NOX • Security System

The Security Solution for Everyting

Access Control   **Building Management**

Burglar Alarm   **IT-integration**   **Fire Alarm**

Climate Control   **Camera Surveillance**

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NOX • Security System

NOX is a combined security system that unites access control, burglar alarm, video surveillance, climate control and building management in one single platform.

NOX is an open system, that easily integrates with existing IT systems, and is adjustable to your exact needs.

NOXSYSTEMS®

Modular design with scalability

NOX has no annual licenses, and is built through optional modules, which allows for individual scalability and flexibility.

You only buy the number of functions or inputs required, and are still ensured the possibility of expansion.

The open system of NOX allows for the use of third party modules, eg. card readers and detectors.

Managed from various platforms

It is completely up to the user to decide how the NOX system should be managed.

• Windows - PC control
• iOS app - iPhone or iPad
• Android - phone or tablet

All communications are of course encrypted to obtain the highest possible security.

100% Open Platform

In NOX it is possible to develop integrations through a software development kit (SDK), or for example through Secure Shell (SSH).

You can let NOX interact with other systems, for example through Middleware servers.

NOX already communicates via SQL, WCF, SOAP, Modbus, ASCII, XML and KNX, and thereby exchanges information with other online systems.

New features can be developed both by ARAS Security and external programmers.

Logic programming

With the build-in logic programming in NOX, you can organize the cause and effect of all the modules - customizing features to the clients wish.

In NOX you can find programming examples, as inspirations to make your own solutions, e.g. special solutions for disabled people, presence detection and area divided control of alarms.

NOX has countless combination options - only your imagination sets the limit.

NOX is approved and registered as an **EN-50131 class 3** combined security system in:

Denmark (F&P):	10.212-12108
Norway (FG):	S-201/07
Sweden (SBSC):	14-376
Finland (FK):	EN-ST-000185
Germany (VdS):	EN-ST-000185

APPROVED

forsikring & pension

SBSC
Certifierad
PRODUKT

VdS

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NOX • For All Sizes

## For every application, there is a customized solution

NOX offers a solution for any high-security project.
The system is tailored to the extent of your particular project.
If the project later grows and evolves, you can easily upgrade
NOX with more features, users and modules.

ARAS offers the NOX system in three different versions.

NOX Corporate is the complete system, wich opens up
all functions, both in terms of software and hardware.

NOX Professional has additional software limitations, but includes the same hardware
features as the full system.

NOXONE gives the optimal capacity for small and medium-sized businesses, while also
offering the flexibility to expand. In addition, **NOX**ONE uses the same modules, utilize
most integrations and runs the same software as the two larger NOX systems.
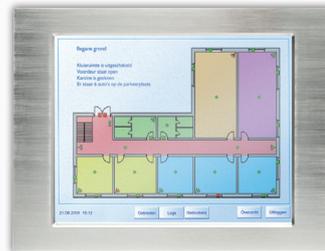
	NOXONE	NOX Professional	NOX Corporate
Number of NOX buses	1	3	3
Number of users, max.	1000	100	100.000*
Number of areas, max.	100	40	4000
Number of time profiles, max.	50	6	400
NOX TIO (-/+) comm.	✓	✓	✓
Smartphone (Android / iOS)	✓	✓	✓
iPhone/iPad graphical app	✓	✗**	✓
Possibility of IP bus	✗	✓	✓
Alerting via email	✓	✓	✓
Stand-alone	✓	✓	✓
Master/Slave	Slave***	Slave	Master Slave
IP Modbus functionality	✗	✗	✓
Can connect to SIMS	✓	✓	✓
SmartIntego integration	✓	✓	✓
Paradox integration	✓	✓	✓
Possibility of SDK	✓	✓	✓
Bus conversion	✗	✓	✓
Power supply	1,5A	5A	5A

