connector, see item 1.
- A single status LED, see item 2 (see section “Front panel LED” on page 20 for more information on LED status).
- A pinhole factory reset, see item 2. To reset the device to factory configuration press and hold the reset button for 5 sec. The factory default access settings are:
  - http://10.1.2.11
  - Network mask: 255.255.0.0
  - Administration login: admin
  - Password: admin
- GE logo display

Figure 9: UltraView Decoder 10 panel

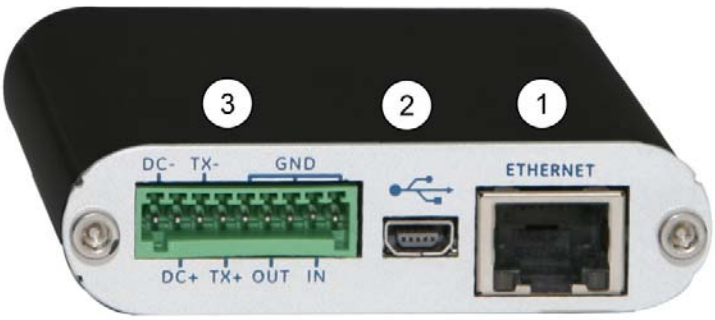
Unit back panel

All device functions are accessible via the back panel. For UltraView Encoder 10 and UltraView Decoder 10 back panel, see Figure 10 below.

The UltraView Encoder 10 and UltraView Decoder 10 back panel contains:

- A single RJ-45 Ethernet (Cat 5), see item 1.
- A single USB 2.0 port (host only), see item 2, reserved for future extensions
- Pin terminal (Phoenix P/N: FK-MC 0,5/9-ST-2,5), see item 3, used for:
  - DC power connection
  - Dry contact input
  - Open collector output
- Serial connection (RS-485)

Figure 10: UltraView Encoder 10 and UltraView Decoder 10 back panel connectors

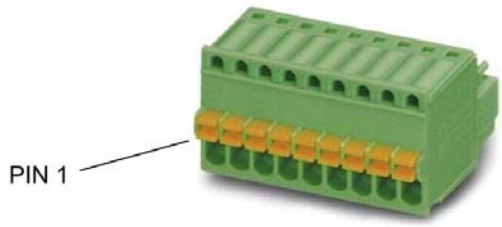


Back panel module connectors

The peripheral devices are connected by the pin terminal (Phoenix P/N: FK-MC 0,5/9-ST-2,5) or and the RJ-45 Ethernet port.

In the back panel module, pins are numbered from left to right when facing the interface module.

Figure 11: The Interface module connector



Detailed specifications for the module's pins are provided in Table 1 below.

Table 1: Pin description

Pin number connector	Description
1	DC − (GND)
2	DC + (12 VDC)
3	TX -
4	TX +
5	GND
6	OUT
7	GND
8	IN
9	GND

The following wires must be used with this connector:

- Conductor size: 20 to 26 AWG
- Solid wire: 0.14 to 0.5 mm²
- Stranded wire with ferrule: 0.25 to 0.5 mm²

For stranded wires, it is strongly advised that ferrules with or without plastic sleeves are used. An automated insertion (plug and play) is only possible with solid (>0.2 mm²) or stranded wires with ferrules

Connecting the unit

After mounting the unit on the wall or another surface (for example, a rack), follow the procedure below to connect all the cables and activate the unit.

1. Connect the BNC cable to the BNC video input connector, see item 1 on the front panel. For UltraView Encoder 10 see Figure 8 on page 17, for UltraView Decoder 10 see Figure 9, on page 18.
2. Connect the Ethernet cable to the RJ45 Ethernet port, see item 1 on the back panel, see Figure 10 on page 18.
3. Prepare the terminal cable and plug into the connector, see item 3 on the back panel, see Figure 10 on page 18.
4. See whether the device is properly connected by checking LED display. See "Front panel LED" on page 20 for details about LED states.

Front panel LED

On the front panel there is one LED conveying unit status to the user.

Figure 12: Front panel LED

LED colors

Green LED shows the operating state of the equipment. Red LED shows errors or events that require human intervention. See below for more detailed information.

Green

Green is used for conveying information about the current state of the equipment.

It should reflect the following general states:

- Booting
- Updating
- Running

Red

Red is used to indicate errors or events that require human intervention:

- Not booting
- Hardware problems (voltages, temperature)
- Not configured

Note: See section “Selected LED modes and scenarios” on page 21 and “Starting and configuring the unit” on page 22 for details about LED states.

Selected LED modes and scenarios

Table 2: LED modes and scenarios

State	LED	User action
Booting	Fixed green	1. Wait max. 2 minutes
Updating	 Green heartbeat or 	1. Wait max. 5 minutes
VOS running - no video detected (100 ms on, 100 ms off)	Fast green blinking	1. Check camera is connected 2. Check the power is on
VOS running - video detected (500 ms on, 500 ms off)	Slow green blinking	
Factory reset button pressed	Red Double Heartbeat	Simple user feedback
VOS is running but no configuration available	Slow green (with red) blinking	1. Connect to CCS or EWS 2. Verify the configuration 3. Configure the equipment 4. Apply the configuration
Voltage or temperature alarm	Red heartbeat	1. Connect to CCS or EWS 2. Check voltage or temperature 3. Check logs 4. Check environment 5. Possibly replace device
In recovery mode	Red triple heartbeat	1. Connect to EWS 2. Check status of recovery mode 3. Configure IP address of the device and of CCS 4. Upload firmware through EWS
Equipment must be replaced	Fixed red	Replace device

Starting and configuring the unit

This section contains information about the start up procedure and the necessary software configuration.

Start the unit

To start the unit:

1. Switch on the unit. The front status LED provides feedback on the unit's operating conditions.
2. The Video Operating System (VOS) and the service software will then start up automatically. If the video equipment has been switched on for the first time, the network parameters need to be configured. Otherwise the Central Configuration Server will not detect the video equipment on the network.

Table 3: LED states

LEDs	Explanation
Fixed green LED on	Boot in progress
Green LED blinking	Ready
Slow blinking	Video detected
Fast blinking	No video detected
Red triple heartbeat	Boot in recovery mode

Installing on a network

The device is designed for installation on an Ethernet network. This involves assigning it an IP address, either manually or via an automated network service (DHCP). Depending on your network, select one of the following procedures:

- Automatic installation using DHCP
- Manual Installation using fixed IP address

Note: The device has a default IP address 10.1.2.11. DHCP is disabled by default.

Monitoring system

The monitoring system is designed to detect abnormal system operating conditions and generate alarm outputs or messages, allowing users to take the necessary action before system failure.

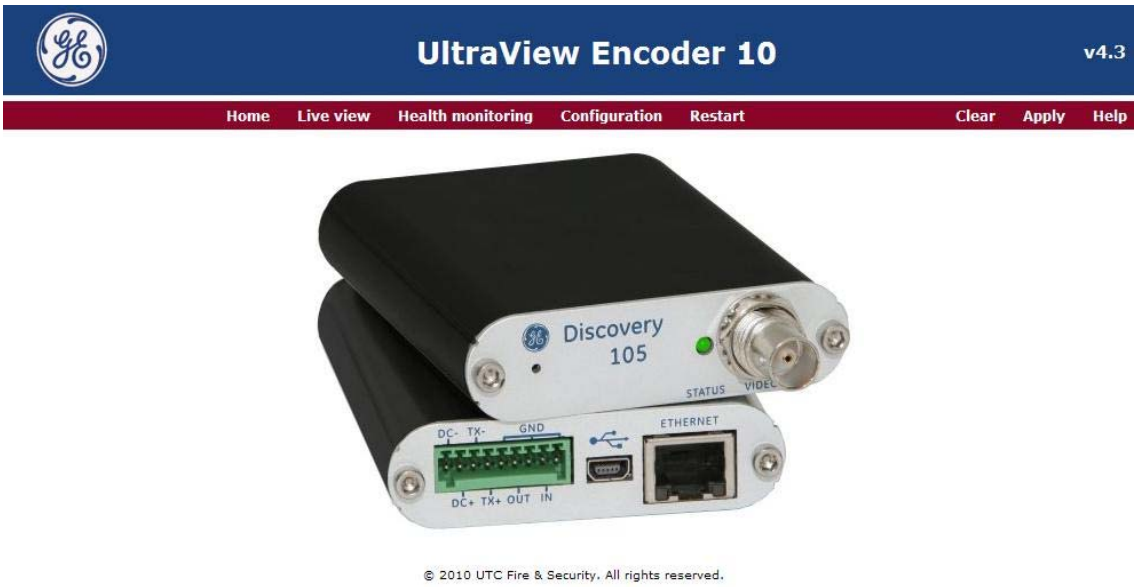
The monitoring system can detect a wide variety of internal system conditions including temperature, voltage, and power supply status. It can generate several different alarm outputs, including sending out alarm messages through the serial port for remote notification. SNMP traps are also available.

