Installing and Configuring Rialto™ Analytic Appliances

Important Safety Information

This manual provides installation and operation information and precautions for the use of this camera. Incorrect installation could cause an unexpected fault. Before installing this equipment read this manual carefully. Please provide this manual to the owner of the equipment for future use.

The Warning symbol indicates the presence of dangerous voltage within and outside the product enclosure that may constitute a risk of electric shock, serious injury or death to persons if proper precautions are not followed.

The Caution symbol alerts the user to the presence of hazards that may cause minor or moderate injury to persons, damage to property or damage to the product itself if proper precautions are not followed.

WARNING — Failure to observe the following instructions may result in severe injury or death.

- Installation of this product should be made by qualified service personnel in accordance with applicable local and national electric codes.
- This product must only be powered by SELV sources.
- This unit is for indoor use only and shall not be connected to an external cable distribution system.
- Power sources to be used for 12V DC and 12V AC must be UL marked "LPS or class 2."

CAUTION — Failure to observe the following instructions may result in injury or damage to the camera.

- Dispose used batteries according to the instructions.
- Risk of explosion if battery is replaced by an incorrect type.
- Non-replaceable fuses only replaceable by service personnel.
- Power sources to be used for alarm circuit connections must be UL marked "LPS or class 2."

Regulatory Notices

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.

This Class A digital apparatus complies with Canadian ICES-003.

FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications made to this equipment not expressly approved by Avigilon Corporation or parties authorized by Avigilon Corporation could void the user's authority to operate this equipment.

Disposal and Recycling Information

When this product has reached the end of its useful life, please dispose of it according to your local environmental laws and guidelines.

Risk of fire, explosion, and burns. Do not disassemble, crush, heat above 100°C (212°F), or incinerate.

European Union:

This symbol means that according to local laws and regulations your product should be disposed of separately from household waste. When this product reaches its end of life, take it to a collection point designated by local authorities. Some collection points accept products for free. The separate collection and recycling of your product at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.

Legal Notices

Avigilon Corporation
http://www.avigilon.com

PDF-RIALTO-001

Revision: 4 - EN

2015-04-23

Table of Contents

Requirements

Package Contents

Ensure the package for each purchased Rialto™ analytic appliance contains the following:

Rialto™ I4 Analytic Appliance

- I4 analytic appliance
- Power supply kit
- 2 audio splitter cables
- Ethernet cable
- Terminal block plug
- Stand-Alone kit

Rialto™ A4 Analytic Appliance

- A4 analytic appliance
- Power supply kit
- 2 audio splitter cables
- Ethernet cable
- Terminal block plug
- Stand-Alone kit

Rialto™ R-Series Analytic Appliance

- R-Series analytic appliance
- Power cord
- L-bracket kit (for installation onto the optional rack-mount shelf)
- Rialto modules with accessories kit (as purchased)

Optional Rialto™ R-Series Rack-Mount Shelf

- R-Series rack-mount shelf
- 8 screws

Preparing Installation

Before installing a Rialto™ analytic appliance, you must have:

- **Network connection**: A connection to the local area network (LAN).
- **IP addressing scheme**: By default, the device is set to acquire an IP address via DHCP. If you plan to use a static IP address, the IP address subnet and gateway information should be known before installation begins.
- **Router port-forwarding setup:** If a remote site will be connecting to the analytic appliance to receive alarms or manage settings, then appropriate ports need to be opened in the exterior firewall (HTTP: 80, HTTPS: 443, RTSP: 554).
- **PC or Laptop:** The Avigilon™ View software is required to configure the analytic appliance.

Assigning an IP Address to the Analytic Appliance

By default, the analytic appliance is configured to acquire an IP address via DHCP.

If there is not a DHCP server on the network, the camera will automatically acquire an address in the 169.254.x.x. subnet. For example:

> **IP Address**: 169.254.238.51

> **Subnet Mask**: 255.255.0.0

Installation

The Rialto™ analytic appliances include the R-Series analytic appliance, the A4 analytic appliance, and the I4 analytic appliance. Determine which device you are installing and complete the relevant procedures.