NOXONE	NOX Professional / Corporate
127 modules	200 modules (x3)
25 card readers	25 card readers (x3)
20 user profiles	999 user profiles
8 built-in inputs and outputs	0 built-in inputs and outputs
Total: 516 inputs and outputs	Total: 4000 inputs and outputs
999 alarm types	
999 area states	
999 entrance profiles	
Full tamper monitoring	
Built-in SIA IP transmitter	
Realtime logic programming	
Possibility of Touchpanel PC	
Possibility of climate sensors	
Possibility of wireless object monitoring	
Possibility of 2-factor verification to the central	
Independent choice of resistance value for balancing	

*   Standard is 10.000 users.

**   A NOX Professional central is upgradable to a NOX Corporate central, which then allows for the purchase of an iOS licence.

*** When a **NOX**ONE is used in a master/slave system, it sets the limitations of the size of the entire system
(number of users, user profiles, areas and time profiles).

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NOXONE

NOXONE is designed for use on smaller installations.

NOXONE is the first alarm system that presents 2-factor verification (username and password).

NOXONE uses the same software and the same modules as NOX - the main difference is that NOXONE only has 1 bus - and of course the price!

NOXONE functions optimally stand-alone, and also as Slave* in a Master-Slave system with a NOX Corporate central as Master.

NOXONE **& Betjeningspanel**

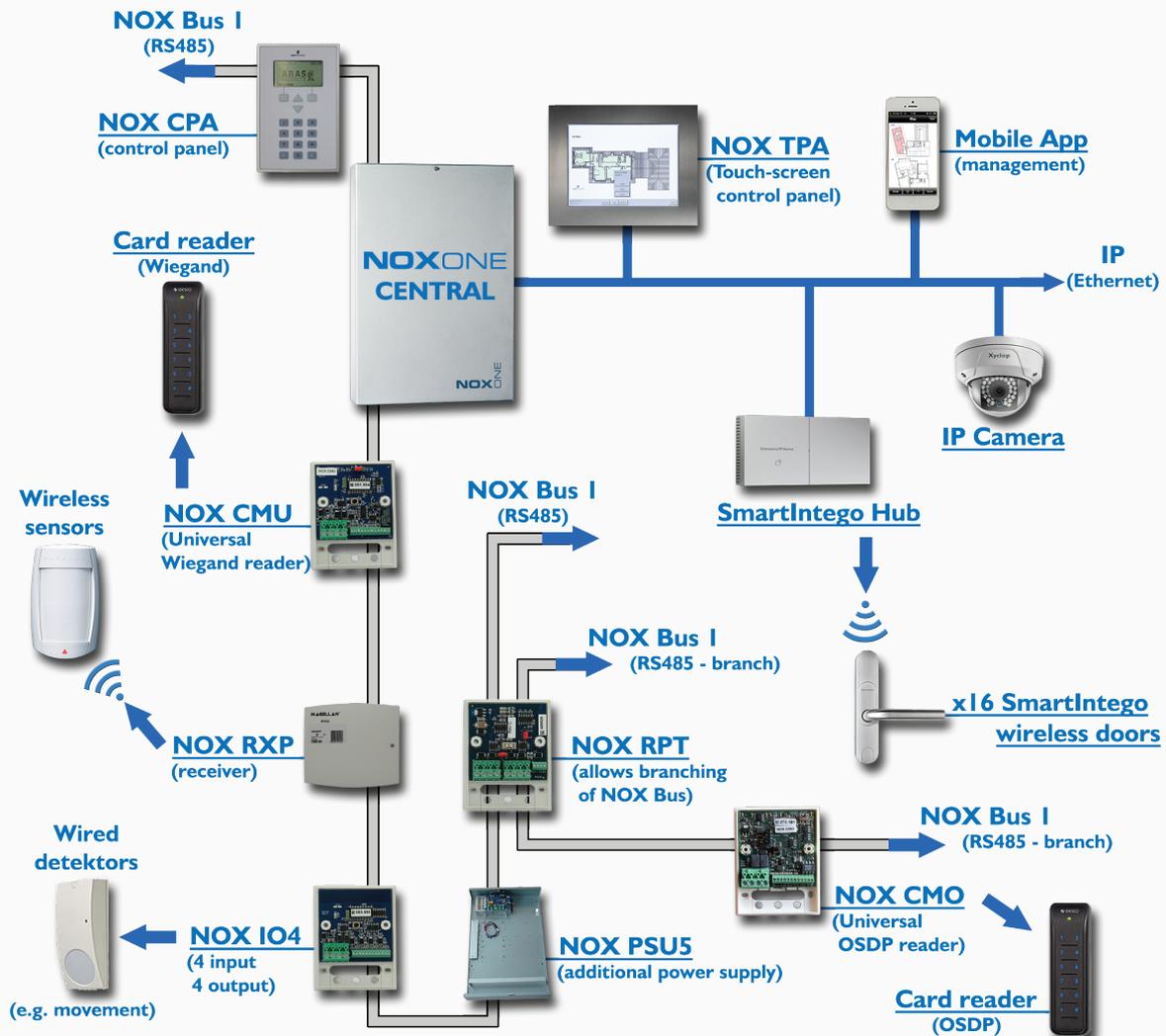**NOX**ONE is also available as a package, with a control panal included.

