



ASSA ARX Security system

ASSA[®]
ASSA ABLOY

The complete access control and alarm system

ASSA ABLOY, the global leader
in door opening solutions





ASSA ARX a security system with access control and alarm

When you choose to invest in an access control system, you shouldn't feel tied down to one solution – you should be able to grow in your system, smoothly and easily, fully assured that it is future-safe.

With ASSA ARX, you get an advanced, high-security online access control system combined with the convenience of offline readers. We call that adapted security. The ideal security on each door gives you an optimal security system that also is cost-effective.

ASSA ARX security system with the combination of alarm and access control creates safety and security in most types of facilities, from small up to large and complex, geographically dispersed facilities.

The card readers in ASSA ARX can be used for alarm management and access control which restricts the number of access control panels and door control units. This entails a cost effective installation and with minimal wiring.

The access control panel have a communication method that is unique in the security industry, but long proven in the world of IT. All access control panels use dynamic IP addresses, communicate using the SSL/TLS protocol, and automatically switch to customer-specific crypto keys in connection

with the installation. The method is comparable to how banks communicate. This means that there is no security risk in installing ASSA ARX in a company's or property's existing network, making it a cost-effective solution since it doesn't require a unique network for the security system. The software in the access control panels is also signed, and cannot be replaced with manipulated or unsigned software.

The access control panel automatically makes decisions such as scheduled access for door environments. This means that the system can maintain the same security and functionality even when the communications or servers are down.

The user interface is very user-friendly. All administration for the access control and alarm system is handled from one and the same system, which also provides security for the users. The ASSA ARX software consists of modules, so you never have to install more functions than you need. Just choose the functions that your business requires. If you later on will and need additional functionality, it's easy to add new features as you go along.

When choosing ASSA ARX security system, you get a smart, flexible overall solution for an access control and alarm system.

ASSA ARX – an open system that creates many opportunities and is a good investment

ASSA ARX Security System combines convenience, safety and transparency. Our customers have highlighted just transparency as a very important factor when they have chosen ASSA ARX security system. ASSA ARX can easily be integrated with superior graphical presentation, booking,

card manufacturing, personnel system and others. ASSA ARX is a system that is available for external applications through a secure, open interface. Examples of integrations are ASSA ARX visitor system, Galaxy burglar alarm and card manufacturing system.



Correct security level on each door with one of the markets widest range of readers

With ASSA's wide range of readers, you can always get a customized and cost effective solution for all your doors according to your safety and convenience preferences.

Many times installation starts with securing the outer doors, it provides security that no unauthorized can access the premises when the outer doors is locked and alarmed.

The ASSA offer:

- Online readers with split installation – with highest security
- Wireless online readers – high security, cost effective and a convenient solution
- Offline readers – cost effective with high security for example, sheds, storage area or garages

In addition, companies often need to enhance security in the daytime on interior doors.

