



IQeye Sentinel™ Series

Indoor/Outdoor Camera

Installation and Operating Instructions



Important Safeguards



Due to product size and space limitations, this label may not appear on all products.



The lightning flash with an arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**WARNING: TO PREVENT FIRE OR SHOCK HAZARD,
DO NOT EXPOSE UNITS TO RAIN OR MOISTURE.**



Attention: Installation should be performed by qualified service personnel only in accordance with the National Electrical Code or applicable local codes.

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1 Unpacking

Unpack carefully. This is an electromechanical device and should be handled carefully. Check to ensure the following items are included:

- > Integrated Sentinel camera/housing unit
- > 3 mm Allen wrench
- > Wall mount template
- > CD-ROM
- > Punch down tool
- > Mounting hardware
- > Optional Heyco fittings

2 Service

If the unit needs repair service or parts, the customer should contact Vicon Industries for authorization to return, as well as shipping instructions. See the Shipping Instructions at the end of this manual.

3 Description

The Sentinel is a full featured, multi-megapixel H.264 Main Profile all-weather camera. With support for up to 5MP resolutions, this camera provides multiple, individually configured H.264 and simultaneous MJPEG streams. Designed with the installer in mind, innovative features include:

- Remote back focus greatly reduces installation time using the One-Touch-Focus feature and allows fine focus adjustments from a remote computer eliminating the need for manual focus adjustments at the camera.
- The Ethernet terminal punch-down eliminates the need to terminate with an RJ45 connector.
- Steel camera hangers allow the installer to work with both hands.

4 Installation

NOTE: This manual describes how to install the IQeye Sentinel Series camera system, and details the wall, ceiling and parapet mounting options. Installations should be performed by qualified service personnel only in accordance with local codes.

5 Parts List

The following depicts the parts included (Figure 1):

1. Indoor / Outdoor Camera and Lens Module
2. Wall, Ceiling & Parapet Arm
3. Power / Data Back Box

Tools required:

- 3 mm Allen wrench (supplied)
- Small straight-blade screw driver
- Punch down tool (supplied)



Figure 1

6 Camera Fittings

The IQeye Sentinel cameras are shipped with Heyco Liquid Tight snap-in plugs (#4014) that are factory installed into the back box. These plugs are rated to IP67 and can adequately seal cable diameters that range from 3-5 mm (0.12-0.2 in).

For larger cables, like CAT5, it is recommended to replace the factory installed plugs with the optional Heyco Liquid Tight fittings (#3207) that are included in the accessory kit. These fittings are appropriate for cable diameters that range from 2.90 mm to 6.35 mm (0.114 - 0.250 in).

7 Mounting Options



Figure 2

8 Camera Arm Removal

NOTE: The camera/arm needs to be removed from the back box to allow the back box to be mounted to the designated mounting wall, ceiling, or parapet surface.

1. Using the Allen wrench (supplied) loosen the 4 screws located on the corners of the power/data back box.
2. Unplug the two camera-side connections from the back box (Figure 3).
3. Remove the camera/arm module from the back box.



Figure 3

9 Mounting the Power / Data Back Box

Before mounting the power / data back box, determine if the camera installation will be wall, ceiling, or parapet and if the wiring will pass through the compression fittings in the back or the ½" NPT conduit mount on the bottom of the back box.

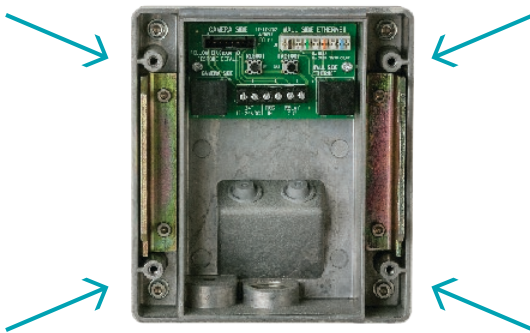
NOTE: If using the compression fittings in the back, it is recommended to replace the factory installed hole plugs with the optional Heyco Liquid Tight fittings (#3207) from the accessory kit where larger cables like CAT5 will be used.

NOTE: If using the ½" hole on the bottom of the junction box, a ½" (15 mm) NPT compression fitting can also be used. (Heyco P/N 3200 is also appropriate).

