

# IPI-4 Converter

## For AXS-100/200 Controllers



# VisAccess

## Installation Guide

### Introduction

The IPI-4 Adapter is an integrated single-port PCB type asynchronous serial communication gateway that seamlessly converts the RS-232 port of a VisAccess AXS-100/200 controller to 10/100 Ethernet V2.0 (TCP/IP).

The adapter enables a 'Master' AXS-100/200 controller to be placed anywhere on a WAN/LAN or Internet based network and still perform as if the controller was hard wired to the host computer via RS-232.

The IPI-4 is shipped with Lantronix Programming Software for browser based configuration of its network settings, serial-port line settings, UART transmit and receive buffer trigger levels and serial port flow control.

The IPI-4 also supports remote configuration, supervision and management via EIRIS V4.6 (or higher) as well as AXSalert (all versions) enterprise software.

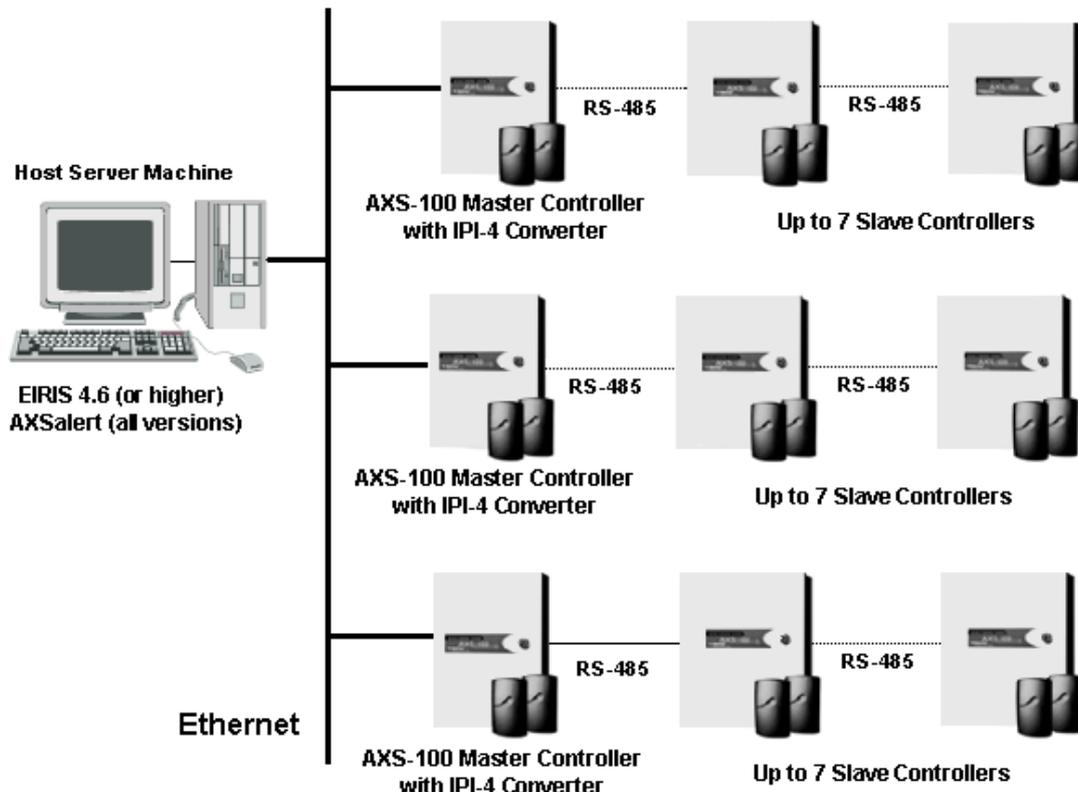
**NOTE:** RJ-45 terminated Ethernet network interface cables are not included with the IPI-4 converter.

**⚠ CAUTION:** It is important that the installer understand and follow the instructions in this document. If you have questions, call your local VT support representative.