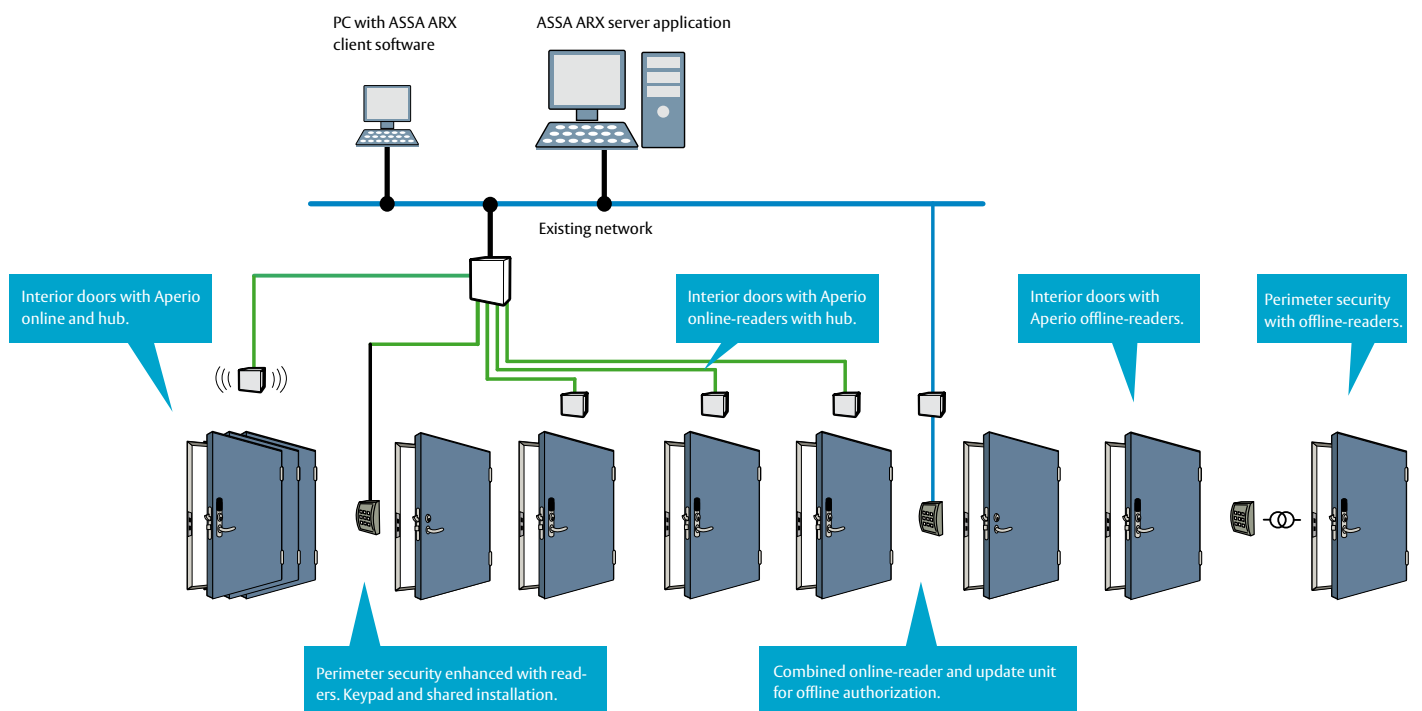
ASSA cost-efficient solutions:

- Online readers with compact or split installation – depending on desired security level

- Wireless online readers – a convenient solution with real time log in
- Wired online leaf readers – to be used in harsh environments
- Offline readers – high convenience and without wiring

Online readers controls the electric lock in the door and maintain continuous real-time contact with the ASSA ARX software. This allows you to immediately block a card or see who passed as well as directly read the log files. The choice of lock is determined based on the security requirements.

In an offline reader, all opening decisions are taken in each reader. They have no direct contact with ASSA ARX software. Where a specific person should have access and at what time, is programmed in the selected sectors, when the card or tag is shown for a combined online reader and updating unit. The limited duration and validation at offline permissions, means that security can easily be maintained. Log files can easily be downloaded directly from the reader.



Functional diagram/example of system structure





ASSA Pando™ Secure – reader for split installation



ASSA Pando™ Display – reader and control panel for split installation



ASSA Pando™ Mini – reader and control panel for split installation

Online proximity reader that connects to a door control unit, providing the greatest possible security.

- The readers supports 13.56 MHz card technologies (MIFARE Classic, MIFARE DESFire, MIFARE Plus, iCLASS and SEOS)
- Can read two simultaneous card technologies
- Built-in support for Hi-O

- Optimized reading distance for cards and tags
- ASSA Pando Secure and ASSA Pando Mini are delivered with black cover and ASSA Pando Display with white cover.
- Pando Display can also be used as a control panel for controlling alarm functions and also has support for ASSA SIO-communication (RS485)



Color choice for all Pando readers



Aperio™ Ecsuction with keypad

Online proximity reader with wireless communication

- Available for MIFARE Classic, MIFARE DESFire or EM card technologies
- Installs in existing slots in the door and controls a mechanical lock case
- Indicates opening, battery warnings, etc. via light and audio signals

Aperio™ Ecsuction

Online proximity reader with wireless communication

- Available for MIFARE Classic, MIFARE DESFire or EM card technologies
- Installs in existing slots in the door and controls a mechanical lock case
- Indicates opening, battery warnings, etc. via light and audio signals



Aperio™ electronic cylinder

Electronic proximity cylinder.