1. As the arrows (Figure 4) indicate, use the supplied wall mount template to locate the four mounting holes for the power/data back box.
2. Drill four (4) holes for the mounting screws using the included mounting template as a guide. If installing outdoors, apply a weatherproof sealant around each hole at the mounting surface.
3. Provided are four (4) #14 x 2" flanged (approximately 10 mm head x 50.1 mm in length), hex head screws that can be used to install into a variety of wood and metal substrates. If mounting into wooden studs, it is recommended that a 1/8" (3 mm) wide by 2" (4.8 cm) deep pilot hole be drilled prior to installing the screws. Alternatively, the installer can provide screws with a head diameter less than #14 (3/8" or 10 mm) in size so that they can fit into the junction box opening.

NOTE: It is recommended that each screw and the material it is being installed into be able to bear a minimum of 50 pounds (22 kilograms) of pull force.

4. Pass the power and data cables through the back box, then install the power / data back box on the mounting surface.

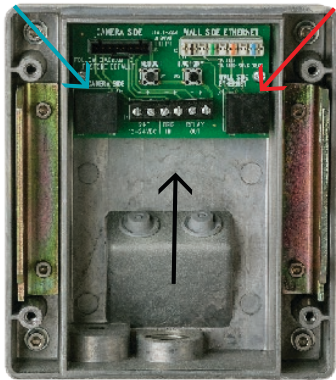


Proper Mounting Orientation

Figure 4

10 Terminating Power and Data Cabling Inside the Back Box

Power and data cabling must be routed to the right side (wall-side) of the back box. Cut all cables with sufficient slack to reach the connector terminals in the back box but not long enough to be pinched or obstruct the arm installation.



- Camera-Side Terminations
- Wall-Side Terminations
 - RJ-45
 - PunchDown Terminal
- Screw Terminal
 - Direct Power – 12-24VDC or 24VAC
 - Trigger In
 - Relay Out

Figure 5

1. Connecting Power:

The IQeye Sentinel can be powered via Ethernet using an IEEE 802.3af power source, or powered directly.

- **Powered via PoE:** Input from conforming IEEE 802.3af Power-over-Ethernet (PoE) power injector or switch.
- **Powered Directly:** Input voltage is 12-24V DC or 24V AC. IQeye Sentinel camera/housing modules include built-in bridge rectifier circuitry, so power wiring polarity can be installed with the + or - on either terminal without risk of damaging the camera or affecting performance.

NOTE: Using a power source with specifications other than those defined herein may result in errant functionality or damage to the camera, and will void the product warranty.

2. Connecting Data (Ethernet) Cable:

Route and connect the Ethernet cable to the Ethernet connections (RJ-45 - Figure 6 or Punch Terminal - Figure 7) labeled wall-side in the back box.

The two most common schemes for wiring CAT5 cables are 568A & 568B. The 568B wiring scheme is widely used in the US, and for off the shelf CAT5 cables. New installations should use the 568A CAT5 wiring scheme. It is important that the standard selected matches the building wiring.

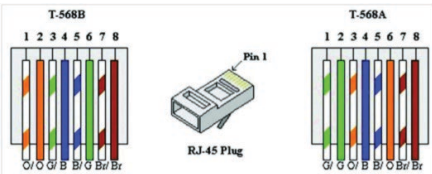
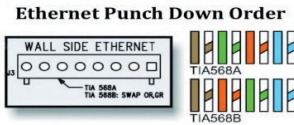


Figure 6



Type 66 Punch Down Block
Figure 7

11 Camera Arm Installation

The back box is provided with arm hangers on both sides to hold the camera/ arm module on the back box to facilitate installation. (Figure 8)

NOTE: The arm hangers function perfectly at any orientation of the junction box and will firmly hold the camera and junction box cover in any of the wall, ceiling, or parapet mount configurations.



Figure 8

1. Insert the two (2) pins into the channel and slide the camera / arm module down until it locks in place on the arm hanger.

WARNING: Serious injury and / or damage to the unit can occur if the camera / arm module is not fully locked in place.

2. Connect Ethernet and terminal block cables from the camera to the left side (camera side) of the junction box.
3. If I/O connections are being used, attach them to the appropriate I/O terminals on the center terminal block of the back box (Figure 9).