This is our way of guaranteing a start-up price, which can compete with all other professional alarm systems!

*When a NOXONE is used in a network with NOX Corp, they should be linked via SIMS to obtain all the benefits.

NOXONE

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NOXONE • Network

NOXONE

NOX Bus 1
(RS485)

NOX CPA
(control panel)

NOX TPA
(Touch-screen
control panel)

Mobile App
(management)

NOXONE CENTRAL

Card reader
(Wiegand)

IP
(Ethernet)

Wireless sensors

NOX CMU
(Universal
Wiegand reader)

NOX Bus 1
(RS485)

SmartIntego Hub

IP Camera

NOX Bus 1
(RS485 - branch)

**x16 SmartIntego
wireless doors**

NOX RXP
(receiver)

NOX RPT
(allows branching
of NOX Bus)

Wired detektors

NOX Bus 1
(RS485 - branch)

NOX CMO
(Universal
OSDP reader)

NOX IO4
(4 input
4 output)

NOX PSU5
(additional power supply)

(e.g. movement)

Card reader
(OSDP)

NOXONE
- has 1 NOX Bus.
- can contain 100 areas and 1000 users.
- may connect 127 modules.
- supports 25 card readers.
- can be used as Stand-alone or slave.
- has built-in SIA IP.
- has 2 built-in relays.
- has 8 built-in in,- and outputs.

NOXONE
- includes 2 slots for future expansion of functions.
- is integrated with Paradox wireless modules.
- is integrated with SmartIntego wireless door locks.
- use the same platform and technology as NOX.
- can be operated via SIMS, Android and iOS interface.
- with a SmartIntego Hub can support up to 16 wireless doors.
- with NOX RPT on the NOX Bus allows:
   (A) extension beyond 1200 meters. (B) branches.

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NOX • Modules

The system is created through modules

With NOX flexibility is paramount. You adapt the system by adding modules, that gives the functions you need.

General information about NOX modules:

- The modules are delivered in tamper monitored plastic housings.
- Each module comes with a unique factory defined system address.
- All inputs and outputs are freely programmable via NOX.
- Data is transferred to the central with encryption via the NOX Bus.
- You can connect up to 128 modules per NOX bus.
- With the use of a repeater, up to 200 modules connects on a bus.*
- Modules can be connected anywhere on a bus.
- The NOX system can scan the bus for new modules.

Unique modules has been produced to handle 3rd party special card readers and the like.