Rialto™ I4 Analytic Appliance

Rialto™ A4 Analytic Appliance

Rialto™ R-Series Analytic Appliance

Rialto™ I4 and A4 Analytic Appliance

Front View of the A4 Analytic Appliance

Front View of the I4 Analytic Appliance

1. **Audio Connector 1**
   Provides 1 audio input and 1 audio output. Use the audio splitter cable to connect microphones and powered speakers.

2. **Serial I/O Connector**
   Provides a connection for 4 alarm inputs and 5 alarm outputs, RS-485 and RS-232 data communication, and 12V DC power. For more information, see *Connecting to External Devices* on page 14.

3. **Audio Connector 2**
   Provides 1 audio input and 1 audio output. Use the audio splitter cable to connect microphones and powered speakers.

4. **Reset Button**
   Allows you to reboot the analytic appliance.

5. **Status LED**
   Is red when the analytic appliance is starting up; is green when the analytic appliance is ready.

6. **Video Input Ports**
   Allows input from up to 4 video sources.

7. **Video Signal Status LED**
   Is green when the analytic appliance is receiving a video signal from the camera.

Back View of I4 and A4 Analytic Appliances
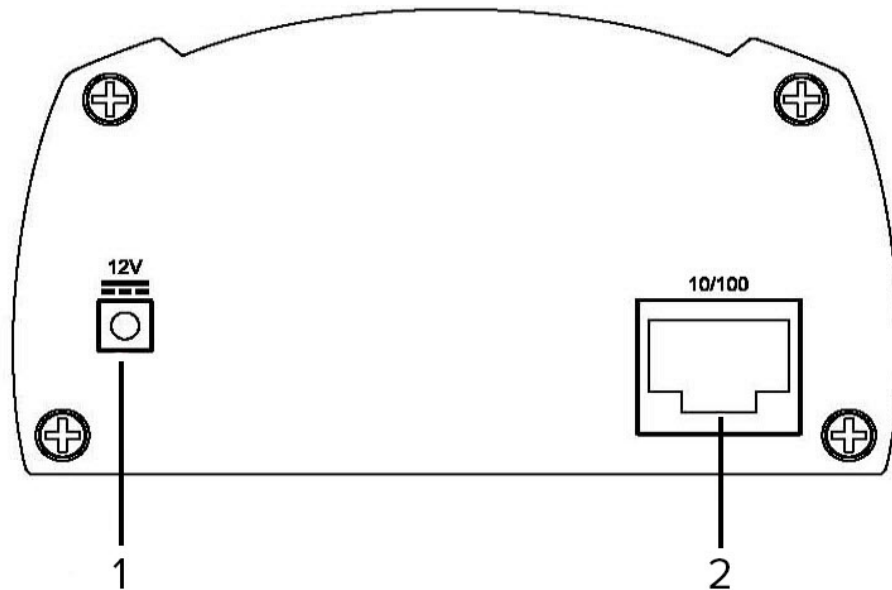
1. **Power Connector**
   Accepts 12V DC.
2. **Ethernet Port**
   Used for network communications.

Connecting an IP Camera to an I4 Analytic Appliance

You can connect IP cameras to the Rialto I4 analytic appliance through the network. You do not need to physically connect IP cameras to the analytic appliance.

To do this, you will need:

- Ethernet cable
- Power supply kit

1. Connect the analytic appliance to the network.
2. Connect the power supply.
3. Use the Avigilon™ View software to connect your cameras to the analytic appliance.

Connecting an Analog Camera to a A4 Analytic Appliance

You can connect any standard analog camera to the Rialto **A4** analytic appliance.

To connect analog cameras, you will need:

- 75 Ohm coaxial cable
- Ethernet cable
- Power supply kit

1. Connect the coaxial cable to the Video In port on the analytic appliance and the Video Out port of the camera.
2. Connect the Ethernet cable to the Ethernet port on the back of the analytic appliance and to the IP network.
3. Connect the power supply.

