



**DELIVERS HIGH PERFORMANCE
INTERCONNECTIVITY**





Interconnect Systems Incorporated is the foremost Philippine brand player in the network interconnectivity industry since 2002.

ICSI presents to the Philippine market our totally integrated, top quality products and services primarily on network connectivity that follow world-class standards for quality and performance.

We offer products that provide powerful early warning life safety and security solutions that identify threats before life, critical infrastructure, or business continuity is compromised. These solutions are remotely managed surveillance systems, integrated security and fire solution, aspirating smoke detection, fire suppression, water leak detection, access control and IP telephony.

The company further secures its edge through strong technical partnerships with global OEM/ODM leaders and industry solution provider while we continuously focus in developing different advanced solutions.

MISSION

To be the solution provider of choice in the Information and Communication Technology (ICT) and Security industries anchored on providing quality, cost-effective products and services.

VISION

To offer the right economical solution as the leading brand and distributor in the market today.

COMMITMENT

Just in time delivery and quality installation of our structured cabling products and security and safety solutions. Dependable after-sales support.

CORE VALUES



COMMITMENT



INNOVATION



QUALITY

QUALITY PRODUCTS COMPLIANT TO INTERNATIONAL STANDARDS FOR PERFORMANCE AND SAFETY

- EIA/TIA
- CM Rated
- 50µ Gold conductors
- UL
- CE

INTEGRATED SOLUTIONS FOR EARLY WARNING

- Being able to prevent incidents prior to that incident causing major loss or damage
- Ensures business continuity
- Reacting to the incident at a point before traditional products or services can react
- When it is a risk to evacuate people
- Able to deter loss or damage to property with audible alarms or verbal warnings
- TCO provides lifetime of value and protection

OFFERED SOLUTIONS

STRUCTURED CABLING SYSTEM

ICSI provides Design Integration and Value-added Testing services in addition to its network installation projects. Companies need not have their networks totally redesign to accommodate upgrades in their network. ICSI provides solutions integrating old network components to upgrades thus facilitating faster and cost-effective improvements. And before turnover of design integration and installation works, all connection nodes and components are tested to ensure proper connectivity and performance that adhere to international network standards.



- Structured Cabling System
- Wireless and LAN Network
- Remotely Managed Gateways/Integrated Security
- Early Warning Detection Systems
- Surveillance Solutions
- CCTV & A/V Transmission
- Access Control System
- IP TELEPHONY

Honeywell
THE POWER OF CONNECTED

ADPRO
by xtralis

VESDA 



hydrosense


HS HI SHARP
ELECTRONICS CO., LTD.


SC&T

CHIYU

ZYCO
We Focus - We Deliver

 29 Road 4, Project 6
Quezon City 1100 Philippines

 +63 2 8920 6811 · 8920 3363 · 8920 3731

 +63 2 8426 9434

 sales@interconnectsystems.com.ph


 www.interconnectsystems.com.ph

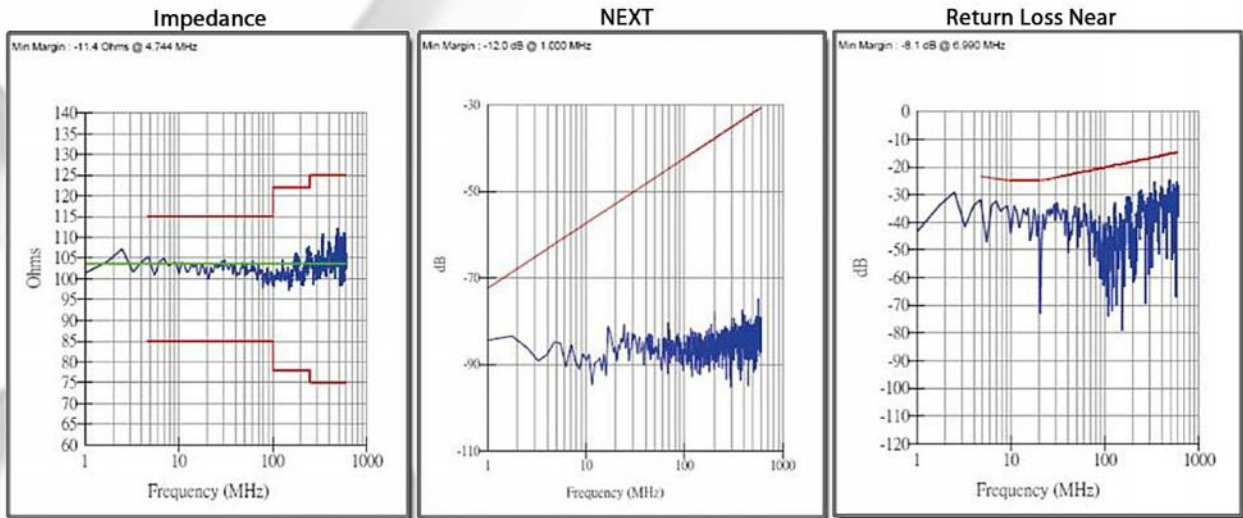
CATEGORY 7 High Performance

Application Primary (Campus), Secondary (Riser), Tertiary (Horizontal) IEEE802.3: 10Base-T; 100Base-T; 1000Base-T; Gigabit-Ethernet; 10 Gigabit-Ethernet : ISDN; FDDI; ATM

Standard ISO/IEC 11801 ; IEC 61156-5 ; EN50173

Fire Rating UL 1581 FT2 (horizontal flame test) ; IEC 60332-1; UL444CM

| PRODUCT | PRODUCT CODE | PRODUCT DESCRIPTION |
|---|-------------------------------|--|
| <p>S/FTP</p>  | ICSI-C7-S/FTP-4P-1-GRY | <p>Conductor Bare solid / stranded copper wire</p> <p>Twister 4 Twisted pairs, 2 single conductors paired, Twisted pair color coded</p> <p>Cable Lay Up 4 pairs with different pitches</p> <p>Individual Shielding A layer of aluminium-foil laminated tape will be wrapped over the twinning, the aluminium side face-out and tinned copper wire braiding</p> <p>Outer Jacket Lead free PVC or LSOH jacket</p> |



Design Integration and Value-added Testing

iCSI provides Design Integration and Value-added Testing services in addition to its network installation projects. Companies need not have their networks totally redesign to accommodate upgrades in their network. iCSI provides solutions integrating old network components to upgrades thus facilitating faster and cost-effective improvements. And before turnover of design integration and installation works, all connection nodes and components are tested to ensure proper connectivity and performance that adhere to international network standards.










RoHS stands for Restriction on the use of Hazardous Substances. RoHS is the European Union(EU) Directive 2002/95/EC, that's restricts the use of lead, mercury, cadmium, hexavalent chromium.



“Your Leading Edge Interconnectivity”

CATEGORY 6+10G Compliance

Application Primary (Campus), Secondary (Riser), Tertiary (Horizontal) IEEE802.3: 10Base-T; 100Base-T; 1000Base-T; Gigabit-Ethernet; ISDN; FDDI; ATM
Standard EIA/TIA 568-B.2; IEC 61156-5; ISO/IEC 11801; EN50173
Fire Rating UL 1581 FT2 (horizontal flame test) ; IEC 60332-1; UL444CM

| PRODUCT | PRODUCT CODE | PRODUCT DESCRIPTION |
|---|--|---|
| U/UTP  | ICSI-C6-UTP-4P-1-GRY | Conductor Bare solid / stranded copper wire Twister 4 Twisted pairs, 2 single conductors paired, Twisted pair color coded Cable Lay Up 4 pairs with different pitches Non-metallic cross separator (spine) Outer Jacket Lead free PVC or LSOH jacket |
| S/FTP  | ICSI-C6-UTP/SFTP-4PR-1-GRY | Conductor Bare solid / stranded copper wire Twister 4 Twisted pairs, 2 single conductors paired, Twisted pair color coded Cable Lay Up 4 pairs with different pitches Individual Shielding A layer of aluminium-foil laminated tape will be wrapped over the twinning, the aluminium side face-out and tinned copper wire braiding Outer Jacket Lead free PVC or LSOH jacket |
| Patch Panel  | ICSI-C6-24P-1-4-A ICSI-C6-48P-1-4-A | PCB Material: FR4 94 Plate Material: Steel Plastic Module: PC (Poly carbonate) 94-V0 Dimensions: 16 port: 1.75"(H)x19"(W)x1.32"(D) 24 port: 1.75"(H)x19"(W)x1.32"(D) 48 port: 3.50"(H)x19"(W)x1.32"(D) Interface: RJ-45 and 110D4 Module Jack: PCB Mount jack W/ captive pine |
| Information Outlet toolless / non-toolless  | ICSI-C6-MJ-1-X-WHI | Enclosure: UL 94V0 Top Cover: UL PC Dimensions: 0.87"(H)x1.33"(W)x0.70"(D) Interface: RJ-45 jack with captive pine and IDC terminal Standard: EIA/TIA 568-A, 568-B.2 UTP category 6 Standards Tested up to 250MHz Meet ISO/IEC 11801 Class CAT6 standard. |
| Patch Cord  | ICSI-C6-RJ45PC-2-Xm | Cat.5e UTP W/Boot Type Meters 1,2 & 3 Available Color: Blue; Red; Yellow; Grey; White |
| Easy Patch  | CA-R025-x | UTP Speed+speed Cable Available Color- Gray |
| US Style Faceplate  | ICSI-FP-V-NS-xx-XP | Super Slim Design: Support 1,2,3,4, 6 Keystone Jacks Economical Available color: White, Beige to match office decor. |

CATEGORY 5e High Headroom

Application Tertiary (Horizontal) IEEE 802.3: 10Base-T; 100BaseT; Gigabit-Ethernet
Standard EIA/TIA 568-B.2; IEC 61156-5 ISO/IEC 11801; EN50173
Fire Rating UL 1581 FT2 (horizontal flame test) ; IEC 60332-1; UL444CM

| PRODUCT | PRODUCT CODE | PRODUCT DESCRIPTION |
|---|--|--|
| U/UTP  | ICSI-C5e-UTP-4P-1-GRY | Conductor Bare solid / stranded copper wire Twister 4 Twisted pairs, 2 single conductors paired, Twisted pair color coded Cable Lay Up 4 pairs with different pitches Outer Jacket Non-metallic cross separator (spine) Lead free PVC or LSOH jacket |
| F/UTP  | ICSI-C5e-FTP-4P-1-GRY | Conductor Bare solid / stranded copper wire Twister 4 Twisted pairs, 2 single conductors paired, Twisted pair color coded Cable Lay Up 4 pairs with different pitches Shielding 1.Mylar tape as buffer layer. 2.Mylar tape limited with aluminium foil as shield, with foil facing inward. Outer Jacket Lead free PVC or LSOH jacket |
| Multipair Cable  | ICSI-C5e-UTP-25P-1-GRY | Conductor: 25 Twisted Pairs of 24AWG solid bare copper wire Insulation: Polyolefin Flame Rating: UL (CMR) Sheath: PVC LSZH optional Color: RAL 7035 (Creamy Grey) Cable Diameter: Non. 13.5mm Operating Environment: Indoor Operating Temperature: -20 + 60°C |
| Patch Panel  | ICSI-C5e-24P-2-4-B ICSI-C5e-48P-2-4-B | PCB Material: FR4 94-V0 Plate Material: 0.06" steel Plastic Module: PC (Poly carbonate) 94-V0 Dimensions: 16 port: 1.75"(H)x19"(W)x1.32"(D) 24 port: 1.75"(H)x19"(W)x1.32"(D) 48 port: 3.50"(H)x19"(W)x1.32"(D) 96 port: 7.00"(H)x19"(W)x1.32"(D) Interface: RJ-45 and 110D4 Module Jack: PCB Mount jack W/ captive pine |
| Information Outlet toolless / non-toolless  | ICSI-C5e-MJ-1-X-xx | Enclosure: UL 94V0 Top Cover: UL PC Dimensions: 0.87"(H)x1.33"(W)x0.70"(D) Interface: RJ-45 jack with captive pine and IDC terminal Standard: EIA/TIA 568-A, 568-B.2 UTP category 5e Standards Tested up to 250MHz Meet ISO/IEC 11801 Class CAT5e standard. |
| Patch Cord  | ICSI-C5e-RJ45PC-2-xm | Cat.5e UTP W/Boot Type Meters 1, 2 & 3 Available Color: Blue; Red; Yellow; Grey; White |
| Shutter type Faceplate  | ICSI-FP-V-S-8-XXP | Shutter Type Material: ABS 94V-0 Size: 70 x 115 mm Designed for Keystone Jack & Accessories |

Fiber Optic

| PRODUCT | PRODUCT CODE | PRODUCT DESCRIPTION |
|---|-----------------------------|---|
| FIBER OPTIC CABLE INDOOR  | ICSI-FOC-ITB-xxC | Specification: <ul style="list-style-type: none"> •Tight buffered fiber without jelly •Aramid yarn strength members •PVC,LSZH,Plenum outer sheath available •Round construction for minimum wind drag and ice buildup increases span length capability •SM: yellow, MM: orange •Termination can be made standard connector Quality Assurance System •Optical testing follows ITU,IEC and EIA/TIA-FOTP •Quality approved by UL |
| FIBER OPTIC CABLE OUTDOOR  | ICSI-FOCxxMM-1-A-0 | Specification: <ul style="list-style-type: none"> •Single jelly compound filled loose tube containing up to 24 fibers •Waterproof tape between the steel tape and loose tube with jelly compound •Double-sided PE corrugated steel tape armored •Parallel double steel wire as strength member •Compact structured, light, weight, steel tape armored, excellent crush-resistant performance •Excellent water proof layer, good moisture. Application: <ul style="list-style-type: none"> •Suitable for ducts and aerial •Long distance communication systems •Singlemode ,Multimode |
| Rack Mount Fiber Patch Panel  | ICSI-FOP-R-24-xx | Specification: <ul style="list-style-type: none"> •The Rack Mount Distribution Cabinets provides high-density fiber management distribution for 24/48 port. •It provides facilities for securing cable, storing fiber slack, and arranging, managing and identifying terminated fiber and patch cord. •height: 45(mm) width: 433(mm), depth: 150(mm) |
|  | ICSI-FOP-R-24-x | Specification: <ul style="list-style-type: none"> •The new Wall Mount Distribution Cabinets is a cost-effective field installation solution. •The low-profile, compact design makes it deal for telecommunication closet. •height: 228(mm) width: 293.5(mm), depth: 77.2(mm) |
| Fiber Optic connectors  | ICSI-CLT-1 | SC Connector/Coupler MM/SM ST Connector/Coupler MM/SM |
|  | ICSI-C-ST-S | SC Connector/Coupler STConnector /coupler MM/SC |
|  | ICSI-C-LC-s | LC Connector/Coupler MM/SM |
| Fiber Patch Cords  | ICSI-FPC-xx-SM/MM-xm | SC-ST, SC-SC,LC-SC,FC-LC.MRTJ-SC Simplex,Duplex 1,2,3 meters |

Accessories and Other Products

| PRODUCT | PRODUCT CODE | PRODUCT DESCRIPTION |
|---|--|--|
| Rubber Boots  | ICSI-RB | RJ45 Rubber Boots Available Color: White; Grey; Red; Blue & Yellow |
| 110 Connecting Blocks  | ICSI-CB50-110 ICSI-MF100 ICSI-110JTW-A-Bulk | 19" 110 Cross Connect Panel 50 Pairs 110 Wiring Block 50 Pairs With Legs Cable Management With Legs |
| TOOLS  | ICSI-PDT-1 | Impact and Punch Down Tool Use on 110 / Krone Type |

Active Lan Components

- Media Converter Chasis• ADSL Modems• DATA/FAX/INVOICE Modems• IP Phones• Baseband• A/V Adapters• Baseband
- Baseband RGB Adapters• Baseband Video Adapters• Fast Ethernet Converters• Ethernet Extenders• Ethernet Tranceivers
- Power Distribution Rack Box• A/V Distribution Boosters.

Closed Circuit Television

- P/T/Z IP Cameras (box/bullet/dome)• Convention P/T/Z Cameras• Day & High Resolution Zoom Cameras• Long Distance IR Cameras• Vandal Roof Cameras• 4/8/16 Channels DVRs• MPEG4/H.264 DVRs• Storage Systems• Video Web Servers
- 3G Servers• Color and B/W High Resolution CCTV Monitors• Camera Lenses and Accessories• Keyboard Controllers
- VGA Converters.

Wireless Broadband

- 2.4Ghz Long Range Client Bridges• 2.4Ghz Long Range Access Points• 5Ghz Long Range High Capacity Wireless Bridge/ Backhaul• 2.4Ghz and 5Ghz Panel, Sector and Omni Directional Antennas

Smart House Technology

- Telephone Multiple Extension Modules• Loop-Back Security Modules• Color DSP CCD Cameras• CCTV and Satellite Modules
- Data Modules• Security/Detection Integration System• IR Cameras• Dome Cameras• Home AV Distribution Systems
- Security Alarm Systems• Hybrid Cables and Outlets.

Control Access

- Proximity Card Reader / Access Control Security• Finger Identification System• Door Access Control Management Software
- Time recorder – time and attendance solution• Long range active system for the application of parking• Home security
- One card solution

TELECOMMUNICATION

- SMB Connector• HDC43 Connector (Female)• HDC43 Connector (Male)• HDC U-Link• M4 Connector• BALUN HDC• BNC Connector• BALUN BNC• 1.6/5.6 Straight Bulkhead Jack Connector• 1.6/5.6 U-Link• LC-Type Attenuator (5dB)• LC-Type Attenuator (10dB)• DB9 Male Connector DB09P• DB9 Male Connector R101-G-Y• DB25 Female Connector• DDF Block
- Disconnection Module• Backmount Frame• Jumper Cable HDC-HDC5 Meters• Jumper Cable HDC-HDC15 Meters
- 2 Pair Twisted Pair Cable• 5-Wire Conductor• 8 Pair Twisted Pair Cable• BT3002• BT2003 (Hi-BIT Coax)• SC-SPC TO SC-SPC (3m)
- SC-SPC TO SC-SPC (5m)• SC-SPC TO SC-SPC (10m)• SC-SPC TO SC-SPC (15m)

Address: #29 Road 4, Project 6, Quezon City 1100 Metro Manila, Philippines
 Telephone Number: 920-3731 / 920-3363 / 920-6811/ 455-2973 Fax# 4269434
 Email: sales@interconnectsystems.com.ph

www.interconnectsystems.com.ph

4K HDMI/DVI/VGA over IP System Supporting CAT5e & Fiber Optic Cable

In today's ecosystem of system integration, AVoIP is gradually replacing the traditional A/V equipment like video matrices, switchers, and distributors. Because of the high flexibility of the AVoIP technology, an AVoIP system can feel free to add A/V sources and displays to the system anytime.

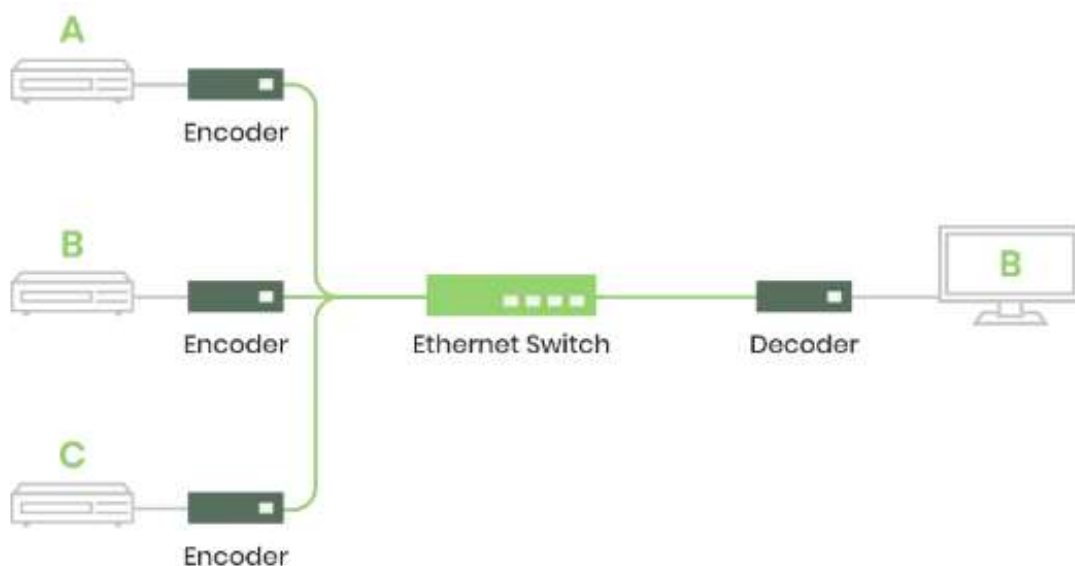
This convenience can help not only installers simplify the work of looking for suitable equipment but also users to expand their A/V system for the future, providing the flexibility to catch up on the ever-changing trend in the pro A/V industry.

Resolution

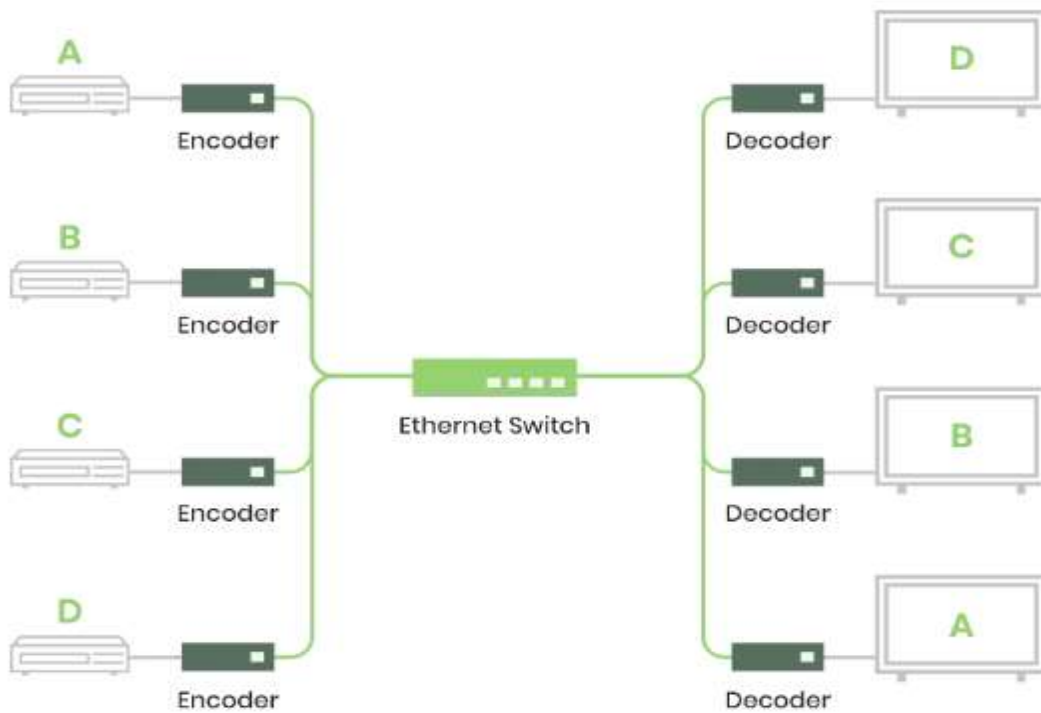
- Integration Of Devices With Different Signals
- Compatibility
- Up to 60KM Transmission

Our over IP system could replace:

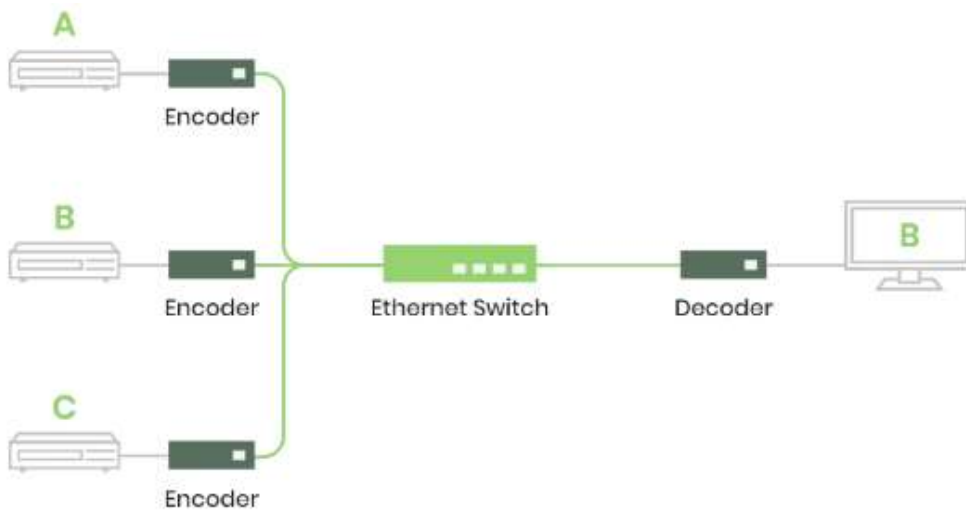
HDMI/ VGA/ DVI Switcher



HDMI/ VGA/ DVI Matrix



HDMI/ VGA/ DVI Distributor, multicast



You can even use different models to integrate HDMI/ VGA/ DVI sources and displays under one over IP system, overcoming the gap between different devices.

Fit Different Needs

SC&T's AVoIP system has been widely used in several applications, such as meeting rooms, data analytics centers, traffic control centers, emergency response centers, and more. We've helped ample system integrators to build custom AVoIP environments that meet different requirements for different purposes of use.



Roadside Assistance Center



Traffic Control Center



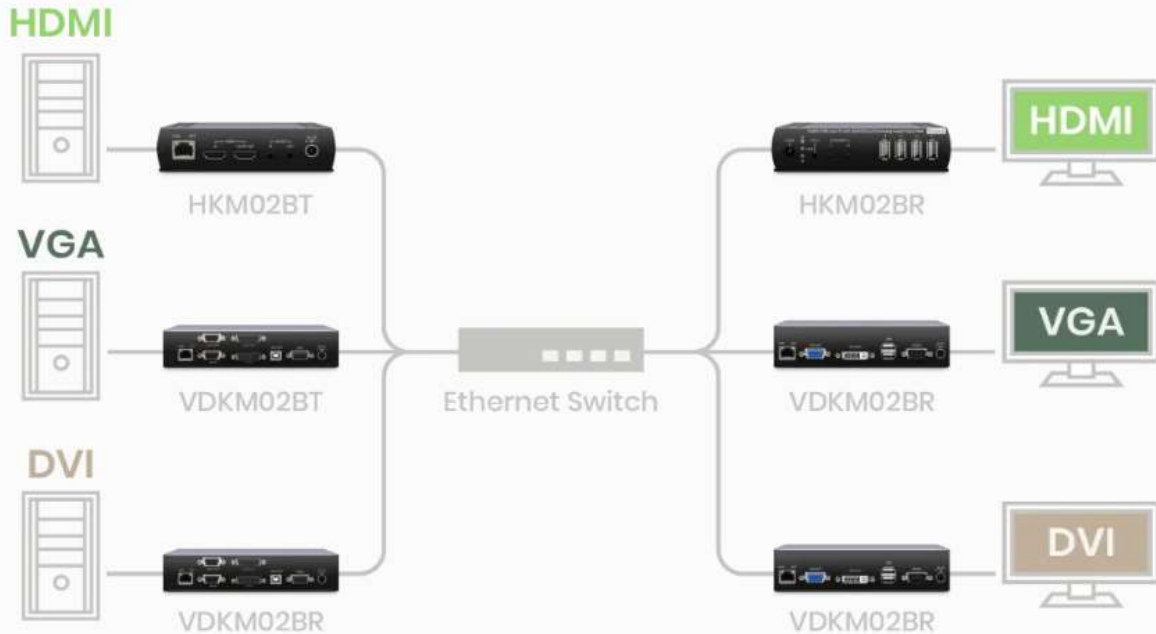
Interrogation Training Center



Features

Highly Flexible and Integratable, 4K over IP

The AVoIP system can be built by different models, including HDMI, VGA, and DVI models, and they can mix together to have multiple signals in one A/V system. With the mix, you can have 4K HDMI videos to be displayed on DVI/ VGA monitors or 1080p HDMI videos to be displayed on 4K HDMI monitors...etc.



Up to 8 x 16 TV Wall

With an 8x16 TV wall, the AVoIP system is suitable for business commercial use and data analysis centers to set the screen mode based on their needs.

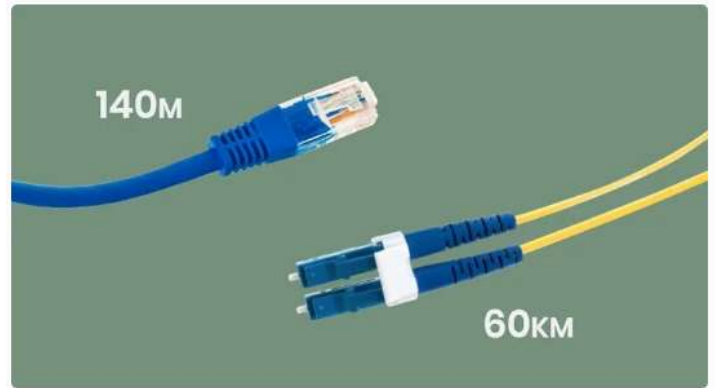


Audio Embedding and Extraction

With the 3.5mm audio phone jack at the transmitter and the receiver, The system can also support the audio embedding function that allows you to extract audio from your HDMI signal to connect to an external audio output device. You can also embed external audio (microphone audio) into your A/V output device like an HDMI monitor.