NOX CMO
- For a full door environment
- In/Out reading in one module
- OSDP card reader interface
- Protocol-directed LED/buzzer
- 1 programmable input
- 1 programmable relay (SS)
- 1 programmable O/C output
- 2 TTL input

NOX CMU/CMI
- For a door environment
- Wiegand / Clock-data card reader interface
- 1 programmable input
- 1 programmable relay (SS)
- 1 programmable O/C output
- 2 TTL input / output

NOX IO4
- Connection of detectors
- Universal I/O4-module
- 4 supervised inputs
- 4 Open Collector outputs

NOX RPT
- Extension of a NOX bus beyond 1200m.
- Connection of additional modules.
- Branching of a NOX Bus
- Enables IP-bus

NOX RE4
- Transmission of alarms and/or detector status
- 4 solid state relay outputs

NOX AN1
- For optional 0-10 V sensor (e.g. measurement of pressure, CO2, CO density, wind speed, flow rate etc.)
- 1 analog 0-10Vdc input
- 1 programmable relay

NOX THSi
- Measures temperature and humidity (integrated sensor)
- External sensor can be connected
- 1 relay (e.g. for controlling a fan)

NOX RXM
- Receiver for wireless NOX sensors
- NOX THT (humidity/temperature)
- NOX TXO (optical distance sensor)
- NOX TXM (vibration sensor)

* Not applicable for **NOX**ONE.

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NOX • Network Map

NOX Corporate / NOX Professional

Card reader
(OSDP)

NOX Bus 1
(RS485)

NOX Bus 3
(RS485)

NOX CMO
(Universal
OSDP reader)

NOX IO4

NOX Bus 2
(RS485)

NOX Bus 4
IP
(RS485)

NOX CPA
(Control panel)

NOX RPT
(RS232 > RS485)

Mobile App
(Management)

Card reader
(Wiegand)

NOX CENTRAL

MOXA
(Ethernet > RS232)

IP
(Ethernet)

Wireless sensors

NOX CMU
(Universal
Wiegand reader)

NOX TPA
(Touch-screen
control panel)

SmartIntego Hub

IP-Camera

NOX Bus 3
(RS485 - branch)

**SmartIntego
wireless doors**

NOX RXP
(Receiver)

Wired detectors

NOX RPT
(Allows branching
of NOX Bus)

NOX IO4
(4 input
4 output)

NOX Bus 3
(RS485 - branch)

NOX Bus 3
(RS485)

(e.g. movement)

NOX THS
(Temperature and
humidity sensor)

NOX PSU5
(Additional power supply)

NOX Bus 1
(RS485)

NOX Bus 2
(RS485)

- NOX Corporate and NOX Professional:
  - have 3 physical NOX buses.
  - can create IP-buses.

- A NOX Bus can:
  - connect 200 modules (127 without NOX RPT).
  - contain max. 25 door environments
    (NOX CMO, NOX CMU or NOX CMI).

- A NOX Central can control 30 SmartIntego Hubs.

- A SmartIntego Hub can support up to 16 wireless doors.

- A NOX RXP receives signals from Paradox wireless detectors.

- A NOX RPT on the NOX Bus allows:
  (A) extension beyond 1200 meter. (B) branching.

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NOX • Management

## You decide how to manage the NOX System

With NOX, users decide for themselves how they manage their security system.

Many users prefer to manage the NOX system directly from a Smartphone, while others prefer to install a touch screen, use a PC or manage through a control panel.

The many options offer additional flexibility and mobility in the use and control of the security system.

Most solutions include a graphical user interface where the customer can see his property's floor plan, to easily control and get an overview of the system.