Connecting an Analog PTZ Camera to an A4 Analytic Appliance

You can also connect PTZ cameras to the Rialto A4 analytic appliance.

NOTE: The analytic appliance only supports PTZ cameras that use Pelco P and Pelco D communication protocols.

To connect PTZ cameras, you will need:

- 75 Ohm coaxial cable
- Cable for the PTZ camera:
  - Two-wire cable for a half-duplex PTZ
  - Four-wire cable for a full-duplex PTZ
- Ethernet cable

1. Connect the coaxial cable to the Video in port on the analytic appliance and the Video Out port of the camera.
2. Connect the Ethernet cable to the Ethernet Port on the back of the analytic appliance and to the IP network.
3. Connect the camera PTZ controls to the analytic appliance.
   - For full-duplex PTZ, use the four-wire cable to connect the PTZ camera to the analytic appliance.

     The T+ and T- cables from the PTZ should connect to the R+ and R- slots on the analytic appliance serial connector, and the R+ and R- cables from the camera should connect to the T+ and T- slots.
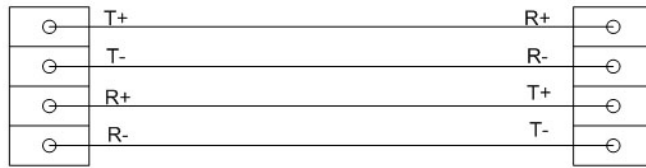
Figure 1: (Left) PTZ Connections. (Right) Encoder Serial Connector

- For half-duplex PTZ, use the two-wire cable to connect the PTZ camera to the analytic appliance.

  The R+ and R- cables from the camera should connect to the T+ and T- slots on the analytic appliance.

Figure 2: (Left) PTZ Connections. (Right) Encoder Serial Connector

4. Connect the power supply.

Up to 4 PTZ cameras can be connected in series to the analytic appliance with unique Pelco protocol addresses.

Once the PTZ camera is connected, you can configure it in the Avigilon™ View Software.

NOTE: The PTZ camera's Pelco protocal address must correspond to the analytic appliance channel it's attached to. To do so, consult your camera manual.

Rialto™ R-Series Analytic Appliance

Back View of the R-Series Analytic Appliance
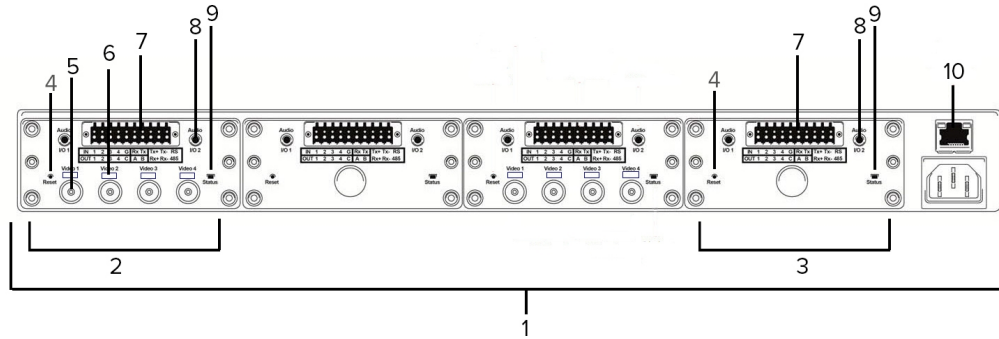
1. **Rack-Mount Analytic Appliance**
   Supports up to 4 analytic modules for connecting analog or IP cameras.

2. **Analog Analytic Module**
   Supports up to 4 analog cameras per unit.

3. **IP Analytic Module**
   Supports up to 4 SD, 3 720p, or 2 HD cameras.

4. **Reset Button**
   Allows you to reboot the module.

5. **Video Input Ports (analog only)**
   Allows input from up to 4 video sources.

6. **Video Signal Status LED (analog only)**
   Is green when the module is receiving a video signal from the camera.