### Typical System Configuration

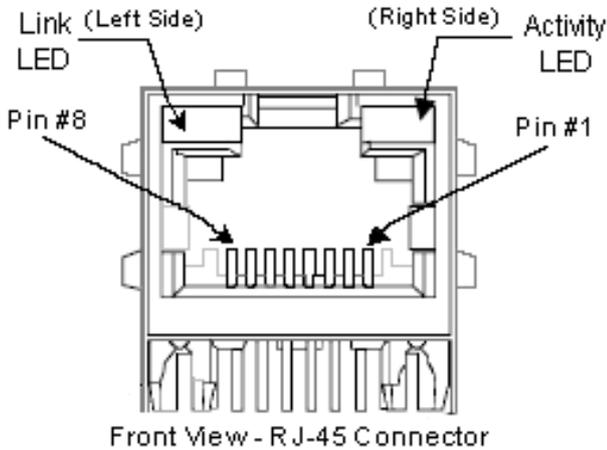
Any combination of eight Master/Slave AXS-100/200 controllers (each with its own address) can be networked together on a single RS-485 data loop to manage up to 16 doors. Each RS-485 data loop requires that one Master controller (whose address is #1) be equipped with an IPI-4 Converter for communicating via 10/100 Ethernet V2.0 (TCP/IP) with the host server machine.



**Electrical Interfaces**

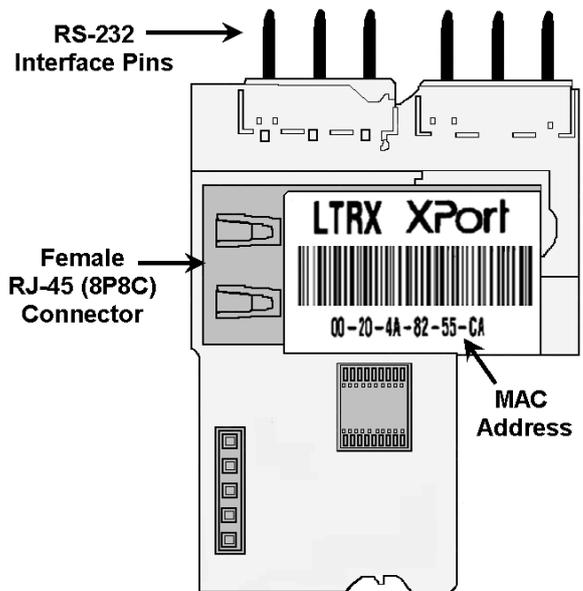
The IPI-4 contains one female RJ-45 (8P8C) connector for linking the device to the LAN/WAN Ethernet network switch or router. This requires a standard network 8-pin RJ45 terminated patch cable (not included)

The pin configuration of the RJ-45 connector is detailed below:



Two bi-color Ethernet status LEDs are built into the front of the Female RJ-45 connector as detailed below:

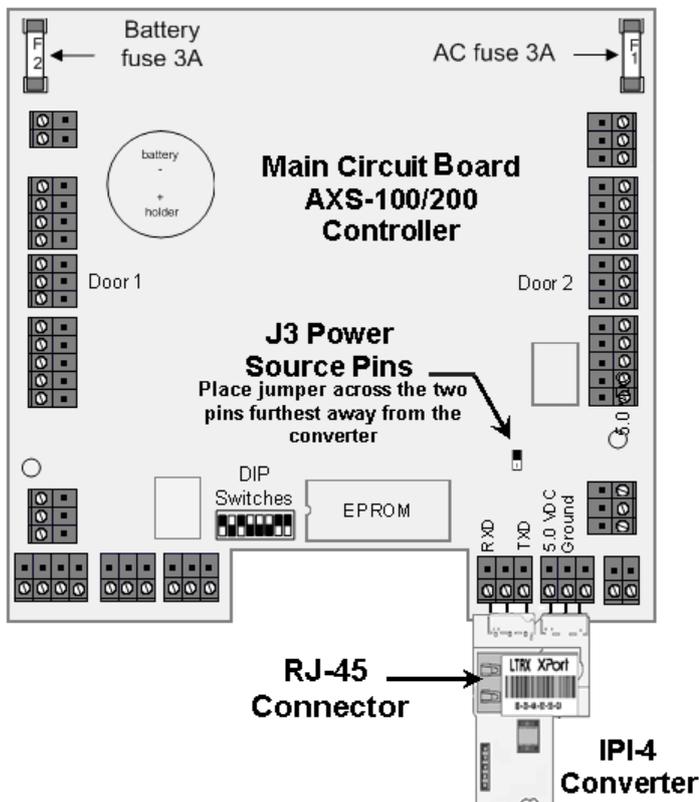
Link LED (Left Side)		Activity LED (Right Side)	
Color	Meaning	Color	Meaning
Off	No Link	Off	No Activity
Amber	10 Mbps	Amber	Half-duplex
Green	100 Mbps	Green	Full-duplex