All communications, regardless your choice of managing, are of course encrypted for maximum security.
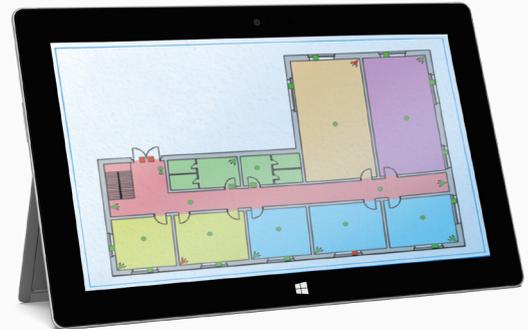
NOX TPA
• Touch screen
• View and control all states
• Maps and floor plans
• 19 "inch

NOX CPA
• Control panel with display
• Alarm buzzer and keyboard (card reader optional)
• Graphic logo in the display
• Control all system functions
• E.g. user management, logs and alarm

PC-management
• Maps and floor plans
• Control all system functions
• E.g. user management, logs and alarm
• Runs on Microsoft Windows

NOX iOS App
• Maps and floor plans
• Live-stream from IP-camera
• Push notifications
• View and control all states
• Graphic display requires one license (Unlimited number of simultaneous clients)

NOX Android App
• View and control all states
• Open and close doors
• Process alarms
• Keep an eye on sensors
• Push notifications

SIMS
• Overarching management system
• Handles up to 200 NOX networks
• Maps and floor plans
• Control all system functions
• E.g. user management, logs and alarm

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NOX • Management

Control multiple sites at once with SIMS (Security Information Management System)

A network of NOX centrals can be connected in SIMS, an advanced management system, which also gives you further advantages. In SIMS you can setup graphical display of floor plans and manage intelligent building installations (IBI). SIMS is also suited for user management, alarm handling and can associate with third-party databases. It is also possible to make CCTV integrations (Milestone, Avigilon, Eocortex, Panasonic, INEX).

SIMS can handle up to 200 Master centrals, and up to 32 clients simultaneously.
Data capture is done in Microsoft SQL Server.

SIMS provides the full overview of a company's AIA, AC, AFA, IBI and CCTV in one single platform.
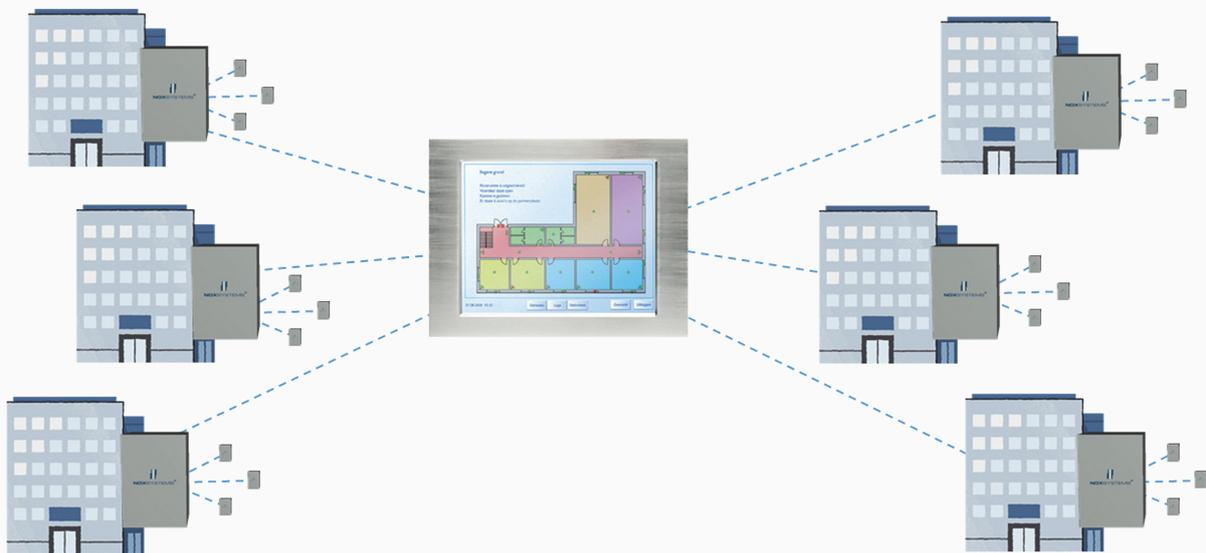
NOX SIMS