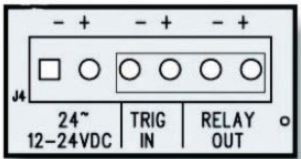


Figure 9

4. After all connections are made in the back box, remove the camera / arm hanger and secure to the back box by tightening the four (4) screws with the supplied Allen wrench (Figure 10).



Figure 10

5. If mounting the unit outdoors, please take necessary and thorough measures to ensure the camera unit is properly sealed from inclement weather. An example would be to use silicone sealer around the back of the base, being sure to surround all holes with a generous bead of sealant to the outer edge of the back box surface. The sealing method chosen should be in accordance with any local, state, county and country requirements and laws.

Blink Patterns

The IQeye Sentinel all-weather megapixel camera is equipped with two status indicator LEDs which can be seen on the back of the Sentinel enclosure. During normal operation, the following colors and patterns should be visible (Figure 11):

STATUS	LEFT LED	RIGHT LED
Power has just been applied	Solid RED	Solid RED
Connected to network but no network activity	Blinking GREEN	Solid GREEN
Connected to network with network activity	Intermittently blinking RED / GREEN	Solid GREEN
Immediately after power on indicates there is no power	DARK	DARK
NOTE: By default both LEDs will turn off after 60 seconds.		

Figure 11

If the Sentinel camera fails to power up or indicate a network connection or show activity, please contact Vicon technical support for assistance.

12 Adjusting / Removing the Sunshield

CAUTION

The IQeye Sentinel sunshield is not captive to the camera enclosure. Handle the sunshield securely during adjustment, installation and / or removal.

NOTE: For indoor applications of the Sentinel, the sunshield may be removed for aesthetic reasons. Though it is not required for normal operation of the Sentinel, the following instructions detail proper adjustment / removal / installation of this sunshield.

1. Attaching Sunshield - Follow these steps to attach the sunshield to the Sentinel:

- a. Ensure that the sunshield bracket is firmly attached to the Sentinel before attempting to attach the sunshield.
- b. With the fluted fins on the sunshield toward the front of the camera, line up the grooves on the sunshield with the flanges on the sunshield bracket and gently slide the sunshield back into the bracket.
- c. Once the sunshield is in the desired position, tighten the 3 mm set screw located on the top and center of the sunshield using the supplied 3 mm Allen wrench.

2. Adjustment/Removal - Using the supplied 3 mm Allen wrench, loosen the single (1) hex set screw on top of the sunshield. **DO NOT REMOVE THE SET SCREW.** Generally, only half a turn or less is required to sufficiently loosen the set screw for adjustment and/or removal of the sunshield.

- a. Adjustment – With the set screw loose, gently move the sunshield back or forth to position, then re-tighten the set screw with the supplied 3 mm Allen wrench.

NOTE: To properly tighten the set screw turn until the screw starts to become tight then turn an additional 3/4 turn

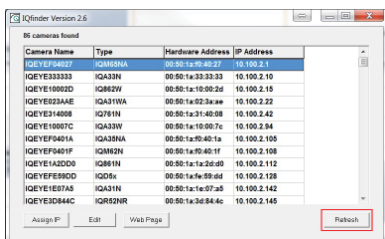
- b. Removal – With the set screw loose, pull the sunshield forward until it is free of the sunshield bracket.
- c. Optional – The bracket that holds the sunshield can also be removed if desired. To remove the sunshield bracket, loosen and remove the two (2) 3 mm countersunk screws using the supplied 3 mm Allen wrench. The bracket can then be removed. Though it is not required for the integrity of the Sentinel unit, it is recommended to re-insert and tighten the two (2) 3 mm countersunk screws back into the Sentinel casing for future use.

13 PC Configuration of IQeye Sentinel

NOTE: The default user name for all IQeye devices is “root” and the default password is “system”.

IQeye cameras are configured for DHCP and will have an IP address assigned if a DHCP server is on the network. If a DHCP server is not available, the camera IP address will need to be configured using either IQfinder or IQmanager depending on the number of cameras being installed.

1. Download and install IQfinder from the Vicon website (www.vicon-security.com). Launch IQfinder and scan for cameras on the network by clicking the refresh button. The detected cameras will be displayed in the IQfinder window. Select a camera from the list and click “Assign IP” to edit the selected camera’s network settings.
2. The “Assign IP” window allows the IP Address, Subnet, and Gateway of the camera to be changed and alternatively the camera to be configured for DHCP operation. Click the “Apply” button after making the desired changes (Figure 13).