Supporting CAT5e & Fiber Optic Cable Transmission

SC&T's over IP series (4K version and above) support both CAT5e and fiber optic cable transmission for 150M and 60KM, respectively. The long extension distance allows you to apply the system to larger signal projects.



Multi-functional Transmission

Our over IP solution supports not only video and audio but also KVM USB, IR, Rand CA signals, with low latency. Multiple standard/customized ways of control & Custom Scene Setup

You can set up scenes and easily switch between the TV wall and matrix with different devices. SC&T's HDMI over IP system supports PC software, mobile APP, IR, RS232, keypads, consoles, and other remote controllers. This character allows integrators to design a better control platform for end-user.



Front Panel



RS232



Customized Control Box



Keypad



Telnet



IR Remote



Android/ IOS APP



Software

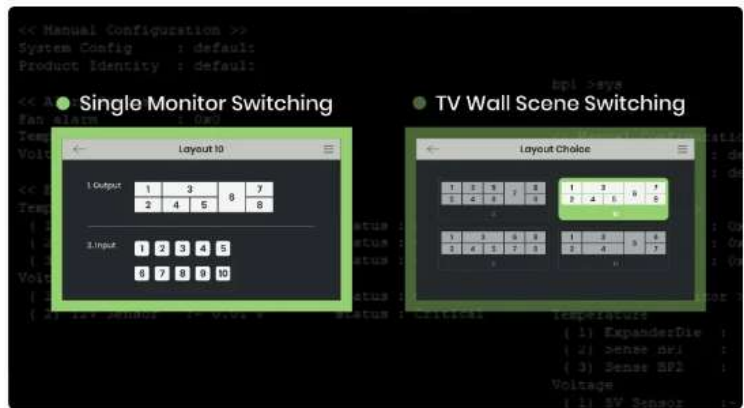


Support RS232 for Environmental Control Software

Roadside Assistant Control Center: An AVoIP case study, see how our client integrates an over IP system into an Environmental Control system with a user-friendly touch panel, to achieve a smooth user experience.

Highly Compatible

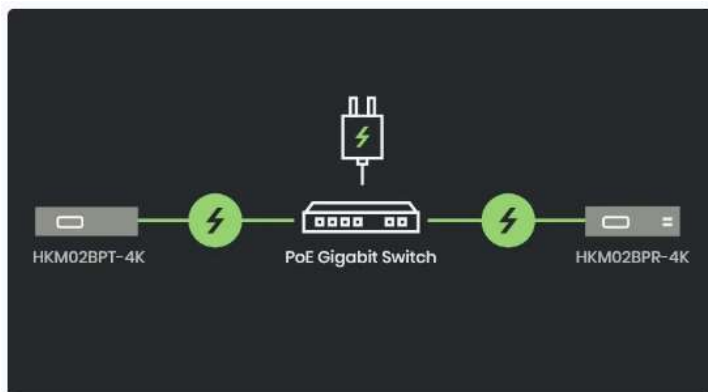
SC&T's AVoIP system supports RS232 command, which enables integrators to incorporate the control system into their customized Environmental Control Software.



Tech Support

Built-in Surge Protection

Under the built-in surge protection, SC&T prevents your electronic devices such as IC and circuit boards from power surge damage.



PoE Version Available

The optional PoE version allows you to use the over IP system without an external power supply. It's suitable for projects that have difficulties find power supply on site.

Powerful Tech Support

The installation of the AVoIP system can be a challenge for businesses newly adopting this system. We provide powerful technical support to help you complete the AVoIP installation whenever you have any installation difficulties. As a manufacturer, SC&T has extensive experience and professional knowledge of projects. We provide the solutions for your setting and troubleshooting, we offer complete support to our professional clients.



SECURE YOUR FUTURE IN A CONNECTED WORLD

Leverage the power of high-quality, video IP solutions for NDAA-compliant systems and look over your business with confidence.



Honeywell

SEE THE FULL PICTURE WITH NDAA-COMPLIANT VIDEO IP SOLUTIONS

The reliability, integrity, and dependability of our video systems ensure that you can meet all of your existing and future security challenges with products that can be used as part of NDAA Section 889 compliant systems. The Honeywell 30 Series, 60 Series, and Modum IP body temperature detection cameras are cyber tested and designed for use as part of video systems that comply with NDAA 2019, Section 889. Our ranges of IP and thermal cameras are well suited for SMB, enterprise, and critical applications where compliance is essential, such as government, utilities, premium commercial, campuses, healthcare, transportation and banking.

WHAT DOES NDAA SECTION 889 MEAN?

The John S. McCain National Defense Authorization Act FY 2019 (NDAA), Section 889, prohibits the US Government from procuring video and telecommunication equipment from certain companies and their subsidiaries, as well as contracting with any company that uses banned telecommunications equipment or services as a substantial or essential component of any system.

MODUM IP THERMAL CAMERAS

Stay safe with non-contact, body temperature detection.

The Modum IP cameras are reliable body temperature detection solutions that offer high-level thermal accuracy. When deployed with the Blackbody device in its field of view, the Modum camera is accurate to within +/- 0.54°F (+/- 0.3°C) – making it perfect for abnormal body temperature detection requirements. The Honeywell thermal cameras combine the world-class, non-contact imaging and camera technology with innovative IP networking, quickly and safely identifying people with high body temperature. The Modum kits are the perfect solution for initial body temperature measurement to control and secure entrance to airports, schools and universities, government public offices, shops, restaurants, museums, and other facilities.

MEET THE BENEFITS



SAFE FROM A DISTANCE

Non-contact detection with heat measurement of up to 16.4ft (5 m) away and a high sampling rate of 45 to 100 people per minute.



HIGH PRECISION

Leverage the power of dynamic and multi-person screening to measure heat faster. When combined with the Blackbody devices, Modum cameras offer high accuracy within +/- 0.54°F.



RELIABLE QUALITY

Modum IP thermal cameras come with a resolution of up to 640x512 and a secondary HD visible camera, for easy recognition of positive cases.



SPEEDY SETUP

Get it done fast and right with complete Modum kits that work seamlessly with Blackbody devices for rapid deployment..

30 SERIES IP CAMERAS

UPGRADE SECURITY AND DOWNGRADE YOUR LIABILITY COSTS

Meet the Honeywell 30 Series IP cameras, an integrated video solution that empowers you to level up the safety and security of your building. With a 50-meter Smart IR LED range, a camera resolution of up to 5MP, and secure stream video encryption, the 30 Series offering suits all small-to-medium businesses (SMB) and entry-level enterprises that want to reduce their liability cost and their total cost of ownership and designed for use as part of video systems which comply with NDAA 2019, Section 889, ensuring compliance across all industry standards.



MEET THE BENEFITS



INDUSTRY-COMPLIANT SOLUTION

The 30 Series IP cameras are a perfect fit for dealers looking to sell simple, larger entry-level enterprise solutions to the compliant marketplace.



FIRST-CLASS IMAGE QUALITY

With a superior 5MP camera, the 30 Series IP cameras deliver crystal-clear images for both desktop and mobile view, and come with a user-friendly interface for reliable remote viewing.



SECURE STREAM VIDEO ENCRYPTION

Protect all the data that is communicated from one device to another with a PCI-DSS-compliant solution that helps shield your business against unauthorized access or distribution.



ENHANCED STORAGE SPACE

Images take up to 50% less storage space, thanks to the H.265 smart codec feature – enabling multitasking, bulk uploads, and significantly lower operating costs.

30 SERIES NVRs - Dynamic, Accessible Monitoring

Affordable, fully-featured and NDAA Section 889 Compliant, the 30 series NVRs offer 4K video resolution recording and stream encryption. Choose between a 8 or 16 channels NVR, with multiple hard drive options and up to 20TB of internal storage, for an ideal and flexible solution to fit your NDAA Section 889 Compliant surveillance needs.



*Honeywell's 30 Series Embedded Network Video Recorders are also compatible with 60 Series IP Cameras.

60 SERIES IP CAMERAS

PROTECT YOUR BUILDING, YOUR DATA, AND YOUR BOTTOM LINE

Honeywell takes quality and reliability to the next level with the new 60 series line of 4MP and 5MP IP cameras including a 2MP outdoor speed dome. The Honeywell cameras, including indoor and outdoor dome, bullet and outdoor speed dome offer exceptional picture clarity, flexible system integration, secure data transmission and easy installation – ensuring compliance across all industry standards.



MEET THE BENEFITS



CYBER FIRST

The 60 Series cameras provide a high level of cyber security with features like: user account and password protection, HTTPS, IP filter, digest authentication, TLS1.2 only, stream encryption, AES128 / 256, SSH / Telnet closed, PCIDSS compliance and built-in FIPS 140-2 certified chipset.



SUPERIOR HD IMAGE QUALITY, UP TO 5MP

Benefit from clear, glare-free images and excellent low-light performance with 2D/3D noise reduction – while saving up to 50% more storage and bandwidth thanks to the H.265 and H.264 smart codecs.



ONBOARD VIDEO ANALYTICS

The 60 Series 5MP cameras provide proactive monitoring using built-in video analytics, capable of detecting: face detection, missing object, unattended object, intrusion, loiter and line crossing.



EASY TO INSTALL AND USE

Suitable for a wide range of security applications, the 60 Series cameras are simple to set up and even easier to use, with camera configuration available via Wi-Fi and multiple languages available.

INTELLIGENT COMMAND

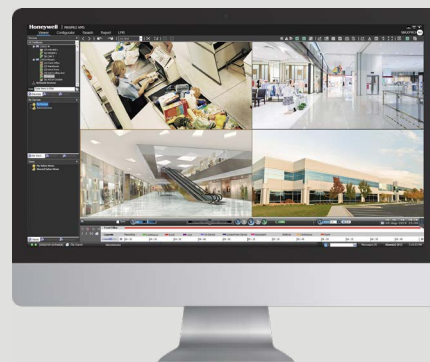
Transforming video into actionable security while maintaining business continuity

MAXPRO NVRs - Network Video Recorders

From entry to enterprise, Honeywell's family of network-based boxed NVRs include a Professional Edition (PE), Standard Edition (SE) and Xpress Edition (XE). MAXPRO NVRs support fully encrypted communication with cameras, MAXPRO VMS and NVR clients. MAXPRO NVRs also support encrypted storage for secured recordings.

MAXPRO VMS - Video Management Systems

MAXPRO® VMS controls multiple sources of video subsystems to enhance the user's video surveillance experience with maximum efficiency and minimum effort. Using an open architecture and IP-based systems, MAXPRO VMS when used with MAXPRO NVR, meets stringent security requirements through encrypted communication with MAXPRO NVR, VMS database, VMS clients and secure video export.



Honeywell Building Technologies

715 Peachtree St NE
Atlanta, Georgia 30308
1.800.323.4576
www.honeywell.com

For More Information

<https://buildings.honeywell.com>

HBT-BR-NDAA-US-EN-8apr2021
© 2021 Honeywell International Inc.

THE
FUTURE
IS
WHAT
WE
MAKE IT

Honeywell

MASTER YOUR ENVIRONMENT WITH PRO-WATCH[®]

Complete Integration. Complete Protection.

Integrated Security Suite



Honeywell

TABLE OF CONTENTS

| | |
|---|----|
| Pro-Watch Integrated Security Suite | 2 |
| Pro-Watch Mobile App | 4 |
| Pro-Watch Intelligent Command | 5 |
| Pro-Watch Video Management System | 6 |
| Pro-Watch Access Rights Management | 8 |
| Pro-Watch Identity Management Assurance | 9 |
| Pro-Watch Visitor Management | 10 |



PRO-WATCH® INTEGRATED SECURITY SUITE

As the chosen security system used by Fortune 1000 companies worldwide, Pro-Watch offers users complete confidence that people and assets are secure. Pro-Watch Integrated Security Suite continues to offer this reassurance by bringing together a range of robust, fully integrated modules. These modules include access and intrusion management, and video surveillance, offering a complete Pro-Watch security ecosystem which will meet all the security needs of the business.

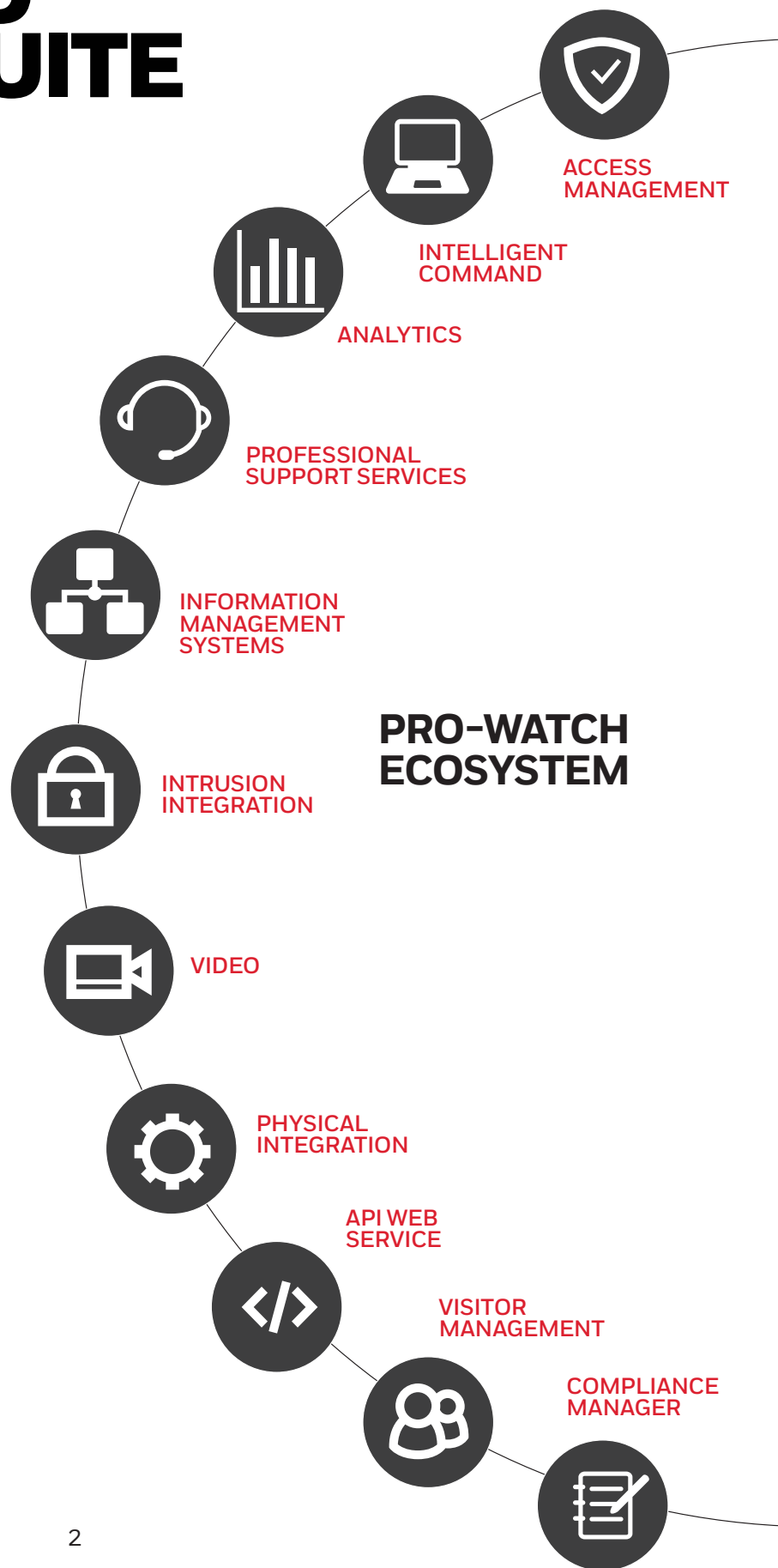
Safe, simple and highly effective protection for people, property, and assets.


Monitors video, access control, and intrusion detection solutions from a single user interface.

Optimizes productivity through remote access.

Connected systems mitigate business risks.

Reduces operator workload and operational costs.





Pro-Watch Integrated Security Suite enables an enterprise to benefit from the seamless integration of all of its security solutions, giving complete visibility of all the connected systems, in turn mitigating business risks.

It's designed to protect people and property, optimize productivity, and ensure compliance with industry regulations. And it saves time and money by providing actionable intelligence and reducing operational costs.

MEETING BUSINESS NEEDS

Pro-Watch Integrated Security Suite offers all around protection through a range of integrations and functionality.

SCALABILITY

Our suite is easily scalable, so it is suitable for enterprises of any type or size, and it grows and adapts to users changing needs.

MANAGEMENT OF MULTIPLE SITES

Many organizations have a large number of geographically dispersed sites. With Pro-Watch, the security solutions for all of sites can be monitored from a single location. It will also handle growth through acquisitions and new estates that already have configured security solutions in place.

COMPLIANCE

The Integrated Security Suite ensures compliance with industry regulations and can significantly reduce the risk and costs of non-compliance. Pro-Watch also enhances data privacy by utilizing Selective Masking in turn avoiding fines.

CYBER SECURITY

Our systems benefit from UL 2900-1 cyber certification. Further protection is provided by the integration of the different Pro-Watch modules and event management.

EFFICIENCY

Honeywell's Pro-Watch Integrated Security Suite enhances the efficiency of badging and reporting and also supports the issuing of mobile credentials. Other benefits include reductions in the cost of facility management and fewer disruptions to your business.

PRO-WATCH® MOBILE APP

Is there a need to manage and monitor various aspects of the security system remotely? This application can help to improve productivity and efficiency, as it enables users to access the Pro-Watch Integrated Security Suite from a mobile iOS or Android operating system.

This means quick and easy access to system information at any time of the day or night. It also enables administrators to manage credentials remotely.

MEETING BUSINESS NEEDS

The Pro-Watch Mobile app gives more freedom and flexibility.

ALARM AND DOOR MANAGEMENT

Operators can use the app to access the system's information and manage alarms at any time. It can also be used to lock, unlock and re-enable doors remotely.

ACCESS MANAGEMENT

The app has configurable filters that enable users to view any unused or expiring cards or to search for a specific badge holder or access card. Users can change access permissions for badge holders or cards; extend or change the validity of access cards; and scan badge holder barcodes to verify the user's access details.



PRO-WATCH® INTELLIGENT COMMAND

Bring all security elements together into a single, powerful, intelligent solution. Pro-Watch Intelligent Command is a web-based thin-client interface that gives organizations total situational awareness and command of the security system through the seamless integration of video and access control solutions. It increases scalability and reduces deployment costs, which in turn reduces overall total cost of ownership.

The platform's map user interface has interactive elements that enable users to manage and monitor all integrated video, access control, and intrusion solutions across all sites from a single interface. This interface provides actionable intelligence that facilitates rapid decision making to enhance the protection of people and property.

MEETING BUSINESS NEEDS

Improves situational awareness for video and access systems in a unified interface.

SITUATIONAL AWARENESS

Intelligent Command is a web-based interface that gives organizations total situational awareness of their security system. The seamless integration of video and access control solutions provides actionable intelligence that facilitates rapid decision making with incidents and associated workflows configured in the system, allowing standard operating procedures to be monitored.

VALUABLE REPORTS

Pro-Watch Intelligent Command reduces costs by streamlining the generation of compliance and business intelligence reports. Mapping, alarms, workflows, dashboard reports, and auditing capabilities for the site's security solutions are available from a single interface.

SIMPLIFIED DEVICE MAINTENANCE

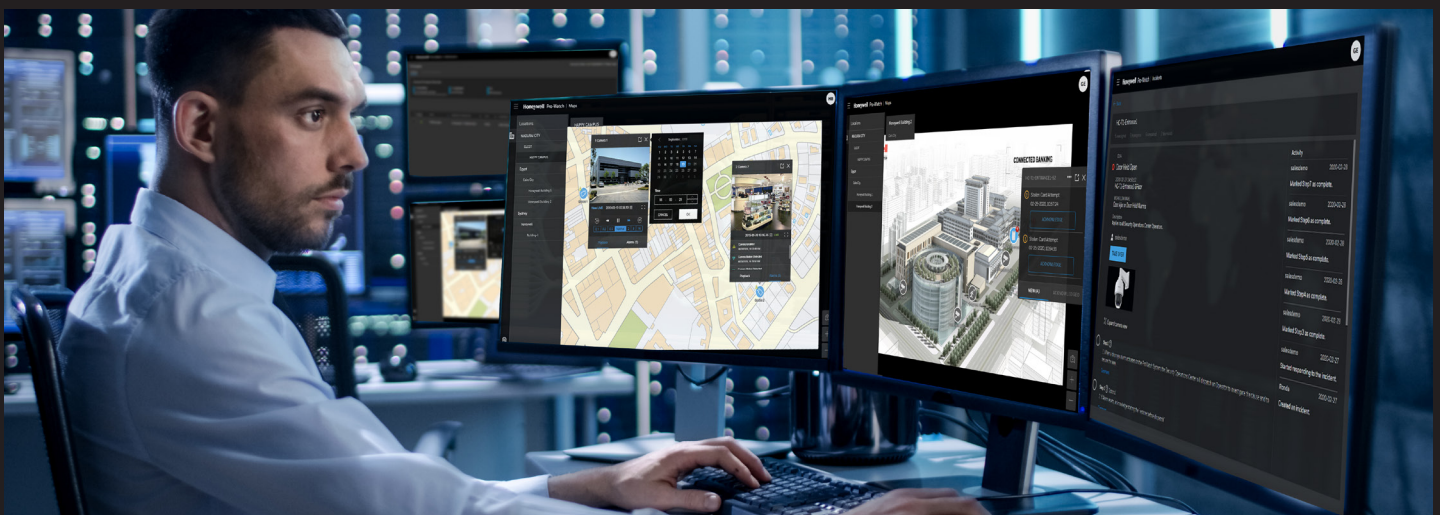
Saves time and increases productivity while reducing costs by bulk firmware upgrade and password modification of multiple Honeywell cameras.

VERSATILE TOOLS

Pro-Watch Intelligent Command includes new and enhanced video analytics and management tools, providing high-quality evidence of compliance with regulations.

INTEGRATION WITH OTHER SYSTEMS

Pro-Watch Intelligent Command can integrate with third party systems to reduce your costs and increase your operational efficiency.



PRO-WATCH[®] VIDEO MANAGEMENT SYSTEM

Pro-Watch VMS (video management system) controls multiple sources of video subsystems to collect, manage and present video in a clear and concise manner. It also intelligently determines the capabilities of each subsystem across various sites, allowing video management of digital video devices through a unified configuration and viewer.

MEETING BUSINESS NEEDS

Pro-Watch VMS supports emerging technologies in the industry, like 4K resolution, H.265 smart video compression codec, multi-imager and fisheye cameras. Businesses can fully utilize the advantages of superb video quality with 4 times the details over 1080p HD, 30%~50% less storage expense, and seamless 180° and 360° surrounding surveillance.

NATIVE INTEGRATION WITH HONEYWELL CAMERAS

Integration with 60 Series and equip cameras and advanced camera features, like “Click & Drag” 3D PTZ control, license plate recognition, intelligence events and bounding boxes on objects detected by specific video analytics, help surveillance operators to efficiently protect people, property and services.

FAILOVER FEATURE FOR ENHANCED COMPLIANCE

Pro-Watch has database redundant and 1+1/N+M NVR failover features for unforeseen/maintenance scenarios in enterprise and critical infrastructure applications. Once there is a failure on NVR equipment, system database or network, the redundant and failover feature can continue to support the system functions with minimal interruption. Incidents will be reported in a system log for future auditing and reporting.



PRO-WATCH® VIDEO MANAGEMENT SYSTEM

PRO-WATCH NVR

Pro-Watch NVR is a flexible, scalable and open IP video surveillance system, including the Pro-Watch NVR 12-bay and 24-bay turnkey boxes with 64 to 256 channels as well as a software based solution.

Supporting Honeywell's high definition (HD) cameras and broad integration with third party IP cameras and encoders, the Pro-Watch NVR family is a powerful HD IP recording and security monitoring system for a variety of applications.

OPEN – BROAD DEVICE INTEGRATIONS

Integrates to full line of Honeywell IP cameras and encoders.

Support for ONVIF Profile S and Profile G, PSIA, real time streaming protocol (RTSP) and multicast standards and Honeywell native device integrations supporting eQulP® Series cameras' new features: 4K resolution, H.265 video compression codec, 3D PTZ control, 360° camera, multi-imager camera support, intelligence events and bounding boxes on objects detected by specific video analytics.

Native device integrations supporting 60 Series, 30 Series cameras' new features: H.265 smart video compression codec and encrypted video stream with TLS 1.2.

SCALABLE INTEGRATED SECURITY SOLUTION

Multiple Pro-Watch NVRs can be deployed for system expansion using a distributed architecture and are integrated with the Pro-Watch VMS enterprise video management system with Integrated Security Suite.

The whole Pro-Watch NVR products contain no content or material from any companies or their subsidiaries prohibited under US National Defense Authorization Act (NDAA) Section 889 and can be used as part of video systems which comply with NDAA Section 889.

ANALYTICS

Video analytics has been a powerful tool to provide means for improved situational awareness, insights for increasing efficiency and reduce workload on security and management staff in turn increasing returns from existing surveillance infrastructure.

Events trigger an alarm on Intelligent Command and integrated access control provides actionable results to maintain business continuity.

EASY TO INSTALL AND USE - TURNKEY SOLUTION

Pre-installed with all required software and pre-licensed for 64, 128 or 256 channels with no extra channel license costs.

NVR Software version includes all required applications and licenses for up to 256 channels.

Easy 3-Click* wizard to live video for auto configuration - quick and efficient IP system install.

Simple and logical configuration pages make setup a breeze even for the novice installer.

Supports simultaneous recording, live monitoring, search and system management for up to 64 IP cameras including high definition formats with easy to use clients.

Easy to use desktop clients, web client and mobile apps.

Intelligence events from cameras can be viewed at the alarm panel, and trigger recording on Pro-Watch NVRs for further investigation.

Learn One, Know them All - Common feature-rich user experience across the Pro-Watch NVR Family and PW VMS / Viewer provides familiarity across a broad range of Honeywell products saving training costs.

** With default settings and in a local area network for specific models*

PRO-WATCH® ACCESS RIGHTS MANAGEMENT

Whether the business has hundreds or thousands of employees, how can it ensure that only the right people can visit certain areas of the organization? This versatile portal provides the automated management and approval of the access rights of different users. This eliminates the time and trouble involved in processing access rights manually and also eradicates entry errors, which in turn will help to ensure compliance with regulations. Its web-based workflows help to boost productivity and reduce administrator workload.

The Access Rights Management module streamlines the cardholder access request process. It incorporates intuitive web-based interfaces for both badge holders and administrators. The automation of the approval process also enables system administrators to manage identities easily, while saving time and money and reducing errors.

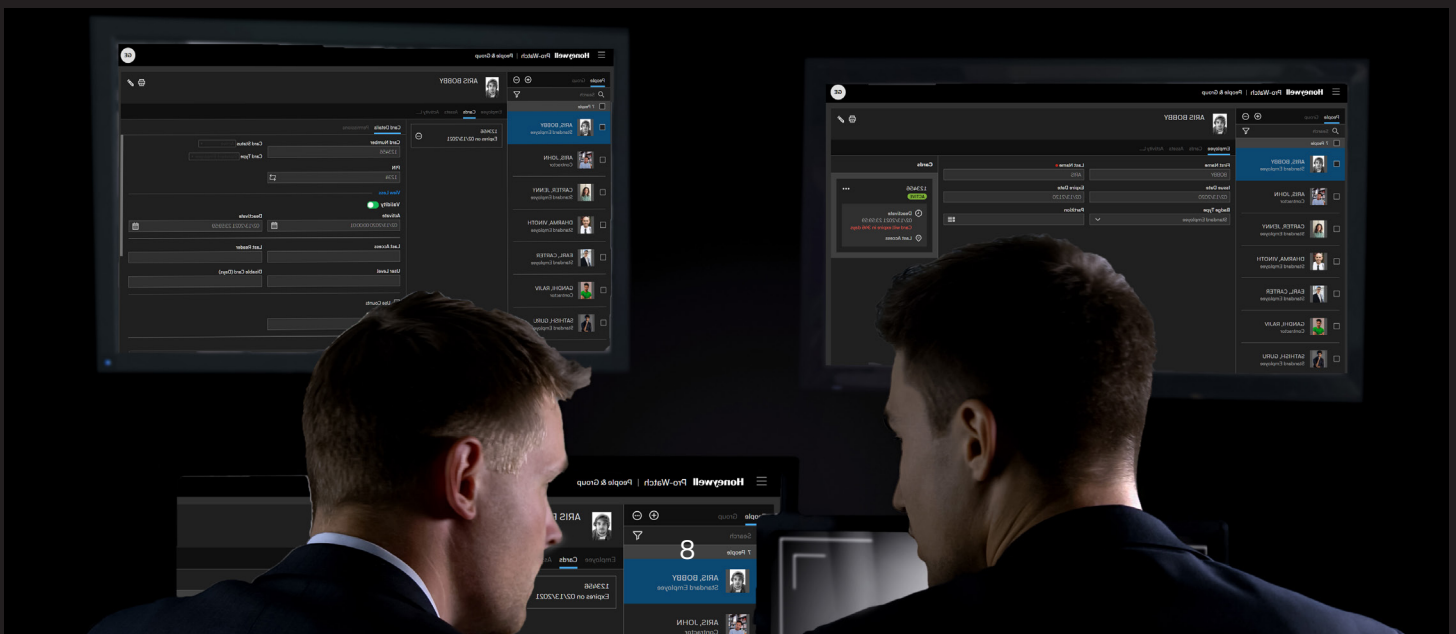
BENEFITS FOR ADMINISTRATORS

The module is a cost-effective way of managing access requests. It provides a customizable approval workflow and clearance code list (including specific business needs such as special access criteria) along with support for temporary or permanent access requests. Administrators can easily check access rights, recent activity and pending tasks. To meet compliance requirements, the module maintains auditing data on approvals and access changes.