- AIA, AC, AFA, IBI and CCTV systems can connect
- 32 clients can operate the system simultaneously
- Possibility of centralized user management
- Area management in all NOX centrals
- Automatic arming / disarming
- Controls up to 200 centrals
- Works with SQL database
- Over one million logs
- Alarm processing
- Access control
- Reporting

New in SIMS V6

- The latest encryption technology **TLS 1.2**
- Full multi-threading support
- Can be run as a service (front-end status display)
- Uses the latest SQL Server connectors
- Supports SQL Server 2008 and all subsequent

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NOX • Card Readers

NOX lets you choose freely on the market

With NOX access control you are not tied to a small selection of card readers.

The customer is free to choose between all kinds of card readers running on either Wiegand, OSDP v2 or Clock / Data interface.

This means that NOX may take over a system, in which the card readers are already installed, without the need to replace them, as NOX often can re-use them.

A card reader can be programmed with fix-codes to provide additional functionality. Let a code act as a door bell, delay the alarm arming for selectable period etc. You create the functionality you need.

Readers with Wiegand interface connects to the CMU module, readers with Clock/Data interface connects to CMI, while readers with OSDP interface connects to the new CMO module.

The NOX CMO module

NOX CMO is a card reader module for OSDP card readers.

With NOX CMO, both in- and out reading is handled by the same module.

With NOX CMO it takes less time to install a door environment, as only 4 wires need to be connected.

NOX CMO support up to 3 LEDs, with up to 4 different colors on card readers.

NOX CMO controls the LEDs and buzzer at the protocol level (instead of cabling).

NOX CMO is prepared for the control of additional in- and output in a card reader.

NOX CMO communicates with the card reader via a duplex data connection that allows two-way communication.

What is OSDP?

OSDP (Open Supervised Device Protocol) is an international communications protocol.

OSDP allows encrypted communication between the reader and the card reader module.

OSDP is a modern protocol that is prepared for extension of functions, for example, in connection with the display on a card reader or biometric solutions.

More and more card reader manufacturers develop products with OSDP interface.

We expect that OSDP v2 will become the new international standard for communication in card readers.

NOX • Programming

Easy programming of Access control and Intruder Alarm

NOX is essentially a combined burglar alarm and access control system.
This makes for a logical procedure when programming doors and sensors.

NOX contains not least a logic formula programming, wherein all the states of the system are easily combined i a visual programming interface.

A formula can enable or restrict a module (or e.g. a user right) depending on the situation.

In NOX it is also possible to "build" your own:
- Area states
- Area types
- Access profiles
- Alarm types

This allows you to simply change the behavior of the system, to suit every customer's desire.

A popular feature for the retail sector is a visitation formula, where a random number generator randomly selects employees for visitation when they leave the workplace.

In the example below, the system administrator can choose from different percentages, controlled by an area state, so that employees are selected for visitation either 20%, 50% or 100% of the time.
The different percentages may also be assigned to specific days, times, user profiles, and all other states in the system - as required.

The formula becomes true when an employee must be checked, which in turn leads to the required output. For example doors being blocked, lamps turning on, emails being sent etc.
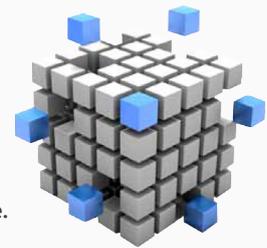
Logikprogrammering

I In the NOX configuration software you can determine how the various modules and functions should work.

The programming is visualized graphically, and the formulas are built with simple "drag and drop".

All configurations are built through the options "*and*", "*or*", "*not*" and "*delay*".

In NOX you will find multiple examples of programming for various solutions, for example for lift control and a visitation module to randomly select card holders for check.