Accessing the extended web server

To access the web server for the device, the default fixed IP address is: http://10.1.2.11

Figure 13 below presents the homepage for UltraView Encoder 10, seen after connecting to the web server.

Figure 13: Embedded web server homepage



Accessing and monitoring the unit

Homepage

On the homepage, these menu options are available (the menu options are also available in other widows):

- Home - return to homepage
- Live view (UltraView Encoder 10 only) - display the live stream
- Health monitoring - used for monitoring the health of the device
- Configuration - used for login in, network configuration, setting/changing access rights, and setting video formats
- Restart - used for restarting the device (for example, for changes to take effect)

Home

Select Home to return the extended web server to the starting screen.

Live view (UltraView Encoder 10 with VOS 4.2 or later)

Note: Not available in some devices.

In this window you can display a live stream from the selected device. You can also control PTZ movement, set zoom, focus, and iris (as well as set and save PTZ presents).

You need to have the VLC Media Player Mozilla and ActiveX Plugin installed to display the video. See this link www.videolan.org for more information.

Note: When streaming video using VLC Player, the MTU size of the network interface must be configured to a value of less than 10,000.

To get live video, you need to use one of the following browsers:

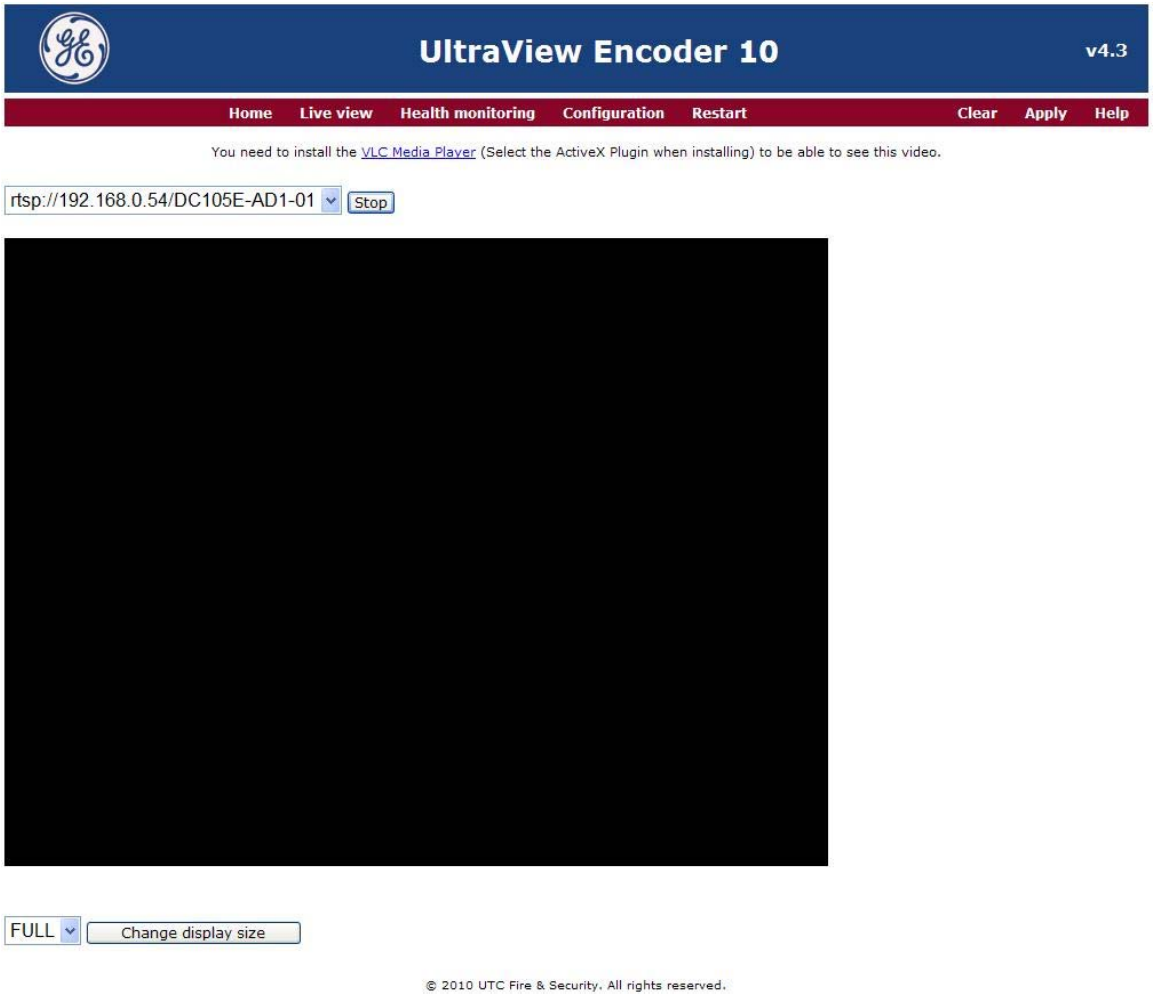
- Internet Explorer 7.0 or higher

The available options are:

- RTSP stream links
  Select RTSP stream from the drop down menu. Start or Stop the stream.
- Show current Pan, and Zoom values (only available in some models)
  Displays the current camera position and zoom values on the stream video.
- Set Pan, Tilt, Zoom, Focus, and Iris values (only available in some models)
  Control the PTZ camera position, zoom, focus, and iris (light exposure), using an online control panel associated with Live view.
- Store PTZ values as specified presets (only available in some models)
  Store current camera position and other settings (PTZ values) as presets, using a specific name (up to 10 presets for each device).
- List PTZ presets (only available in some models)
  View all the preset names defined by any user.

- Recall a PTZ preset (only available in some models)
  Select a preset name from the PTZ list and set camera position defined by this preset.
- Change display size
  If available, you can set sub-resolutions to request specific video size streams.

Figure 14: Live view



Health monitoring

Select Health monitoring in the homepage menu to be directed to the Health monitoring window. These monitoring options are available:

- Health monitoring - monitors the health status of the device
- System configuration - monitors system configuration and status
- Video ports - monitors video ports status and configuration
- Network interfaces - monitors the network interface status and configuration

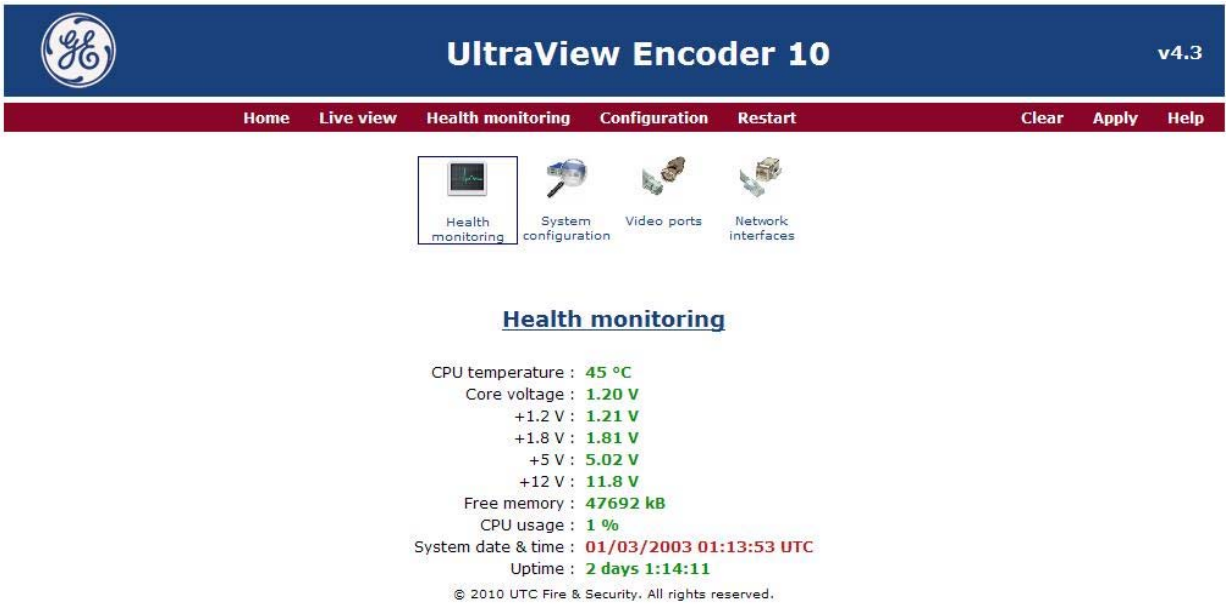
Health monitoring

In the Health monitoring window you have access to information about the status of the system. The following information is provided by the system:

Value	Description
CPU temperature	Current temperature of the main processor.
Core voltage	Power supply voltage supplied to the device.
Power supply voltages (+1.2 V, +1.8 V, +5 V, +12 V)	Reference voltage values required by the device.
Free memory	Indicates the amount of free memory available.
CPU usage	Indicates the percentage of time the processor is working.
System date and time	Indicates the current system date and time.
Uptime	Indicates how long the device has been active

Note: Green value means status is OK and within suitable range. Red value means status is outside the normal operating range. If the value is red and an alarm is generated, the user can acknowledge the alarm by clicking on the red value. The value changes to orange and an alarm acknowledged message is generated.

Figure 15: Health metrics window



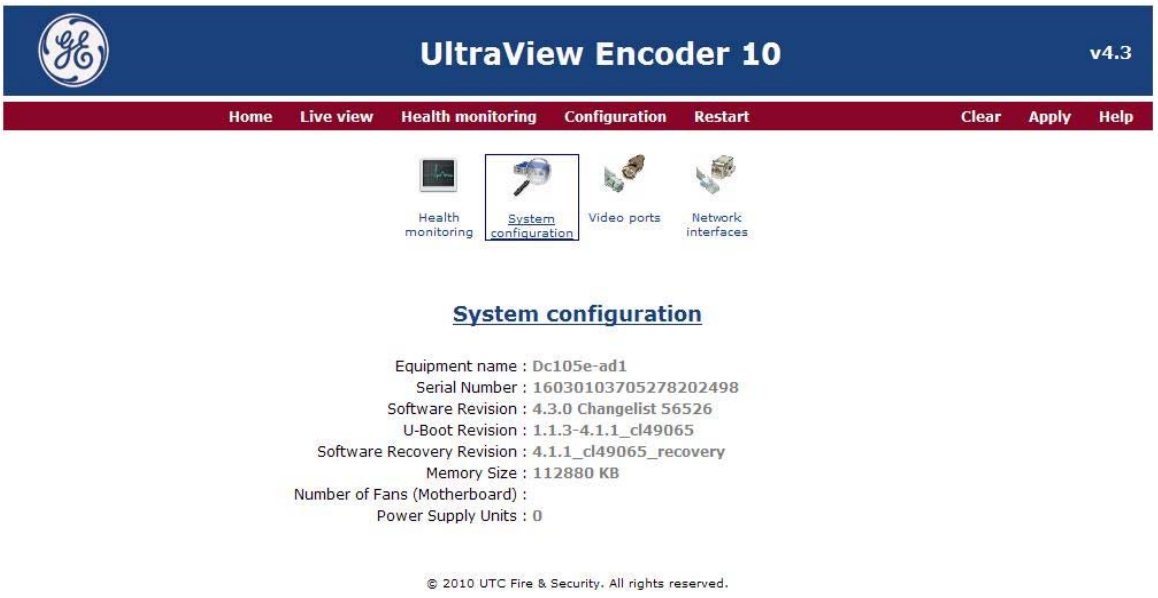
System configuration

In the System configuration window you can display the configuration of any video equipment.

The following information is provided by the system:

Value	Description
Equipment name	Unique name of the device.
Serial number	Unique serial number of the device.
Software revision	Video operating system version.
U-Boot revision	Indicates the booting software version.
Software recovery revision	Video operating system version to which the system will revert, after failure.
Memory size	Memory available on the device.
Number of fans (motherboard)	Number of fans used on the motherboard.
Power supply units	Number of supply units used.

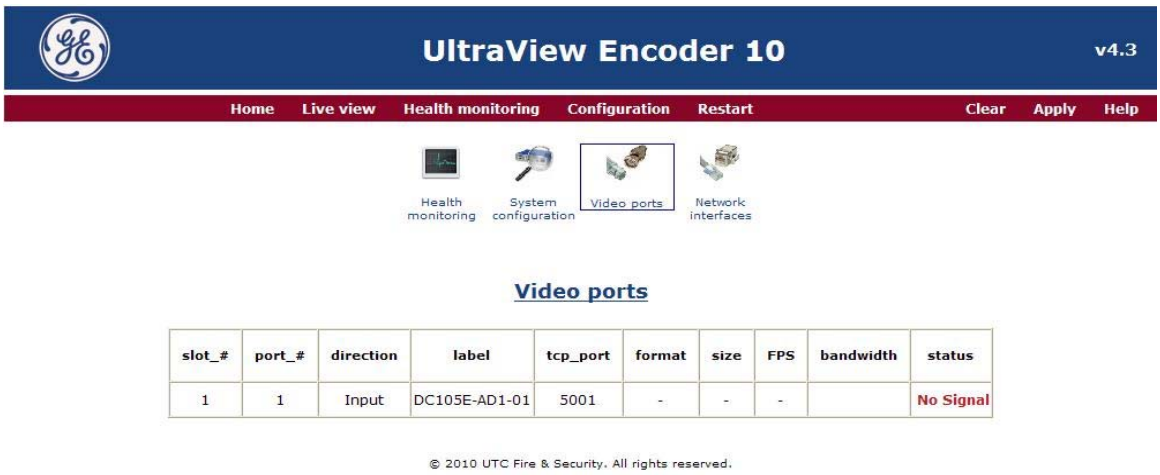
Figure 16: System configuration window



Video ports

In the Video ports window you have access to information about video ports.

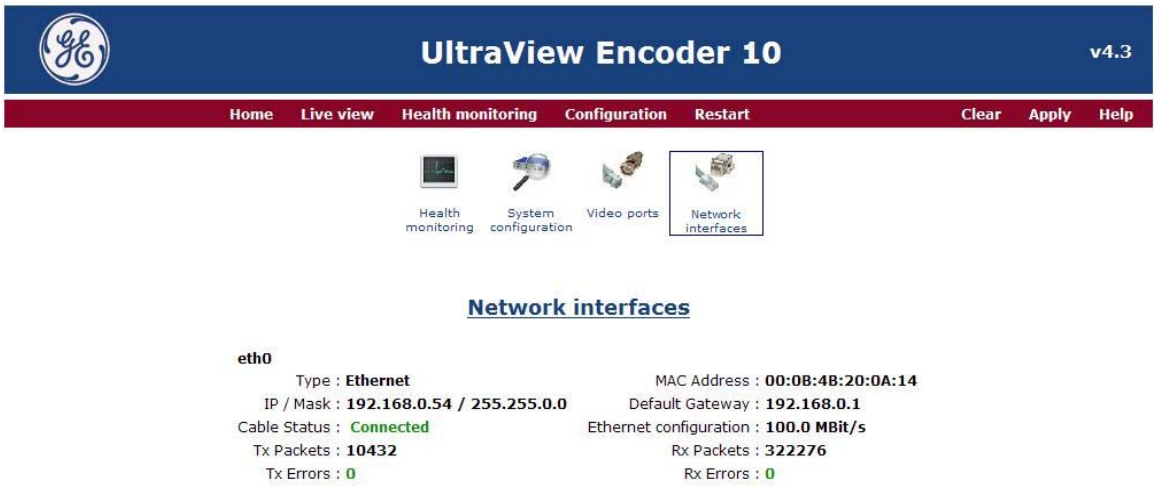
Figure 17: Video ports window



Network interfaces

In the Network interfaces window you have access to information about the available network interfaces.