The IPI-4 also utilizes a 6 pin-rigid integrated connector for connecting the converter to the AXS-100 master controller's RS-232 interface as detailed in the table below

Signal	Dir	Pin	Function
RXD	In	1	Serial Data
None		2	Not Used
TXD	Out	3	Serial Data
+5.0 VDC	In	4	Power
-		5	Ground
Not Used		6	Not Used

**Installation and Hookup Details**



1. Ensure tht the controller the IPI-4 is to be installed has been set to position # 1 on the AXS-100 loop.
2. Power-down the AXS-100 controller and connect the IPI-4 to the serial interface of the controller as shown.
3. To ensure that the controller will provide power to the IPI-4, place J3's power source jumper across the two pins furthest away from the converter.
4. Using a RJ-45 terminated patch cable (not included) connect the IPI-4 to the LAN/WAN Ethernet network switch or router.
5. Power-up the AXS-100 controller; the IPI-4 converter will also power-up and link to the Ethernet network.

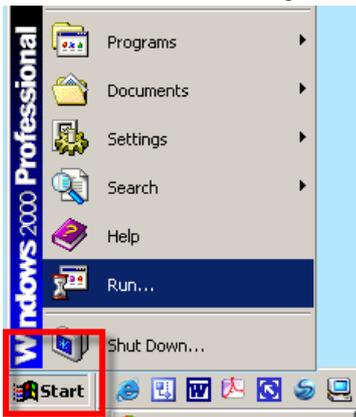
**Initial Configuration and What You Need To Know**

Configuration should be carried out as soon as the installation is completed. It is important that the installer have a basic understanding of Ethernet setup in order to initially configure the IPI-4 Converter. If you do not have this basic knowledge, please seek the proper assistance.

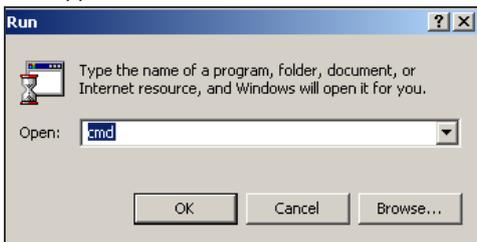
Before proceeding with remote management of the device via EIRIS or AXSalert enterprise software; you need to know the IPI-4 converter's unique IP address on the LAN/WAN network. Several options for determining the IP address of the device are available. We recommend that you simply PING the device. Alternatively you can use the enclosed Lantronix\_Programming application to assign an IP address to the converter.

**Pinging the IPI-4 Converter**

1. In the Start Menu located on the far left side of the Windows task bar select Start > Run; the Start, the Run/Search Command dialogue box appears.

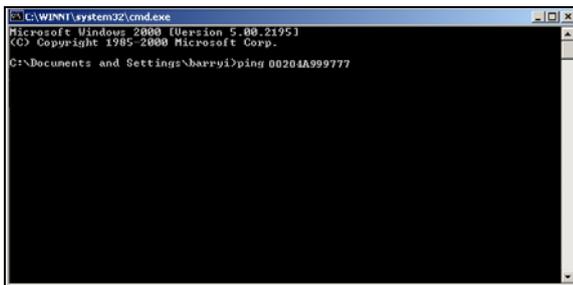


2. Type cmd in the free text field then click OK; the MS Windows command interpreter (DOS shell) box appears.



3. Type Ping '<MAC address>'; then press the Enter key on your computer's keyboard.

*The IPI-4's 'MAC' address can be found printed on the product label glued to the top side of the RJ-45 connector.*



If there is a response from the IPI-4, the IP address of the device will immediately appear.

4. Record the returned IP address for use with either EIRIS or AXSalert enterprise software.

**Using the Lantronix\_Programming Application**

The Lantronix\_Programming application is supplied on the enclosed CD. You can either run it directly from the CD or copy it to any folder on the host EIRIS or AXSalert computer and run the program from there.