The system's dashboard enables approvers to view new, pending and processed requests – and to grant area access accordingly. Meanwhile, they will receive email notifications of any status changes and will also receive email alerts for any new requests.

BENEFITS FOR USERS

The module provides users with a self-service approach to requesting and reviewing the status of their access rights. For example, the web-based portal allows badge holders to request access changes easily. They can view their status and recent activities at any time. There's also an easily searchable list of available clearance codes.



PRO-WATCH[®]

IDENTITY MANAGEMENT ASSURANCE

Is there a need for a more effective method of verifying the identity of people entering and leaving different parts of the organization's premises while also reducing operators' workloads? The Identity Management Assurance module is developed to enable large-scale facilities to segment access rights according to job descriptions or functions. The module can even confirm the training required and undertaken for specific locations. It's an open platform, so it can also work with almost any access control or other computer-based system.

Pro-Watch Identity Assurance manages each applicant's status in real time, covering all aspects from authentication and authorization through managing the provision of badges that grant access to controlled areas. The module tracks applications and approvals during the badge provisioning process, speeding up the time taken to verify identities and produce the badges. Vendors who are not part of the organization can also be granted access through this portal. This module is an invaluable tool for the security of a large facility.

MANAGING CREDENTIALS

The Pro-Watch Identity Management Assurance enables users to resolve the many challenges involved in verifying the identity and backgrounds of the large numbers of employees, visitors and contractors passing through the business's facility. It enables users to give different access rights based on business need and access levels. It also helps manage and monitor the training needs required for gaining access to these areas.

AUTOMATING PROCESSES

Pro-Watch's software can connect different systems and automate manual processes, reducing human error, eliminating duplicate entries and increasing efficiency and productivity.

ENSURING REGULATORY COMPLIANCE

Honeywell's software is updated regularly to ensure that our Identity Management Assurance solution remains compliant with the latest regulations – which in turn will ensure organizational compliance.



PRO-WATCH® VISITOR MANAGEMENT

Is there a need for an effective method of controlling and monitoring the movements of everyone that visits the organization's site and facilities? Lobby Works provides a highly effective way of registering, badging and tracking any visitors and can be tailored to meet your specific needs.

Lobby Works can be used to pre-print badges; to generate detailed visitor traffic reports; and to enforce visitor/contractor security policies. It can even be used to display safety or promotional videos. It will boost your visitor security; enable the organization to have a complete, centralized record of all visitors; and enhance overall customer service levels.

RAPID CHECKS

With Lobby Works, visitor registration is quick and simple and can take place at a guard station or an optional self-registration kiosk. The application allows visitors to scan photo ID's or business cards and instantly checks if the visitor is expected; that they are not on a list of prohibited people; and whether they are a returning visitor. After scanning the information, the application takes a digital photo or captures the visitor's signature.

BADGING VISITORS

For pre-registered and returning visitors, badges can be awaiting their arrival and will just need to be scanned to check them in. Visitor badges can be printed on black and white thermal direct label printers; inkjet or laser color printers; or dye-sublimation printers. The badges can incorporate features such as time-expiring stamps or tamper-resistant inks. Each badge is individually printed with visitor's name and photo, expiry time, the host's name and the areas of access.

STREAMLINED MOVEMENTS

Lobby Works can automatically contact the visitor's host by email or through real-time network messaging to announce the visit. Once the visitor is registered, they will be given a badge that specifies which areas they can visit. Afterwards, the system will also check that the visitor has signed out and left the site.



For More Information

www.security.honeywell.com

Honeywell Commercial Security

715 Peachtree St. NE

Atlanta, GA 30308

1.800.323.4576

www.honeywell.com

HIS-PROWATCHINTSEC-02-US(0620)SB-ZB
© 2020 Honeywell International Inc.

**THE
FUTURE
IS
WHAT
WE
MAKE IT**

Honeywell

FLEXIBLE ACCESS CONTROL

Protect your facilities – on your terms



Managing your access control system no longer needs to tie you to the office computer. Now you can manage your system's day-to-day needs from the convenience of your mobile device(s). WIN-PAK®'s browser-based solution is lighter than apps that consume precious memory while providing a consistent-looking interface across any device.

FEATURES & BENEFITS

Eliminates disparate systems and interfaces

- Integrated access, video, intrusion, and fire* systems through one interface
- Coordinate intrusion, access, or fire* events with video actions to maximize awareness
- Visual video verification pop-ups with stored images to confirm cardholders
- Provision mobile credentials through WIN-PAK
- Direct management of biometrics using HON-FIN4000 controller/reader

Increases situational awareness, eliminates costly false alarms

- Disarm intrusion system through any valid card swipe at an access control reader

- Arm intrusion system through a valid triple swipe at an access control reader

Minimizes onboarding and training costs

- Intuitive web interface for access management, with embedded Help tool

Scales as your business grows

- Unrestricted number of cardholders and system users
- Multiple Accounts and Subaccounts support unrestricted number of sites and access points
- Accommodates up to 40 recorders, 2,560 cameras and now supports Honeywell's Performance Series NVRs including the 4k series

Minimizes server deployment costs

- Supports VMWare 6.5 to help leverage existing IT infrastructure and server assets

Minimizes maintenance and system supervisory costs

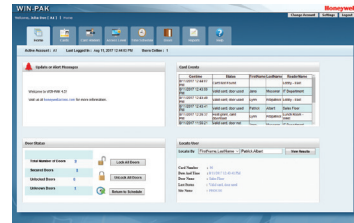
- Customizable and automated system reporting functions with email delivery
- Perform common daily access control tasks from anywhere through the web interface
- Included API for custom integrations to third-party systems

Honeywell

FLEXIBLE ACCESS CONTROL

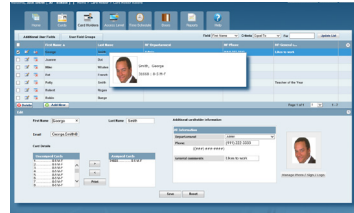
Quickly Get the Full Picture

View the status of your doors at a glance, know how many doors are secured vs. unlocked or off-line. From a single button to lock or unlock all doors in case of emergencies and restore them to their schedule. See live events, look up the last time a person or card number was used and view important notices.



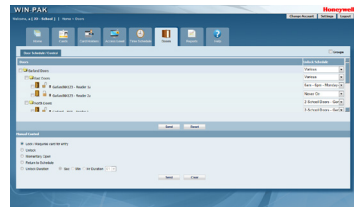
Add or Remove Cardholders

You can add or remove a cardholder from your system instantly. All actions are real-time, including HID Mobile Access® credential management, so there's no need to wait for the system to refresh to see updates. You control your data.



Manage and Monitor Doors

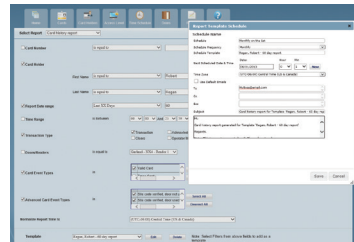
Do you need to keep the doors open past their normal schedule, open them for an employee who has forgotten his access card or confirm the status of your doors and locks? The door management capability lets you control and monitor your doors from anywhere!



Run System and History Reports

Did you have an incident last night and want to see who last entered the facility? Find out who is in what area(s) "now". Using the report generator in the web browser, you have the ability to run reports on an event—or view your entire database history.

- Cardholder Reports
 - Who has access to this door(s)
- Door Activity
- Card Audit
- Database History
- Tracking and Muster
- Card frequency—usage
- ...and more!



You can also create report templates and schedules to run your reports automatically on a one-time, hourly, daily, weekly, monthly basis and specify the number of days to look back (i.e., view a report for the last 10 days). All you have to do to check the latest reports is open an e-mail!

WIN-PAK® 4.8 Demo

Schedule a personal demonstration and see firsthand how web-based access control combined with a full feature workstation can protect your facility. Register below to have trained experts walk you through a live demonstration and provide answers to all your questions.

www.honeywellaccess.com/MACdemo

For more information

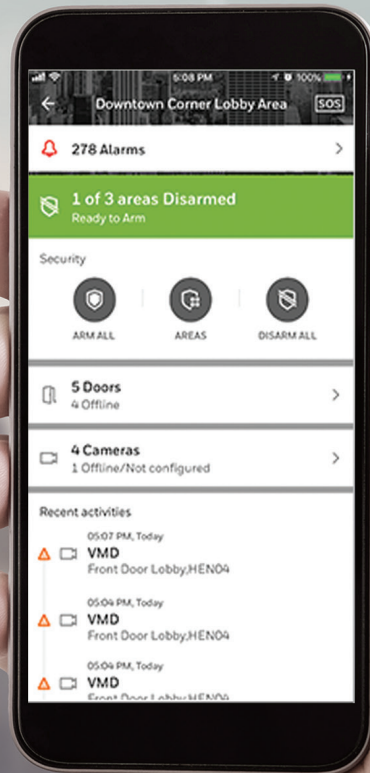
www.honeywellaccess.com

Honeywell Commercial Security

715 Peachtree Street NE
Atlanta, GA 30308
1.800.323.4576
www.honeywell.com

Profitability to the MAX

Connected video, access and intruder security with business intelligence



Introducing MAXPRO® Cloud

When it comes to choosing a security platform to standardize on for your business offering, why not choose one that best serves your bottom line.

- MAXPRO® Cloud is an integrated, cloud-based video, access and intruder management system that enables business owners to streamline security management and control of multiple sites.
- You can be uniquely positioned to offer managed intruder, access and video services to your customers utilizing a single seamless interface, providing a true end-to-end “Connected Building” solution.
- MAXPRO Cloud enables you to generate revenues from cloud services while reducing your operational costs.

MAXimize Revenues

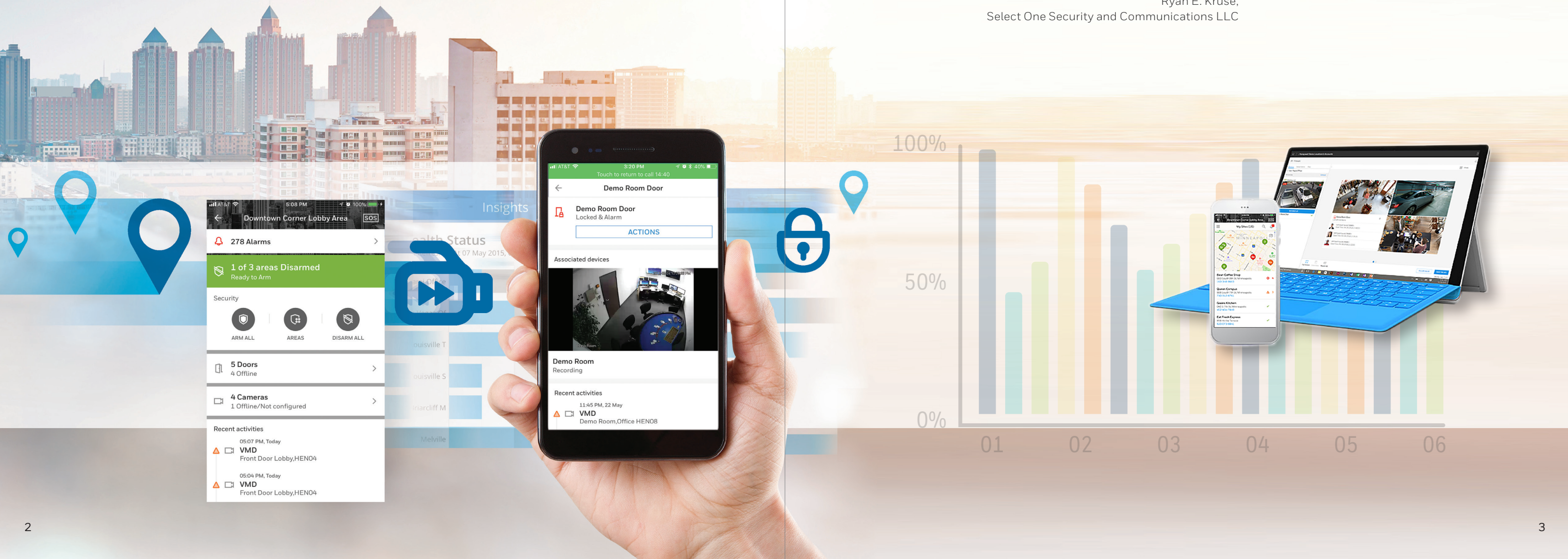
To drive lasting, sustainable revenue for your business, you need to offer your customers a security solution that thinks beyond the box—Business owners are expecting more from their security systems, a simple and easy to use system, access from anywhere across multi-site locations, information that matters, scalability, and of course peace of mind.

MAXPRO Cloud is designed to meet this growing market need while allowing you to drive a lasting, sustainable customer base and increase monthly recurring revenues through security as a service.

So let other dealers talk about hardware - while you approach your customers security needs with a small-to-medium business solution that makes life easier, which connects them to their business and streamlines efficiencies.

“ I love RMR, because it's great for the growth of our company and for the growth of our customers.

Ryan E. Kruse,
Select One Security and Communications LLC



MAXimize Installations

Onboarding and managing a multi-site customer used to take a lot of time. MAXPRO Cloud is faster to install, easier to manage and simpler to scale – helping you serve customers more efficiently. Installing one site or multi-sites with auto-enrollment and discovery of devices for multiple cameras, readers, access controllers and other video appliances now takes hours instead of days so you could reduce installation time and potential truck rolls, and that adds up to big savings.

FASTER, EASIER SETUP

- **No software to install** plug-and-play hardware reduces the time it takes to install and setup an integrated system.
- **Cloud based configuration** helps reduce any compatibility issues associated with installing local PC based software or operating systems.
- **Eliminates expensive servers and software** saving you installation time and cost.

MULTI-SITE CONFIGURATION

- **Integrated Google™ Maps** provides visual multi-site configuration.
- **Global credential and operator management** allows you to easily manage permissions and access across multiple sites.
- **Easy configuration** of rules, dashboards, and automatic reporting.

MORE INSTALLS

- **Pre-program everything before you get on-site**, reducing time and freeing up installers for other jobs.
- **Reduce single and multi-site installation time** with easy cloud integration.
- **Remote system commissioning** reduces installer time at the site.

MAXimize Performance

MAXPRO Cloud is always on and is there when you need it most. Managing multiple locations and providing meaningful insight to you and your customer helps drive MAXimum Performance.

PROACTIVE SERVICING

- Continuous system health check monitors for any potential device failures or lost communications to help ensure continuous system up-time.
- Remote cloud configuration, management and servicing reduces unnecessary truck rolls.
- In the event of a device or system failure, know before you go that your technician is armed with the right equipment.

FUTUREPROOF

- Easily grow and scale with your customers needs.
- Automatic Firmware Updates to customer devices without having to roll a truck.
- Cloud based software keeps your customers always up-to-date with the latest features and enhancements.

BUSINESS INSIGHT

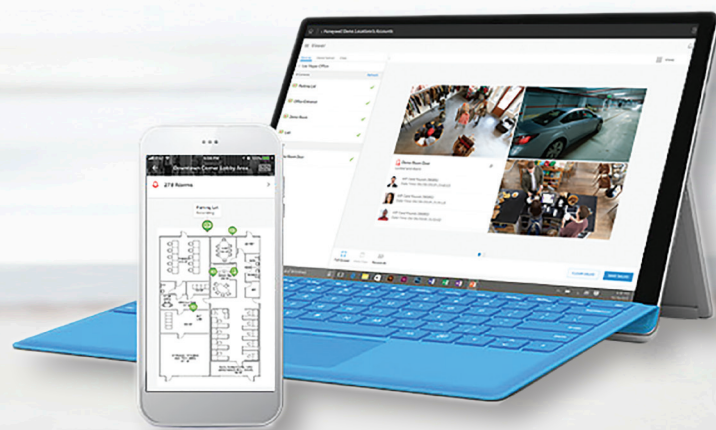
- Complete customer database visibility allows you to easily identify upgrade and upsell opportunities.
- Value added services helps keep your customers longer while reducing attrition.
- Configurable Dashboard let's you see the information that matters to you most.

“ Site and hardware setups are simple with MAXPRO Cloud, with just a few clicks we can have a customer up and running. Managing users or changing settings can be done centrally with no truck rolls needed, saving everyone time and money.

Gary Cronin
Alarm-1 Protective Services, LLC

“ MAXPRO Cloud is a versatile platform for developing strong, ongoing relationships with our customers and their access control systems. This helps us generate recurring revenues as well as recurring customer satisfaction. Our customers are happy with the platform and so are we!

Scott Hightower,
Verified Security



Target Markets

MAXPRO Cloud is an ideal solution for multi-location small to medium businesses. Single-sign on to multi-sites allows customers to access and manage their systems from anywhere.

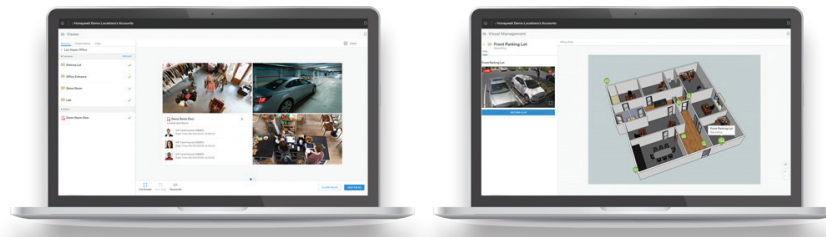
Typical Customer

- Multi-Location/Local or National
- Tiered Hierarchy Operators
- 3,000 sq. ft. or less
- 3 to 4 Doors Access
- 6 to 8 Cameras
- 30-50 employees



Intuitive User Interface

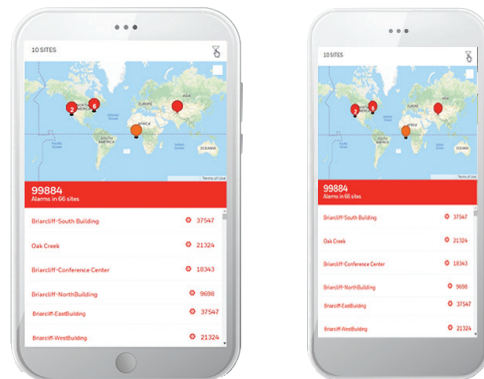
- Customizable Dashboards
- Google™ Maps Based Overlay
- Reports/Scheduler
- Integrated Access Control and Video Viewer
- Dynamic Floor Plans
- Real-Time Alarm/Event Monitoring



Powerful Mobile App

- Live view and management of video and access control
- Add/Remove card holders
- Door control and recorded video playback
- Multi-location management

Subscribers can download the iPhone and iPad Apps from the iTunes® App Store. The Android App is available in the Google Play Store. All trademarks are property of their respective owners.

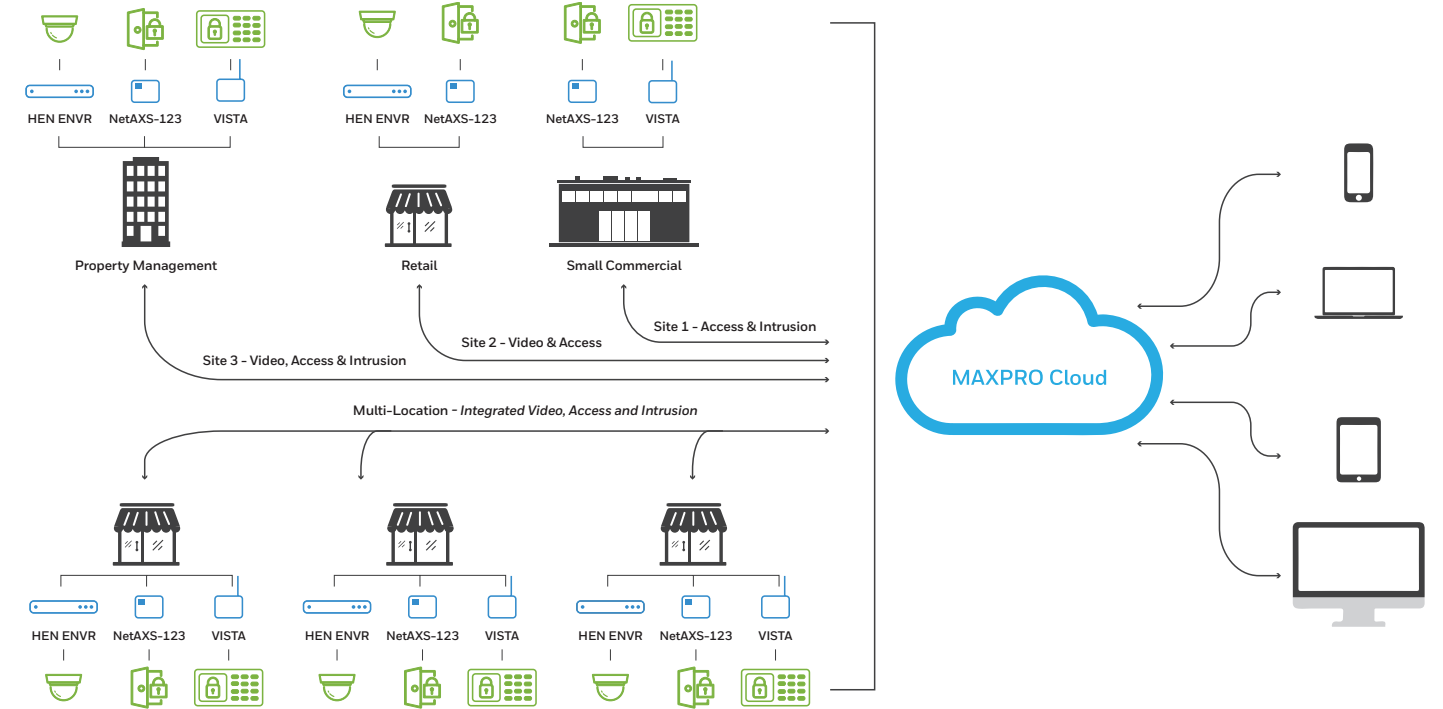


Standard Service Features

- Secure browser based access, Anytime, Anywhere
- 24/7 Cloud Hosted Service (Dedicated support team)
- Managed security as a service, Integrated Video, Access and Intrusion
- Health and Status of your customer locations
- No servers or software to maintain
- Multi-site deployment and management made easy
- Email and Push Notifications, Rule Based
- Built in automated customer reporting
- Visual customer site management
- Remote configuration and management, cards, users, permissions, concierge, monitoring
- Global users, cards, schedules and permissions
- Cloud Ready hardware, not cloud dependent reducing your SKU count
- Plug and Play devices no ports forwarding
- Low creation costs improving your cost multiples
- Cloud stored configuration, easy device replacement
- Remote f/w management
- Reduced truck rolls
- Proactive maintenance – know before you go
- Customer insight, and loyalty
- Pay for what you use, fully scalable
- Upsell opportunities
- Hosted on Microsoft Azure, full redundancy

MAXPRO® Cloud

System Architecture



Simple Management of Multiple-Sites



-  Property Management / Multi-Tenancy
-  Small Commercial
-  Retail
-  Franchises

Manage all of these across multiple sites and locations

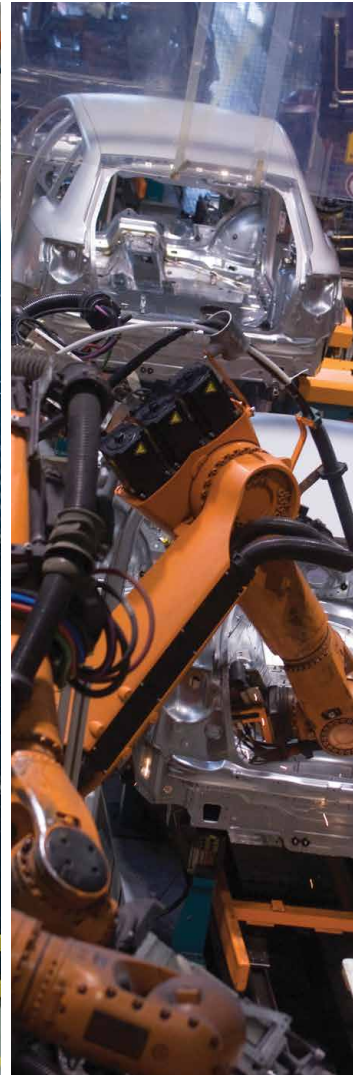
- Tiered system management & control including central, customer and zone management options for Video, Intrusion and Access
- Access control for common doors with zoned / sector access for specific customers or groups
- Intrusion security for whole site, with zones / sectors and individual customer or group management
- Visual verification of events and video monitoring of common areas
- Allocate systems / access as and when needed.
- Simple user friendly management

Awards



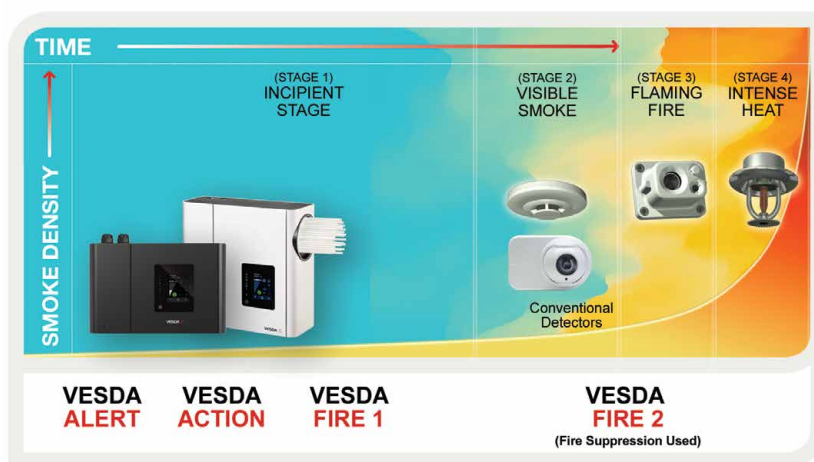


VERY EARLY WARNING ASPIRATING SMOKE DETECTION (ASD)



VESDA® & FFAST®

VESDA® & FFAST® aspirating smoke detection solutions with continuous air sampling provide the earliest possible warning of an impending fire hazard. Aspirating smoke detectors buy the critical time needed to investigate an alarm and initiate an appropriate response to prevent injury, property damage, or business disruption. Our ASD systems have multi-level warnings and a wide range of sensitivities that do not degrade or change over time, so even minute levels of smoke can be detected before a fire has time to escalate. In addition, our ASD systems are manufactured using Six Sigma techniques and ISO 9000 standards and have been certified by regulatory bodies worldwide.



VESDA-E ASPIRATING SMOKE DETECTORS

For decades, the VESDA range of aspirating smoke detectors has been recognized as the best in the world. The new VESDA-E family has a range of features, including:

- **VESDA Smoke+**, offers up to 15 times increased sensitivity, at least three times better dust rejection, up to twice the longevity while maintaining consistent sensitivity over time and up to 8% less power consumption per unit area
- **VESDA Flex** ensures future proof expandability for maximum flexibility using, StaX hardware expansion modules that easily bolt onto the VESDA-E detector to add additional capabilities, including power supplies and blowback units
- **VESDA Point Addressability with VEA** provides situational awareness to improve response time, efficiency and effectiveness through pin-point addressability for up to 40 locations
- **VESDA Connect** provides extensive connectivity options including Ethernet, Wi-Fi, USB, VESDAnet and relays, to reduce installation, commissioning, monitoring and maintenance costs
- **VESDA TCO** reduces the Total Cost of Ownership (TCO) through Capex value, OPEX savings, plug-and-play installation, design-less pipe and microbore tube networks, vast monitoring options, and backwards compatibility. With VESDA-E you can reduce TCO by up to 15% for non-addressable products and up to 60% for the point addressable products

All these features combine to make VESDA-E the best choice for early warning of smoke and fire threats. VESDA-E's sensitivity, flexibility, reliability, programmability, and expandability provides customers with superior performance and protection, while lowering the total cost of ownership (TCO).

VESDA-E ASPIRATING SMOKE DETECTORS

VESDA-E VEP – Mainstream ASD

The VESDA-E VEP series of smoke detectors bring the latest and most advanced detection technology to provide very early warning and the best nuisance alarm rejection to a wide range of applications. Built on the Flair™ detection technology and years of application experience, VEP detectors achieve consistent performance over their lifetime via absolute calibration. Flair is the revolutionary detection chamber that forms the core of the VESDA-E VEP, providing higher stability and increased longevity. Direct imaging of the sampled particles using a CMOS imager combined with multiple photodiodes allows better detection and fewer nuisance alarms. In addition, the VEP is backward compatible with VESDA VLP, allowing existing VLP installations to easily upgrade to the latest ASD technology.



VESDA-E VES – Sector Addressable ASD

The VESDA-E VES is similar to the flagship VESDA-E VEP aspirating smoke detector but also includes a valve mechanism in the inlet manifold to allow a single zone to be divided into four separate sectors, for example, distinguishing between separate aisles within a data room. Each sector has four individually configurable alarm levels (Alert, Action, Fire 1 and Fire 2) allowing optimum protection in a wide range of applications and allowing the user to quickly locate the source of smoke. Once the detector has identified the First Alarm Sector, it continues to sample from all sectors to monitor fire growth.