Figure 18: Network Interfaces window



Configuring the unit

Configuration

In this window you can set various system and video configuration options, such as network configuration, system security, event manager's configuration, and configuration access and video port configuration.

Note: The default login is "admin" and the default password is "admin".

The available options are:

- Network configuration
- Video inputs
- Video analytics
- Digital inputs
- Digital outputs
- Serial Ports
- System security
- Firmware update
- Configuration download
- Event manager
- NTP server

Network configuration

In this window you can set the network configuration for the device.

Note: Network settings will take effect on the next system restart.

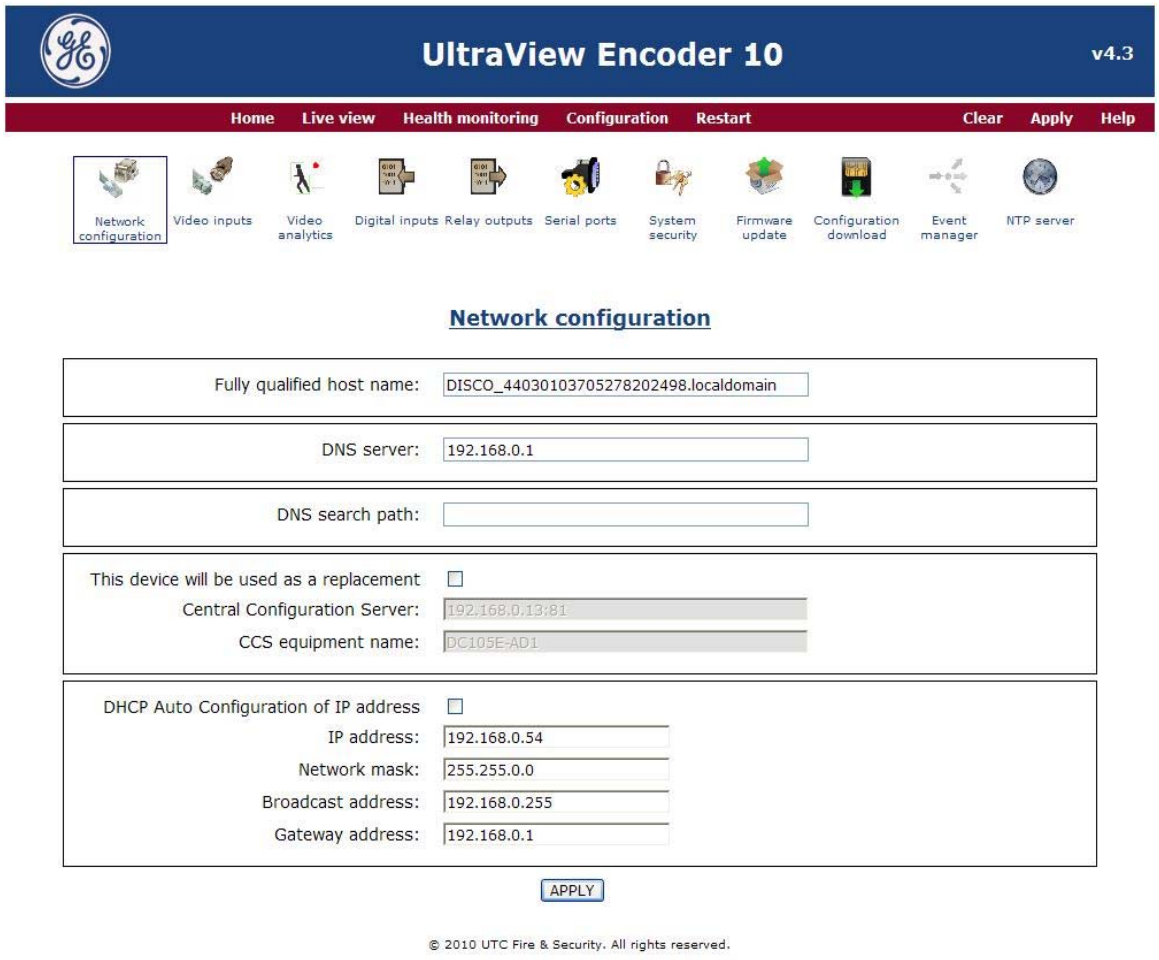
Note: If the system becomes unreachable because of an IP address or network configuration problem, you can try the default IP address (10.1.2.11, 255.255.255.0) or you can push the reset factory button to reset all settings to default.

The available options are:

- **Fully qualified host name**
  Define a unique name of the fully qualified host. This field should include a domain name, if possible.
- **DNS server**
  Define a comma separated list of DNS servers IP addresses. Primary server should be added first. DNS-less operation is supported, but with the restriction that other equipment and CCS must be configured with static IP addresses.
- **DNS search path**
  When a hostname is specified with a domain name, the domain of this host will be searched as well as the other domains defined in this field.

- **This device will be used as a replacement**
  Select the "This device will be used as a replacement" box to activate a secondary central configuration server and device.
- **Central configuration server and CCS equipment name**
  These fields should only be modified when replacing an existing device. This makes it possible to replace a device without any intervention from the Central Configuration Server.
- **DHCP Auto Configuration of IP address**
  Set DHCP auto configuration of IP address.
- **IP address**
  Set IP address of the device.
- **Network mask**
  Set network mask address of the device.
- **Broadcast address**
  Set broadcast address of the device.
- **Gateway address**
  Set gateway address of the device

Figure 19: Network configuration window



Video inputs

In this window you can set video input parameters.

To set video inputs:

1. Set capturing parameters
2. Add slave inputs, up to 4 (if needed)
3. Set master input parameters for a stream
4. Set slave input parameters for a stream
5. Click Apply to set the parameters or Remove to delete input.

The available options are:

Encoding parameters

- **Format**
  Encoding system used PAL (BGHI) or NTSC (M).
- **FULL/CIF/QCIF**
  If enabled, the spatial sub-resolution will be encapsulated within the video stream (for example, if the highest spatial resolution is FULL, enabling lower resolution will embed CIF & QCIF) It is strongly advised to keep this option activated, otherwise, the scalability could be reduced, although effective bandwidth might increase.
- **Bandwidth**
  Defined target bandwidth.
- **Encoding mode for FULL**
  Standard: Stream progressive frames (default) 25/30p.
  Low bitrate: Stream 2CIF format (1 field only), to save bandwidth (2CIF, 25/30i)
  High quality: Stream Interlaced fields to optimize video output quality (FULL, 50/60i)

Streaming parameters

Master input:

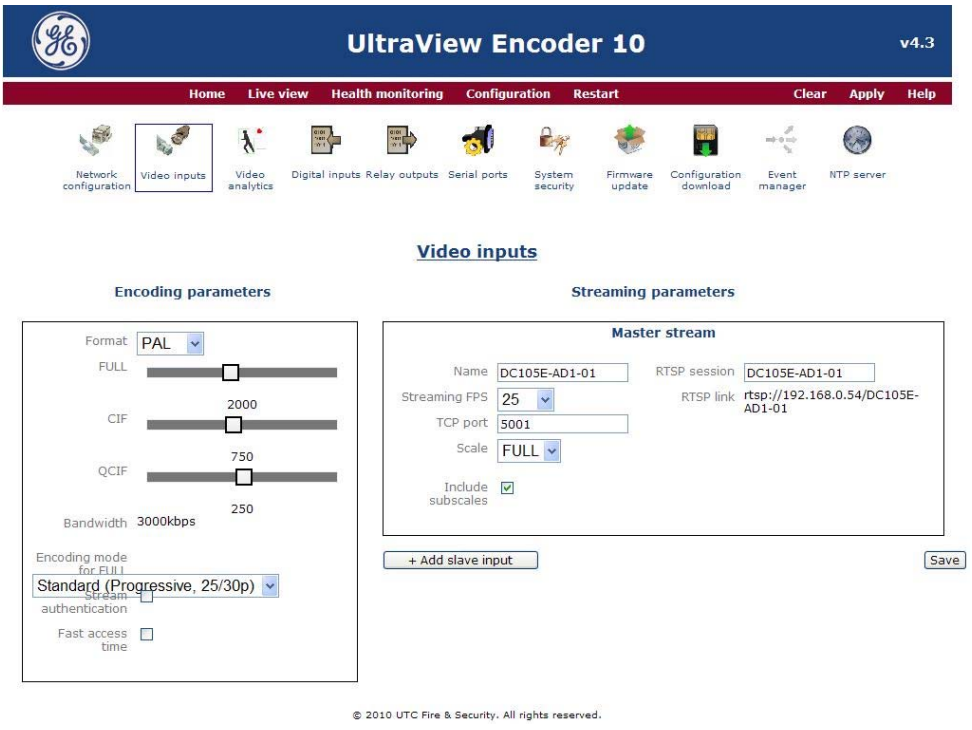
- **Name**
  A unique name of the master input (for each video stream).
- **Streaming FPS**
  Video streaming rate in frame per second.
- **TCP port**
  The TCP port defined to stream video.
- **Scale**
  Sampling resolution: FULL or CIF or QCIF (if applicable).
- **Format**
  Encoding system used: PAL (BGHI) or NTSC (M).

- **Include subscales**
  If enabled, the spatial sub-resolution will be encapsulated within the video stream (for example, if the highest spatial resolution is FULL, enabling lower resolution will embed CIF & QCIF) It is strongly advised to keep this option activated, otherwise, the scalability could be reduced, although effective bandwidth might increase.
- **RTSP session**
  Real Time Streaming Protocol (RTSP) streaming session.
- **RTSP link**
  A link to Real Time Streaming Protocol (RTSP) streaming session.

Slave inputs (four can be set):

- **Name**
  A unique name of the slave input (for each video stream).
- **Streaming FPS**
  Video streaming rate in frame per second.
- **TCP port**
  The TCP port defined to stream video.
- **Scale**
  Sampling resolution: FULL or CIF or QCIF (if applicable).
- **RTSP session**
  Real Time Streaming Protocol (RTSP) streaming session name.
- **RTSP link**
  A link to Real Time Streaming Protocol (RTSP) streaming session.

Figure 20: Video inputs



Video analytics

In this window you can set activity detection (AD) parameters.

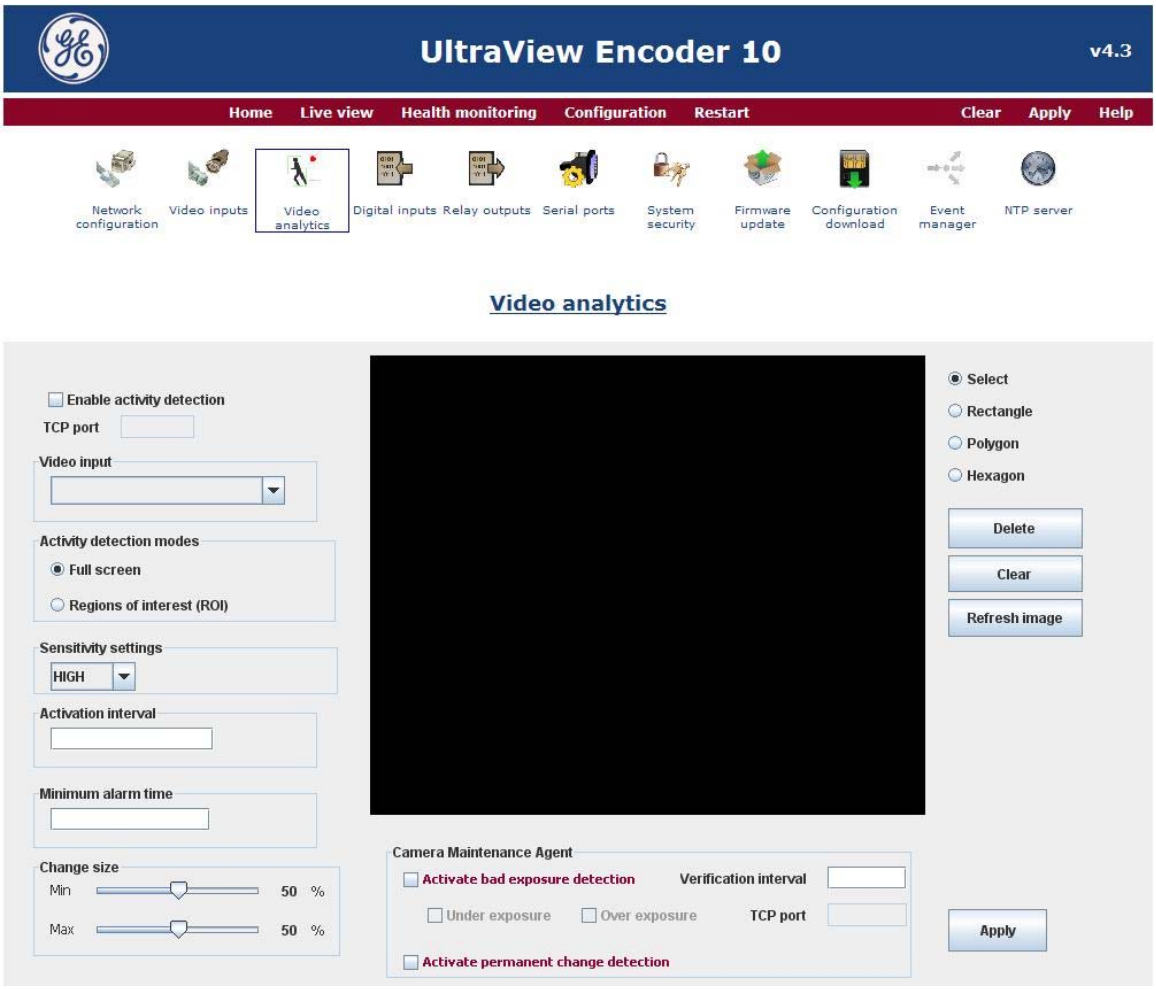
Note: You need Java Runtime Environment version 1.6 or higher.

The available options are:

- **Enable activity detection**
  Enable activity detection plugin on video input. The TCP port is read-only.
- **Video Input**
  Select the video stream on which activity detection will be activated.
- **Activity detection modes**
  Set the activity detection area to full screen or ROI (region of interests).
- **Set sensitivity**
  Set sensitivity of detected activity in the plug-in. Three predefined values can be set: LOW, MEDIUM, and HIGH.
- **Set activation interval**
  Set a time period (sample interval) after which the alarm is triggered if activity is detected. Minimum value is 20 ms.
- **Define minimum alarm time**
  Define the minimum time after the AD is activated, before an alarm is triggered.
- **Define minimum and maximum change size in %**
  Define the minimum and maximum size of activity detected area (calculated in % of pixels).
- **Define ROI by drawing a basic shape (rectangle, polygon or hexagon)**
  Define ROI (region of interest) of activity detection, by drawing an appropriate shape on the screen. Click and move cursor to draw a region. ROI can be selected as a polygon, rectangle and hexagon. Use select radio button to select specific image. Multiple region of interests can be drawn on a single screen.
- **Activate bad exposure detection**
  Select this box to activate bad exposure detection on the stream.
- **Verification interval**
  Enter the time required to confirm that enough pixels values have changed (ms).
- **Under exposure**
  Select this box to activate under exposure detection, when there is a loss of detail due to dark parts of an image being all black. The TCP port is read-only.
- **Over exposure**
  Select this box to activate over exposure detection, when there is a loss of detail due to bright parts of an image being all white. The TCP port is read-only.

- **Activate permanent change detection**
  Select this box to detect a permanent change of the scene under investigation (for example, a change in the camera's centering and position).