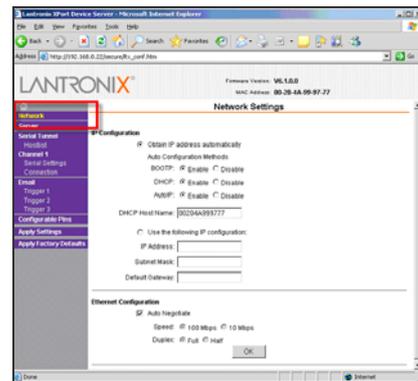
1. Launch the Lantronix\_Programming application; the Lantronix IP Assigning box appears.



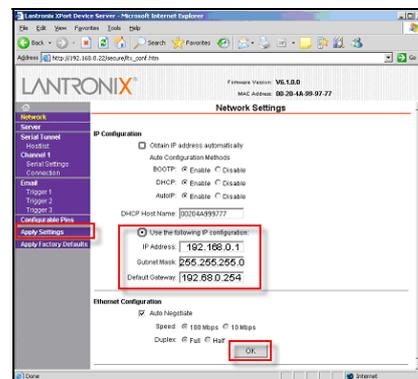
2. Enter a temporary IP address for the IPI-4 that does not conflict with any other components on the network. Next; enter the MAC address of the adapter in the provided fields.

*The IPI-4's 'MAC' address can be found printed on the product label glued to the top side of the RJ-45 connector.*

3. Enable the For LANTRONIC option, then Click Run. When prompted for a User Name and Password; click OK; the Lantronix XPort Device Server browser window appears.



4. On the left side of the browser window, Click Network; the Network Settings window appears.



5. Enable the Use the following IP configuration option. Enter appropriate IP, Subnet and Gateway data in the applicable fields. Then click OK and finally click Apply Settings.

6. Record the entered IP address for use with either EIRIS or AXSalert enterprise software

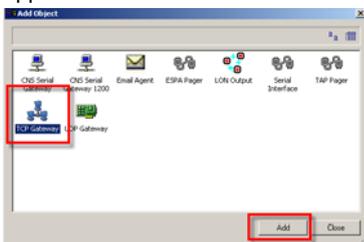
**Configuring EIRIS for Remote Management**

EIRIS 4.6 (or higher) can be configured to simultaneously monitor and manage the access control hardware on multiple AXS-100 loops using Ethernet TCP/IP using separate TCP gateways.

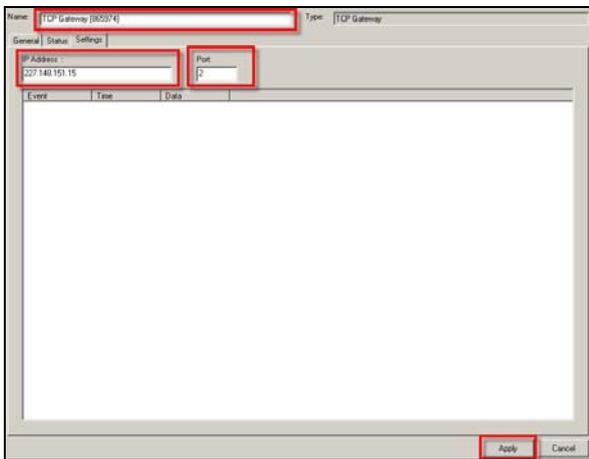
Each defined TCP Gateway enables the EIRIS server machine (using a designated COM port) to bi-directionally communicate with one Master AXS-100/200 controller via the IPI-4 adapter.

*Initial configuration is detailed in the procedure steps below. For advanced functionality this document should be used in conjunction with the EIRIS Configuration Guide - 4.6 (or higher).*

1. Ensure that the Master controller (including the IPI-4) is powered up and wired correctly to the EIRIS host machine via the LAN/WAN.
2. Launch EV2 and access Setup mode. Then Access the Components tab in the Object Tree Pane.
3. Right-click on the All Serial Interface tree branch, a shortcut menu appears. Select Add by Type, an Add Object box appears.