The flexibility to program and control each modules behavior, ensures that NOX is completely adaptable to the individual customers needs.

Eksempel på en visitationsformel

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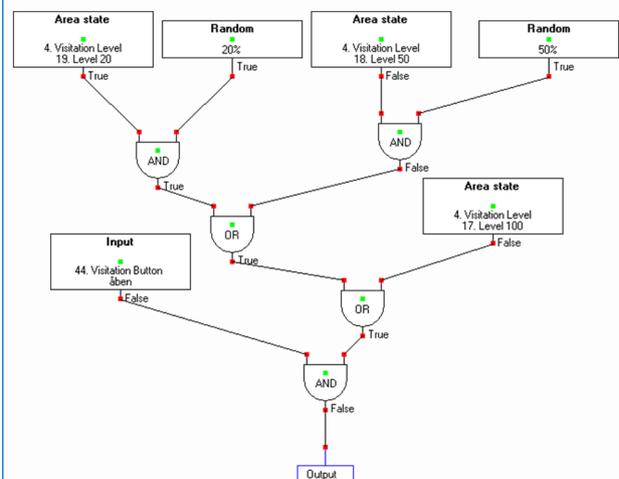
NOX • Wireless Integration

Wireless online door handles with card readers - SmartIntego

SmartIntego, like normal card readers, is fully integrated in NOX.
For example this means that you can control alarm areas and create automatic disarming of an alarm when you open a door.

SmartIntego connects to NOX via a router (hub) wich can be installed in an existing ethernet network.

A router can control up to 16 doors, and you can have up to 30 routers on a NOX central.

You can program up to 100 Emergency card per. unit, ensuring optimal flexibility, even in offline mode.

SMART INTEGO

SmartIntego Escutcheon	SmartIntego Door Knob	SmartIntego Padlock	SmartIntego Router

Wireless sensors - Paradox

PARADOX
SECURITY SYSTEMS

Paradox sensors communicate with NOX via a receiver module connected directly to the NOX Bus.

The selection is large, and the various wireless detectors can be combined in many ways.

PIR motion sensors, smoke alarms, magnetic switches, acoustic glass break detectors and many others are all directly compatible with NOX.

2-way Line Detector	Magnetic Switch
• Motion detectors • 8 detection light beams	• For doors and windows • 35 m. range

PIR Detector	Smoke Sensor	Remote Control	Glass Break Detector
•11x11 m. viewing angle • 35 m. range	• Sensitive photoelectric • Built-in alarm siren	• 1-4 buttons (channels) • 8 different controls	• 360° coverage • 6 m. radius

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NOX • Integration

NOX also handles camera surveillance

NOX is integrated with several of the worlds leading CCTV protocols.

The possibilities are enormous, as you can set a camera to react to events registered by a NOX module, and thus get live images when it makes a difference.

For example you can let the camera turn to the front door when someone rings the doorbell, or turn towards the area an alarm is detected, for instance in case of a burglary or fire.

With Eocortex you can integrate NOX with other modern access technologies, such as license plate recognition and face recognition.

CCTV integrations in NOX are made via the IP connection.
In SIMS it is also possible to browse the history and make entries in the recordings - when using the integrated camera systems.

With Milestone there has been developed a 'videowall' feature, allowing different camera images to be displayes simultaneously on various PC clients.

eocortex

AVIGILON

Panasonic

milestone

iNEX

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NOX • System Integration

How does NOX integrate?

NOX can be integrated with third-party systems via open source technologies through a middleware server, hardware, or virtuel server.

Via a truly open protocol, SSH (Secure Shell), it is smple to develop integrations with NOX without comprimising security.

NOX already uses open source protocols such as XML, JSON, WCF, SOAP and LDAP for integration.

NOX communicates via Modbus over TCP/IP for integration with for example CTS systems, climate control and fire alarm.