Figure 21: Video analytics



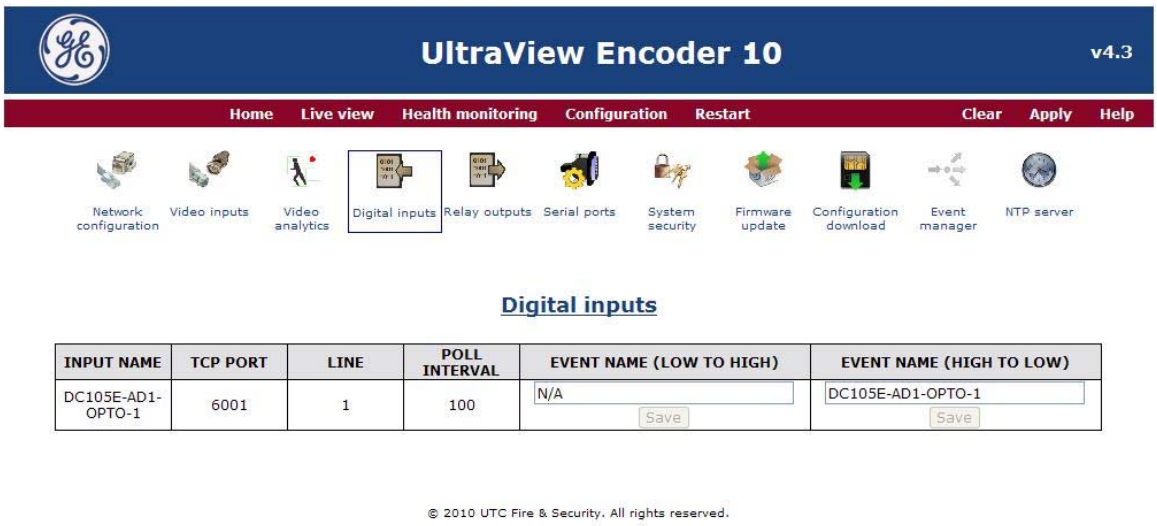
Digital inputs

In this window you can list digital inputs and define a name for a digital input change of state. The displayed parameters will be:

Parameters	Description
Input name	Unique name for the digital input.
TCP port	TCP port used for digital inputs.
Line	A number identifying a configured digital input used for signal input. Note: Not available in some devices.
Poll interval	Line state refresh period in ms. Note: Not available in some devices.
Event name (low to high)	Defines an event name for the change of state on the digital input (when the input changes from low to high).

Event name (low to high)	Defines an event name for the change of state on the digital input (when the input changes from high to low).

Figure 22: Digital inputs



Relay outputs

In this window you can define an event that will trigger a change on output.

The displayed parameters will be:

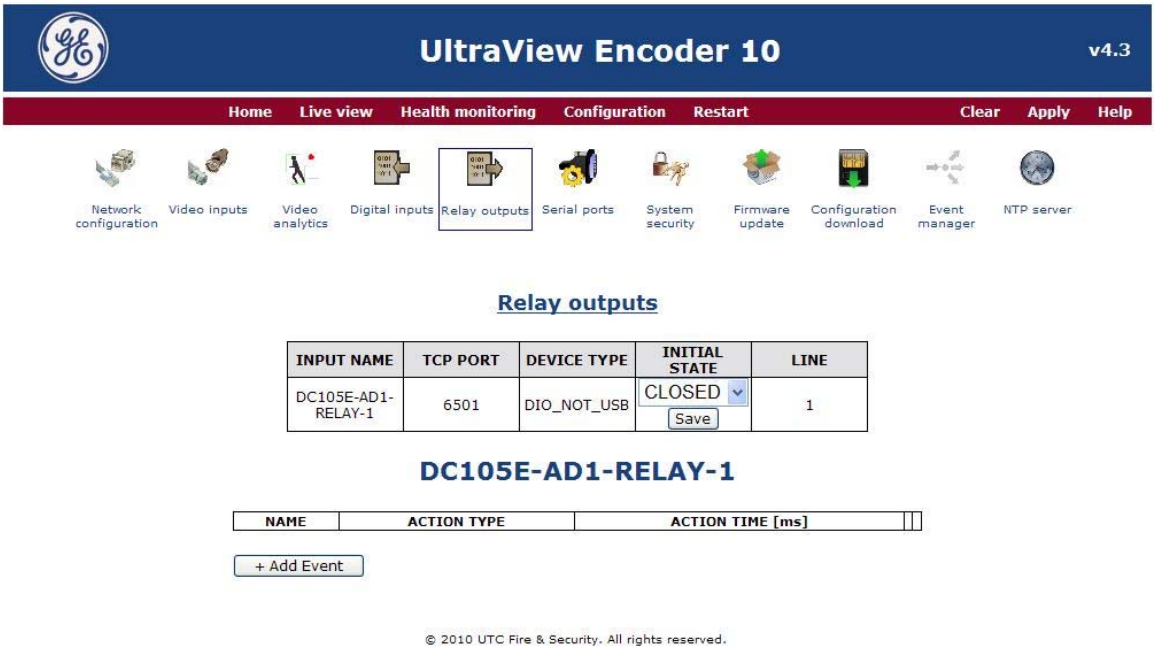
Parameters	Description
Input name	Unique name for the digital output.
TCP port	TCP port used for digital output.
Device type	Whether USB device or other.
Initial state	The initial relay state at startup.
Line	A number identifying a configured digital input used for signal input. Note: Not available in some devices.

In this window you can also set:

- **Name**
  Define the name of the event, which triggers this relay action.
- **Action type**
  Define whether the action is open or closed.
- **Action time (MS)**
  Duration of the action in milliseconds (MS). Value “0” means it is permanent.

Click Apply to set an event. Add, save or remove an event using appropriate buttons.

Figure 23: Relay outputs



Serial ports

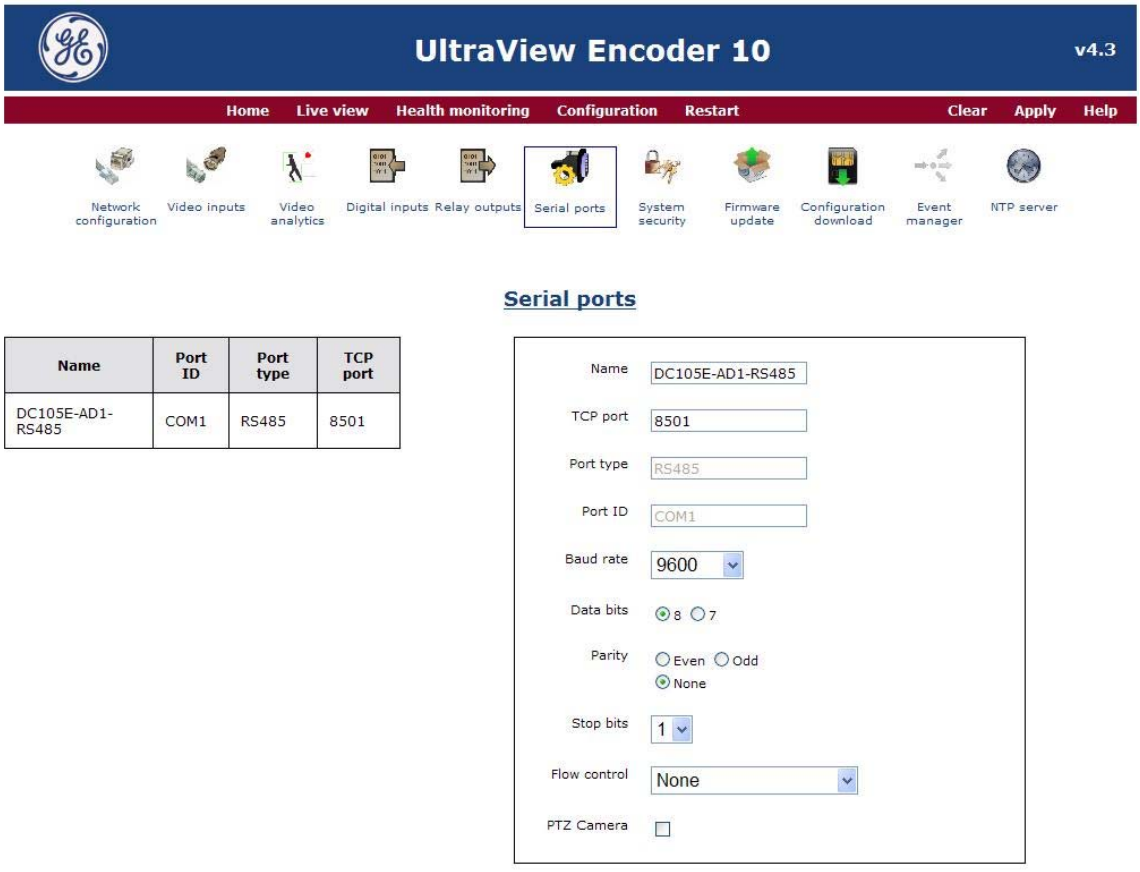
In this window you can configure the serial communication ports of the video equipment used for connecting telemetry devices, such as PTZ cameras, control keyboards, etc.