VESDA-E VEA – Pinpoint ASD

VESDA-E VEA introduces a new approach for point addressable smoke detection; providing pinpoint addressability by using a network of VEA sampling points located in the protected area; connected to a centralized detector which actively draws air via microbore tubes. VEA provides assured detection by having end to end system integrity monitoring of the sampling network. VEA also provides flexible and fast installation utilizing easy to install flexible microbore tubes with push-fit connectors. The VEA detector supports 40 sampling points, all managed from the centralized detector which can be located in a readily accessible location. Centralized Test and Maintenance can reduce service time by up to 90% allowing servicing of up to 500 addresses a day lowering total cost of ownership by up to 60%. VEA centralized test and maintenance is ideally suited where interruption free business operation and restricted access are of paramount importance. With best in class connectivity via WAN and Wireless networks the iVESDA application provides real time and remote access for efficient and effective response.



VESDA-E VEU – Highest Sensitivity ASD

The VEU series of aspirating smoke detectors are the premium detector of the VESDA-E range. An ultra-wide sensitivity range; 15 times greater than VESDA VLP, and provision for more sampling holes provide an increased coverage in high airflow applications by at least 40%. Considerably longer linear pipe runs and extended branched pipe network configurations cater perfectly to applications with higher ceilings providing an increased coverage by up to 80% whilst allowing convenient detector mounting for ease of service and maintenance. A range of revolutionary new features provide unsurpassed detection performance, flexibility, field programmability, connectivity and reduced total cost of ownership.



VESDA LASER ASPIRATING SMOKE DETECTORS

VESDA Laser FOCUS (VLF)

VESDA VLF is ideal for small, business-critical spaces. Available in two models, the VLF-250 covers up to 250 m² (2,690 sq. ft.), and the VLF-500 covers areas up to 500 m² (5,380 sq. ft.).



VESDA Laser INDUSTRIAL (VLI)

VESDA VLI is an industry-first early warning ASD system, designed to protect industrial applications and harsh environments of up to 2000 m² (21,520 sq. ft.). The VLI detector combines a fail-safe Intelligent Filter (patent pending) with an advanced clean-air barrier for optics protection allowing the use of absolute detection and a long detection chamber life without the need for recalibration.



VESDA SOFTWARE

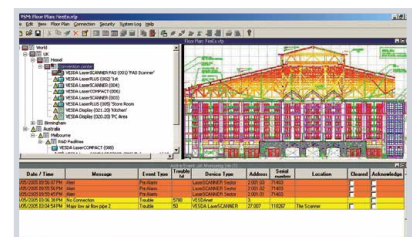
iVESDA Mobile Monitoring Application

iVESDA is a downloadable application that can be installed on Android and iOS handheld devices to monitor and maintain VESDA-E systems with unprecedented ease. iVESDA is also compatible with existing VESDA detectors residing on the same VESDAnet as VESDA-E. iVESDA provides detailed alarm, fault and other status information such as smoke trends, airflow, filter life, as well as viewing of important configuration parameters such as pipes in use and smoke alarm thresholds.



VSM4 – VESDA Smoke System Management Center

VSM4 configures, monitors and trouble-shoots Xtralis aspirating smoke detection systems. It is easy to use and has been designed to provide the operator with complete control. The user-friendly interface allows you to assess and respond quickly to system events – all from one convenient location. VSM4 is a total solution for integrated control and monitoring of your Xtralis very early warning smoke detection systems.



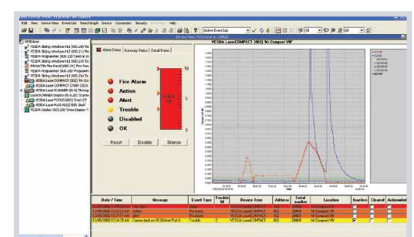
ASPIRE – VESDA System Design and Optimization

The performance of an aspirating smoke detection system is dependent on the design of the pipe network used to transport air back to the smoke detector. VESDA ASPIRE is a Windows-based application that aids the specification and design of pipe networks for VESDA air sampling smoke detectors. It provides the designer with tools to speed the design process and ensure optimum network performance and installation quality. ASPIRE also makes implementation of the design easy. With automatic generation of lists of all the components required for the project and an Installation Data Pack, the installer will have all the information they need at their fingertips.



VSC – VESDA System Configuration and Commissioning

VSC configures, commissions and maintains the full range of VESDA by Xtralis fire detection products including smoke detectors, LCD programmers and high-level interfaces. VSC can configure a single VESDA smoke detector or an entire network and is equipped with additional features that allow faster setup, fault resolution and event diagnostics.



VESDA-E & VESDA FEATURES

| Feature | VESDA-E | | | | | VESDA LASER | |
|--|--|--|--------------------------------------|--|--|--|--|
| | VEU | VEP | | VES | VEA | VLF 250/500 | Industrial VESDA VLI |
| | | VEP 1-pipe | VEP 4-pipe | | | | |
| Pipes and Area Coverage | | | | | | | |
| Pipe Length (Linear) | 400 m (1,312 ft) | 100 m (328 ft) | 280 m (919 ft) | 280 m (919 ft) | 40 x 100 m (40 x 328 ft) | 25 / 50 m (82 / 164 ft) | 360 m (1,181 ft) |
| Pipe Length (Branched) | 800 m (2,624 ft) | 130 m (427 ft) | 560 m (1,837 ft) | 560 m (1,837 ft) | N/A | 30 / 60 m (98 / 197 ft) | 445 m (1,460 ft) |
| Area Coverage | 6,500 m ² * (69,965 sq.ft) | 1,000 m ² (10,760 sq. ft) | 2,000 m ² (21,520 sq. ft) | 2,000 m ² (21,520 sq. ft) | 2,000 m ² (21,520 sq. ft) across 40 sample holes | 250 / 500 m ² (2,690 / 5,380 sq. ft) | 2,000 m ² (21,520 sq. ft) |
| No. of Pipe Inlets | 4 | 1 | 4 | 4 | 40 | 1 | 4 |
| Multiple Pipe Addressability | No | No | | Up to 4 | Up to 40 | No | No |
| Sensitivity | | | | | | | |
| Min Fire 1 Threshold | 0.001% obs/m (0.0003% obs/ft) | 0.01% obs/m (0.0031% obs/ft) | | 0.01% obs/m (0.0031% obs/ft) | 1.6% obs/m (0.5% obs/ft) | 0.025% obs/m (0.008% obs/ft) | 0.15%/m (0.046%/ft) |
| Detection Range | 0.001 - 20.0% obs/m (0.0003 - 6.25% obs/ft) | 0.005 - 20% obs/m (0.0016% - 6.25% obs/ft) | | 0.005 - 20% obs/m (0.0016% - 6.25% obs/ft) | 0.020 - 16% obs/m (0.006 - 4.88% obs/ft) | 0.025 - 20% obs/m (0.008 - 6.25% obs/ft) | 0.005 - 20.0% obs/m (0.0016 - 6.25% obs/ft) |
| EN54-20 (Class A/B/C) | | | | | | | |
| Max. no of Holes (Class A / B / C) | 80 / 80 / 100 | 30 / 40 / 45 | 40 / 80 / 100 | 40 / 80 / 100*** | 40 - 40** | VLF 250 12 / 12 / 12; VLF 500 30 / 30 / 30 | 24 / 28 / 60 |
| Sampling Point Sensitivity (%obs/m) | 1.5 / 3 / 8 | 1.5 / 3 / 8 | | 1.5 / 3 / 8*** | 1.6 / 4 / 8 | 1.5 / 4.5 / 10 | 1.5 / 4.5 / 10 |
| Transport Time (seconds) | 70 / 90 / 110 | 60 / 90 / 110 | | 60 / 90 / 90*** | 40 - 90 (Tube length dependent) | VLF 250 60 / 60 / 60 VLF 500 90 / 90 / 90 | 60 / 90 / 120 |
| Additional | | | | | | | |
| Hazardous Area Approval (FM Class 1, Div 2, Groups A, B, C, D) | No | Pending | Pending | No | N/A | Yes | Yes |
| IP Rating | IP40 | IP40 | | IP40 | IP40 | IP30 | IP66 |
| Two Stage Filtration | Yes | Yes | | Yes | Yes | Yes | Patented Intelligent Filter Secondary Foam Filter Sub-sampling Probe |
| Worldwide Certificates | UL, ULC, FDA, VdS (EN54-20), CE, CSFM, FM, AFNOR, VNIPO, ActivFire (ISO 7240-20), BOMBA, RCM, CCCF | UL, ULC, FDA, VdS (EN54-20), CE, CSFM, FM, AFNOR, VNIPO, ActivFire (ISO 7240-20), BOMBA, RCM, CCCF | | UL, ULC, FDA, VdS (EN54-20), CE, CSFM, ActivFire (ISO 7240-20), BOMBA, RCM | UL, ULC, FDA, VdS (EN54-20), CE, CSFM, FM, ActivFire (ISO 7240-20), BOMBA, RCM, CCCF | UL, ULC, FM, LPCB, VdS, CFE, ActivFire, AFNOR, UL268A (in-duct application), VNIPO, CE, NY-MEA, CSFM, FDA, BOMBA, ONORM, RCM, EN 54-20 | UL, ULC, FM, ActivFire, CE, LPCB, VdS, AFNOR, CSFM, FDA, BOMBA, VNIPO, RCM, NY-MEA, SIL 2 as per IEC 61508, EN 54-20 |

* System design and regulatory requirements may restrict the monitoring area to a lesser amount

** Check local codes for the required transport times determined by the tube lengths

*** Subject to agency Testing

OPEN AREA BEAM DETECTORS

OSID – Open Area Smoke Imaging Detectors

The OSID range of detectors provides reliable, cost-effective smoke detection for open spaces where fire detection presents unique challenges and where very early warning is not always the priority. Using CMOS imaging technology, the OSID range uniquely delivers faster installation and superior detection performance that cannot be achieved by traditional reflective beam detectors. The CMOS imager has a field of view that allows rapid set up reducing installation time from hours to minutes. The CMOS imager finds and locks on to their detection target (Emitter or Reflector); is then set to ignore unwanted light reflections and can accommodate building movement issues. The CMOS imager allows to minimize drastically false alarms from foreign object intrusion and sunlight saturation.

In its simplest configuration, OSID-R (reflective) uses an imager and a reflector. It operates on the principle of light obscuration utilizing an Infra-Red beam and smart analysis at a pixel level of its reflector, offering superior performance. Power and connectivity occur in the imager only and the OSID-R only requires a single standard reflector on the opposite wall irrespective of detection distance.

OSID-DE (dual-ended) uses a wired or battery-powered emitter(s) roughly aligned on the opposite wall within the protected area. The emitter sends both infrared and ultraviolet coded light signals to the imager. The innovative use of dual light frequencies in an open-path device enables OSID-DE to discriminate between real smoke and solid objects; allowing a high resistance to sudden and transient dust and steam clouds, thus drastically reducing false alarms. In a multi-emitter configuration, OSID-DE can have up to 7 emitters for a single imager offering a true 3D detection solution.



6500 – PHOTOCELL RECEIVER DETECTORS

The 6500RS and 6500R are conventional reflector- type linear optical beam smoke detectors designed to operate as components of conventional fire alarm systems. They operate primarily on the principle of light obscuration utilizing a single Infra-Red beam and photocell receiver. The 6500RS has a unique remote test capability that fully tests both the optics and the electronics of the device.



| FEATURE | OSID-DE | OSID-R | 6500 |
|--------------------------------------|------------------------------|---|--|
| Beam | Dual IR/UV | Single IR | Single IR |
| Technology | End-to-end/Multi-emitter (*) | Reflective | Reflective |
| Distance | 200 m/656 ft. | 100 m/328 ft. | 100 m/328 ft. |
| Free FOV | 20x20cm | 40x40cm | 40x40cm/80x80 cm (with LRK) |
| Building movement | +/-2° | +/-1° | +/-0.5° |
| Resistance to dust | Yes | No | No |
| Beam through glass panes | Yes | No | No |
| Resistance to solid object intrusion | Yes (Fault) | Yes (Fault) | No |
| Resistance to sunlight saturation | Yes (Fault) | Yes (Fault) | No |
| Angle of sunlight rejection | - | 10° | 10° |
| Log & diagnostics | Yes | No | No |
| Test at ground level | No | Yes | Yes |
| IP range | IP45 | IP 55 | IP54 |
| T° range | -10 °C to 55 °C | -20 °C to +55 | -30°C to 55°C |
| Max. Current | 8mA (31 mA alignment) | 22 mA @ 15 VDC (Intl.) 54 mA @10.2 V (Conv.) | 8.5mA Max. (Intl.) 38.5mA (Conv.) |
| Voltage range | 20-30 VDC | 15-32VDC (Intl.) 10.2 to 32 VDC (Conv.) | 15-32VDC (Intl.) 10.2 to 32 VDC (Conv.) |

FAAST LT-200

The FAAST LT-200 ASD is designed with the installer and end user in mind. It serves the wide variety of Class C applications where maintenance is difficult, where traditional smoke detection methods are inappropriate or prone to fail due to harsh environments or areas where aesthetics matter. It is also suitable for smaller mission-critical applications where very early warning - Class A or B detection is required. FAAST LT-200 combines proven aspirating detection technologies to deliver reliable smoke detection and efficient installation and maintenance. The device comprises innovative and intelligent internal design features designed to protect vulnerable components. These include a high sensitivity LED detection chamber (featuring a high-power output IR LED and high gain IR receiver amplifier), along with ultrasonic flow sensors. The device is fast to install and easy to commission thanks to Pipe-IQ pipe design and configuration software, which is included as standard. FAAST LT-200 stand-alone devices are available as single channel and dual channel devices, offering flexibility for different detection strategies. A range of customizable settings are geared towards maximizing device performance and meeting different application needs. The device also includes pre-alarm functionality for graduated alarm thresholds. The FAAST LT-200 provides alarm and fault relays with auxiliary events relay as an option. These can be set as latched or non-latched. To accommodate local installation standards or environments, flow and general fault delays can also be set.



FAAST LT-200 Features

| FEATURES | SPECIFICATION |
|---|---|
| Max. Single Pipe Length | 100 m |
| Max. Total Branched Pipe Length | 160 m (per channel) |
| Maximum Air Inlet Holes | 18 (per channel) |
| Outside Pipe Diameter | 25 mm or 27 mm |
| Internal Pipe Diameter | 15 - 21 mm |
| Sensitivity Range | 0.07 - 0.66% obs/m (Alarm level 1-5) |
| Relays | 3 (1 Alarm, 1 Fault, 1 Pre-Alarm) x per channel |
| Sounder Outputs | 1 per channel |
| Sound Performance | As low as 26db(A) |
| Event Log | 2,244 events |
| Interfaces | Terminal blocks: power supply, relays, sounder outputs, external input; Loop Connection, USB port; Buttons (Test, Reset, Disable) |
| Power Supply & Relays Connections | Max. 2 mm ² |
| USB | Standard USB cable for Type B USB connection |
| Shipping Weight - Inc. Packaging Material | 6.5 kg (dual channel) |
| Flow Monitoring & Reporting | High and low according to EN54-20 |
| Filtration | Replacement filter |
| Smoke Sensors | High sensitivity LED Detection Chamber |
| External Supply Voltage | 18.5 - 31.5 V |
| Remote Reset Time | 2s |
| Power Reset | 0.5s |
| Operating Current | |
| 1 Channel Device | 170 mA @ 24 VDC (excluding sounders) |
| 2 Channel Device | 270 mA @ 24 VDC (excluding sounders) |
| Max. Alarm Current | |
| 1 Channel Device | 360 mA @24 VDC (excluding sounders) |
| 2 Channel Device | 570 mA @24 VDC (excluding sounders) |
| Relay Contact Ratings | 2.0 A @ 30 VDC, 0.5A @ 30 VAC) |
| Environmental Specifications | |
| Operating Temperature | -10°C to 55°C |
| Humidity Range | 10% to 93% (non-condensing) |
| IP Range | 65 |
| Coverage Area | Up to 2,000 m ² according to national design regulations |

PIPEIQ

Pipe-IQ, the all-in-one pipe design, configuration and monitoring software - guides users through system design and provides full device configuration and ongoing system monitoring. Pipe-IQ™ is included free of charge with FAAST devices.

ABOUT XTRALIS



Xtralis is the leading global provider of powerful solutions for the very early and reliable detection of smoke, fire, and gas threats. Our technologies prevent disasters by giving users time to respond before life, critical infrastructure or business continuity is compromised.

We protect highly valued assets and infrastructure belonging to the world's top governments and businesses.

To learn more, please contact:

Distributed by:

InterConnect Systems, Inc.

A: No. 29 Road 4, Project 6, Quezon City

T: +632 89203363 | 89203731 | 89206811

F: +632 84269434

W: www.interconnectsystems.com.ph

E: sales@interconnectsystems.com.ph



AVA PREVENT
Aspirating Cabinet Smoke Detection



ASPIRATING DETECTION SYSTEMS



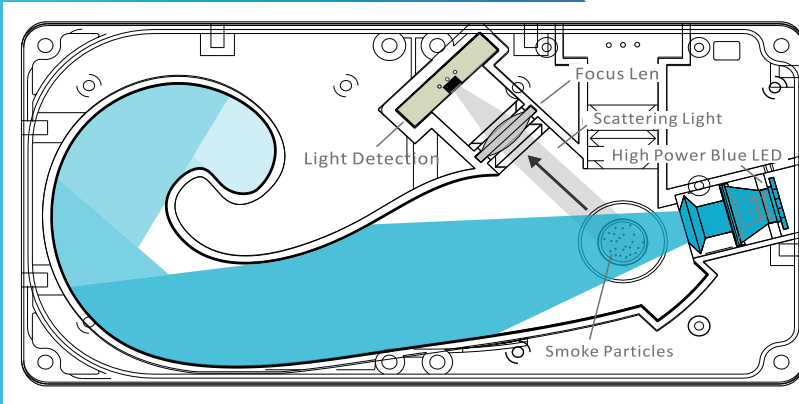
**Equipment and
Building Fire Detection**

Our Company

Established in Taiwan for more than 10 years, AVA Prevent is a manufacturer of Aspirating Smoke Detectors with headquarters in New Taipei City, representation offices in Taichung, Kaohsiung, and a branch office in Shanghai, China. Our experienced team is not only responsible for the R&D and manufacture of our own products, but also provides technical support on the installation, commissioning and maintenance for our clients, in Taiwan. In regard to the international market, not only we guarantee our services through our main distributors situated across the world, as we provide, additionally, OEM and ODM services. The quality of our products is certified under the FM Approval in U.S., CCCF in China, and KFI in Korea.



High Power Blue LED



AVA's High-Sensitive Smoke Detector (HSSD) uses a High Power Blue LED as the detection light source. The characteristics of the Blue LED meet the basic requirements for this detection light source such as high brightness and long life span. The short wavelength of 470nm blue light is more responsive and sensitive to smaller size particles, therefore, the Blue LED can provide the most effective detection from the tiniest size particles to large ones.

We can say that the High Power Blue LED combines the advantage of the first-generation ASD xenon light source together with the second-generation infrared laser, however, it does not carry the same problems from the 1st

generation xenon, that has a short life span, or the 2nd generation infrared laser with a longer wavelength that is not sensitive to small particles of the shortcomings. Based in these facts, the Blue LED is the ideal detection light source for a high-sensitive smoke detector.

Another feature on AVA's blue LED detection light source is the "Three-Dimensional" evaluation of the air sample, rather than a detection "point".

As shown in the picture above, the high brightness beam emitted from AVA's blue LED can irradiate simultaneously all the air particles inside our three dimensional HSSD smoke chamber, so each air particle inside the chamber can contribute to the scattered light. Although the brightness of the LED is not as high as the Laser Beam, and the scattered light from a single particle is not as high as that from the laser, the total scattered light signal is substantially bigger because the air sample contains large amounts of air particles. Moreover, the scattered light intensity is proportional to the total mass of all suspended particles, which is a more accurate representation of the actual smog concentration in the air.

SSL (Smart Smoke Level)

AVA's ASD System has a built-in SSL algorithm. This algorithm will constantly collect the alterations on the background smoke value and calculate the average value of the background smoke concentration over a period of time, which is then used as the reference point for the smoke concentration and alarm threshold. When a fire occurs, the smoke particles in the air will multiply due to the material combustion and will cause the smoke concentration detected by the HSSD to increase from the background average (reference point), and when the smoke concentration exceeds the alarm threshold, AVA's ASD system will turn into "Fire Alarm Stage".

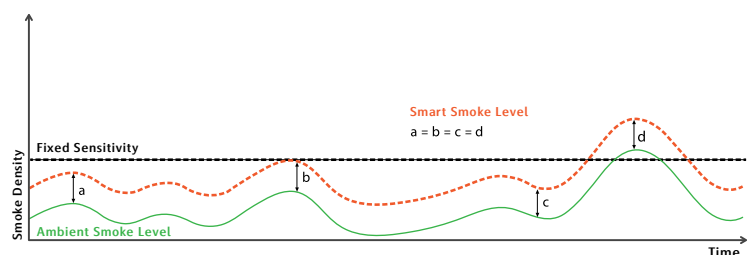
In fact, the real time smoke concentration and alarm threshold displayed by the AVA's ASD system is a relative value, "relative" to the background average smoke over a period of time, so we also call SSL a "Relative Scale" system.

Advantages of SSL

- **Maintains a Consistent Performance:** As it can be seen on the figure at the right, the scale system alarm value is related to the smoke background value, that way, the fire detection capability is fixed.
- **Greatly Reduces False Alarms:** Since the ASD system continuously studies the environment in the background, it will NOT create any false alarms due to the normal Non-Fire condition change in the background value.
- **Extremely Simple Testing and Commissioning :** The SSL relative scale algorithm will start automatically when the ASD is switched-on. The SSL will be working non-stop 24 hours for 365 days and will adjust the limit level, making the commissioning of AVA's ASD extremely simple.
- **Easy to Spot any Anomalies:** Since the SSL algorithm continuously learns about the environmental background as the reference point (zeroing), any change above the background average is easily noticed, and thus, it could provide a Very Early Warning signal.

SSL algorithm

Smart Smoke Level vs Absolute / Fixed Sensitivity



Cabinet Smoke Detector ▶ for High Risk Equipment

High Fire Risk Equipment

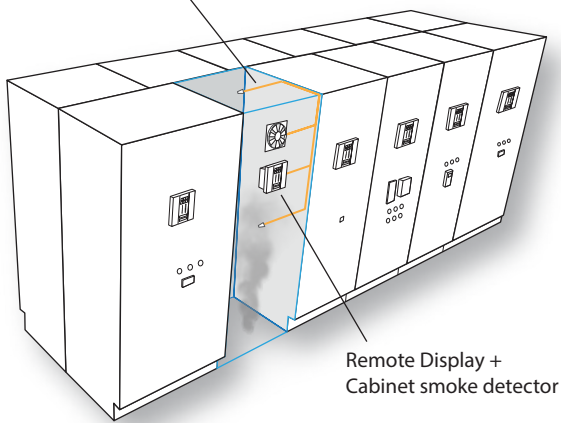
The Fire Risk is determined by two main factors: The Fire Probability and the Loss caused by a Fire. Some equipment have a higher chance to generate fire, this may be due to the internal equipment having high current, high voltage, high temperature, mechanical friction or even containing flammable and explosive components inside. On the other hand, if fire occurs, it will caused huge losses. In addition to the high value equipment costs, some equipment are essential, having a critical task or mission. When these equipments stop working due to a hazard, it may cause the whole plant to stop working or cause business interruption, and the loss will be far greater than the value of the equipment itself.

AVA CSD is specially designed and provides a Very Early Warning Aspirating Fire Detection for such a high risk equipment. This will avoid and minimize the loss by reducing the fire risk on key equipment on site and the reliability of the overall process can be greatly improved.

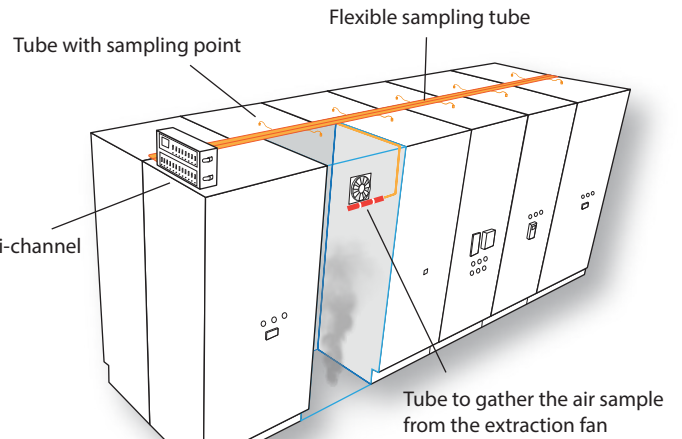


Installation Solutions

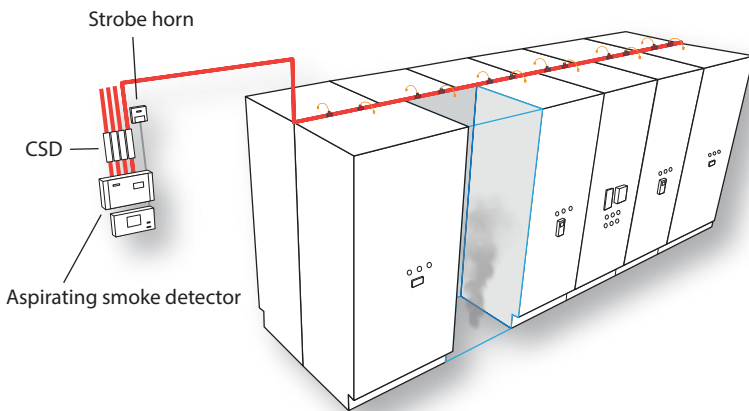
Tube with a sampling point at locations where the smoke might appear



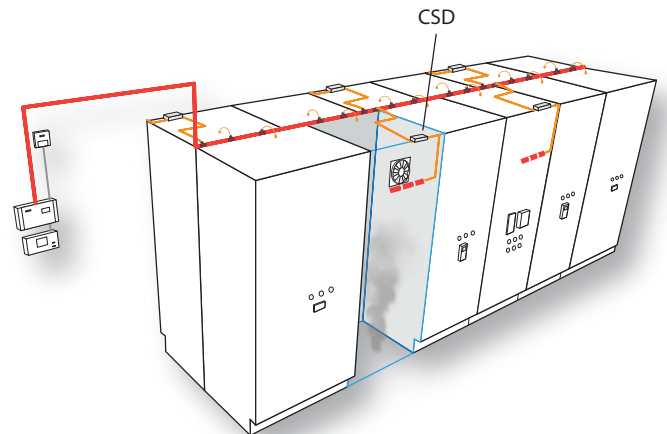
CSD Individual equipment detection



CSD Multi-channel addressable detection



ASD+CSD pipe addressable detection



ASD+CSD sampling point addressable detection

CSD Series Cabinet Smoke Detector



CSD-H with different installation options



CSD-V
Aspirating Cabinet
Smoke Detector



RDU-PMC
Panel Mount Remote Display
and Programmer



Pinpointer 1200
Multi-channel Aspirating
Cabinet Smoke Detector

CSD is a miniature aspirating smoke detector designed for very early warning fire detection specially for equipment with higher fire risk.

The new CSD-H series features:

- **Installation Flexibility:** CSD-H can be mounted with different orientations, i.e. horizontal, vertical or by side according to its application needs. It can be fitted with a capillary tube or a 25mm air-sampling pipe. It can have a mini fan like a typical ASD, to withdraw air samples from the protection area, or without the fan and fit it into the pipe or capillary tube of an aspirating smoke detection system to provide additional addressability.
- **Multiple Sensor Options:** CSD-H provides a high sensitivity smoke sensor and/or Carbon Monoxide sensor for fire detection. One sensor or two sensors together are available for the user's best protection.
- **High Sensitivity Smoke Sensor:** CSD-H series uses a high power LED as the detection light source. It is very sensitive to small smoke particles generated during the incipient stage of a fire. The highest sensitivity is 0.02%/m, which is more than one hundred times more sensitive than a conventional point type smoke detector.
- **CO Sensor:** The CO sensor used in CSD-H is a UL recognized component with a detection range of 0~5000ppm and a 10 year life-span.
- **Numerical Display:** The CSD-H front panel displays the real-time smoke value, control and basic setup of the detector.
- **Low Level Interface:** Two relays and one GPI for the connection to the fire alarm system. Both relays and GPI are configurable.
- **RS485 Network and Modbus RTU:** The CSD provides a High Level RS485 communication. It also supports a Modbus RTU open protocol that can be easily integrated with SCADA/PLC/HMI system.
- **Remote Display:** A remote display/programmer can be connected from the CSD for full display and programming. The maximum cable distance between a CSD and the RDU is of 1.2km.
- **Multi-Channel:** The CSD-H can be install side by side in an enclosure to become a multi-channel ASD/CSD.