NOTE: Changing between a static IP address and DHCP will cause the camera to reboot.

Figure 12

Figure 13

3. To view a camera, double click a camera entry or highlight a camera in the list and click the “Web Page” button (Figure 14). The “Live” page will be displayed through the default browser (IE recommended). It is also possible to open Internet Explorer and enter the IP address of the IQeye camera in the address field of the browser. If prompted, install the Active X control (Figure 15).

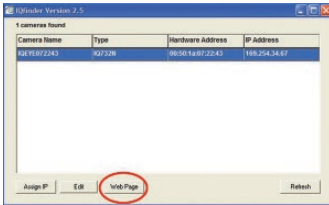


Figure 14

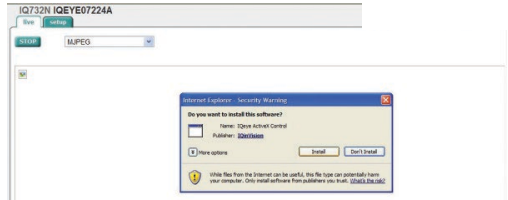


Figure 15

4. To perform further configuration of the camera, click on the “Setup” tab.

NOTE: The default username is “root” and the default password is “system”.

5. For additional information and technical documents, please visit:
www.vicon-security.com

14 Camera / Lens Adjustment / Remote Back Focus

1. Using the supplied 3mm Allen wrench, loosen any two adjacent screws of the four available ball pivot screws (Figure 16). This should loosen the ball enough to allow repositioning of the camera to the desired orientation. Tighten the screws to secure the camera module in place.



Figure 16

2. You can rotate the upper arm section by loosening the secured fitting, shown in Figure 17, by turning it counter-clockwise.



Figure 17

Once the lower arm is rotated to the necessary position, retighten the fitting by turning it clockwise.

3. Remove the lens cap with the supplied Allen wrench to expose the lens (Figure 18).



Figure 18

4. Browse to the camera homepage and go to the Setup > Focus tab (Figure 19).

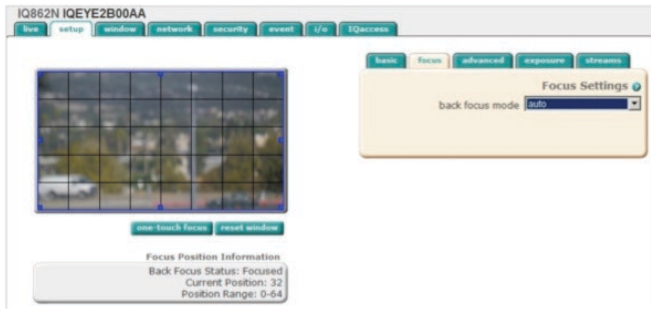


Figure 19

5. Set the iris on the lens to the 'Open' position then lock it down with the iris set screw.
6. If the back focus has been set before using the camera, click the "restore defaults" button on the Focus tab to reset the back focus adjustment.
7. Use the Varifocal adjustment on the lens to set the field-of-view, then lock the Varifocal adjustment set screw.
8. Focus the lens using the focus adjustment on the lens, then lock the focus adjustment set screw.

NOTE: The focus adjustment should be close to ensure the one-touch focus adjustment can be completed.

The following image (Figure 20) is an example of an image not focused enough to ensure a remote one-touch focus can be completed.

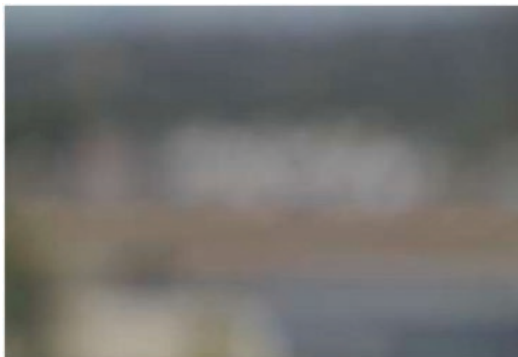


Figure 20

The following image (Figure 21) is an example of an image focused enough to ensure a remote one-touch focus can be completed.



Figure 21

NOTE: A desiccant pack is provided for placement inside the lens cover assembly. The desiccant pack must be installed to prevent fogging of the inside of the lens glass due to any moisture that is present when installing the camera.