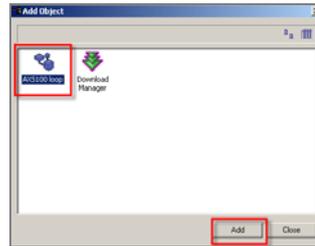


4. Double-click on the TCP Gateway icon; the related configuration form appears. Access the Settings tab of the form and update the Name Parameter to signify the usage of the TCP gateway.

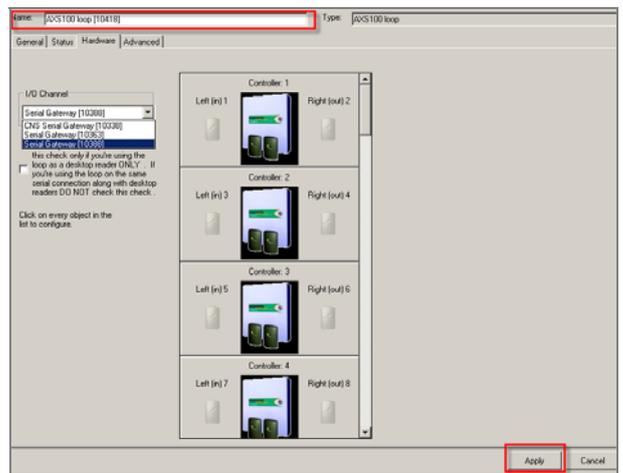


5. Enter the IP Address of the IPI-4 converter. Then define the converter's IP Port (default = 10001). Last, press Apply, the new TCP Gateway configuration data is saved to the EIRIS database.

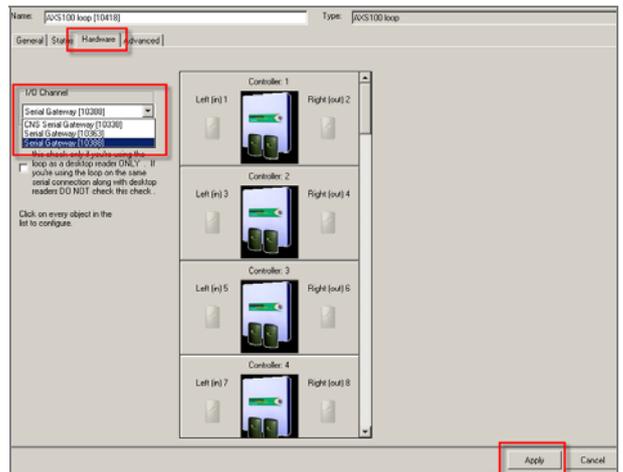
6. Next, right-click on the All Access Control tree branch, a shortcut menu appears. Select Add by Type; an Add Object box appears.



7. Double-click the AS100 Loop icon; the corresponding AXS-100 configuration form appears. Then access the Hardware configuration form. Update the Name of the access control loop so that the new name denotes its intended usage.



8. Using the I/O Channel pull-down menu, select the Serial Interface that has been defined for the IPI-4.

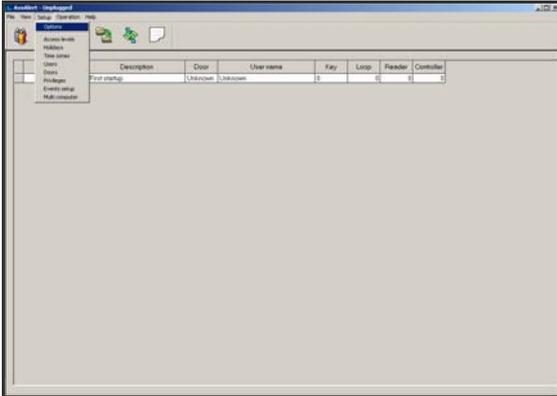


9. Add Controller #1 (Master Controller) by clicking on the relevant grayed-out controller icon. The selected controller icon immediately appears black in color indicating that it how active.
10. Ensure the relevant configuration data is saved to the EIRIS database as well as downloaded to the controller.