CSD-H 1 1 - 8 3 2 2 - G 0 0

| ① Model | ② Smoke Sensor | ③ Gas Sensor | ④ Tube | ⑤ Fan | ⑥ Display | ⑦ Termination PCB | ⑧ Color | ⑨ Reserved | ⑩ Reserved |
|--|--|----------------------------------|---------------------------------------|--------------------------|---|--|---|------------|------------|
| CSD-H: CSD-H series CSD-V: CSD-V series | 0: No Smoke Sensor 1: Smoke Sensor 0.8%/m 5: Smoke Sensor 0.005%/m | 0: No Gas Sensor 1: CO Sensor | 8: Capillary Tube 8mm P: Pipe 25mm | 0: No Fan 3: Mini Fan | 1: Numerical + 8 LED 2: Numerical + Bar 5: V5 4 LED | 0: No Terminal 1: Termination 2: Termination + IO 5: V5 Termination | G: Grey W: White R: Red B: Black | | |

Aspirating Smoke Detector ▶ for Building Protection

▶ QUARTAS Aspirating Smoke Detector



QUARTAS-500s



QUARTAS-2000s



QUARTAS-500s single pipe and QUARTAS-2000s four pipes scanning Aspirating Smoke Detector.

- **Very high sensitivity:** QUARTAS uses a high power, blue LED as the detection light source, which is very sensitive to small smoke particles generated during the incipient stage of a fire. The highest alarm sensitivity is 0.005%/m, which is 1000 times more sensitive than a conventional point type smoke detector.
- **All in one Display:** The QUARTAS front panel provides a display, control and programmer for the ASD. This all-in-one display not only shows a real-time detector status. It is also very convenient for service engineering since it can show the event code and be able to change functions when necessary without a laptop.
- **Pipe Addressability (QUARTAS-2000s):** The pipe aspirator will turn "on" and "off" to search and identify the pipe with smoke presence.
- **RS485 Network and Modbus RTU:** The QUARTAS provides RS485 communication with a built-in repeater. It also supports a Modbus RTU open protocol that can be easily integrated with SCADA/PLC/HMI system.

▶ Hercules Aspirating Smoke Detector



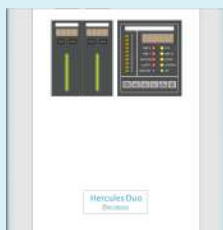
VX1/VX2



VX4

Thanks to the extremely high suction pressure aspirator used in Hercules Aspirating Smoke Detector. Up to 150m of air-sampling pipe length can be connected from the detector, making it suitable for a large area application like a warehouse or a distribution center.

▶ Hercules DUO Multi-Sensor Aspirating Smoke Detector



VX2C: VX2 w/2 Pipes CO Sensors

VX2H: VX2 w/2 Pipes Smoke Sensors

VX2D: VX2 w/2 Pipes CO + Smoke Sensors



VX4C: VX4 w/4 Pipes CO Sensors

VX4H: VX4 w/4 Pipes Smoke Sensors

VX4D: VX4 w/4 Pipes CO + Smoke Sensors

The Hercules DUO is based on the Hercules ASD, with additional Pipe Sensors working simultaneously with Hercules very high sensitivity smoke detector. The Pipe Sensors can be a CO Sensor, Smoke Sensor, or a CO and Smoke Sensors. With the help of Pipe Sensors, Hercules DUO provides pipe addressability, redundant smoke detector and coincidence detection.

- CO Sensor: 0-5000 ppm, UL recognized component, 10 year life
- Smoke Sensor: 0.02-20%/m

Fanfare ONE
Modular Aspirating Smoke Detector



VM1



VM1 side by side Installation

Fanfare ONE is a Single Channel Aspirating Smoke Detector that is designed from one channel to multi-channel aspirating smoke detection system. Multiple Fanfare ONE ASDs can be installed side by side to become a multi-channel ASD. A Fanfare UPS can also installed on the side to provide the battery backup power and also the central connection point of all Fanfare ONE on the side.

Fanfare SCAN
Pipe Scan Aspirating Smoke Detector



VM2



VM4

Fanfare SCAN is a Pipe Scan Aspirating Smoke Detector that provides pipe addressability by scanning pipes when the ASD goes into alarm. Thanks to its individual aspirator on each pipe inlet, the Fanfare SCAN will turn on and off its pipe aspirator in sequence to search the pipe with the most smoke so it can identify the fire source.

| ASD Series | Quartas | | Fanfare ONE | Fanfare SCAN | | Hercules | | | Hercules DUO | | | | | |
|--------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----------------------|-------------------------|-----------------------------|----------------------|-------------------------|-----------------------------|
| Model | Q'-500s | Q'-2000s | VM1 | VM2 | VM4 | VX1 | VX2 | VX4 | VX2C | VX2H | VX2D | VX4C | VX4H | VX4D |
| Detection Range | 0.001~25%/m | | | | | | | | | | | | | |
| Pipe Length Linear | 100m | 400m | 105m | 210m | 420m | 150m | 300m | 600m | 300m | 300m | 300m | 600m | 600m | 600m |
| Pipe Length Branched | 240m | 1040m | 260m | 520m | 1040m | 400m | 600m | 1200m | 600m | 600m | 600m | 1200m | 1200m | 1200m |
| Area Coverage | 1000 ^{m2} | 2000 ^{m2} | 1000 ^{m2} | 2000 ^{m2} | 2000 ^{m2} | 2000 ^{m2} | 4000 ^{m2} | 8000 ^{m2} | 4000 ^{m2} | 4000 ^{m2} | 4000 ^{m2} | 8000 ^{m2} | 8000 ^{m2} | 8000 ^{m2} |
| Built-in Pipe Sensor | No | No | No | No | No | No | No | No | 2 no. of CO Sensor | 2 no. of Smoke Sensor | 2 no. of CO + Smoke Sensor | 4 no. of CO Sensor | 4 no. of Smoke Sensor | 4 no. of CO + Smoke Sensor |
| Pipe Addressability | No | Yes (Pipe Scan) | No | Yes (Pipe Scan) | Yes (Pipe Scan) | No | No | No | Yes (Pipe CO Sensor) | Yes (Pipe Smoke Sensor) | Yes (Pipe CO + SmokeSensor) | Yes (Pipe CO Sensor) | Yes (Pipe Smoke Sensor) | Yes (Pipe CO + SmokeSensor) |
| Redundant Smoke Detector | No | No | No | No | No | No | No | No | No | Yes | Yes | No | Yes | Yes |
| Coincidence Detection | No | No | No | No | No | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes |
| Max. N° of Holes (Class A/B/C) | 30/60/60 | 40/60/100 | 30/56/56 | 30/56/112 | 30/60/120 | 40/60/100 | 40/60/120 | 40/60/120 | 40/60/120 | 40/60/120 | 40/60/120 | 40/60/120 | 40/60/120 | 40/60/120 |

Note: Specifications subject to change without notice.



Pinpoint Fire Risk

Addressable

Very Early Warning

Aspirating Smoke Detection



INTERCONNECT SYSTEMS, INC.

29 Road 4, Project 6, Quezon City

Tel. No.: +632 8920-3363 /8920-3731 | Fax No.: +632 426-9434

System Overview

Nx Witness is an open, extensible IP video management system with Cloud, Desktop, Mobile, and Server applications.



Nx Witness

VIDEO MANAGEMENT SYSTEM



CLOUD

A cloud-based service that enables simple, centralized remote access and insight into any Nx Witness system.

| BROWSERS | |
|----------|-----------------|
| | Google Chrome |
| | Mozilla Firefox |
| | Microsoft Edge |



DESKTOP

A rich media player with a flexible GRID interface designed for connecting to and managing an Nx Witness system.

| OPERATING SYSTEMS | |
|-------------------|--------------|
| | Windows |
| | Ubuntu Linux |
| | Mac OS |



SERVER

A powerful, lightweight media server designed to discover, add, and manage system devices and resources.

| OPERATING SYSTEMS | |
|-------------------|--------------------|
| | Windows |
| | Ubuntu Linux |
| | ARM / Debian Linux |



MOBILE

A mobile application for iOS and Android devices designed for remote viewing and control of resources.







| OPERATING SYSTEMS | |
|-------------------|----------------|
| | Google Android |
| | Apple iOS |
| | Microsoft Edge |

Desktop Overview







A rich desktop application with a flexible GRID interface designed for connecting to, viewing, and managing your Nx Witness System.









USABILITY

| | |
|---|----------------------------|
|  | Drag & Drop Interface |
|  | Consolidated Notifications |
|  | Adaptive Playback |
|  | Customizable Layouts |
|  | Digital Maps |
|  | Adaptive Scaling |







MEDIA

| | |
|---|----------------------------|
|  | IP Video Cameras / Devices |
|  | RTSP/HTTP Streams |
|  | I/O Devices |
|  | Web Pages / URLs |
|  | Recorded Video Files |
|  | Static Image Files |

CONFIGURATION

| | |
|---|-----------------------|
|  | Events & Rules Engine |
|  | User Management |
|  | IP Video Devices |
|  | Server Management |
|  | I/O Device Management |
|  | Storage Management |

SEARCH

| | |
|---|---------------------|
|  | Smart Motion Search |
|  | Keyword Search |
|  | Calendar Search |
|  | Object Search |
|  | Bookmarks |
|  | Audit Trail |

Desktop Specs

HARDWARE REQUIREMENTS

MINIMUM SUPPORTED SPECS

HARD DRIVE: HDD/SSD/mSATA
 RAM: 2GB
 CPU: Quad Core Intel Celeron CPU or higher
 GRAPHICS: Intel HD Graphics 3000
 w/ OpenGL2.1 support
 NETWORKING: 1Gbps NIC

PERFORMANCE SPECS

HARD DRIVE: Performance SSD
 RAM: 16 GB
 CPU: Intel Core i5
 GRAPHICS: NVIDIA GeForce GTX 1050
 (OpenGL2.1 support is required)
 NETWORKING: 10 Gbps NIC

MAXIMUM # OF GRID ITEMS PER LAYOUT

64 Items (e.g. 64 live streams)

SUPPORTED OPERATING SYSTEMS

WINDOWS

Windows 8
 Windows 8.1
 Windows 10
 Windows 11
 Windows Server 2012
 Windows Server 2012 R2
 Windows Server 2016
 Windows Server 2019
 Windows Server 2022

UBUNTU LINUX

Ubuntu Linux 16.04 LTS
 Ubuntu Linux 18.04 LTS
 Ubuntu Linux 20.04 LTS

MAC OS

macOS 10.14, 10.15
 macOS 11.0, 11.1, 11.2
 macOS 12

UNIQUE CAPABILITIES

DESKTOP MODES

CONNECTED CLIENT: Manage any connected Nx Witness System
 MEDIA PLAYER: View, edit, and export offline videos and images
 VIDEO WALL: Put Nx Desktop into Video Wall mode to control remotely

UNIQUE FEATURES

MULTILINGUAL SUPPORT: Support for 20+ languages
 SHOWREEL: Fully customizable viewing sequences of any GRID media
 CUSTOMIZABLE BRANDING: Customizable Desktop background
 DRAG & DROP REASSIGNMENT: Move cameras/streams between Servers
 INTEL® QUICK SYNC: Decode high-resolution video on low power hardware

SEARCH

ADVANCED OBJECT: Search by detected object and metadata attributes
 FLEX TIMELINE: Search by date / time using calendar or mouse movements
 EVENTS: Quickly search System event log to find event-driven video
 SMART MOTION: Select specific pixels to search a year of archive in seconds
 BOOKMARKS: Create Bookmarks manually or automatically with Rules Engine

SUPPORTED MEDIA PLAYBACK & CONTROL

LIVE STREAMING (CAMERAS & STREAMS)

CODECS: H.265 H.264 MJPEG

OFFLINE MEDIA FILES

VIDEOS: AVI MKV MP4 MOV, TS M2TS MPEG MPG FLV WMV 3GP
 IMAGES: JPG PNG GIF BMP TIFF

CONTROL DEVICES

I/O Devices: Status and Triggers
 SERVERS: Server Health Monitoring

























BUILT-IN BROWSER

BROWSER SUPPORT: Websites, URLs, IP Addresses

Server Overview

A lightweight media server designed for discovering, adding, and managing system resources and their related metadata.



| DISCOVER | MANAGE | VIEW | INTEGRATE |
|--|---|---|---|
|  99% of IP Cameras, Webcams |  Device Configurations |  Server Health |  HTTP Events & Actions |
|  I/O Devices |  System Rules |  Live / Recorded Video |  Server API |
|  Encoders |  Failover / Redundancy |  System Configuration |  Metadata SDK |
|  RTSP / HTTP / UDP Streams |  Connections (HTTP, HTTPS) |  Log Files |  Video Source SDK |
|  SAMBA NAS Devices |  Archived Video |  Audit Trail |  Storage SDK |
|  Nx Systems and Servers |  Flexible Archive Backup |  Storage Status |  Server via Cloud API |

Server Specs

COMPATIBLE HARDWARE

RECOMMENDED BASED ON # OF STREAMS

| STREAMS | RAM | NIC | CPU |
|-----------|-------|------|-------------------|
| Up to 8 | 1 GB | 1 GB | Dual Core ARM |
| Up to 16 | 2 GB | 1 GB | Dual Core Atom |
| Up to 32 | 4 GB | 1 GB | Dual Core Celeron |
| Up to 64 | 8 GB | 1 GB | Core i3 |
| Up to 128 | 16 GB | 1 GB | Core i3 |

*CPUs change fast and this spec sheet is fixed.

RECOMMENDED MAXIMUMS

OF RESOURCES PER SYSTEM: 10,000
 # OF CLIENTS PER SYSTEM: UNLIMITED
 # OF STREAMS PER SERVER: 128
 # OF SERVERS IN A SERVER HIVE: 100
 # OF USERS IN A SYSTEM: 1000

* Based on lab environments. Designing a system that exceeds the numbers above? Contact us for assistance.

SUPPORTED OPERATING SYSTEMS

WINDOWS

Windows 8
 Windows 8.1
 Windows 10
 Windows 11
 Windows Server 2012
 Windows Server 2012 R2
 Windows Server 2016
 Windows Server 2019
 Windows Server 2022

UBUNTU LINUX

Ubuntu Linux 16.04 LTS
 Ubuntu Linux 18.04 LTS
 Ubuntu Linux 20.04 LTS

ARM DEVICES

Raspberry Pi
 NVIDIA Jetson Development Devices
 * Contact us to learn more about our ARM support

UNIQUE CAPABILITIES

SERVER HIVE

SYNCHRONIZATION: SERVERS SYNCHRONIZE SYSTEM DATA IN REAL TIME

FAILOVER: AUTOMATIC CAMERA FAILOVER WHEN SERVER FAILS

ARCHIVE INTEGRITY

INTEGRITY CHECK: NOTIFICATION WHEN FILES MANUALLY MODIFIED

BACKUP: REAL-TIME (CONCURRENT) OR SCHEDULED

NO PREREQUISITE SOFTWARE REQUIRED

DATABASE: SQLITE + PROPRIETARY ARCHIVE INDEX

LIGHTWEIGHT: ~75MB INSTALL FILE

STORAGE

LAN / WAN: HDD SSD NAS (SAMBAA)

STORAGE SDK: INTEGRATE NEW STORAGE MEDIUMS (E.G. FTP, CLOUD)

SECURITY

USER RIGHTS: LDAP/ACTIVE DIRECTORY SECURE PASSWORD RECOVERY

TECHNOLOGIES: HTTPS OPEN SSL SALTED MD5 HASH TLS/SSL

ENCRYPTION: SECURE CONNECTIONS ENCRYPTED VIDEO

SUPPORTED MEDIA STREAMING

LIVE STREAM (AVAILABLE VIA SERVER API)

VIDEO: H.265 H.264 MJPEG

AUDIO: AAC PCM (Mu-Law, A-law) g726 MP3

PROTOCOLS: RTSP WebM HLS

TRANSCODING: SUPPORTED (FOR WEB CLIENT, MOBILE, API)

OTHER MEDIA

VIDEOS: AVI MKV MP4 MOV TS M2TS MPEG MPG FLV WMV 3GP























IMAGES: JPG PNG GIF BMP TIFF

VIRTUAL CAMERA: Upload footage from offline cameras (e.g. wearable cameras)

Cloud Overview

A public cloud application built to enable simple, fast, remote connectivity and management of Nx Witness Systems.



| CONNECT | VIEW | MANAGE | SCALE |
|---|---|---|--|
|  NAT Traversal |  Live Video (adaptive) |  System Settings |  Unlimited # of Systems |
|  Data Proxy via AWS |  Recorded Video (adaptive) |  User Permissions |  Unlimited # of Users |
|  LDAP Credentials |  Camera Details |  Cloud Connections |  Unlimited # of Devices |
|  Encrypted Connections |  Keyword Search |  Email Notifications |  Cloud API |
|  Wifi / LAN / WAN |  Calendar Search |  Push Notifications | |
|  4G / LTE / Data |  Scalable Timeline |  Health Monitoring | |

Cloud Specs

SCALABILITY

MAXIMUM # OF CONNECTED SYSTEMS

UNLIMITED

MAXIMUM # OF USERS

UNLIMITED

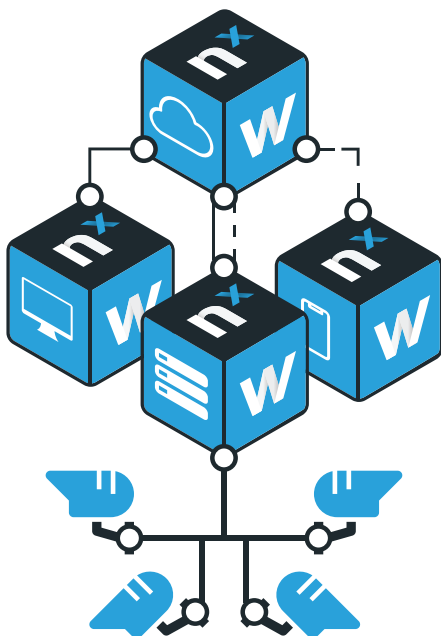
NX CLOUD SERVICES

CLOUD CONNECT

Connect any Nx Witness System to Nx Cloud for simple remote connectivity from anywhere using Network Optix's NAT Traversal and Cloud Data Proxy technology.

MANAGE USERS

Add an unlimited number of users to a single Nx Cloud System. Share access to your Nx Witness System in seconds using only email addresses. Create Custom Roles to quickly assign access to multiple Nx Cloud connected Systems.



UNIQUE CAPABILITIES

CONNECTIVITY

CLOUD DATA PROXY: Connect via Nx Cloud to view System data and video

NAT TRAVERSAL (DEFAULT): Connect directly to System via Cloud addressing

SECURE COMMUNICATIONS

SECURITY

PASSWORD RECOVERY: Reset password via email

TWO FACTOR AUTHENTICATION: Combine Password with Authenticator

ENCRYPTED CONNECTIONS: HTTPS OPENSLL

ENCRYPTED VIDEO: Encrypt transmitted and stored video archives

INTERFACE

CLOUD INTERFACE

SYSTEMS: View connected System tiles in Cloud Web Admin

SETTINGS: View users, rename systems, disconnect systems

VIEW: View live or recorded video from connected cameras / streams

INFORMATION: Integrated Health Monitoring of the last 24 hours

MONITORING: Real-time Server monitoring and Logs

SUPPORTED BROWSERS

MOBILE / TABLET: CHROME SAFARI FIREFOX EDGE (AND OTHERS)

COMPUTERS: CHROME SAFARI FIREFOX EDGE (AND OTHERS)

INTEGRATION TOOLS

FOR DEVELOPERS

CLOUD API: Integrate with 3rd party applications and devices

FOR ADMINS







ZAPIER: Create connections to other Cloud apps with Zapier.com

Mobile Overview







A mobile application for iOS and Android devices designed for on-the-go viewing and control of system devices.









CONNECT

| | |
|---|-----------------------|
|  | NAT Traversal |
|  | Data Proxy via Cloud |
|  | Encrypted Connections |
|  | Wifi / LAN / WAN |
|  | 4G / LTE / Data |
|  | Encrypted Video |







VIEW

| | |
|---|---------------------------|
|  | Live Video (Adaptive) |
|  | Recorded Video (Adaptive) |
|  | Camera Status |
|  | Layouts |
|  | Adjustable Resolutions |
|  | Portrait / Landscape |

CONTROL

| | |
|---|------------------------|
|  | Fisheye Dewarping |
|  | Pan-Tilt-Zoom (PTZ) |
|  | Soft Triggers |
|  | Two-way Audio |
|  | Cloud or Local Systems |
|  | Unlimited # of Systems |

SEARCH

| | |
|---|-----------------------|
|  | Keyword Camera Search |
|  | Calendar Search |
|  | Thumbnail Search |
|  | Push Notifications |
|  | Flex Timeline |
|  | Smart Motion |

Mobile Specs

SUPPORTED DEVICES



ANDROID PHONES / TABLETS

Android 8
 Android 9
 Android 10
 Android 11
 Android 12



APPLE PHONES / TABLETS

iOS 12, 13, 14, 15
 iPadOS 14, 15

VIEWING / PLAYBACK

VIEWING MODES

PORTRAIT

LANDSCAPE

ADJUSTABLE RESOLUTIONS

HIGHEST SPEED (BEST AVAILABLE FRAME RATE)

BEST QUALITY (BEST AVAILABLE RESOLUTION)

1080p

720p

480p

360p

KEY FEATURES

CONNECT FROM ANYWHERE

LAN / WAN: Connect to Systems using public IP address or Dynamic DNS

VIA NX CLOUD: Login to Nx Cloud to view all shared Systems

ADAPTIVE CONNECTIONS: Works well on Wifi or Data (4G / LTE / 3G)

VIEW LIVE OR RECORDED VIDEO

LIVE VIDEO: View live video remotely in real-time

ARCHIVED VIDEO: Review archived footage remotely

CONTROL CAMERAS

FISHEYE CAMERAS: Universal dewarping for fisheye cameras

PTZ: Control PTZ cameras with Joystick and/or tap to move UX

SOFT TRIGGERS: Control soft triggers on cameras

TWO-WAY AUDIO: Talk through I/O or IP cameras that support Audio In / Out

SEARCH

KEYWORD: Search for cameras or layouts by name

CALENDAR: Search by date and time

LAYOUTS: View thumbnails of System Layouts

LIVE THUMBNAILS: Thumbnails refresh in real time

FLEX TIMELINE: Search using the same timeline interaction as Nx Desktop

SMART MOTION: Search using Smart Motion

PUSH NOTIFICATIONS: Recieve customizable push notifications for key events

Try Nx Witness FREE for 30 days.

Nx Witness is FREE for live streaming. To try recording cameras activate a FREE 30-DAY TRIAL for 4 cameras.

Get Started with your free trial today:
<http://networkoptix.com/nx-witness>

Developer Tools

C++ VIDEO SOURCE SDK

3RD PARTY VIDEO DEVICES

The Video Source SDK provides the ability to integrate virtually any live or recorded video source (IP Cameras, NVRs, DVRs, etc) into System. It also allows integrating device I/O ports and motion detection information.

3RD PARTY I/O DEVICES

The Video Source SDK also provides the ability to integrate 3rd party I/O devices which can increase hard wire interoperability with 3rd party systems and connected devices.

C++ STORAGE SDK (C++)

3RD PARTY STORAGE

The Storage SDK allows developers to read from or write to any storage location: local, remote, and cloud. Creating a storage plugin requires implementing standard functions such as: I/O stream, if file exist, delete file, list of files in the folder, etc. The Storage SDK also contains an example for using an FTP server as a storage location.

</> JS DESKTOP CLIENT API (JAVASCRIPT)

Client Javascript API embedded in Web Pages to enable additional functionality:

- Open/close cameras
- Play/pause videos

SERVER API (REST API)

INTEGRATE ANYTHING USING HTTP API CALLS

A REST API that gives developers the ability to access almost every system feature available in the regular client: query/manage system resources (servers, cameras, users, permissions), pull live or recorded video out of System, generate events, create rules, control PTZ cameras, and more.

METADATA SDK (AVAILABLE IN V4.0)

CREATE PLUGINS THAT RUN ON NX SERVER

The Metadata SDK allows developers and tech partners to create installable Plugins for Nx Witness which run on the Nx Server application to create tight, seamless integrations. The Metadata SDK is focused on bringing object metadata from 3rd party Systems - like Face Recognition, Retail Analytics, License Plate Recognition, etc - to enhance both real-time system intelligence and post-event, post-capture video search and review.

Nx Witness Dev Tools are FREE!

Nx Witness developer tools are FREE to use and can be accessed by installing Nx Witness VMS and opening the Server Web Admin interface.




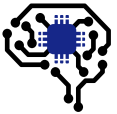
Download Nx Witness today at:
<http://networkoptix.com/nx-witness>

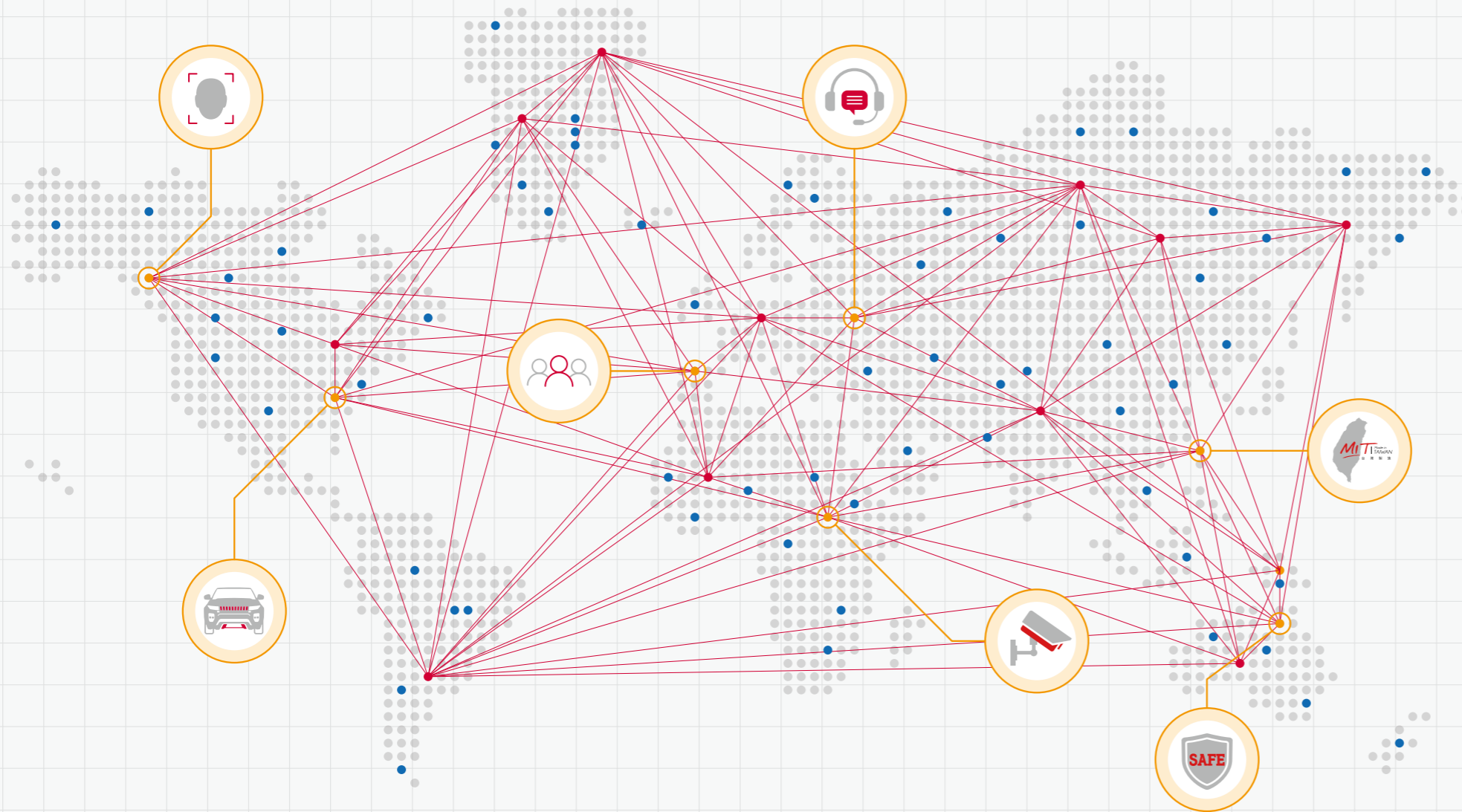


Hs HI SHARP
ELECTRONICS CO., LTD.
SECURITY INTELLIGENCE



www.interconnectsystems.com.ph

- 
Intelligent Video Surveillance
- 
System Integration
- 
Intelligent Transportation
- 
A.I Application



Security Intelligence

HI SHARP are committed to building an intelligent surveillance world!

Our corporate Philosophy

Since our company was founded in 1987, we provide our customers first-class innovative solution concepts designed to optimize their document and information processes and make them more productive and efficient. These allow our customers to improve end customer satisfaction, become more competitive and increase their profitability.

Our customers are at the heart of approach and strategy we take. Our products as well as business, consulting and other service are tailored to meet their needs. We practise openness, honesty and fairness in dealings with business partners and customers.

In the new technological revolution, consider the evaluates application and services associated with the convergence of IoT(AIoT) , Surveillance and AI with data analytic and emerging 5G networks , HI SHARP will focus on the AI-based systems will automatically analysis activities, body language and facial expressions of suspects, detect crimes and spot offenders in real-time such as for tracking suspicious different surveillance system development . we were well prepared face all of the challenges in the next century.

In the future, HI SHARP focuses its efforts in innovation and industrialization of its products promoting the relationship between functionality and design. The "Made in Taiwan" of its products is perceptible in every detail. Reliability and robustness are always assured and respect the higher international quality standards.



Taoyuan City Government-consultant

Taiwan Industry Association of Intelligent Security and Safety-Managing Director

The demand of image has been implemented in every corner of our daily lives, and surveillance products became indispensable daily tool. 5G is approaching which bringing rapid efficiency and opening up new thinking for security industry.