- 9. Position the supplied desiccant pack above the lens and wrap it around the lens between the lens and the lens ring. The desiccant pack must be placed next to the lens within the inner chamber of the lens cover.

NOTE: Do not tuck desiccant pack into the outer chamber of the lens cover.

- 10. Clean all glass surfaces, including the surface of the lens, and the inside and outside of the lens cover, using a lens polishing cloth and approved lens / glass cleaning solution.
- 11. Carefully replace the lens cover, ensuring that no portion of the desiccant pack obscures the lens or protrudes beyond the inner lens chamber.
- 12. When the lens adjustments are complete, reinstall the lens cover and tighten the two (2) screws with the supplied Allen wrench. It is not necessary to apply significant force to tighten the lens cover screws. Once they are snug, turn an extra 1/2 turn beyond snug.
- 13. On the Focus tab click the One-Touch Focus button to focus the video image (Figure 22).



Figure 22

Shipping Instructions

Use the following procedure when returning a unit to the factory:

1. Call or write Vicon for a Return Authorization (R.A.) at one of the locations listed below. Record the name of the Vicon employee who issued the R.A.

Vicon Industries Inc.
135 Fell Court
Hauppauge, NY 11788
Phone: 631-952-2288; Toll-Free: 1-800-645-9116; Fax: 631-951-2288

For service or returns from countries in Europe, contact:

Vicon Industries (U.K.) Ltd
Brunel Way
Fareham, PO15 5TX
United Kingdom
Phone: +44 (0)1489/566300; Fax: +44 (0)1489/566322

2. Attach a sheet of paper to the unit with the following information:

- a. Name and address of the company returning the unit
- b. Name of the Vicon employee who issued the R.A.
- c. R. A. number
- d. Brief description of the installation
- e. Complete description of the problem and circumstances under which it occurs
- f. Unit's original date of purchase, if still under warranty

3. Pack the unit carefully. Use the original shipping carton or its equivalent for maximum protection.
4. Mark the R.A. number on the outside of the carton on the shipping label.

Vicon Standard Equipment Warranty

Vicon Industries Inc. (the "Company") warrants your equipment to be free from defects in material and workmanship under Normal Use from the date of original retail purchase for a period of three years, with the following exceptions:

1. All IQEYE Cameras: Two years if purchased before 1/1/2011.
2. Alliance-mini (IQD3xx), Alliance-mx (IQMxxx) and 3 Series (IQ03xx): Five years if purchased between 1/2/2011 – 12/31/2014.
3. Alliance-Pro (IQA3xx): Five years if purchased between 3/2/2012 – 12/31/2014. Three years if the motorized lens (IQA3xx-A3) option.
4. Uninterruptible Power Supplies: Two years from date of original retail purchase.
5. VDR-700 Recorder Series: One year from date of original retail purchase.
6. V5616MUX: One year from date of original retail purchase.
7. Arecont Cameras: One year from date of original retail purchase.
8. FMC series fiber-optic media converters and associated accessories: Lifetime warranty.
9. For PTZ cameras, "Normal Use" excludes prolonged use of lens and pan-and-tilt motors, gear heads, and gears due to continuous use of "autopan" or "tour" modes of operation. Such continuous operation is outside the scope of this warranty.
10. Any product sold as "special" or not listed in Vicon's commercial price list: One year from date of original retail purchase.

NOTE:

- If the product is to be used outdoors or in dusty, humid, or other hostile environments, it must be suitably protected.
- Camera products must be protected, whether in use or not, from exposure to direct sunlight or halogen light as the light may damage the camera image sensor. This applies to both indoor and outdoor use of the cameras.
- For camera products supplied without a lens, extreme care should be used when mounting a lens on these products. Damage to the product due to incorrectly mounted lenses will invalidate this limited hardware warranty.
- Failure to comply with any of the aforementioned requirements will invalidate this Limited Hardware Warranty.

Date of retail purchase is the date original end-user takes possession of the equipment, or, at the sole discretion of the Company, the date the equipment first becomes operational by the original end-user.

The sole remedy under this Warranty is that defective equipment be repaired or (at the Company's option) replaced, at Company repair centers, provided the equipment has been authorized for return by the Company, and the return shipment is prepaid in accordance with policy. Repaired or replacement hardware will be warranted for the remainder of the original Warranty Period or ninety (90) days, whichever is longer. When a product or part is exchanged the replacement hardware becomes the property of the original purchaser and all hardware or part thereof that is replaced shall become the property of Vicon.