The available options are:

- **Name**
  Define a unique name for the serial port.
- **TCP port**
  Define the TCP Port number for the reception of data (default value: 8501).
- **Port type**
  Signaling type. For these devices it will be RS485.
- **Port ID**
  The ID of the port. For example, COM1 for UltraView Encoder 10.
- **Baud rate**
  Speed at which the data is transmitted. Value in the range from 1200 to 115200 bps (default value: 2400).
- **Data bits**
  7 or 8 bit data packets (default value: 8).
- **Parity**
  Select Even, Odd, or None (default value: None).
- **Stop bits**
  0, 1 or 2. stop bits (default value: 1).

- **Flow control**
  Select the Flow Control option from the drop down menu. Flow control compensates for the difference between the rate at which data reaches a device and the rate at which the device processes and transmits. The two common types of flow control are RTS/CTS signaling (a hardware based method, employing an electrical signal) and XON/XOFF (a software-based method using standard ASCII control characters to pause or resume transmission).
- **PTZ camera**
  Set for PTZ cameras.
- **Camera name**
  Define a unique PTZ camera name.
- **Camera TCP port**
  Define a PTZ TCP port.
- **PTZ camera protocol**
  From the drop down list select the PTZ protocol to be used.

Figure 24: Serial ports



System security

In this window you can configure the security settings for the device.The available options are:

Reset password

In this section you can a set a new unique password.
Note: If you loose or forget your administrative password, you will only be able to reset it using the reset factory button.

To set new password:

1. Enter old password
2. Enter new password
3. Confirm new password
4. Click Save password

Configuration Access

In this section you can select the check box to only allow device configuration through EWS. Click save configuration access to store this option.

HTTPS Settings

In this section you can set EWS security policy. Access to EWS will be managed via HTTP (non-secure) or HTTPS (secure).

Note: The system starts working using the HTTP mode.

A self-signed certificates are treated as untrusted and the browser will give the user a warning that this connection is unsecure.

To generates and installs self-signed or CA-signed trusted certificates:

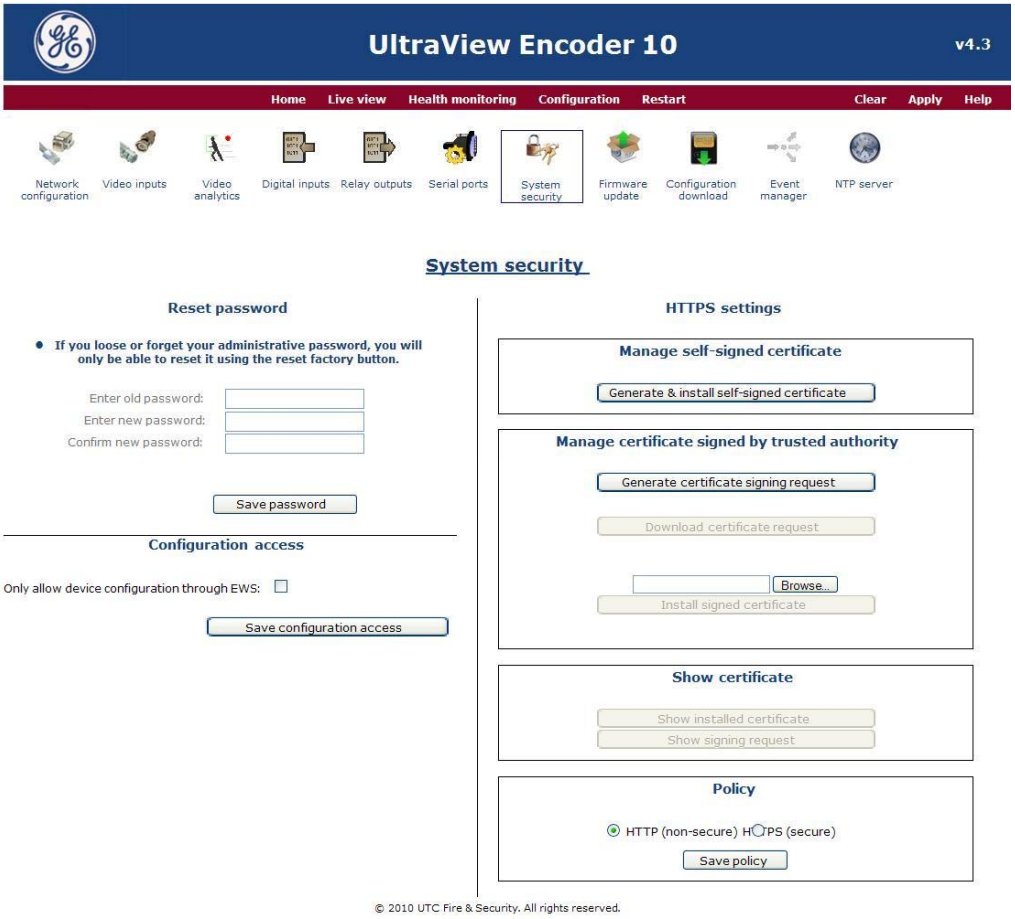
1. Click the Generate & install self-signed certificate button
2. Fill out the Generate & install self-signed certificate form
3. Generate and save the certificate
4. Browse for the self-signed certificate
5. Install self-signed certificate

OR

1. Click the Generate certificate signing request button
2. Fill out the Generate certificate signing request
3. Generate and save the certificate signing request
4. Email the certificate signing request to CA
5. Browse for the CA -signed certificate
6. Install CA-signed certificate

You can set security policy as HTTP (non-secure) or HTTPS (secure).

Figure 25: System security window



Firmware update

In this window you can upload a new firmware. See Figure 26.

This will reset the firmware part of flash memory, but all settings will be kept. The system will download the image and restart automatically after the upgrade.

Note: If the device is reset or power is lost during the update, the device will switch to recovery mode and a new update should be made using Central Configuration Server or this web server.