HI SHARP has been striving step by step, and we are continuously innovating and developing to lead our client upgrade to AI intelligence and enhance our service. We successively established our branches in the middle, southern and northern of Taiwan in recent years, we can also provide prompt customer service to carry out the local service and depth ploughs plan in Taiwan.

By 2020, Taiwan Industry Association of Intelligent Security and safety has established, which made Taiwan security industry became associated. We look forward to seeing the establishment may bring the security industry gradually grows stronger.

江濟貴

HI SHARP ELECTRONICS CO., LTD. President, Jerry Jiang

INDEX

| | | | |
|--|----|---|----|
| / Quality Management | 03 | / Thermal Body Temperature Measurement Solution | 31 |
| / Multi-application Solution | 05 | / CCTV Solution | 33 |
| / NVMS2.0 Smart Vertical Industrial Solution | 07 | HI SHARP Brand Series | 33 |
| / IP Solution | 09 | Brand / Titanium Series Camera | 37 |
| IP Solution - IP & IVS Features | 09 | Hybird Camera - 2MP | 39 |
| IP Series - Face Recognition | 15 | Hybird Camera - 4 / 5MP | 41 |
| IP Series - ANPR / LPR IP Camera Series | 19 | Hybird Camera - 8MP / Customizable Camera | 43 |
| IP Series - 2MP (1080P) | 21 | One Cable Camera | 45 |
| IP Series - 2 / 4 / 5 / 8MP(Taiwan Chipset) | 23 | Starlight / Smart Dual Light Camera | 47 |
| IP Series - PTZ Value plus Series | 25 | Ture WDR Camera / Integrated All In System(DVR) | 49 |
| IP Series - NVR | 27 | Hybird DVR | 51 |
| IP Series - IP Camera Bracket | 29 | Accessories | 57 |
| | | / LCD Monitor | 60 |



Strict Production Process

Product design verification and product quality control team ensure our product quality and strictly follow Standard Operation Procedure to provide reliable product with guarantee.



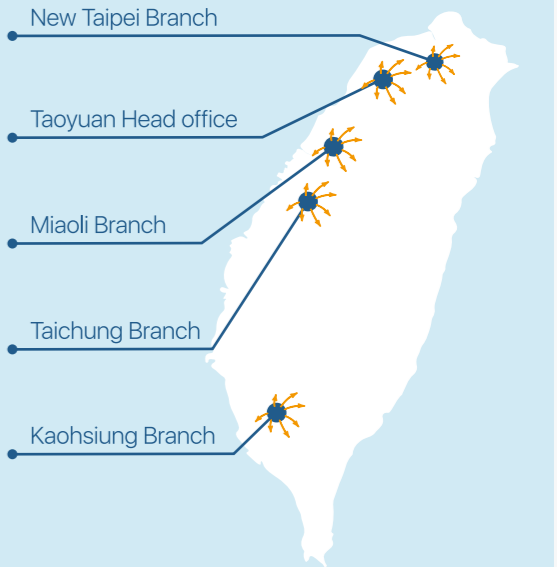
Our vibrant production team adopts strict IATF 16949, ISO 9001, ISO 14001 certified production process to make all products meet the certification standard. We use modern manufacturing equipments for production. Our office and factory are in the same location which ensures the information flow of each team faster and more dynamic.



Therefore, we can have flexible production schedule to meet diversity of product needs and achieve high customer satisfaction.

Domestic Service Branches

To provide the fastest customer service, HI SHARP is pressing ahead with the depth ploughs Taiwan strategy, and established branches from north, middle, to south districts in Taiwan. So far, HI SHARP established Taoyuan as headquarter over than 30 years, and Miaoli branch was established in 1997. HI SHARP also established Taichung branch in 2018, Kaohsiung branch in 2019. New Taipei branch will be established in 2020 to provide prompt customer service in different districts.



Multi-application Solutions

Mansion / Store

Recommended series: DJ / DL HI SHARP Brand Series
Recommended Products: HS-4IN1-T089DJ / HS-4IN1-T089DL



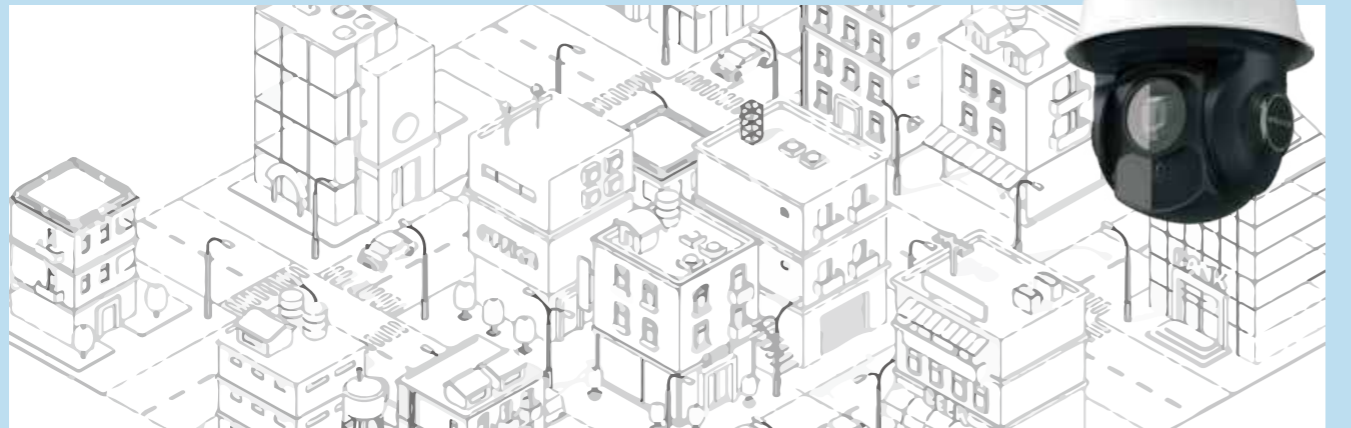
Large shopping mall / Shopping center

Recommended series: IP 5MP / 6MP / 8MP / 360° series
Recommended Products: HS-D063RW



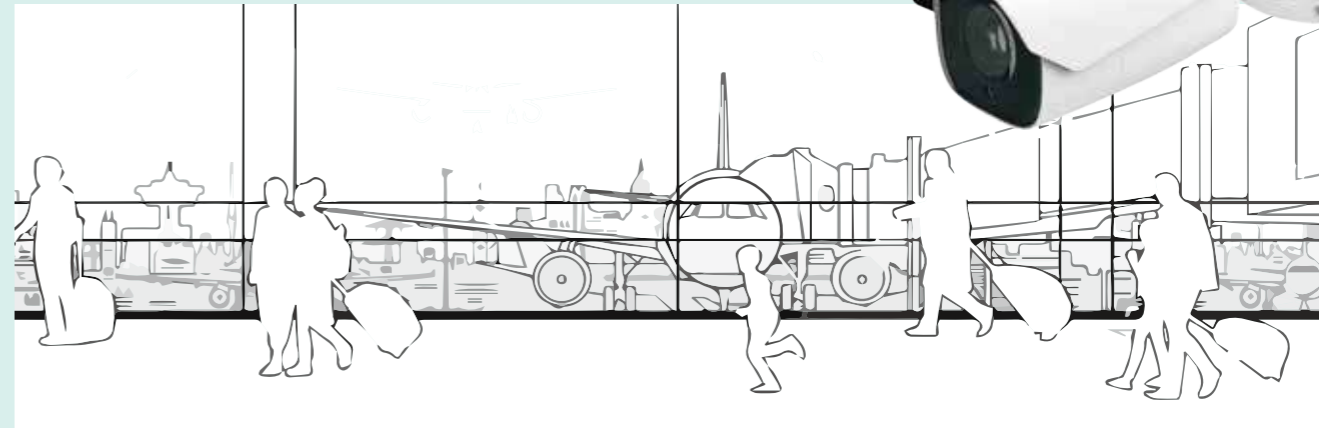
Street / Parking lot

Recommended series: ANPR / LPR / PTZ
Recommended Products: HS-T077T1 / HS-D046SU



Public Transportation - Airport / High Speed Railway / MRT

Recommended series: IP Face Recognition series (with FR NVR)
Recommended Products: HS-D087SG / HS-T077SG



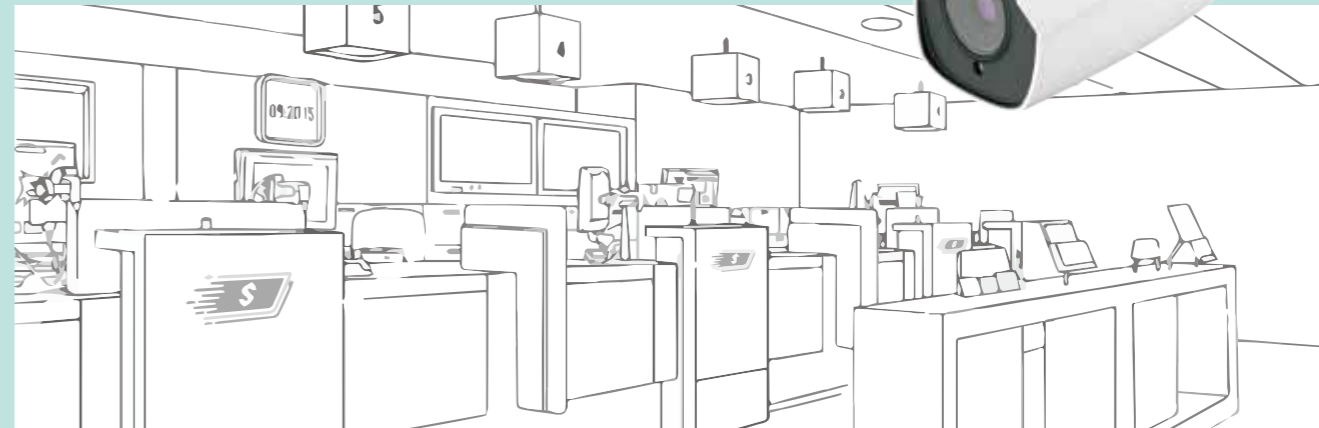
Medical institutions / schools

Recommended series: Edge IP Face Recognition series
Recommended Products: HS-D087SK



Banking institution

Recommended series: IP Human Shape Detection series (with FR NVR)
Recommended Products: HS-T058SP / HS-D087SP



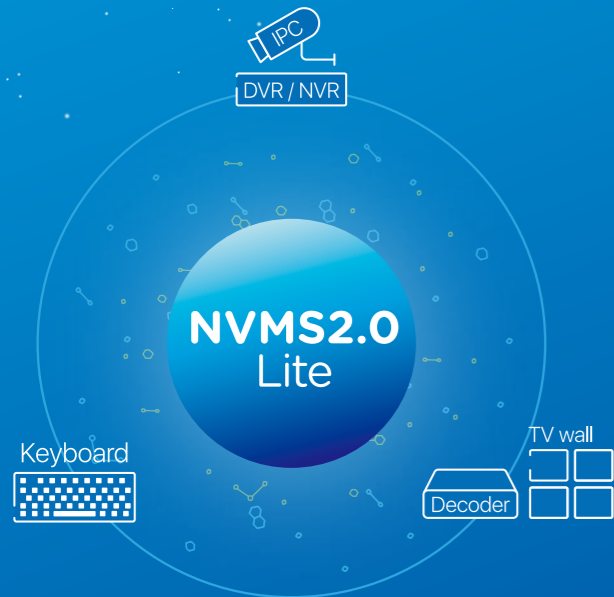
NVMS 2.0

SMART VERTICAL INDUSTRIAL SOLUTIONS



Features

Lite



NVMS 2.0 Lite is a simple video management software, it properly supports all HI SHARP products and other devices from the main players in global market, this new system is equipped with powerful video monitoring capability, supports real-time preview, centralized recording, local and remote playback, backup, alarm linkage, TV wall, keyboard control, etc.

Thanks to its simple GUI and flexible functionality, NVMS 2.1 Lite can meet various demands of small-sized projects.

- Support SDK integration with main players, latest ONVIF protocol.
- Support TV wall.
- Support network keyboard.
- Support two-way talk, voice broadcast, audio surveillance.
- Support image map and online-map

Standard



NVMS 2.0 Standard properly supports all HI SHARP products and other devices from the main players in global market, this new system is equipped with powerful video monitoring capability, supports real-time preview, centralized recording, local and remote playback, backup, alarm linkage, TV wall, keyboard control, intelligent analysis, etc. NVMS 2.1 Standard can be widely used for medium-sized video surveillance system, for example, park, school, bank, chain store, commercial building and other industries.

- Standardized design: support ONVIF
- Various software form and flexible solution: supports Windows / Linux / Mac OS, includes pure software and embedded devices.
- Support management, storage, transfer server and decoder.
- Open Architecture design: supports Android / IOS / Windows / Linux
- Support smart analytics from IP camera.
- Multiple Clients: B/S client, C/S client, Android, IOS client.

Professional



NVMS 2.0 Enterprise is newly Comprehensive security management platform, it properly supports all HI SHARP products and other devices from the main players in global market, this new system is equipped with powerful video monitoring capability, supports real-time preview, centralized recording, local and remote playback, backup, alarm linkage, TV wall, keyboard control, intelligent analysis, etc. And it is built with open-system architecture, can provide SDK/OCX for third party integration, such as alarm system, access control system, dynamic monitoring, door phone, electronic fence, and other subsystem. NVMS 2.1 Enterprise can be widely used for large and medium-sized video surveillance system, for example, park, school, bank, chain store, commercial building and other industries.

- Standardized design: support ONVIF
- Support Windows SDK, OCX & IOS SDK and Android SDK for 3rd party integration
- Distributed architecture: convenient to set up multi-level surveillance network for system upgrade.
- Multi-client: support B/S client, C/S client, Android and iOS mobile client.
- Powerful smart analytics: support face recognition, LPR, video structuring object removal detection, abnormal video signal detection, line crossing detection, region intrusion detection, crowd density detection, people intrusion detection and people counting detection.
- Comprehensive security integration: access control system.

+ Various Software Form and Flexible Solution

Supports Windows / Linux / Mac OS, includes pure software and embedded devices.

+ Advanced AI+ Applications

face recognition, People counting, behavior

+ Multiple Clients:

B/S client, C/S client, Android, IOS client.

+ Comprehensive Security Integration

supports access control system, burglar alarm system, attendance system, intercom system, electronic fence, RFID, dynamic environment.

+ Open Architecture Design

supports Android / IOS / Windows / Linux version SDK / OCX (C++ / Java / c#) for 3rd party integration,

IP SOLUTION

Network Surveillance

Full Support

H.265+

High Efficiency Video Coding
Delicate Image Performance



Save up storage to **50%**

4K

8MP 3840 x 2160
Intelligent Video Surveillance

2MP
1280x1080



4 Times

8MP
3840x2160



4K IVA IP Camera image quality is clean and delicate covers a wide angle of view, and the details are clear and distinct

Applications for scenes with higher requirements for detailed image such as commercial building, government, school, airport, factory, hotel, museum, public transportation and so on.

IPC+NVR

Effectively Reduce False Alarm Rate

| Smart IPC | NVR Alarm | Alarm Trigger |
|------------|-----------|-------------------------|
| Trigger | + | Trigger = Trigger |
| Trigger | + | No Trigger = No Trigger |
| No Trigger | + | Trigger = No Trigger |

IVS INTELLIGENT VIDEO SURVEILLANCE

Different IVS features allow you to send different alarm triggered events based on different scenario application. Such as: School, Residential, Hospital, Police Station, etc.

IVS features that we support including:

1. Tripwire / Line crossing
2. Intrusion
3. People Intrusion
4. Tampering / Exception Detection
5. Crowd Density
6. People Counting
7. Missing Object / Object Removal
8. Face Recognition

| Tripwire | Object Removal | Abandon Object | Intrusion | Face Recognition | Line Crossing | People Counting Analysis | Tampering Detection | Licence plate Recognition | Crowd Density |
|----------|----------------|----------------|-----------|------------------|---------------|--------------------------|---------------------|---------------------------|---------------|
| | | | | | | | | | |
| | | | | | | | | | |

IP Solution

H.265 Integrated Management System

Remote Control / Push Notification / Alarm Setting



Residence



Store



Airport



Traffic



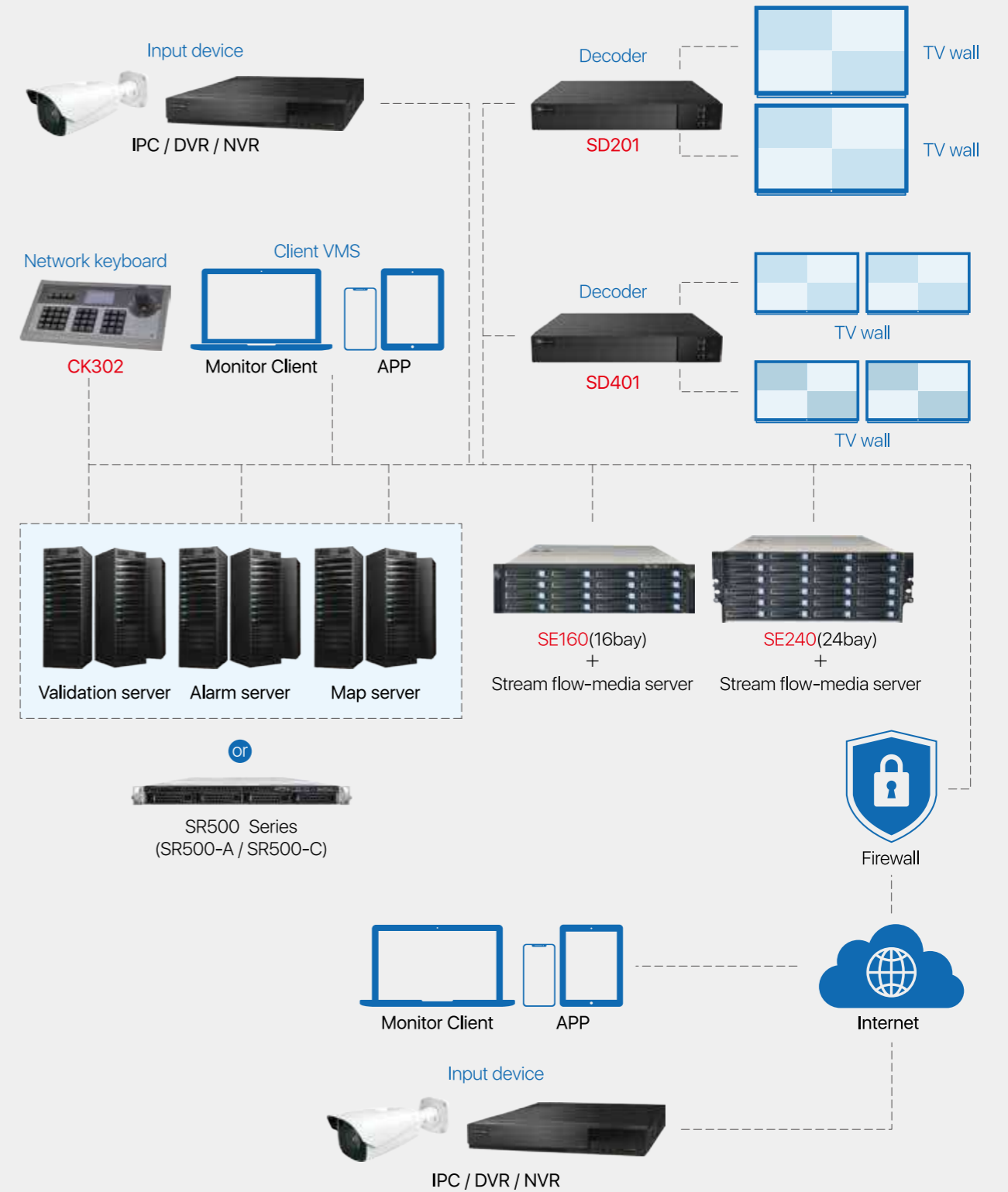
Hospital



Parking lot

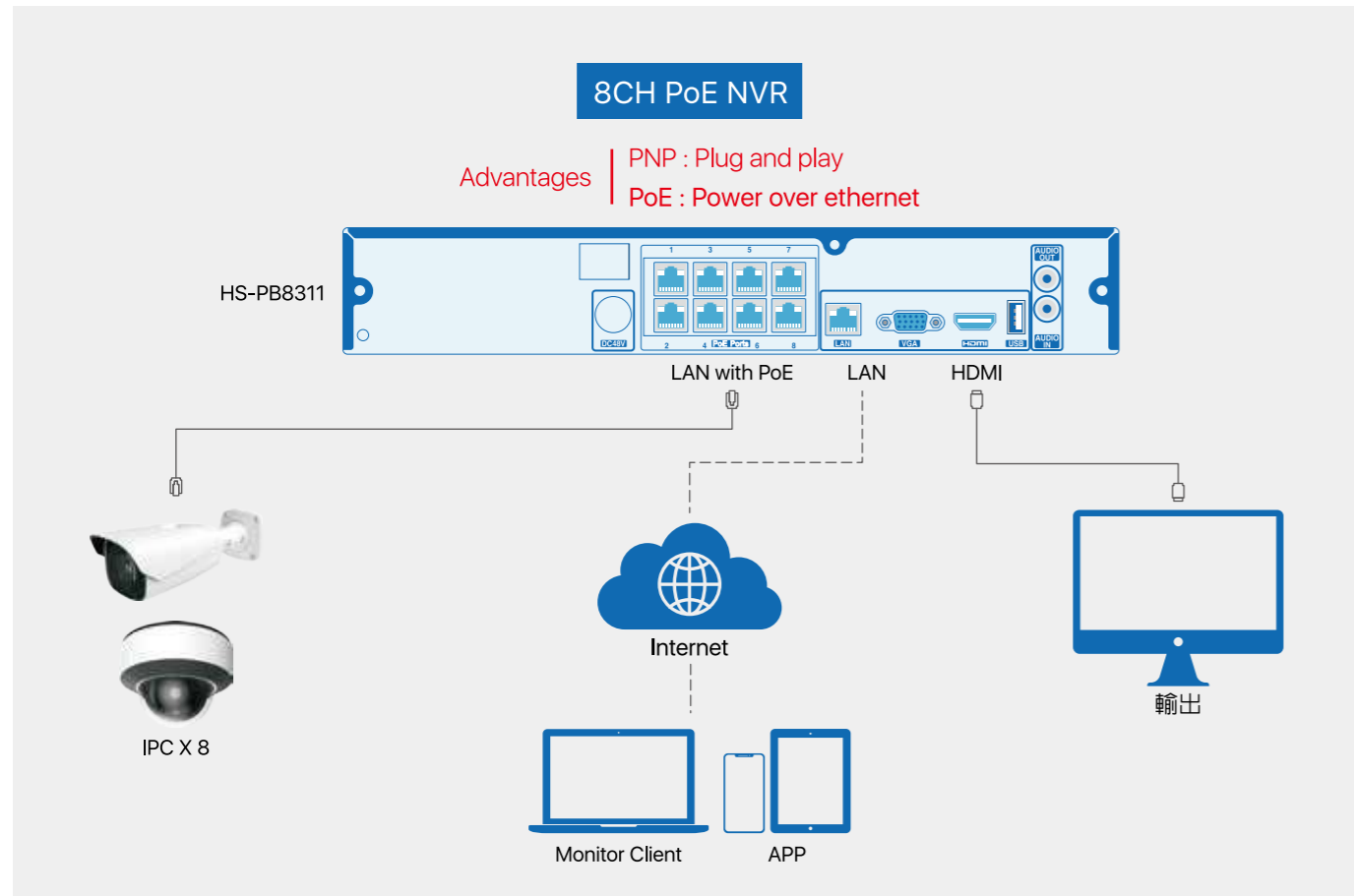
NVMS2.0 Topology

- SR500 series support multiple servers based on users application demand.
- NVMS2.0 can support discrete server structure which enables software installation on different servers.
- Storage extension using RAID Servers; 16bay or 24bay.