- Available for MIFARE Classic, MIFARE DESFire or EM card technologies
- Replaces the existing cylinder and controls a mechanical lock case
- Depending on the lock case selected, the door locks automatically or manually
- Also suitable for lockers, vehicles, etc
- Indicates opening, battery warnings, etc via light and audio signals

Combined online-reader and updater

Combined online-reader and update unit for offline authorization.

- Connects directly to the network
- The unit can either be used for just opening a door, or for opening a door and entering changes in the offline authorization on the card





Offline wall reader for compact installation

Offline proximity reader.

- Supports MIFARE Classic card technology
- Can control conventional electric locks and Hi-O™ locks where higher security is required
- Requires no wiring to the central unit
- Programming by the keypad



Reader for compact installation

Online proximity reader with built-in door control unit.

- Supports MIFARE Classic and EM card technologies
- Connects directly to a central unit
- Suitable for door environments that do not have stringent security requirements.



Escutcheon for split mounting installation

Online proximity reader with built-in door control unit and lock case.

- Online proximity reader with built-in door control unit and lock case
- Supports MIFARE Classic or EM card technologies
- Suitable for door environments where a wall-mounted reader is not wanted, for aesthetic or technical reasons
- Provides relatively high security, as all intelligence is mounted on the inside of the door
- Connects directly to a central unit



Entry phone

A user-friendly entry phone with built-in proximity reader.

- Can also be used as a code lock
- The entry phone supports MIFARE Classic or EM card technologies
- A list of residents/employees can be viewed on the display
- All administration is done in the ASSA ARX software