7. **Serial I/O Connector**
   Provides a connection for 4 alarm inputs and 5 alarm outputs, and RS-485 and RS-232 data communication. For more information, see *Connecting to External Devices* on page 14.

8. **Audio Connector**
   Provides 1 audio input and 1 audio output. Use the audio splitter cables to connect microphones and powered speakers.

9. **Status LED**
   Is red when the module is starting up; is green when the module is ready.

10. **Ethernet Port**
    For network communications.

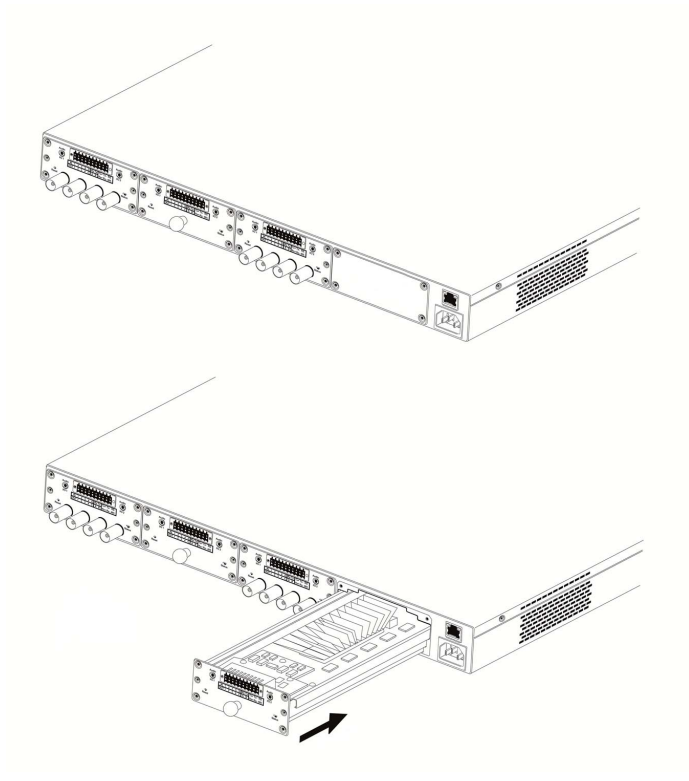# Front View of the R-Series Analytic Appliance
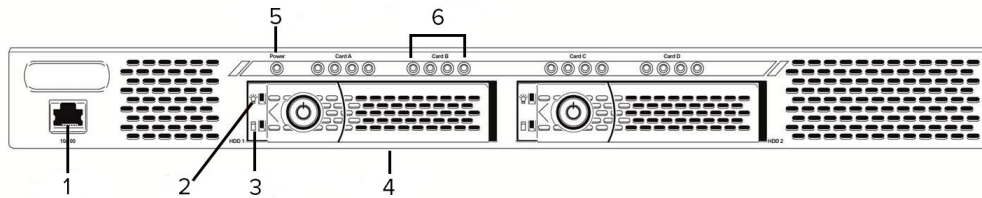
1. **10/100 Ethernet Port**
   Used as a maintenance port.

2. **Disk Power LED**
   Shows when the disk has power.

3. **Disk Activity LED**
   Shows when the hard disk drive is written to or read from.

4. **Hard Disk Drive Bay**
   Supports up to 2 hard disk drives.

5. **Power On LED**
   Shows when the R-Series appliance has power.

6. **Video Signal Status LED**
   Shows when the camera is connected and the analytic appliance is receiving a valid video signal.

Installing a R-Series IP or Analog Analytic Module

The R-Series analytic appliance can support any mix of up to 4 analog analytic and IP analytic modules.

1. Ensure the analytic appliance is powered down.

2. Remove the screws securing the four corners of the module blank on back panel.

3. Remove the module from the packaging and line the module up with the opening in the R-Series analytic appliance.

4. Slide the module in until the front of the module is flush with the back of the R-Series analytic appliance.

5. Screw the module into place.

Installing the Optional R-Series Rack-Mount Shelf

The Rialto™ R-Series analytic appliance can be installed onto a standard IU rack using the R-Series rack-mount shelf. The optional shelf is designed to leave the analytic appliance vents free for proper air flow.