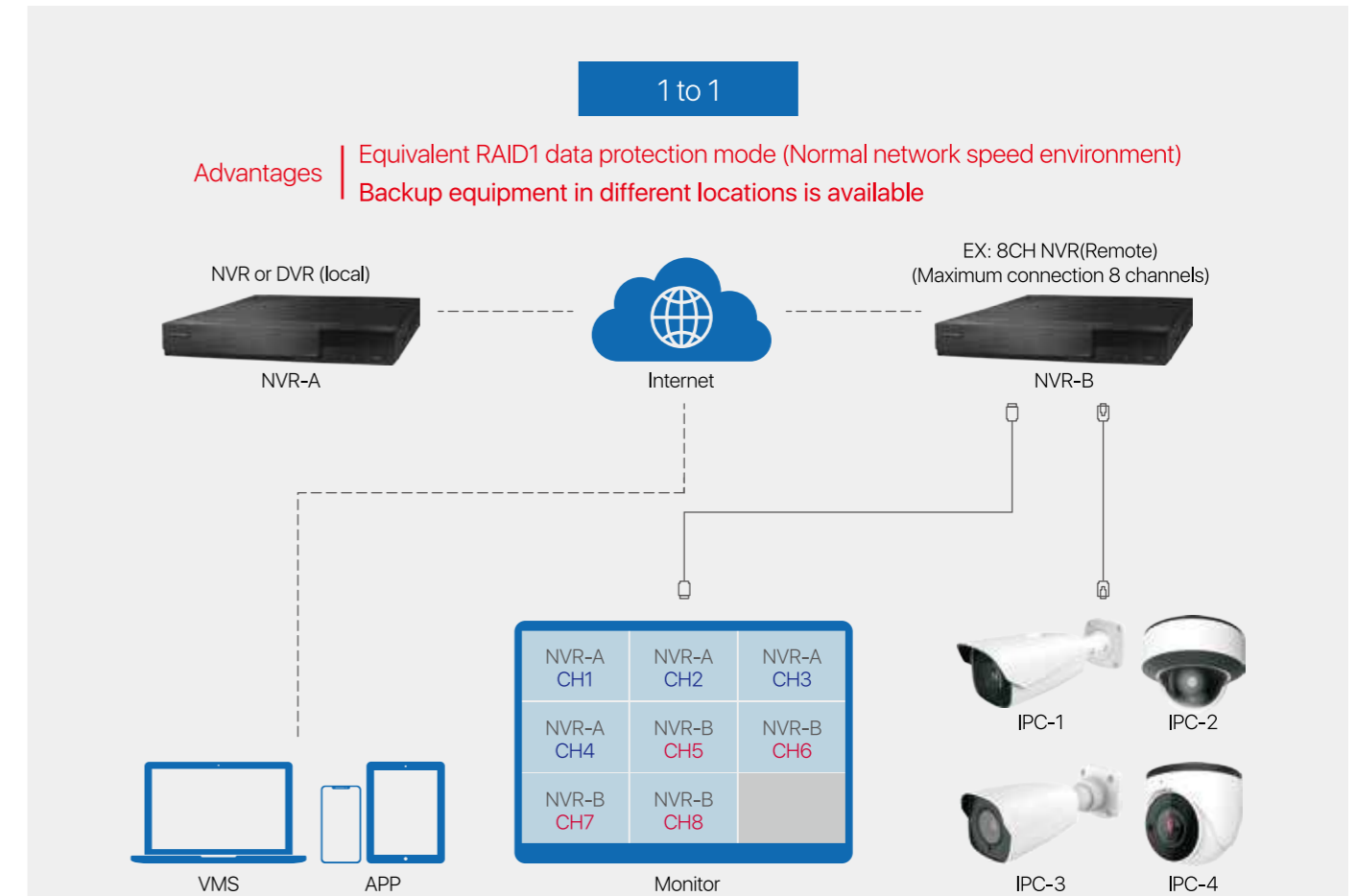


Software of above topology is only available for NVMS2.0 standard & pro version

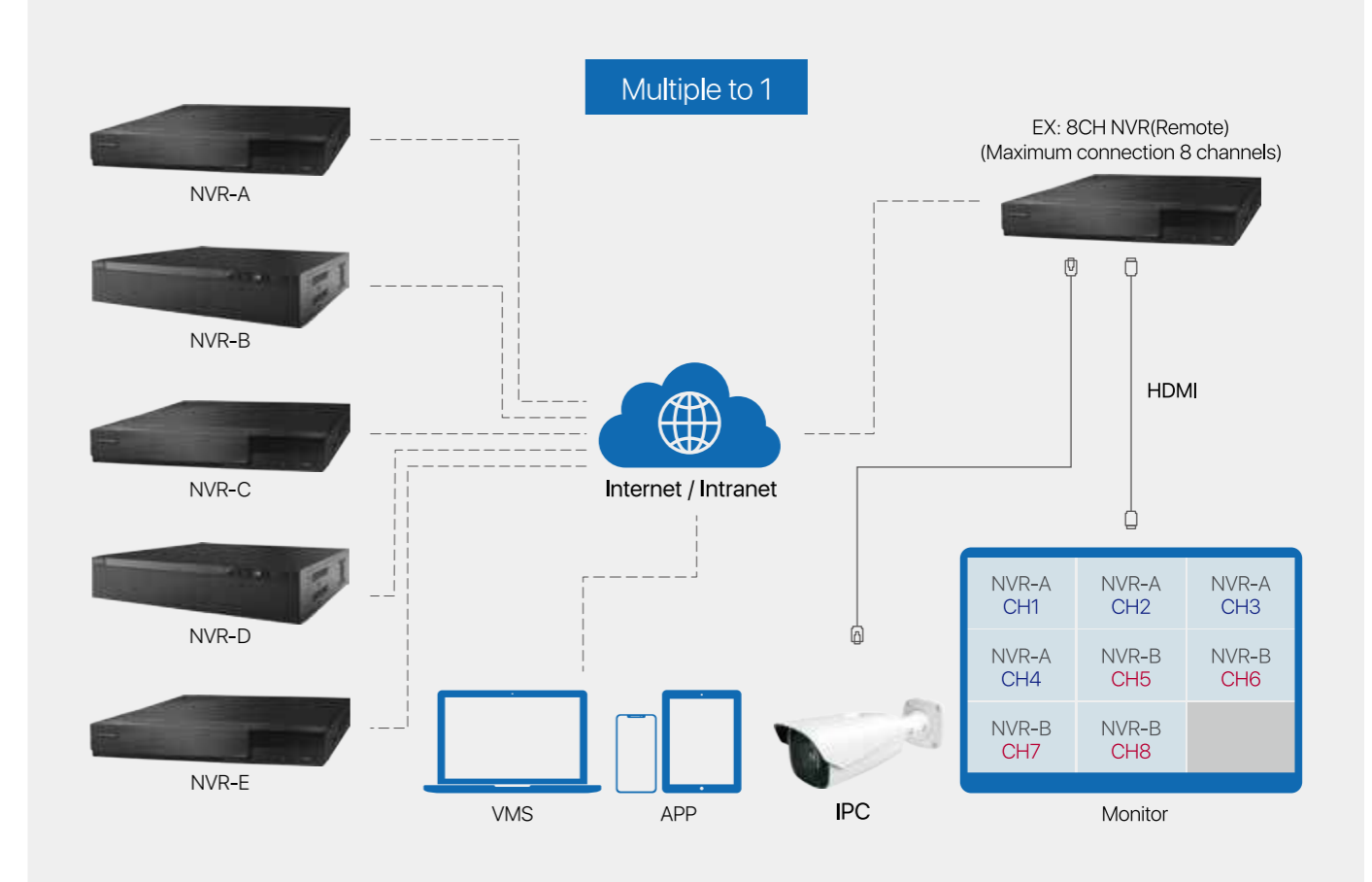
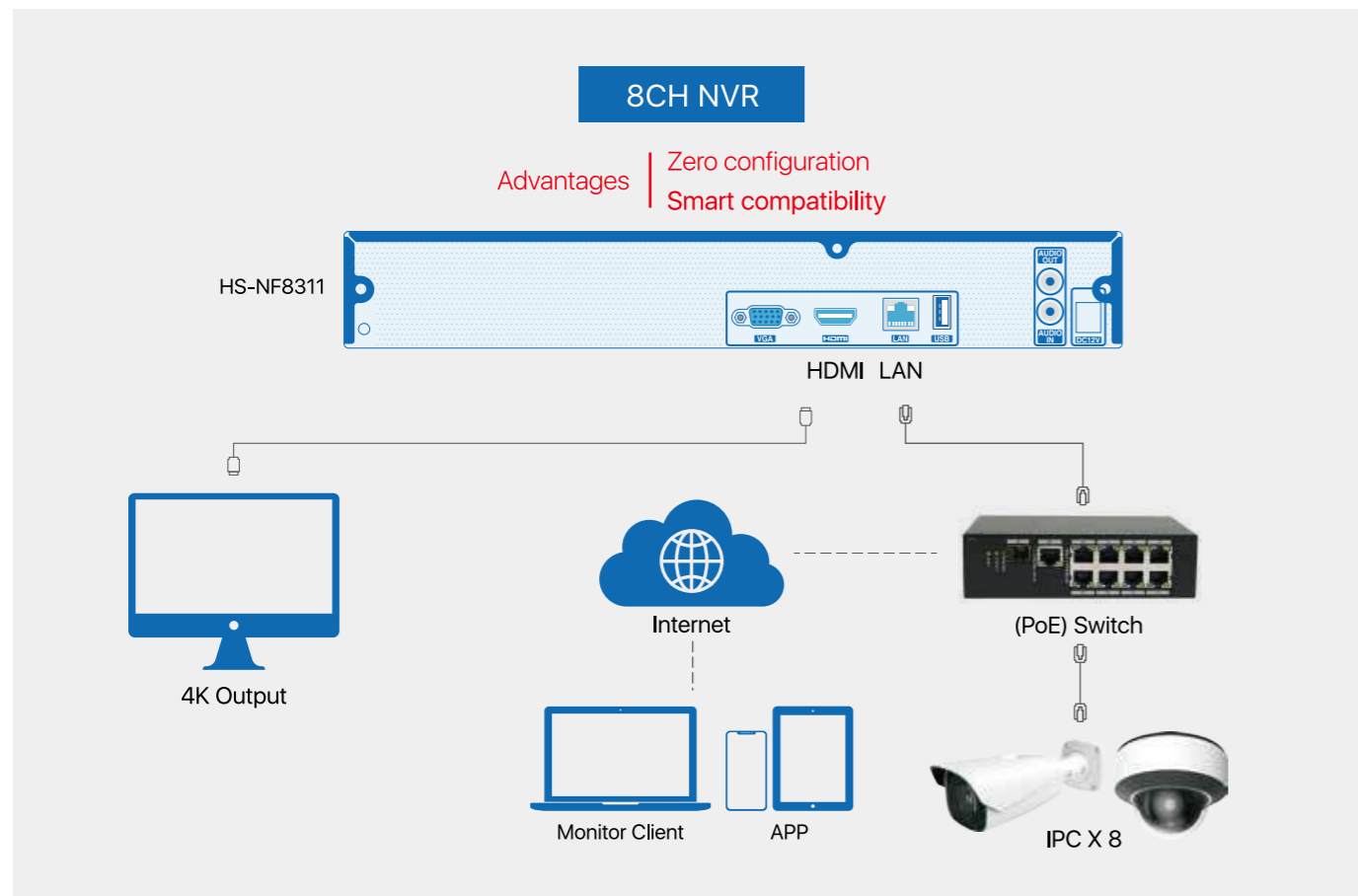
PoE Topology

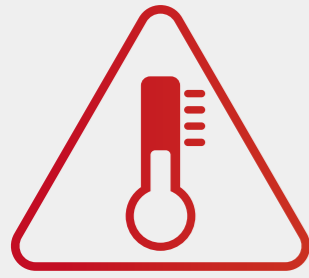


Remote Back Up Topology



Non-PoE Topology





THERMAL BODY TEMPERATURE MEASUREMENT SOLUTION.

HS-KHP001 & HS-HM5519

Thermal Face Detection solution HS-KHP001

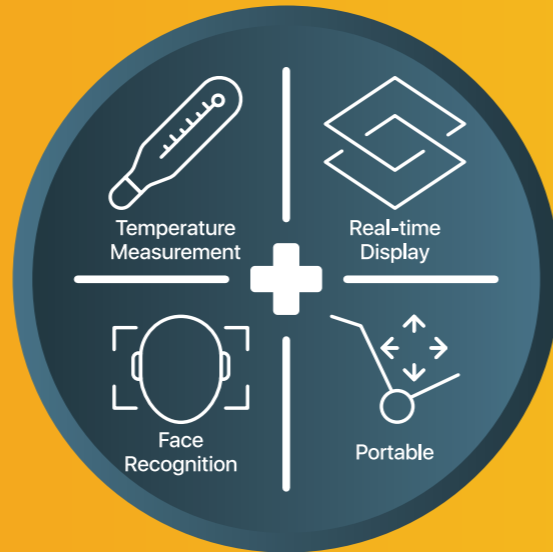
Live view



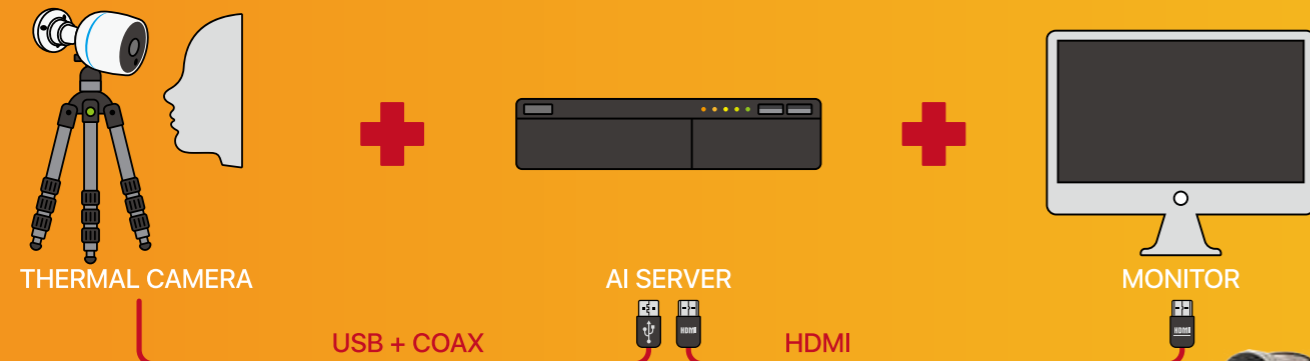
with a mask

only for face

voice warning



Topology



Features

- Only detect face temperature, not other heating object. Prevent from detect failure.
- Available distance within 1 meter and accuracy value $\pm 0.3 \sim 0.5^{\circ}\text{C}$
- Non-contact face temperature detection to reduce contact risk
- Save up time & labor cost
- SAFE/WARNING sign screen indication with audio notification gives out prompt testing result.
- User can calibrate themselves, do not need to ship to original supplier to do calibration.



Facial Recognition with Temperature Screen Attendance Device. HS-HM5519

Live view

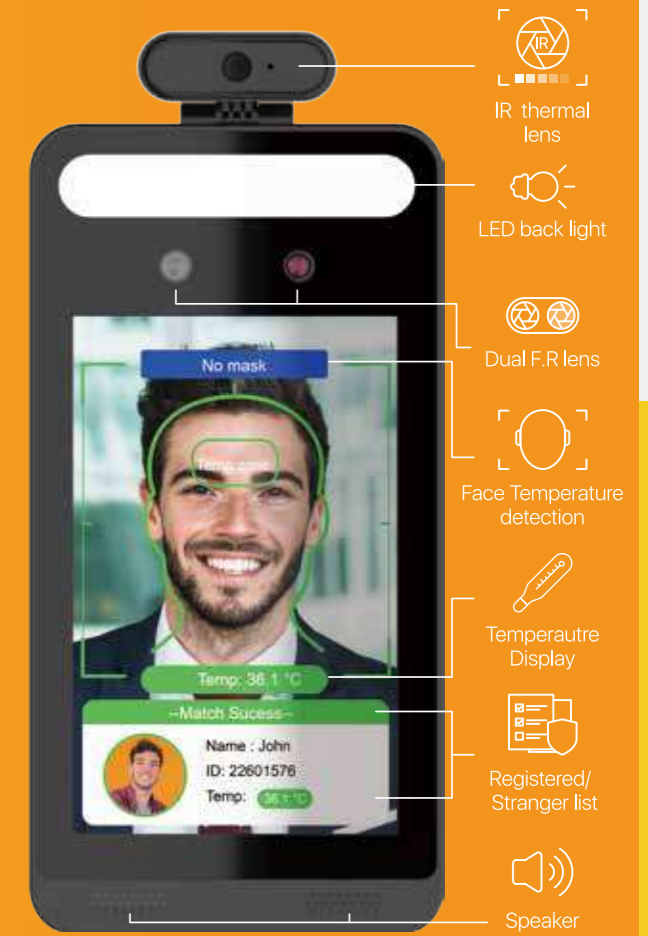


- Face match detection with/without wearing mask.
- Integration with access control system for entrance management. (Registered and Black list)
- Audio warning for wearing/non wearing face mask detection.
- Abnormal temperature detection with alarm triggered.

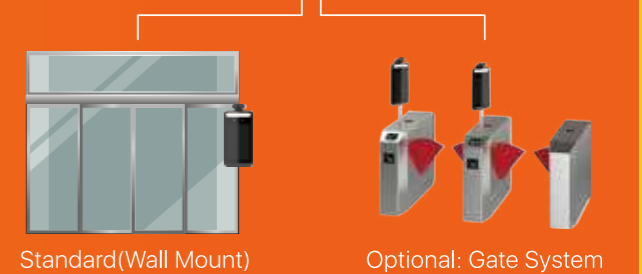
Features

- Support attendance system
- High accuracy of body temperature
- Support anti-dismantle
- Support stand-alone & web version via network.
- Support Max.20,000 face library
- Support dry contact and WIEGAND 26 / 34 protocol
- Support Face Recognition with mask
- Audio notification for detecting result
- Facial recognition lens with back light enhancement
- Support Watchdog protection
- Detection speed < 0.5 sec
- Deep learning algorithm
- Support Access Control

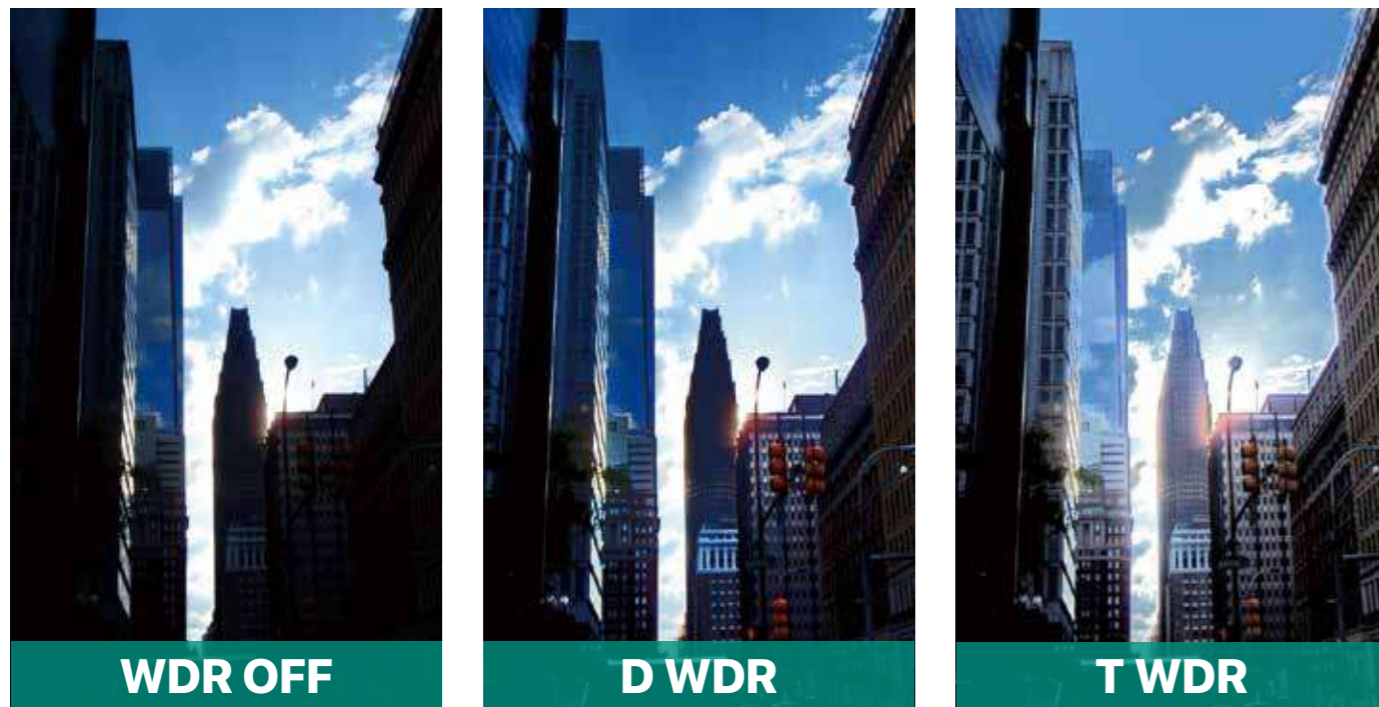
Accessories



Access Control



2MP True WDR Camera



License Plate Camera



| | |
|---------------------|--------------------------------|
| ProductModel | HS-AHD-H009CH |
| Image Sensor | 1/2.9" SONY CMOS : 2.0 Mega |
| Solution | 2441H + SONY 291 (STARVIS®) |
| Resolution | 1920(H) x 1080(V) |
| Video Output | AHD / CVI / TVI / CVBS |
| S/N Ratio | More than 60 dB |
| Min Illumination | 0.01 lux |
| Lens (mm) | VF 5 ~ 50 |
| Camera Control | CoC |
| Electronic Shutter | Auto 1/60 (1/50) ~ 1/100,000 秒 |
| IR Distance | 40 M |
| DNR | 2DNR / 3DNR |
| Power Supply | DC12V ± 10% / 1A |
| Working Temperature | -10°C ~ 50°C (14°F ~ 122°F) |
| Storage Temperature | -20°C ~ 70°C (-4°F ~ 158°F) |
| Dimensions (mm) | 142 x 136 x 323 |
| Ingress Protection | IP66 |

WDR wide dynamic processing HD quality assurance

Automatically adjust the brightness according to the surrounding environment to make the picture quality clearer and more realistic



ALL IN ONE SOLUTION

Crime prevention create a safe and secure environment



Wi-Fi ALL IN ONE Mobile camera + DVR



| | | | |
|--------------------|----------------|---|----------------------|
| ProductModel | | HS-HM5312 | |
| Video Output | | AHD / CVBS / TVI / CVI | |
| Storage | | SSD or HDD (Max 2TB) | |
| Recording Standard | Recording Mode | Auto / Normal / Schedule / Motion / Alarm | |
| | Resolution | AHD + TVI + 960H 5MP Lite / 4MP Lite / 1080P (1920×1080) / 720P (1280×720) / 960H (960×480) | |
| Network | Connection | WiFi router (Standard) | 4G dongle (Optional) |
| | Viewer | CMS / APP / IE | |
| Image Compression | | H.264 High profile | |
| Power Supply | | AC100 ~ 240V (full range), 50Hz / 60Hz | |
| Power Consumption | | 36W | |
| Ingress Protection | | IP66 | |
| Dimensions (mm) | | 257 x 256 x 110 mm (Without Camera) | |
| Weight | | 6.5kg | |

Enterprise HD IP Phone Gigabit Color IP Phone Xorcom UC505U

UC500 series is a new IP phone family with unique hardware housing, which is provided to partners, especially to PBX vendors, ITSPS and operators.





Phone Features

- 8 SIP accounts
- Call hold, mute, DND
- One-touch speed dial, hotline
- Call forward, call waiting, call transfer
- Redial, call return, auto answer, direct IP call
- 5-way conferencing
- Group listening, SMS, emergency call
- Ring tone selection/provisioning
- Set date time automatically or manually
- Dial plan for each account
- RTCP-XR (RFC3611), VQ-RTCPXR (RFC6035)
- Action URL/URI
- USB port (2.0 compliant) for:
 - USB call recording through USB flash drive
 - USB storage (screen saver, wallpaper)
 - USB headset

Audio Features

- HD Voice: HD Speaker, HD Handset
- Codecs: iLBC, G.722, G.711(A/μ), Opus, G.723.1, G.729AB, G.726-32, G.722.1
- DTMF: In-band, RFC 2833, SIP INFO
- Full-duplex hands-free speakerphone with AEC
- AEC, VAD, AGC, CNG, PLC, AJB

Directory

- Local phonebook up to 10000 entries
- XML/LDAP remote phonebook
- Intelligent search method
- Phonebook search/import/export
- Call history: dialed/received/missed/forwarded
- Blacklist

IP-PBX Features

- Busy Lamp Field (BLF), Bridged Line Appearance (BLA)
- Anonymous call, anonymous call rejection
- Hot-desking, voice mail
- Call park, call pickup
- Intercom, paging
- Music on hold
- Flexible seating
- Call recording

Display and Indicator

- 2.8" 320x240-pixel color display with backlight
- 24-bit depth color
- LED for call and message waiting indication
- Dual color (red or green) illuminated
- LEDs for line status information
- Wallpaper, multi-language selection
- Intuitive user interface with icons and soft keys
- Caller ID with name, number, and photo

Feature keys

- 8-line keys with LED
- 8-line keys can be programmed up to 28 Paperless DSS keys (4-page view)
- 8 feature keys: voice mail, headset, mute, speaker, conference, hold, transfer, redial
- 4 context-sensitive "soft" keys
- 5 Navigation keys, volume control keys

Interface

- Dual-port Gigabit Ethernet
- Power over Ethernet (IEEE 802.3af), class 3
- 1xRJ9 (4P4C) handset port
- 1xRJ9 (4P4C) headset port
- 1xUSB Port (2.0 compliant)
- 1 x RJ12 (6P6C) EXT port
- Support EHS

Physical Features

- Stand with 2 adjustable angles
- Wall mountable
- External universal AC adapter:
 - AC 100~240V input and DC 5V/1.2A output
 - Power consumption (PSU): 1.8~4.4W
 - Power consumption (PoE): 2.3~5.3W
 - Operating humidity: 10~95%
 - Operating temperature: -10~50°C

Management

- Configuration: browser/LCD-Menu/auto-provision
- Auto provision via HTTP/HTTPS/FTP/TFTP
- Auto-provision with PnP
- Reset to factory, reboot
- Local tracing log export, system log
- Phone lock for personal privacy protection

Network and Security

- SIP v1 (RFC2543), v2 (RFC3261)
- SIP server/proxy redundancy
- NAT Traversal: STUN mode
- IP assignment: static/DHCP
- HTTP/HTTPS web server
- Time and date synchronization using SNTP
- DNS-NAPTR/DNS-SRV (RFC 3263)
- QoS: 802.1p/Q tagging (VLAN), Layer 3 ToS DSCP
- Transport Layer Security (TLS1.2), SRTP, ZRTP
- HTTPS certificate manager
- AES encryption for configuration file
- Digest authentication using MD5/MD5-sess
- IEEE802.1X/OpenVPN
- IPv4/IPv6, LLDP/CDP/DHCP VLAN

Enterprise HD IP Phone

Entry-level IP Phone Xorcom UC921G

UC921G delivers superior HD audio quality, rich and leading edge telephony features, all the functions of software are the same as other models. It is a perfect choice for small to medium businesses looking for a high quality, feature rich IP Phone at an affordable cost.



Phone Features

4 SIP accounts
Call hold, mute, DND
One-touch speed dial, hotline
Call forward, call waiting, call transfer
Redial, call return, auto answer, direct IP call
5-way conferencing
Group listening, SMS, emergency call
Ring tone selection/provisioning
Set date time automatically or manually
Dial plan per account
RTCP-XR (RFC3611), VQ-RTCPXR (RFC6035)
Action URL/URI

Audio Features

HD voice, HD handset, HD speaker
Codecs: iLBC, G.722, G.711(A/μ), Opus
G.723, G.729AB, G.726-32
DTMF: In-band, RFC 2833, SIP INFO
Full-duplex hands-free speakerphone with AEC
VAD, AGC, CNG, AEC, PLC, AJB

Directory

Local phonebook up to 1000 entries
XML/LDAP remote phonebook
Intelligent search method
Phonebook search/import/export
Call history: dialed/received/missed/forwarded
Black list

IP-PBX Features

Busy Lamp Field (BLF), bridged Line Appearance (BLA)
Anonymous call, anonymous call rejection
Message Waiting Indicator (MWI), voice mail
Intercom, paging
Call park, call pickup
Music on hold
Hot-desking

Display and Indicator

320x240 pixel color LCD with backlight
LED for call and message waiting indication
Illuminated LEDs for line status information
Intuitive user interface with icons and soft keys
National language selection
Caller ID with name, number

Feature keys

4 line keys with LED
4 line keys can be programmed up to
12 Paperless DSS keys
6 feature keys: mute, headset, message
transfer, redial, speaker
4 context-sensitive "soft" keys
5 navigation keys,
volume control keys



Interface

Dual-port Gigabit
Power over Ethernet (IEEE 802.3af), class 2
1xRJ9 (4P4C) handset port
1xRJ9 (4P4C) headset port

Physical Features

Stand with one angle at 40°
Wall mountable
External universal AC adapter :
AC 100~240V input and DC 5V/1.2A output
Power consumption (PSU): 1.8~4.4W
Power consumption (PoE): 2.3~5.3W
Operating humidity: 10~95%
Operating temperature: -10~50°C

Management

Configuration: browser/LCD-Menu/auto-provision
Auto provision via HTTP/HTTPS FTP/TFTP
Auto-provision with PnP
Reset to factory, restart, reboot
Local tracing log export, system log
Phone lock for personal privacy protection

Network and Security

SIP v1 (RFC2543), v2 (RFC3261)
SIP server/proxy redundancy
NAT Traversal: STUN mode
DHCP/static/PPPoE/IEEE802.1X/open VPN
HTTP/HTTPS web server
Time and date synchronization by SNTP
DNS-NAPTR/DNS-SRV(RFC 3263)
QoS: 802.1p/Q tagging (VLAN),
Layer 3 ToS DSCP
TLS(Transport Layer Security), SRTP, ZRTP
HTTPS certificate manager
AES encryption for configuration file
Digest authentication using MD5/MD5-sess
IPv6 supported

Swan CXW2000 IP PBX Series Data Sheet



The Swan IP PBX series showcases Xorcom's CompletePBX distribution, offering support for FXS, FXO extensions and trunks. Swan can be outfitted with as many as 32 analog ports, and up to 2 E1/T1 PRI, T1 CAS, or E1 R2 ports, all contained within a compact, 19" 1U chassis. Additionally, it facilitates the integration of Astribank telephony interfaces and IP gateways. Supports 100-500 extensions (license-based), up to 200 concurrent calls.

Features

- Unlimited voicemail boxes, hunt groups, call center groups, and auto attendants (IVRs)
- Basic built-in call center with call recording, barge and whisper
- Hot-desking
- Sophisticated Classes of Service for enhanced security
- Emergency notification module
- Endpoint manager
- User-friendly Web interface
- Interface in different languages
- CDR (Call Details Record)
- FXO/E1/T1/BRI/SIP/IAX trunks
- Remote extensions
- Voicemail
- Voicemail to email
- Web access to voicemail
- Fax support
- Fax to email
- IVR menu system
- Ring groups
- Call queues
- Conference rooms
- Follow me
- Time-based routing
- Advanced dialing rules
- Music-on-hold
- Paging and intercom
- Admin status screen
- Package manager (for easy updates)
- Network settings tool

Software

| | |
|-----------------------------|--|
| Management Interface | Xorcom CompletePBX (ARM edition) |
| Linux version | Debian 12 |
| Security | Intrusion protection software, firewall protection, password strength indicator, class-of-service, dialing rules, modern Linux tools |

Hardware

| | |
|------------------|--|
| Processor | Quad core Cortex-A72 (ARM v8) 64-bit SoC, 1.5GHz |
| Storage | 250 GB SSD |
| RAM | 2 GB |
| USB | 2 x USB 2.0, 1 x USB C |
| Video | 2 x Micro-HDMI |
| Audio | Audio in/out |

Telephony

| | |
|---|---|
| Maximum number of concurrent calls | 200 (g.711 SIP) 60 (PRI / BRI / FXO/ FXS using Astribank) |
| Max number of E1 / T1 ports | 2 (E1/T1/PRI/R2/CAS ports) |
| Users (extensions) | 100-500 (license-based) |
| Maximum number of built-in analog ports (FXS. FXO) | 32 |
| Maximum telephony modules supported | 4 |
| Supported Xorcom telephony modules (up to 4 telephony cards) | <ul style="list-style-type: none"> • 8 ports FXS • 8 ports FXO • Up to 2 ports PRI/R2/CAS • 2,4,6,8 BRI |


Maintenance and Support

- Monitor and keyboard support
- Software updates (under service agreement)

Network

| | |
|---------------|---------------------|
| Ethernet port | 2x 10/100/1000 Mb/s |
|---------------|---------------------|

Power

| | |
|-------------------------------|---|
| Power supply | 12 VDC, 5A |
| Voltage | Switching, auto adjust 100/240 Volts, 50/60 Hz |
| Power consumption | 10-50 Watts depending on configuration |
| Power supply redundancy | Optional |
| Built in grounding connection |  |

Environment

| | |
|---------------------|-----------------------------------|
| Storage temperature | -20° to 70° Celsius (-4° -158° F) |
| Working temperature | 0° to 40° Celsius (32° -104° F) |
| Humidity | 20% - 95%, non-condensing |

Dimensions and Weight

| | |
|----------------|--------------------------|
| Package weight | 1.350 kg (2.97 lbs) |
| Product weight | 2.350 kg (5.181 lbs) |
| Package size | 53 cm x 31 cm x 11 cm |
| Product size | 44 cm x 19.5 cm x 4.5 cm |

Specifications may change without prior notice.