The sole remedy under this Warranty is that defective equipment be repaired or (at the Company's option) replaced, at Company repair centers, provided the equipment has been authorized for return by the Company, and the return shipment is prepaid in accordance with policy. Repaired or replacement hardware will be warranted for the remainder of the original Warranty Period or ninety (90) days, whichever is longer. When a product or part is exchanged the replacement hardware becomes the property of the original purchaser and all hardware or part thereof that is replaced shall become the property of Vicon.

The warranty does not apply (a) to faulty and improper installation, maintenance, service, repair and/or alteration in any way that is not contemplated in the documentation for the product or carried out with Vicon consent in writing, operation adjustments covered in the

operating manual for the product or normal maintenance, (b) to cosmetic damages, (c) if the product is modified or tampered with, (d) if the product is damaged by acts of God, misuse, abuse, negligence, accident, normal wear and tear and deterioration, improper environmental conditions (including, but not limited to, electrical surges, water damage, chemical exposure, an/or heat/cold exposure) or lack of responsible care, (e) if the product has had the model or serial number altered, defaced or removed, (f) to consumables (such as storage media or batteries) (g) to products that have been purchased "as is" and Vicon the seller or the liquidator expressly disclaim their warranty obligation pertaining to the product, (h) to any non-Vicon hardware product or any software (irrespective of packaged or sold with Vicon hardware product) and Vicon products purchased from an unauthorized distributor/reseller, (i) to damage that occurs in shipment or (j) to damages by any other causes not related to defective design, workmanship and/or materials.

The warranty for the products shall run from Vicon to End User customers only (including product purchased through authorized partners and resellers). Vicon is not obligated under any circumstances to honor warranties on product(s) purchases from internet auction sites including eBay, uBid or from any other unauthorized resellers. Except as explicitly provided herein, Vicon disclaims all other warranties, including the implied warranties of fitness for a particular purpose and merchantability.

Software supplied either separately or in hardware is furnished on an "As Is" basis. Vicon does not warrant that such software shall be error (bug) free. Software support via telephone, if provided at no cost, may be discontinued at any time without notice at Vicon's sole discretion. Vicon reserves the right to make changes to its software in any of its products at any time and without notice.

The Warranty and remedies provided above are exclusive and in lieu of all other express or implied warranties including, but not limited to, the implied warranties of merchantability or fitness for a particular purpose. Certain jurisdictions do not allow the exclusion of implied warranties. If laws under such jurisdictions apply, then all express and implied warranties are limited to the warranty period identified above. Unless provided herein, any statements or representations made by any other person or firm are void. Except as provided in this written warranty and to the extent permitted by law, neither Vicon nor any affiliated shall be liable for any loss, (including loss of data and information), inconvenience, or damage, including, but not limited to, direct, special, incidental or consequential damages, resulting from the use or inability to use the Vicon product, whether resulting from breach of warranty or any other legal theory. Notwithstanding the foregoing, Vicon total liability for all claims under this warranty shall not exceed the price paid for the product. These limitations on potential liabilities have been an essential condition in setting the product.

No one is authorized to assume any liability on behalf of the Company, or impose any obligations on it in connection with the sale of any Goods, other than that which is specified above. In no event will the Company be liable for indirect, special, incidental, consequential, or other damages, whether arising from interrupted equipment operation, loss of data, replacement of equipment or software, costs or repairs undertaken by the Purchaser, or other causes.

This warranty applies to all sales made by the Company or its dealers and shall be governed by the laws of New York State without regard to its conflict of laws principles. This Warranty shall be enforceable against the Company only in the courts located in the State of New York.

The form of this Warranty is effective February 1, 2015.

THE TERMS OF THIS WARRANTY APPLY ONLY TO SALES MADE WHILE THIS WARRANTY IS IN EFFECT. THIS WARRANTY SHALL BE OF NO EFFECT IF AT THE TIME OF SALE A DIFFERENT WARRANTY IS POSTED ON THE COMPANY'S WEBSITE, WWW.VICON-SECURITY.COM. IN THAT EVENT, THE TERMS OF THE POSTED WARRANTY SHALL APPLY EXCLUSIVELY.