1. Screw 1 L-bracket each onto either side of the R-Series chassis.
2. Standing at the front of the server rack, attach the shelf to the back of the front posts with the supplied mounting screws.
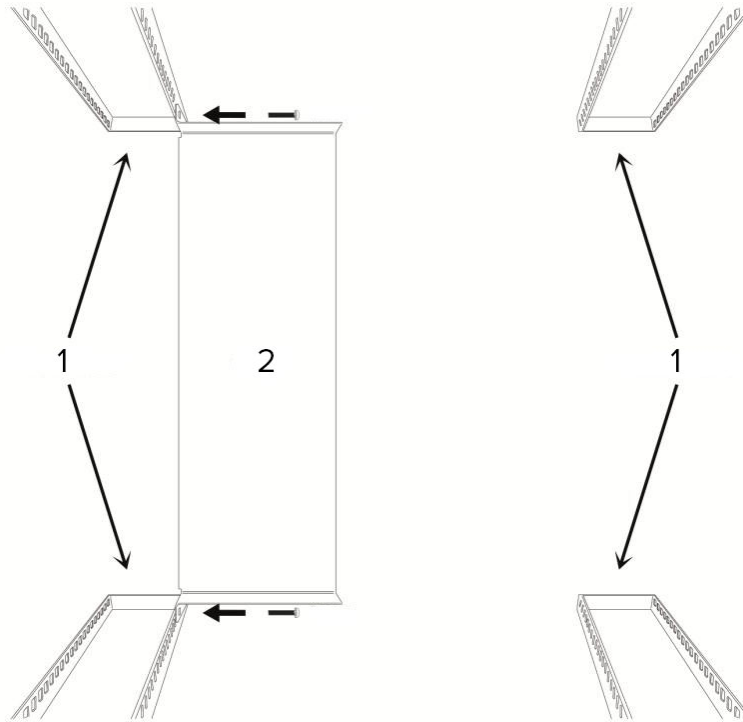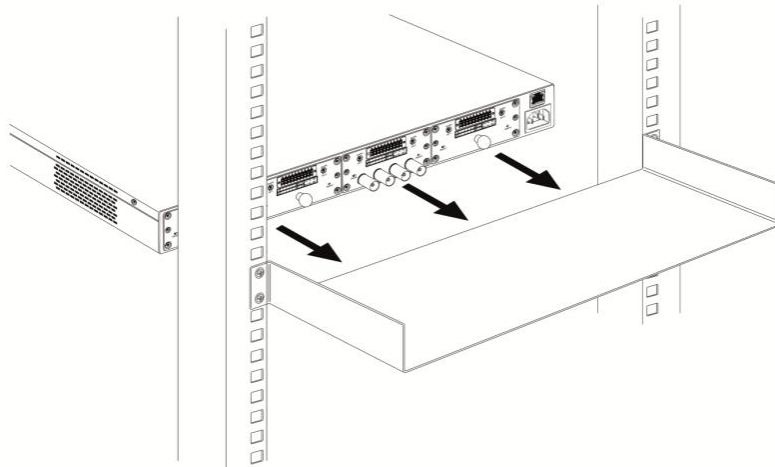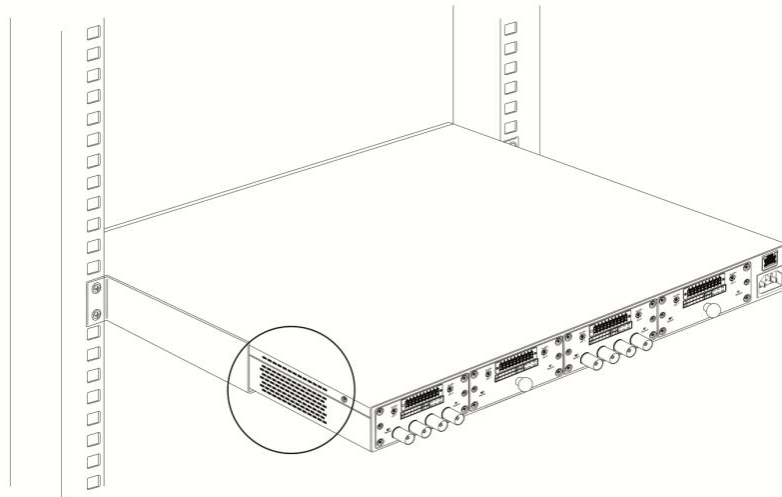
Figure 3: (1) rack posts (2) shelf