CSS

CHIYU SMART SECURITY

ACCESS CONTROL SYSTEM
TIME ATTENDANCE SYSTEM
VIDEO MANAGEMENT SYSTEM
CLIENT SYSTEM
MONITOR SYSTEM
LIFT SYSTEM
PARKING SYSTEM



Finger Vein



Biometrics



Android



Proximity

ISO 9001:2015



<http://www.chiyu-t.com.tw>

Distributed by:



InterConnect Systems, Inc.
A: No. 29 Road 4, Project 6, Quezon City
1100 Philippines
T: +63 2 89203363 | 89206811 | 89203731
F: +63 2 84269434
E: sales@interconnectsystems.com.ph



School Attendance

- Event alerts & SMS message
- Student Campus Solution
- Centralized all data into one server

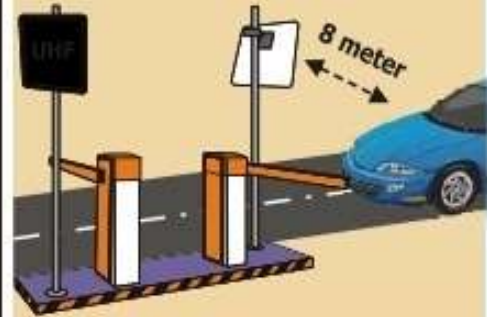


CHIYU



Parking Solution

- License plate snapshot feature
- Easy to install and user friendly
- 2.4G / UHF long range system



Lift Control

- Match on card unlimited user
 - Up to 128 floors
 - Hotel Application
- Which card goes to which floor



Remote Control

- Real time attendance log
- Centralized all attendance report
- Server & Client global connection



SMART DIO

- Monitor event & do actions
- Real time environment status
- Interact with video management system





hydrosense

**THE NEW STANDARD IN
WATER LEAK DETECTION**

hydrosense

DELIVERING THE NEW STANDARD IN WATER LEAK DETECTION

Hydrosense is the solution to one of the greatest threats to business continuity: water damage. These sophisticated, configurable and easily accessible systems have set the new standard for water leak detection.

Hydrosense applies the integrity, control and reliability of life safety and building infrastructure systems to water leakage detection.

VIMPEX – THE MAKERS OF HYDROSENSE

Established in 1994, VimpeX is the UK's leading independent manufacturer and distributor of Fire Detection, Alarm and Evacuation products and accessories. We produce and distribute a range of high quality Evacuation, Signalling and Building Infrastructure System products, both VimpeX manufactured and supplied by our manufacturing partners.

From our very own range of products including Identifire, Fire-Cryer and Hydrosense to our trusted partner products – we're committed to providing excellent technical support and customer service, as well as fast and effective delivery.

The majority of our products are customisable and at VimpeX we are pleased to offer hassle-free branding, own-labelling and OEM services so you can make our products your own.

VIMPEX BRANDS



hydrosense

FIRE  CRYER®

IDENTIFIRE 

Ani  Mate®

WHAT IS HYDROSENSE?

We rely on constant connectivity in our daily lives and the technology that makes this possible such as high-speed network connections, servers and software. This dependence has heightened the need for regular assessment of possible water damage and the introduction of detection equipment, in order to support business continuity and protect valuable assets and archives.

That is where Hydrosense comes in. Our innovative system leads the way in water leak detection and has been designed to continuously monitor and identify leaks, sharing the approach and technology of products designed to protect both lives and building infrastructure.

RELIABILITY

The only way to guard against water damage is through continuous monitoring. Hydrosense systems are active around the clock, constantly checking for leaks and maintaining system integrity. A 72-hour battery standby ensures that systems remain functional in cases of power outages.

INTEGRITY

Hydrosense control panels are based on approved life safety systems. They therefore offer unrivalled reliability and integrity, with full system monitoring and very little risk of false alarm.

CONTROL

Should any leak be detected, the user-friendly control panel can signal to a Building Management System (BMS) or activate mechanical control devices such as water shut-off valves, ensuring all risks are recognised and handled efficiently.



**MADE IN
THE UK**

Designed and manufactured in the UK, Hydrosense is built to exceptionally high standards and its innovative technology means it responds to the needs and concerns of our customers.



VIMPEX

At VimpeX, we understand the importance that individuals and businesses place on staying connected and the consequences water damage can have on the devices that make this possible. Even seemingly minor water leaks can result in extensive costs and disruption, not just in repairing and replacing equipment and valuable assets or archives, but time lost to temporary relocations and business interruption.

Hydrosense systems offer the urgency, reliability and integrity of products built to minimise fire damage and save lives. That expertise reassures building managers and business owners that their assets are always protected.

APPLICATIONS

Hydrosense is used to protect a diverse group of building types with a variety of different uses.



DATA CENTRES

Data Centres house servers for hundreds of businesses in one room, containing essential information for their continued operation. Damage caused by unidentified water leaks could have devastating consequences.



REMOTE SITES

Many sites that handle communications, utilities infrastructure and data distribution are in remote locations, resulting in long delays before engineers can reach the site. Our Short Message Communicator means Hydrosense can quickly signal water leaks to engineers via GPRS networks.



UNDERGROUND NETWORKS

Water damage to exposed network cables in tunnels could disrupt the function of buildings and wider infrastructure. Hydrosense's comprehensive coverage keeps all areas continuously monitored.



LIBRARIES/ARCHIVES

Containing priceless texts and legally protected documents, libraries and archives can be greatly impacted by water damage. Water detection systems provide broad coverage of areas prone to leaks, protecting priceless archives and valuable treasures.



BATHROOM FLOODING

Bathroom flooding is an ever-increasing problem, particularly due to trends towards multi-occupancy and high-density apartment buildings. Fitting Hydrosense Probes in key locations will give early warning of flooding.



DOMESTIC/COMMERCIAL PROPERTY

From apartment buildings to office complexes, even small water leaks have the potential to create tremendous damage if undetected. Hydrosense zoning covers multiple rooms and floors, meaning any leaks are detected before they can spread to other areas.



BENEFITS

All Hydrosense systems offer robust, reliable detection of water leaks in an area, protecting against damage to important assets. This dependable monitoring rewards users, as they avoid the financial repercussions water damage can cause.

This is not limited to savings on the repair or replacement of physical assets, IT and electronic equipment and the fabric of the building itself. It also prevents unwelcome costs such as temporary relocation, increased employment costs and significant business interruption. Implementing water leak detection may also result in savings on the cost of commercial insurance.

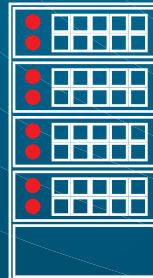
DOWNTIME FOR A BUSINESS
COSTS A TRADER APPROXIMATELY

**£4.5M
PER HOUR**

£780M

IS PAID OUT ANNUALLY
BY INSURERS FOR INSTANCES
OF WATER DAMAGE

DATA CENTRE OUTAGES COST
£12K PER MINUTE
ON AVERAGE



A DATA CENTRE OUTAGE IN
SEPTEMBER 2016 COST AN
AIRLINE **\$150M** IN JUST 3 DAYS

PLUG & PLAY

Both **Hydrosense HS** and **Hydrosense ID** systems are plug and play, which means very easy installation, rapid configuration and minimal field wiring terminations.

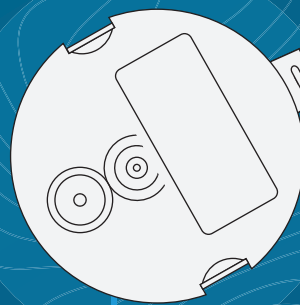
EASY TO INSTALL

Hydrosense is an installer's dream, with different systems available with simple, user-friendly system designs, regardless of size or complexity of the building.

Hydrosense HS is more appropriate for simpler layouts, while **Hydrosense ID** is scalable for larger, more complex sites.

HOW DOES IT WORK?

Hydrosense is specially designed for immediate identification of water leaks that could be harmful to a building and the assets within. Two forms of detection are available - floor or A/C drip tray mounted Probes and Hydrowire sensing cable.



PROBE

Probes provide effective point detection on solid floors. These can be height-adjusted with our Probe accessory and can also be adapted for use on A/C drip trays.

HYDROWIRE

Supplied in 5 and 10 metre sections, Hydrowire can be plugged together to form detection zones of up to 50 metres in length. This very responsive sensing cable is designed to be fixed under false floors, in ceiling voids and other enclosed spaces.

THE SYSTEM

Users have the choice between **Hydrosense HS (Conventional)** and **Hydrosense ID (Addressable)**.

Both systems support Hydrowire and Probes and employ the same reliable, high-integrity technology to sense water leaks.

**HYDROSENSE HS
(CONVENTIONAL)
CONTROL PANEL**



**HYDROSENSE HS
(CONVENTIONAL)
INTERFACE/CONNECTION BOX**



**HYDROSENSE ID
(ADDRESSABLE)
MODULE**



**HYDROSENSE ID
(ADDRESSABLE)
CONTROL PANEL**

HYDROSENSE HS (CONVENTIONAL)

Hydrosense HS (Conventional) is a straightforward and quickly configured control system ideal for smaller, less complex installations.

2, 4 OR 8 DETECTION ZONES

SIMPLE TO CONFIGURE FOR SMALLER INSTALLATIONS

- 2, 4 or 8 zone panels available
- HS ancillary boards can give dedicated monitoring and alarm outputs per zone
- HS Connection Interface (HS-HWCI) allows up to 50 metres of Hydrowire to be used per zone
- HS Junction Box (HS-WLJB) allows one Probe – up to 20 of these can be used per zone
- Standby 72-hour battery backup as standard

Hydrosense HS panels come with 2, 4 or 8 zones. Each detection zone can be made up of one length of Hydrowire (up to 50m) or a series of Probes.

HYDROSENSE ID (ADDRESSABLE)

Hydrosense ID (Addressable) is designed for larger, more complex installations, allowing the user to address each module with location-specific information.

SUPPORTS UP TO 508 PROBES AND 25,400M OF HYDROWIRE

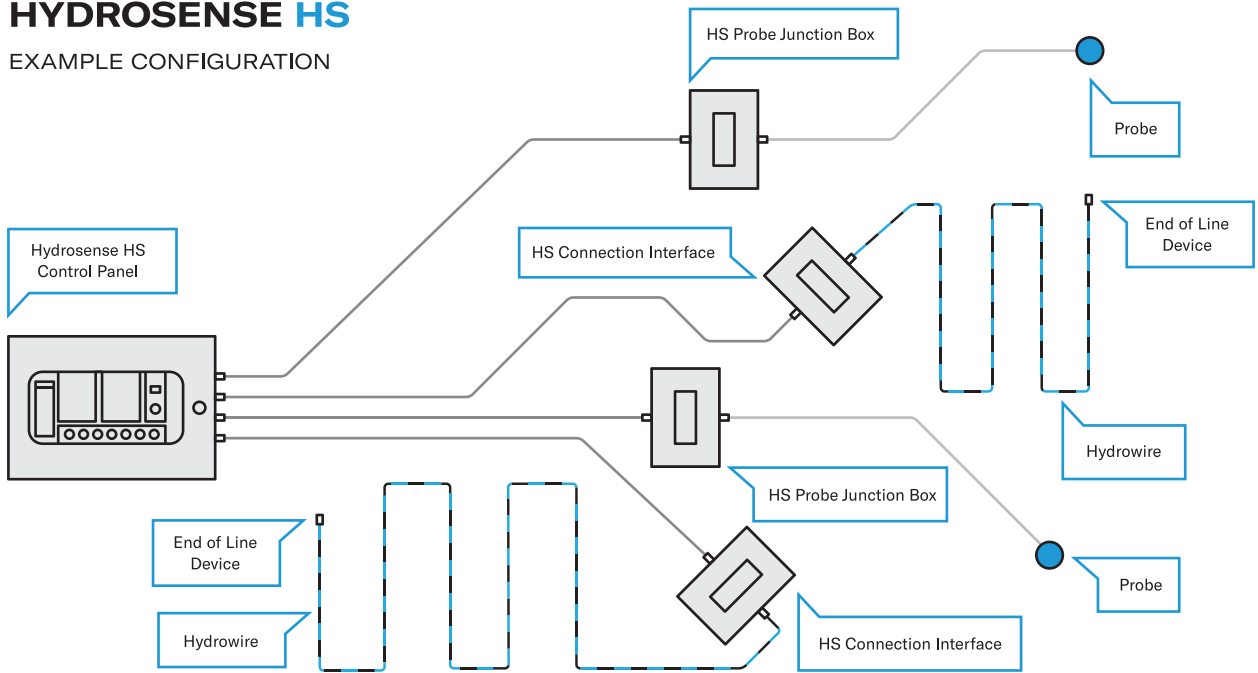
CHOOSE BETWEEN 1 AND 2 ZONE SYSTEMS

- System configuration software allows users to develop bespoke cause and effect applications specific to their site
- Both Single Loop and Dual Loop control panels available
- Short Circuit Isolators in all modules ensure complete system integrity and constant monitoring
- Standby 72-hour battery backup as standard

A Single Loop **Hydrosense ID** control panel can support up to 12,700 metres of Hydrowire and 254 Probes, while a Dual Loop system doubles these values. Each ID Module contains dual outputs, meaning that a combination of Hydrowire and Probes can be used on the same module.

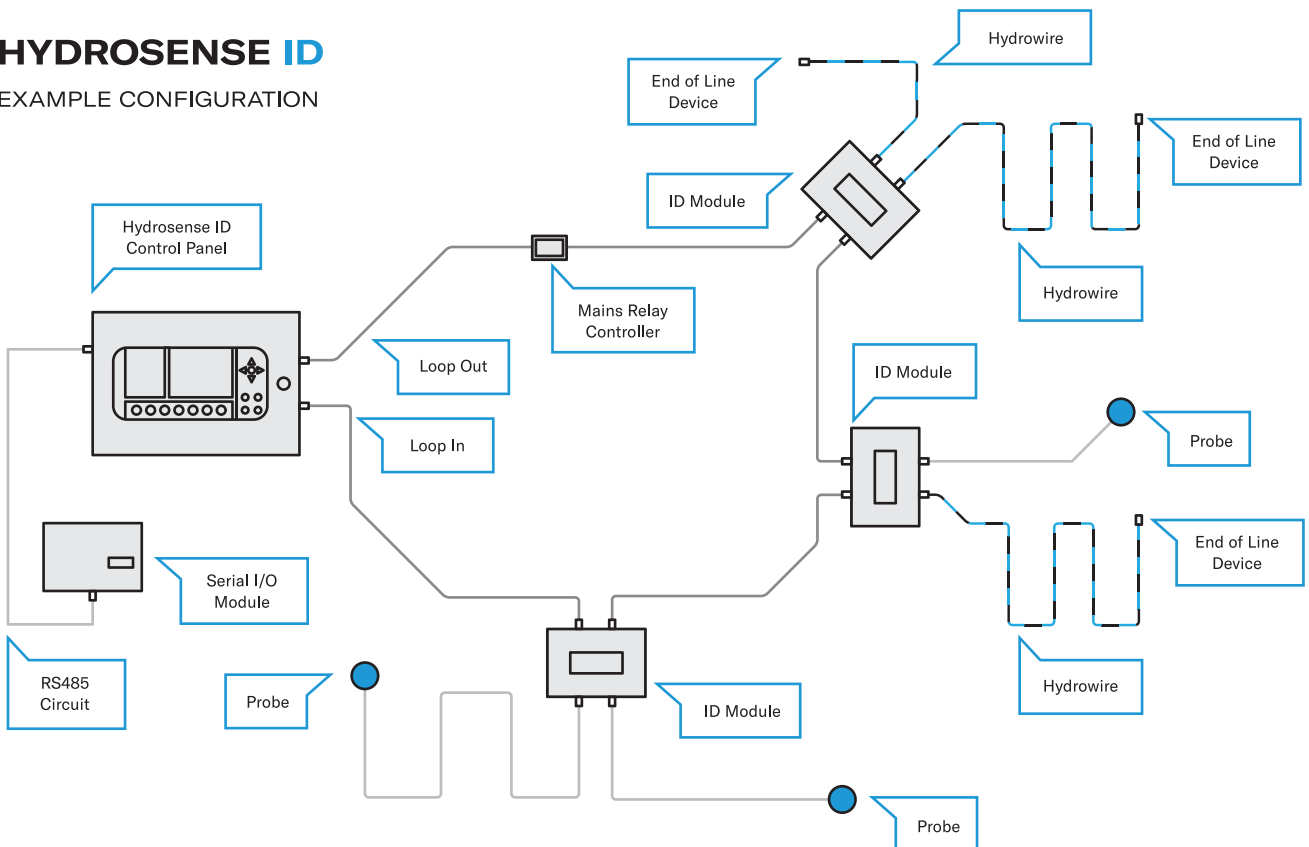
HYDROSENSE HS

EXAMPLE CONFIGURATION



HYDROSENSE ID

EXAMPLE CONFIGURATION



ACCESSORIES

Hydrosense helps protect a wide range of diverse building environments against the damaging effects of water damage.

These accessories extend the functionality of the system beyond detection to control and switching of third-party products. Other options protect cables and Probes from damage and contribute to increasing the effectiveness of Hydrosense systems.

MAINS RELAY CONTROLLER

HYDROSENSE ID

Addressable Interface allowing for 110 / 230 V 5 Amp switching of solenoids and other electro-mechanical devices.

- Controllable via Hydrosense system protocol
- Provides several monitored inputs/outputs
- Loop Powered



SERIAL I/O MODULE

HYDROSENSE ID

All I/O modules interfaced via panel RS485.

- 16 channel input/output
- 8 way relay
- 4 way conventional zone
- 6 way sounder, 2 relay outputs, 2 inputs
- Enclosure for the ID-SIO-xx Modules
- All modules can be configured to include PSUs



REMOTE INDICATOR

HYDROSENSE ID

Loop-driven visual indication of a water leak.

- Interfaced with the addressable loop



REMOTE INDICATOR

HYDROSENSE HS

Visual indication of water alarm status, wired to conventional interfaces.

- Provides bright blue LED on activation
- Can be flush or surface mounted



SECURE MAINS ISOLATOR SWITCH

FOR CONTROL PANELS, WHITE

HYDROSENSE ID & HS

All critical Building Infrastructure Control Panels should be isolated by a dedicated key-operated switch.

- Avoids accidental deactivation of panel
- Best-practice installation calls for engineer key for panel isolation



HEIGHT ADJUSTER

FOR HYDROSENSE PROBE

HYDROSENSE ID & HS

This height adjustment kit allows Probes to be mounted up to 20mm from the floor in areas where small amounts of water are present. (Probe sold separately)

- Avoids false alarms caused by cleaning activities and other allowable water presence
- Graduated height adjustment in 2mm steps



FIXING CLIPS

HYDROWIRE AND PROBE CABLE

HYDROSENSE ID & HS



These recommended clips are suitable for both Hydrowire and Probe cable, ensuring necessary flat to the floor installation.

- Use every 500mm for optimum detection
- Suitable for both Probe and Hydrowire cable
- Screw or adhesive fix
- Pack of 100

DRIP TRAY MOUNTING KIT

FOR HYDROSENSE PROBE

HYDROSENSE ID & HS



Commonly used accessory for easy mounting onto the edge of Air Conditioning unit drip trays. (Probe sold separately)

- Allows Probes to monitor for drip tray overflow
- Probe can be height-adjusted to suit application

PROTECTION CAGE

FOR HYDROSENSE PROBE

HYDROSENSE ID & HS



Useful accessory to avoid Probes being accidentally dislodged or moved. (Probe sold separately)

- Very robust protection for Hydrosense Probes
- 'Stand-offs' allow for water to flow to Probe sensors

ZONE BREAKER/EXTENSION LEAD

1M, 3M OR 10M LENGTH

HYDROSENSE ID & HS



Robust cable lengths with Hydrosense plug and socket arrangement.

- Can 'bridge' lengths of Hydrowire
- Used for Extending Probes from Loop/Conventional Interfaces

'HYDRO-CRYER' VOICE SOUNDER

HYDROSENSE ID & HS



This Voice Enhanced Sounder delivers a pre-recorded message alert tailored to the Hydrosense system.

- 'Water Leak Detected' Alarm Sounder activated via control panel
- Available in multiple languages and message configurations

SHORT MESSAGE COMMUNICATOR

HYDROSENSE ID & HS



This Short Message Communicator uses GPRS technology, allowing two-way communication and control.

- Uses SIM card for communication of water leak and other panel events
- Ideal for remote installations
- 'Unlocked' - suitable for any GSM network

SOUNDER/BEACON

WHITE SOUNDER, BLUE BEACON

HYDROSENSE ID & HS



Smart audible/visual indicator providing clear indication of water leak.

- Activated by control panel
- Can be both flush or surface mounted

GENESIS, SEALED LEAD ACID, TAB TERMINAL

HYDROSENSE ID & HS



The Genesis NP battery range leads the way in battery quality and reliability.

- Battery back up of panels provides water leak detection during mains power failure
- 2 x 7.2 Ah recommended for ultimate standby and backup

INTEGRATION

Both Hydrosense **ID** & **HS** Systems can be interfaced with other building infrastructure systems via our protocols and I/O modules, giving monitored volt-free contacts.

INPUTS & OUTPUTS

Examples of the two-way interface between other building systems:



FLOW VALVES

Hydrosense can accept digital inputs to allow for early indication of issues before a full leak alarm event.



COOLING/REFRIGERATION SYSTEM FAILURE

Refrigeration systems with a digital fault output can provide early indication of potential water leaks through system failure.



FLOAT SWITCH

Water and fuel storage tanks often incorporate float switches or other level measurement devices. Outputs from these can provide a pre-alarm function via Hydrosense **ID** systems which would provide early indication of a leak.



SOLENOIDS

Hydrosense components can be configured in a fail-safe manner to control or activate many types of third-party electromechanical units, such as solenoid valves to shut down water supply when a leak is detected.



VOLT-FREE RELAYS

Part of the Hydrosense accessories package is our Alarm Relay Unit. This product – able to be both flush and surface mounted – can be used to provide a volt-free contact to other systems and devices.

HYDROSENSE DEMONSTRATION UNITS

FOR WATER LEAK DETECTION PRESENTATIONS

Each case contains the following Hydrosense components to allow for an effective and engaging demonstration of Hydrosense's operation and the system's capabilities:

- Fully functioning Hydrosense Panel (ID or HS dependent on customer choice)
- Probe
- Length of Hydrowire
- Hydro-Cryer Voice Alarm Sounder 'Water Leakage Alarm Activated, Immediate Attention Required'
- Hydrosense Interface Modules
- Height Adjustment Bracket
- A/C System Drip Tray Mounting Bracket



These professional and robust demonstration units are available for both Addressable (ID) and Conventional (HS) systems. Useful for both internal and external presentations. Supplied in sturdy cases suitable for transport and travel.



Hydrosense can contribute to lowering insurance premiums. It can also form part of business continuity and disaster management planning.

VIMPEX

DS/HYD-BRO/ISS3

We reserve the right to change or amend any design or specification in line with our policy of continuing development and improvement.

Vimpex LTD
Star Lane
Great Wakering
Essex SS3 0PJ, UK

t. +44 (0) 1702 216999
f. +44 (0) 1702 216699
e. sales@vimpex.co.uk
www.vimpex.co.uk



Vocality RoIP Datasheet



KEY FEATURES

- ▼ Connect radio users with fixed line and cellular telephone users
- ▼ Compatible with IP telephone systems such as Asterisk
- ▼ Extend radio network services over IP networks (RoIP)
- ▼ Integrated 4G LTE

COMPATIBLE WITH



Enhance



Dispatch



Secure



Multi-bearer

Vocality RoIP provides users with a simple to use, small form factor radio connectivity solution unlike any other on the market today.

4G LTE AND WI-FI (OPTIONALLY BUILT-IN)

Vocality RoIP supports an extensive range of connectivity options with a choice of Ethernet, 4G LTE or Wi-Fi bearers, that can be built directly into the device.

SUPPORT FOR MULTIPLE RADIO DEVICES

Radio devices from different manufacturers can be part of a single radio system, providing a unified network regardless of radio brand, frequency or technology.

SERIAL PORTS FOR RADIO CONTROL

Four serial ports are available on each Vocality RoIP, allowing for programming and control of up to four disparate radio systems.

INTEGRATE WITH RADIO DISPATCH SYSTEMS

As part of an emergency response solution, Vocality RoIP can be easily integrated with many of the leading radio dispatch systems including Motorola Solutions WAVE.

INTEGRATED RADIO DISPATCH

Dispatch is a fully integrated, simple to use and cost-effective dispatch module for use on Vocality RoIP. The module allows operators to easily manage radio talk groups anywhere within the Vocality connected network.*

SMART NETWORK MANAGEMENT

Multi-bearer is a smart rules-based software module that manages network connectivity on the Vocality RoIP. The module automatically selects the most suitable bearer based on availability and user-priorities with little or no impact on the user.*

EXTEND RADIO NETWORK RANGE

Radio networks can be easily extended across multiple sites or campuses to transmit and receive radio traffic. Broadcasters clean feed or talk-back services can also be extended back to trucks over cellular and satellite links.

*Separate software license may be required

Preliminary Technical Data



MECHANICAL

| | |
|------------------------------|---|
| Form Factor: | Standalone enclosure |
| Cooling: | Conduction by internal Heat Spreader to case |
| Operating Conditions: boxed* | -40degC to +80degC ambient 0-90%RH non-condensing Note: If the optional power supply (Vocality RoIP/PSU) is used, this range will be reduced to 0 to 40degC. |
| Shock and Vibration: | TBC |
| MTBF: | >175,000hours at 70degC |
| Dimensions: | 4.41 x 4.47 x 1.08in / 112 x 113.5 x 27.5mm |
| Indicators: | 4 tri-color audio channel status LEDs, 2 port status LEDs per Ethernet port, 1 tricolor status LED |
| Weight: | 0.66lb / 0.3kg |

Electrical:

| | |
|----------------------|--|
| Supply Input Rating: | 5V to +35V DC +/-10% Supplies rated between 5V and 12V, max current 6A, Supplies rated between 12V to 35V, max current 1A |
| Consumption(typ): | 5W (typ) |
| Mains Adapter: | 100-240V AC @ 2A, 50-60Hz (Output 12V DC@6A) |
| PoE Powered Device: | Device may be powered over Ethernet, 802.3af Class 0 Device |

Connectors:

| | |
|------------------------------------|--|
| DC Power: | 3-way locking Power Connector |
| ETH1, ETH2 Ethernet: | 2 x 8-way RJ45 |
| Analogue Audio Ports: | 4 x 8-way RJ45 |
| Quad Serial & Radio Auxiliary I/O: | 26-way High-density D-Type female |
| USB: | 1xUSB 2.0 Type A (support for LTE and Wi-Fi devices) |
| Example compatible 4G LTE dongles: | US (AT&T) Sierra Aircard 313u and Aircard 340u, Europe (unlocked) Huawei E3372 and E398 (specifically E398u-15 for UK LTE bands) |
| Internal Expansion Slot: | Mini-PCIe for LTE or Wi-Fi modules, with external SMA connectors and SIM card slot |
| Part number: | 68664/RP/1 Vocality RoIP Retail Pack 1 Port 68664/LTENA/RP/1 Vocality RoIP Retail Pack 1 Port with internal LTE(NA) module for US use with AT&T 68664/LTENA/RP/1 Vocality RoIP Retail Pack 1 Port with internal LTE(NAV) module for US use with Verizon 68664/LTEANZ/RP/1 Vocality RoIP Retail Pack 1 Port with internal LTE(ANZ) module for Australia and New Zealand use 68664/LTEEU/RP/1 Vocality RoIP Retail Pack 1 Port with internal LTE(EU) module for European use |

FUNCTIONAL — COMMON TO ALL FORM FACTORS

| | |
|-----------------------------------|---|
| Quad Serial Ports: | V.24/RS232 serial |
| Format: | Async up to 115200bps, configurable data bits, parity, stop bits |
| 10/100/1000base-T Ethernet Ports: | 2 |
| Presentation: | Auto-MDIX |
| Formats: | IEEE 802.3i(10base-T), IEEE 802.3u(100base-TX), IEEE 802.3ab(1000Base-T) |
| Basic Protocol Support: | DNS Client, DHCP Client, Telnet, SSH |
| RoIP Protocol Support: | Unicast RTP, Multicast RTP, SIP UA |
| Functionality: | Enhance, Secure, Multi-bearer and Dispatch optional modules available |
| RTP Packet Sampling Rates: | AUTO |
| Audio 4-wire Ports: | 1 standard (expandable to 4 by Feature Key) |
| Interfaces: | 4-wire activation with COR/PTT. Gain adjustment range +8.75 to -34dBm and DC bias for direct microphone connection |
| Compression: | G.723.1 (5.3/6.3kbps MP-MLQ), G.729 Annex A (8kbps CS-ACELP), G.711 (64kbps PCM) μ -law or A-law, OPUS variable bit rate codec including HD voice |
| Impedance: | O/P 600 ohms, I/P high/600ohms |
| Max Input Level (1kHz): | 6.0V pk-pk (TBC) |
| Max Output Level (1kHz): | 7.1V pk-pk (TBC) |
| Input-Output Gain (1kHz): | +1.36dB unterminated (TBC) |
| COR activation range: | +0.8 to -48V relative to chassis |
| Passband Flatness: | +/- 1.0dB (300-3300Hz) (TBC) |
| Maximum PTT voltage: | -24V to +60V relative to GND (TBC) |
| Maximum PTT current: | +/- 120mA (TBC) |
| Activation: | COR/PTT, Vox, EIA, Permanent |
| Coding delay: | Per algorithm |
| Gain: | \pm 31dB programmable in 1dB |
| Radio Auxiliary I/O: | 6 general purpose programmable I/O signals |

* When the equipment is adequately protected from direct user contact, the equipment will reliably operate with an ambient temperature within the specified range.

Vocality RoIP is a product under continuous development.

Information subject to change. Correct at time of printing. Nov 2017.

Please be advised that Secure module licenses will be subject to UK dual-use export control restrictions.

Distributed by:

InterConnect Systems, Inc.
A. No. 29 Road 4, Project 6, Quezon City
1100 Philippines
T: +63 2 89203363 | 89206811 | 89203731
E: sales@interconnectsystems.com.ph

CUBIC™

vocality