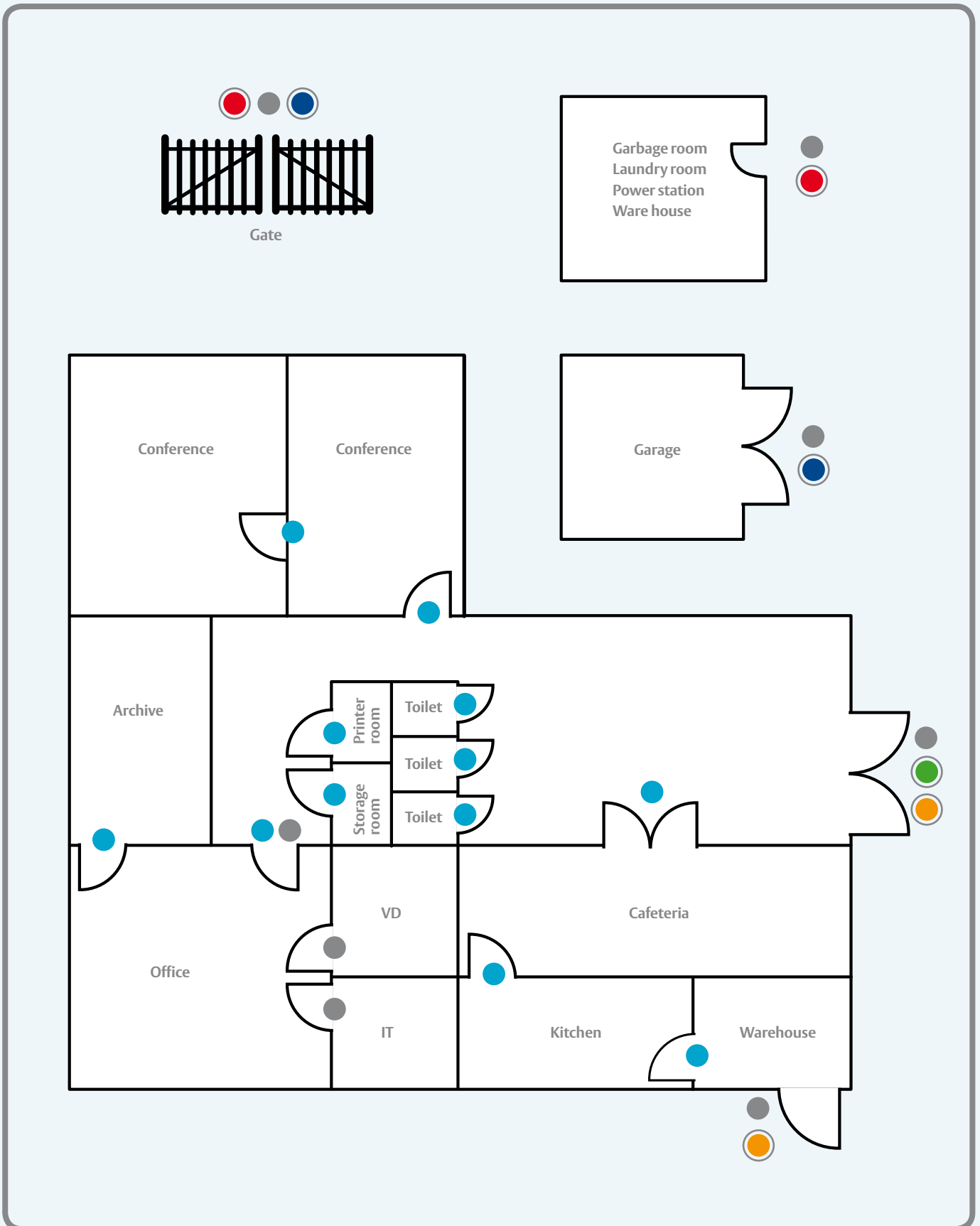


ASSA code carriers

We at ASSA have delivered secure, patented keys for many decades. So it's natural for us to ensure that the cards or tags we deliver for our security systems are secure and with high quality. We work closely with the biggest suppliers on the market and carry out well-defined quality controls to ensure this.



Proposed door solutions



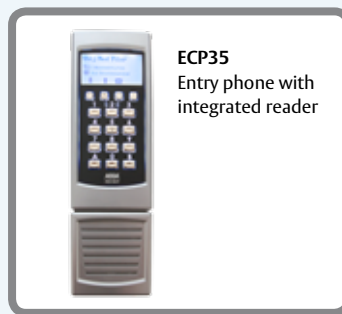
Perimeter security



Interior doors – high convenience



Perimeter security – other



Vehicle access





ASSA ARX security system is a great choice

Security is the knowledge of threats and risks and how they can be prevented and avoided. By installing an alarm system these threats and risks can be prevented.

Depending on who you ask, the expectations on a security systems differ. It may be that:

- Insurance requirements must be met
- Governmental requirements must be met
- Users should feel safe

The intent of the alarm system is, as early as possible indicate that there is an attempt to break in or to do an intervention in a point valet property. An alarm system also has an important role in creating a feeling of a safe environment for the people living or working in the property.