NOX runs the ASCII protocol for integration with among others KNX, and camera integration for PTZ control.

NOX can receive SNMP traps from external systems for these to be processed in NOX.

The TIO-module (text-input-output) allows for two-way communication to and from NOX, which can e.g. be used for integration with CCTV systems such as Milestone, Avigilon, Inex, etc.

It is also possible to get access to a NOX Software Development Kit (SDK) - allowing you to create your very own solutions!

Intelligent Building Installations (IBI)

Integration with intelligent building management can effectively reduce companies' energy costs.

The integrated access control allows the system to adapt areas energy consumption through lighting, ventilation, temperature and humidity based on co-worker presence.
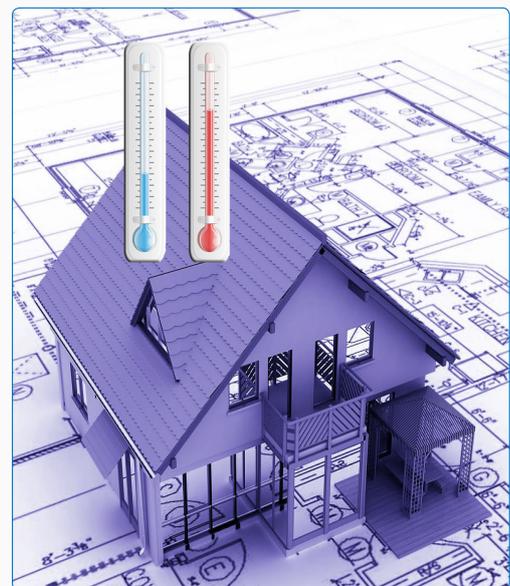
IT systems

Integration with a company's existin IT systems can provide an incredible number of benefits for the customer.
For example, a database integration can provide for the automatic creation of all existing users in the access control system.

Active Directory
• Collects all user management in one database
• Automatic exchange with access control
• Enables fully automatic user management

Raspberry Pi
• Allows integration with many software programs
• Can e.g. be used for voice alerting

proNestor
• Record and categorize visitors and their hosts
• Meeting booking e.g. via outlook
• Full overview of all visitors

InterBook
• Municipal booking system
• Lets users (e.g. coaches) reserve hall times and the like
• Provides access to certain areas in certain times

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NOX • Solutions

With NOX there is always a solution

NOX in all sectors

NNOX is already in use in all types of buildings, organizations and businesses!

Municipalities, banks, museums, production companies, housing associations, hospitals, supermarkets, fire departments, laboratories, airports, universities, offices, military, police and so on.

At ARAS we'd love to help you with your sales of NOX to the customer, and you are always welcome to contact us.

We can also help with various marketing materials (e.g. an easily understandable animated NOX presentation video for end users.), or for example a visit to a company with an active NOX system in use.

ARAS Security offers free NOX courses to interested installers, making even the first NOX installation setup run smoothly.

Tel: +45 70 27 40 90   **info@aras.dk**

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ARAS has the solutions

SUPPORT ACCESS CONTROL

VIDEO SURVEILLANCE DISTRIBUTION

COUNSELING COMMISSIONING

ID CARD PRODUCTION BIOMETRICS

PROJECT GUIDANCE

INTEGRATED SECURITY SYSTEMS

SHOWROOM INTEGRATION

WIRELESS LOCKING SYSTEMS

ARAS Security is a recognized specialist and partner with a full range of products and a range of services within access control, alarms, camera surveillance and ID card production.

With almost 30 years in the industry, we are able to advise and guide in the design and implementation of projects of all sizes.

Feel free to contact us!

Sales	**Support**	**Orders**	**Sjælland (DK)**	**Jylland (DK)**
70 27 40 90	70 27 40 90	70 27 40 90	Mose Alle 10B	Vardevej 1
info@aras.dk	support@aras.dk	ordre@aras.dk	2610 Rødovre	9220 Aalborg

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