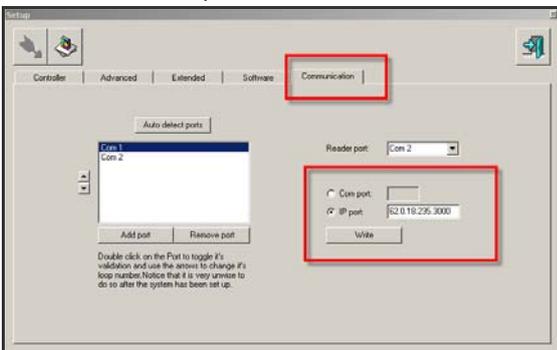
**Configuring AXSalert for Remote Management**

AXSalert (all versions) can be configured to simultaneously monitor and manage the access control hardware on multiple AXS-100 loops over a local area network (LAN) or a wide area network (WAN) running TCP/IP using separate IP Ports. Each defined IP Port enables the AXSalert server machine (using a designated IP port) to bi-directionally communicate with one Master AXS-100/200 controller via the IPI-4 adapter.

1. Ensure that the Master controller (including the IPI-4) is powered up and wired correctly to the AXSalert host machine via the LAN/WAN network.
2. Launch AXSalert; the main AXSalert window appears.



3. Access the Setup menu and click the Options command; by default the Controller tab of the Setup window appears.
4. Access the Communication tab; press Add Port and enable the IP Port option.



*Should communication error boxes appear at anytime during this procedure, press OK each time a message appears box in order to bypass them.*

5. In the field located to the right of the IP port option, enter both the IP Address plus as well as the number of the IP Port (default=10001). The IP address and IP port number MUST be separated by colon punctuation mark (":") as shown in the example here: 62.0.18.235:300.

**Specifications & Order Details**

Electrical Specifications	
Input Voltage	5 VDC (+/-5%) via AXS-100 controller
Serial Interface	RS-232 – 6 pin rigid Interface
Network Interface	Female RJ45, 10Base-T or 100base-TX (auto-sensing)
Compatibility	Ethernet: Version 2.0/IEEE 802.3
Data Rate	115.2 Kbps
Supported Protocols	ARP, UDP/IP, TCP/IP, Telnet, ICMP, SNMP, DHCP, BOOTP, TFTP, Auto IP and HTTP
Visual Indicators	Amber LED: Link, Green LED: Activity
General Specifications	
Construction	PCB board (no enclosure)
Dimensions (L x W x D)	59.0 x 39.0 x 1.7mm (2.32 x 1.54 x 0.67 inches)
Weight	15 grams (0.53 ounces) approx.
Operating Temperature & Humidity	0°C to 80°C (32°F to 176°F) 05% to 90% non-condensing
Storage Temperature	0°C to 80°C (32°F to 176°F)
Browser-based Configuration	Lantronix Programming Software
Remote Management	EIRIS V4.6 or higher and AXSalert (all versions)
Standards Compliance	EMI tested and complaint
Warranty	One year limited warranty (excluding batter)

**Ordering Details**

IPI-4 Converter	
5-100482	IPI-4, Serial Port to Ethernet Adapter
Compatible Controllers	
4-6280-4	AXS-100M, 2-door Controller, PCB only
3-6280-0	AXS-100, 2-door Controller, Metal Box, 230 Transformer
3-6280-1	AXS-100, 2-door Controller, Metal Box, 110 Transformer

## Standards Compliance

This device complies with the essential requirements and provisions of Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio and telecommunications terminal equipment.

This device 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 residential installations. 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 and television reception. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause such interference, which can be verified by turning the device off and on, the user is encouraged to eliminate the interference by one or more of the following measures:

- Re-orient or re-locate the receiving antenna.
- Increase the distance between the device and the receiver.
- Connect the device to an outlet on a circuit different from the one which supplies power to the receiver.
- Consult the dealer or an experienced radio/TV technician.

## Product Warranty

Visonic Technologies Ltd. (VT or the Company), and its affiliates, warrants its products (hereinafter referred to as "the Product") to be free of defects in materials and workmanship under normal operating conditions and use for a period of one year from the date of shipment by VT. The Company's obligations shall be limited within the warranty period, at its option, to repair or to replace the defective Product or any defective component or part thereof. To exercise this warranty, the product must be returned to the manufacturer freight prepaid and insured.

This warranty does not apply to repairs or replacement caused by improper installation, Product misuse, failure to follow installation or operating instructions, alteration, abuse, accident, tampering, repair by anyone other than VT, external causes, and failure to perform required preventive maintenance. This warranty also does not apply to any products, accessories, or attachments used in conjunction with the Product, including batteries, which shall be covered solely by their own warranties, if any. VT shall not be liable for any damage or loss whatsoever, whether directly, indirectly, incidentally, consequentially or otherwise, resulting from a malfunction of the Product due to products, accessories, or attachments of others, including batteries, used in conjunction with the Product.