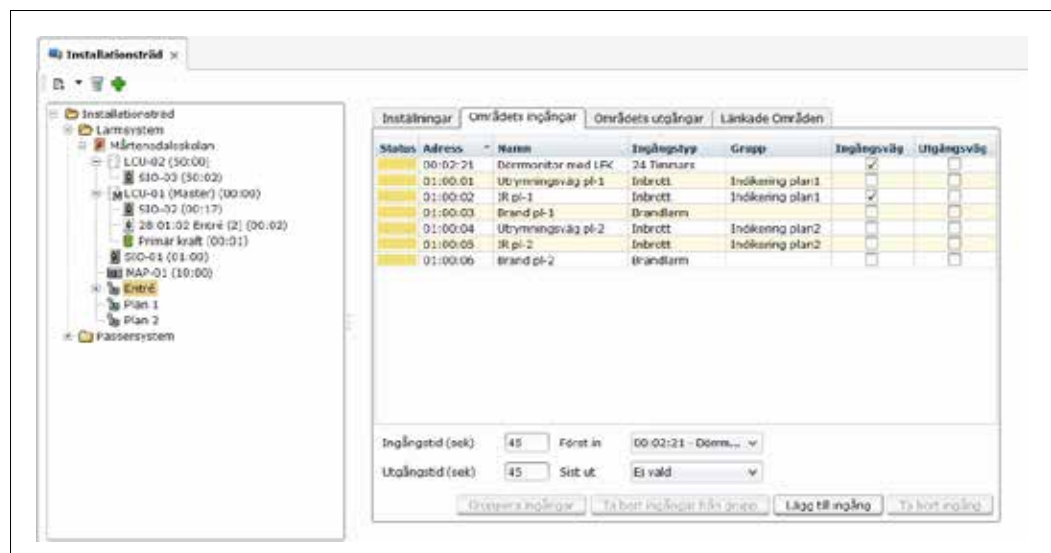
By implementing the alarm function in ASSA ARX will develop from an Access control system to a Security system which will be very cost effective, in installation, administration and service.

To get a security system to work properly, the interaction between the technology and the people is crucial – the best alarm is the one being used.

ASSA ARX has an intuitive and simple user interface, to minimize situations where uncertainty or insecurity means that the system is not being used.

With ASSA ARX security system , you can always project the right security in every part of your premises by using zone control. A detailed log file will also create a possibility to pursue a full audit trail of incidents or suspected violations.

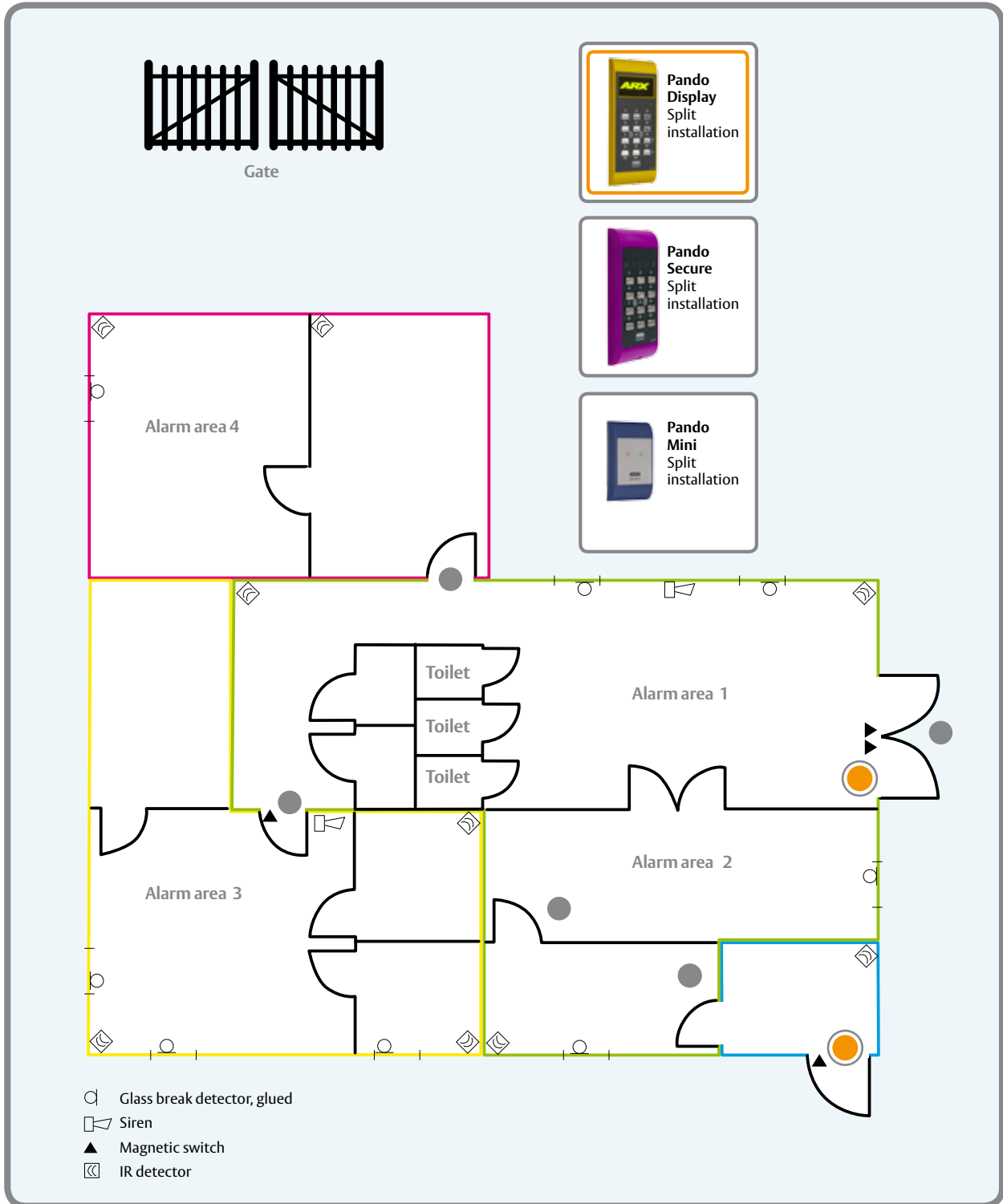
Investing in ASSA ARX security system reduces the risk of burglary, attempted burglary and vandalism, and thereby the cost involved.