3. From the front of the rack, slide the back of the analytic appliance onto the shelf until the face is flush with the front posts.

4. Ensure the analytic appliance vents extend beyond the shelf to allow for adequate cooling.

5. Use the remaining mounting screws to secure the front of the analytic appliance to the posts of the server rack.

Positioning and Selecting Camera Locations

To achieve the best performance from the analytic appliance, carefully consider where each connected cameras should be installed. The choice of camera location can impact the quality of the analytics results. For details about positioning and selecting camera locations, see *Designing a Site for Video Analytics*. The document is available in the eDocs app and on the Avigilon website.

Connecting to External Devices

External devices are connected to the device through the I/O terminal. The Rialto A4, I4 and R-Series appliance have the same I/O terminal.

The pinout for the I/O terminal is shown in the following diagram:
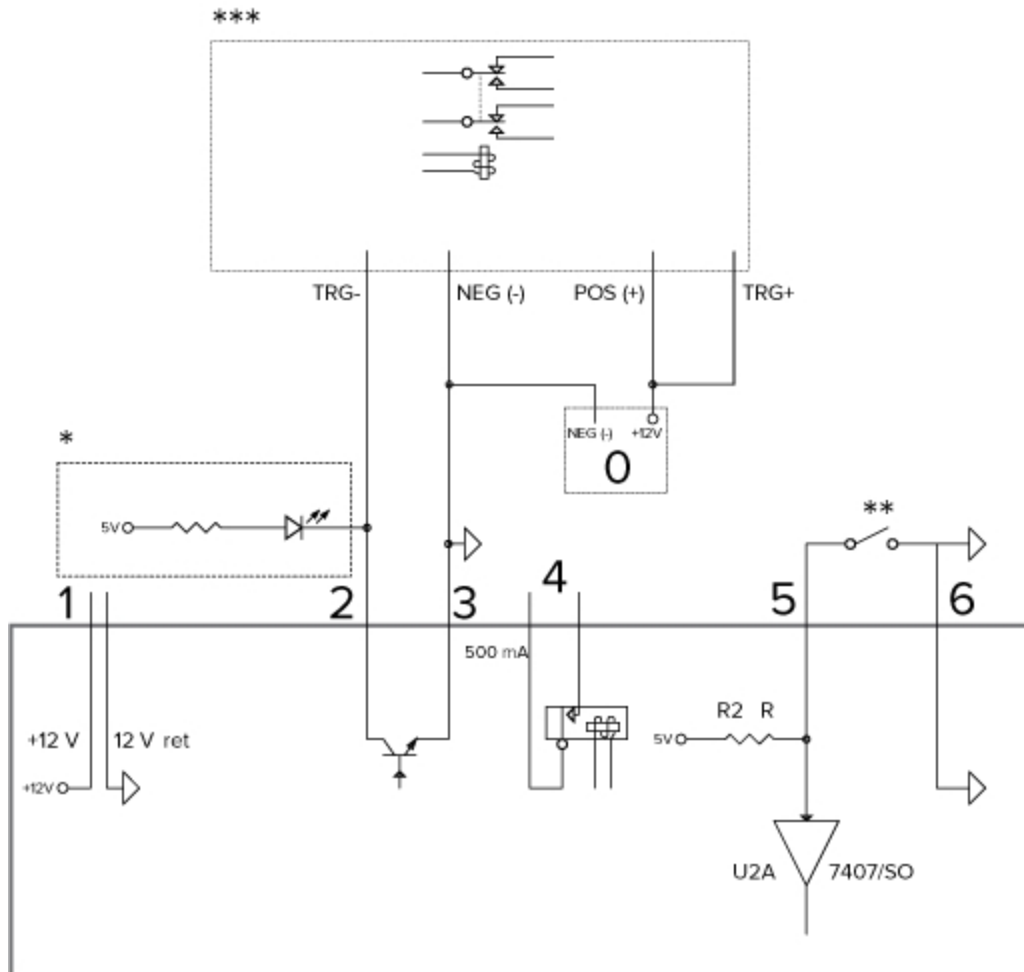
1. 12 V optional power input for the analytic appliance
2. Alarm Out (1-4) — When active, Output is connected to the Common pin. Normally the Common pin should be connected to Ground. Circuit is open when inactive. Maximum load is 60V, 8mA.
3. Common (C)
4. Relay Output (A and B) — When active, A terminal is connected to B terminal. Circuit is open when inactive. Maximum load is 60V, 500mA.
5. Alarm In (1-4) — To activate, connect the Input to the Ground pin. To deactivate, leave disconnected or apply between 3 – 9V.
6. Ground (G)
7. 0 — Power supply
8. * — LED circuit