VT MAKES NO EXPRESS WARRANTIES EXCEPT THOSE STATED IN THIS STATEMENT. VT DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. VT'S SOLE RESPONSIBILITY FOR WARRANTY CLAIMS IS LIMITED TO REPAIR OR TO REPLACE AS SET FORTH IN THIS STATEMENT.

VT shall have no liability for any death, personal injury, property damage, or other loss whether direct, indirect, incidental, consequential, or otherwise, based on a claim that the Product failed to function. However, if VT is held liable, whether directly or indirectly, for any loss or damage arising under this limited warranty or otherwise, regardless of cause or origin, VT's maximum liability shall be limited to the purchase price of the Product, which shall be fixed as liquidated damages and not as a penalty, and shall be the complete and exclusive liability of VT.

VT shall not, under any circumstances whatsoever, be liable for any inaccuracy, error of judgment, default, or negligence of VT, its employees, officers, agents, or any other party, or of the purchaser or user, arising from any assistance or communication of any kind regarding the configuration, design, installation, or creation of security system involving the Product, that being the responsibility of the purchaser or user.

If VT is unable to make such repair or replacement, VT's entire liability shall be limited to the cost of a reasonable substitute product. VT shall not be responsible for any dismantling, installation, reinstallation, purchasing, shipping, insurance, or any similar charges.

VT shall have no liability for any damages, including without limitation, any direct, indirect, incidental, special, or consequential damages, expenses, costs, profits, lost savings or earnings, or other damages arising out of the use of the Product or the removal, installation, reinstallation, repair or replacement of the Product or any related events. In the event that there is any liability against VT, such liability shall be limited to the purchase price of the Product which amount shall be fixed as liquidated damages.

The purchaser and user understand that this Product may be compromised or circumvented by intentional acts; that the Product will not in all cases prevent death, personal injury, property damage, or other loss resulting from burglary, robbery, fire or other causes; and that the Product will not in all cases provide adequate warning or protection. The purchaser and user also understand that a properly installed and maintained alarm may reduce the risk of events such as burglary, robbery, and fire without warning, but it is not insurance or a guarantee that such events will not occur or that there will be no death, personal injury, property damage, or other loss as a result of such events.

By purchasing the Product, the purchaser and user shall defend, indemnify and hold VT, its officers, directors, affiliates, subsidiaries, agents, servants, employees, and authorized representatives harmless from and against any and all claims, suits, costs, damages, and judgments incurred, claimed, or sustained whether for death, personal injury, property damage, or otherwise, because of or in any way related to the configuration, design, installation, or creation of a security system involving the Product, and the use, sale, distribution, and installation of the Product, including payment of any and all attorney's fees, costs, and expenses incurred as a result of any such events.

The purchaser or user should follow the Product installation and operation instructions and test the Product and the entire system at least once each week. For various reasons, including but not limited to changes in environmental conditions, electric, electronic, or electromagnetic disruptions, and tampering, the Product may not perform as expected. The purchaser and user are advised to take all necessary precautions for the protection and safety of persons and property.

This statement provides certain legal rights. Other rights may vary by state or country. Under certain circumstances, some states or countries may not allow exclusion or limitation of incidental or consequential damages or implied warranties, so the above exclusions may not apply under those circumstances and in those states or countries.

VT reserves the right to modify this statement at any time, in its sole discretion without notice to any purchaser or user. However, this statement shall not be modified or varied except by VT in writing, and VT does not authorize any single individual to act on its behalf to modify or vary this statement.

Any questions about this statement should be directed to VT. 3/0

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Additional information may be found at: [www.visonictech.com](http://www.visonictech.com)



Manufactured In Israel



### W.E.E.E. Product Recycling Declaration

For information regarding the recycling of this product you must contact the company from which you originally purchased it. If you are discarding this product and not returning it for repair then you must ensure that it is returned as identified by your supplier. This product is not to be thrown away with everyday waste. Directive 2002/96/EC Waste Electrical and Electronic Equipment.