ASSA ARX software that shows an installation tree with alarm components.



Proposal for a security solution





ASSA ARX Security System

The central units LCU9016III and LCU9017III can be equipped with alarm components such as master and slave cards, which gives basic requirements for ASSA ARX security system with both access control and alarms.

There are two possible ways of communication between master and slave central units in the system: Ethernet connection with customer-unique encryption keys and via the ASSA SIO-bus (with AES encryption). Through to this redundancy a highly reliable security solution is established.

Via Secure In / Out (SIO)-units, detectors can be connected to the security system and outputs can be used to control e.g. sounders.

Unique to the ASSA ARX security system is that the occurrence in a door environments can be used as alarm sections, for example "Door forced" or "motor lock not locked" and more.

New housing for Central units and door control units

The new housing is more spacious, more installation friendly and inspired by the ASSA Pando reader design. The housings are designed to meet the requirements for the desired alarm class and with the option to mount drilling protection.



New readers in the ASSA Pando Family

ASSA Pando™ Display can be used as a card reader or as a control panel in the system and as the ASSA Pando™ Secure reader and the choice of color is up to you.

ASSA Pando™ Display can be connected as a reader /control panel in a door environment or as a stand alone control panel at a reception or monitoring center.

The display on the reader provides the user with clear instructions of the alarm operation and the possibility of information about the alarm status. Additionally, no entry without that the alarm is disarmed is accepted. The user therefore don't have to worry about if the alarm will be triggered. This creates security for the user.

ASSA Pando™ Mini is a reader without a keypad included in ASSA's new generation of readers.