9. ** — Switch
10. *** — RBSNTTL or similar relay module

Troubleshooting

Performing a Factory Reset on the Rialto™ I4 and A4 Analytic Appliances

A factory reset will reset the analytic appliance back to its default factory settings. You do not need to power down the analytic appliance before performing a factory reset.

1. Hold the reset button for approximately 12 seconds.
2. When the factory reset is complete, the video signal status lights stop blinking and remain solid .

Replacing a Hard Drive on the Rialto™ R-Series Analytic Appliances

1. Ensure the analytic appliance is powered down.
2. Remove the failed hard drive:
   a. Slide the lock to the left to unlock the hard drive.
   b. Grab the lever and slide the hard drive in its enclosure out of the appliance.
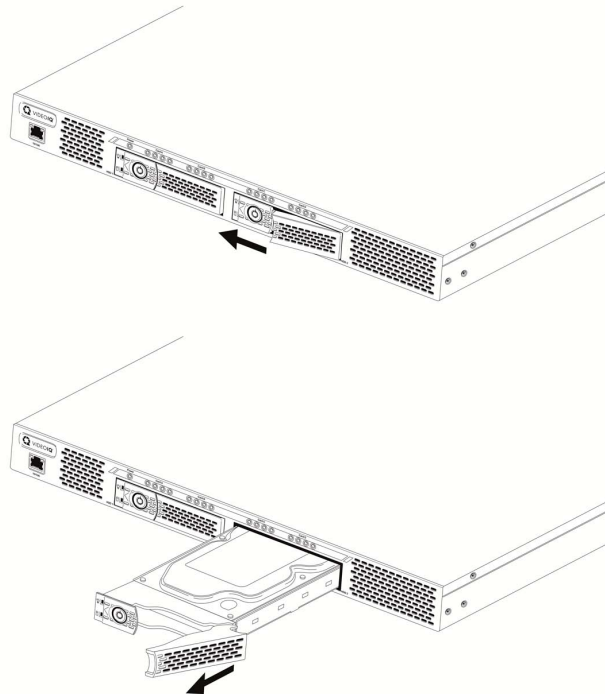
2. Turn the hard drive enclosure over and remove the screws.
3. Remove the hard drive from the enclosure and replace with a new hard drive.
4. Replace the screws.

5. Slide the hard drive back in the hard drive slot, using the lever to finish pushing it into place.

6. Lock the hard drive.

Important: You do not need to manually format the new hard drive if you're using Redundant Storage and data has been preserved in the remaining drive. The system will automatically format and mirror the data onto the new hard drive. Only format the drive if no data has been preserved. If you need to format the hard drive or want to check the type of drive you're using, you can do so using the Avigilon™ View software.