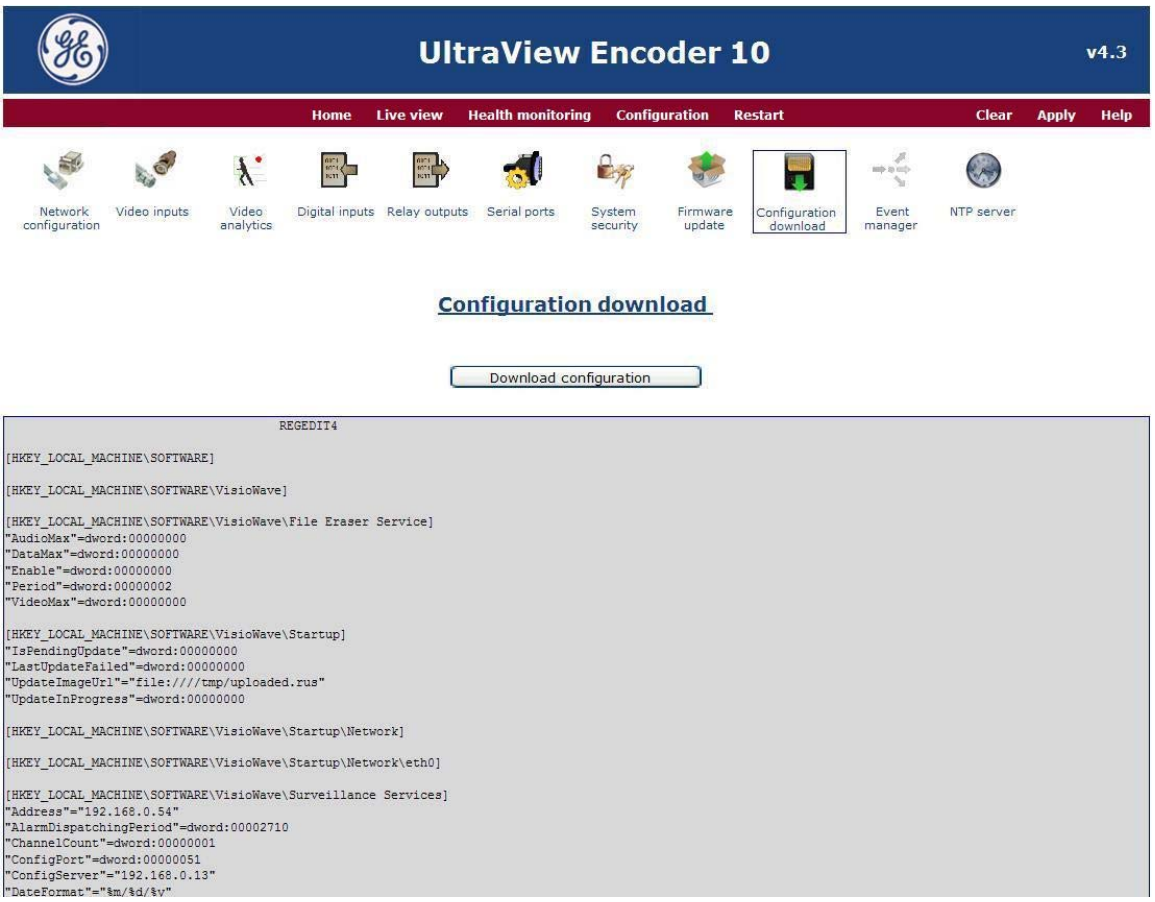
Figure 26: Firmware update window

Configuration download

In this window you can view and download the configuration of the device. See Figure 27.

You can download the configuration file to your local disk, by clicking the Download configuration button and selecting Save.

Figure 27: Configuration download window



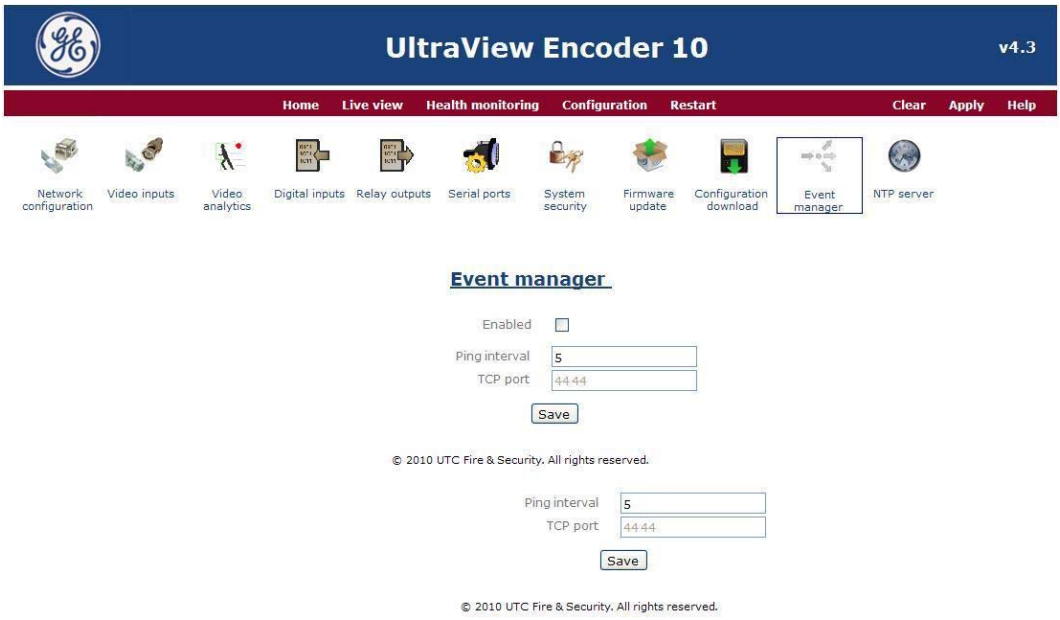
Event Manager

In this window you can configure the event manger.

The available options are:

- **Enabled**
  Define whether to enable event manager for the device.
- **Ping interval**
  Ping interval in seconds at which the connection with event receivers, that is all video equipment on the site, will be checked (default value: 5).
- **TCP port**
  TCP port for listening on event clients (default value: 4444).

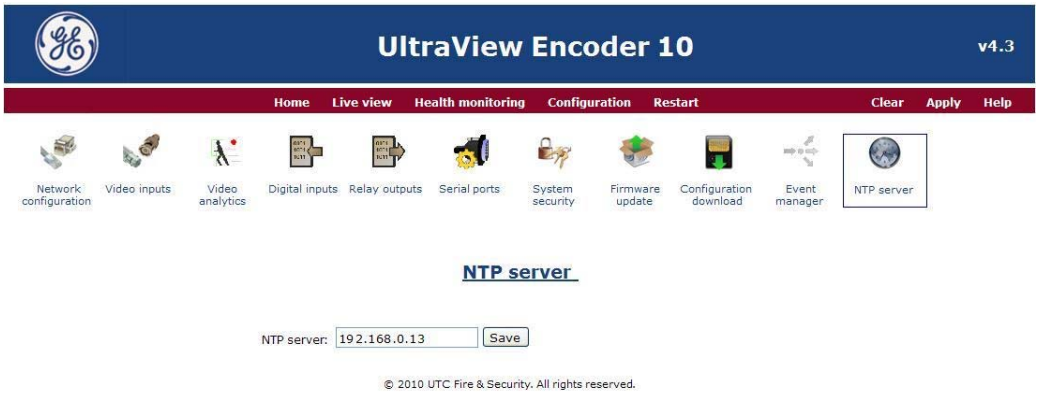
Figure 28: Event manager window



NTP Server

Specify the location of the NTP server.

Figure 29: NTP server window



Restart

In this window you can reboot the device and re-apply configuration changes. To apply changes press “OK” in the Restart window.

Clear

Clears all temporary settings and fields that have not been applied and saved.

Help

In this window you can display topic sensitive help, which explains various functional options, fields and terms used in Extended Web Server.

Contacting technical support

For help installing, operating, maintaining, and troubleshooting this product, refer to this document and any other documentation provided. If you still have questions, contact us during business hours (Monday through Friday, excluding holidays).

Note: Please be ready at the unit before calling.

Table 4: Technical support

North America	Latin America
T: 888 GE Security (888.437.3287) Toll-free in the US, Puerto Rico, and Canada. 503.885.5700 outside the toll-free area. F: 888.329.0332 (Tualatin tech support) 561.998.6232 (Boca Raton tech support) E: *nstechsrv@ge.com*	T: +1.305.593.4301 F: +1.305.593.4300 E: *InfraSec.TechnicalServicesLatinAmerica@ge.com* *InfraSecCustomerService.LatinAmerica@ge.com*

Australia, New Zealand	Europe, Middle East, and Africa
E: *security.tech.support@fs.utc.com*	T: + 48 (58) 326 2240 F: + 48 (58) 326 2241 E: *bpsupport.emea@fs.utc.com* W: *www.interlogix.com*

Asia and Hong Kong
E: *Ts.cn@fs.utc.com*

Glossary

CODEC	Compressor/Decompressor, any technology for compressing and decompressing data
COM	The name of a serial communication port
CPU	Central Processing Unit, the brain of the computer where most calculations take place
EVP	Enterprise Video Platform
DHCP	Dynamic Host Configuration protocol, a protocol for assigning IP addresses to devices on a network
I/O	Input/Output
IP	Internet protocol that specifies the format of packets, also called datagrams and addressing scheme
LAN	Local Area Network, a network spanning a small physical area and operating at high speed
LED	Light Emitting Diode
SNMP	Simple Network Management Protocol, a set of protocols for managing complex networks
USB	Universal Serial Bus
VOS	Video Operating System, UltraView EVP global solution for video security