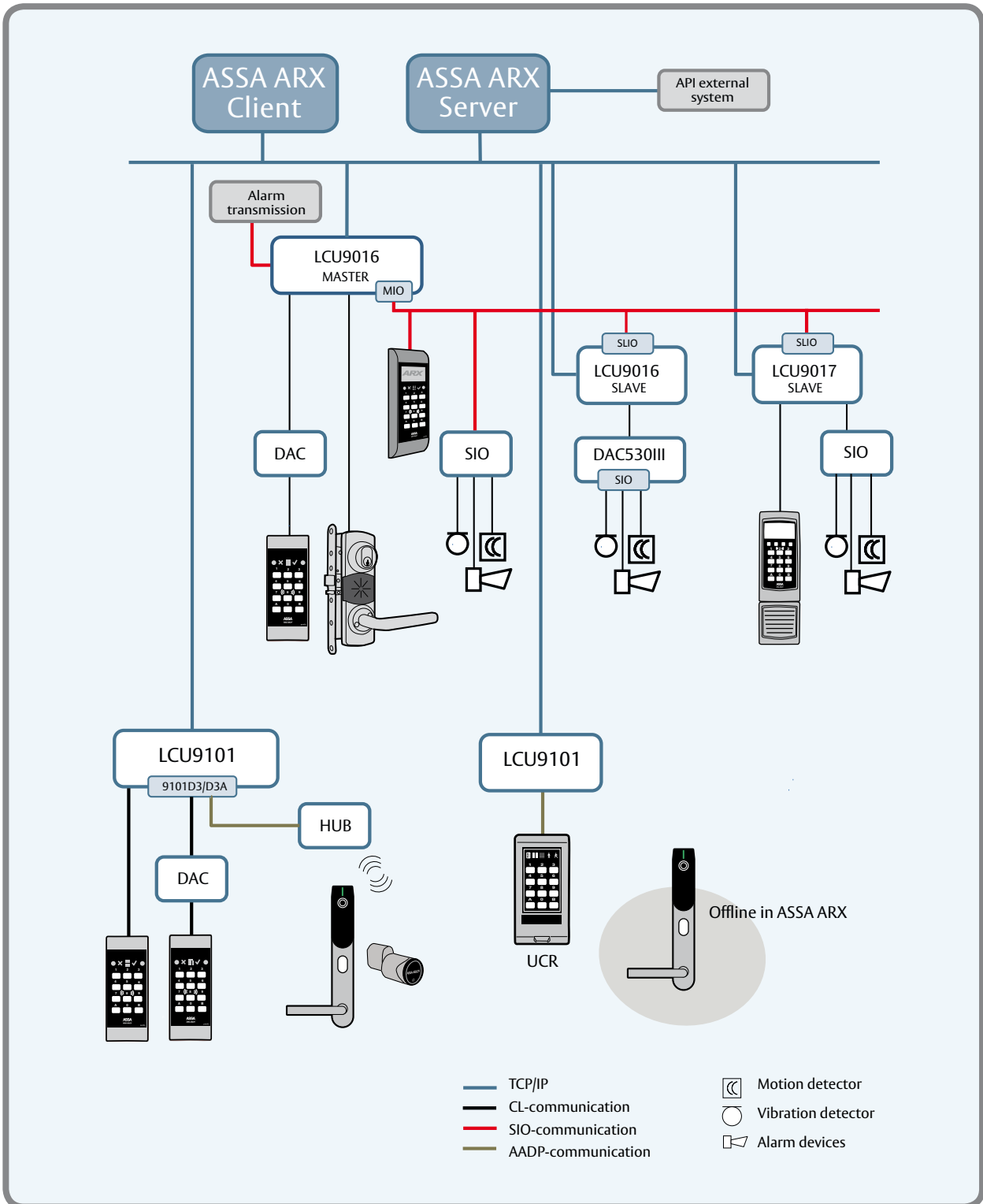
The reader is designed for an installation where there is no requirements for a keypad. With an IP65 rating and protective vandal factor the reader also fits in harsh environments.

ASSA Pando™ Mini, with its slim profile design is suitable to be mounted for example on a narrow door frame or within an appliance box.





ASSA ARX system sketch





Features in the ASSA ARX Security System

ASSA ARX Security System can offer a large variety of features. Many are built in from the start, including ASSA's patented solution for the security of the connection between the central unit and the server, alarm in ASSA ARX and offline in ASSA ARX. Below, an description of some of the most common additional functions:

ASSA ARX Trigger

Upon activation of the trigger function can, for example, one or several relays be controlled, an e-mail message can be sent to selected addresses to inform about an event in the system, or a door environment. It's also possible to create evacuation lists via triggers.

ASSA ARX Domains

User Domain Management can control who can do what in the system. Domains feature can restrict operators to only have access to a subset of persons, cards and the security restricted category, access control, the doors and alarm areas as well as the logs, for example, only the company itself.

ASSA ARX Zone Control

Zone control provides the ability to create zones and thereby verify where people are and how many people that are in each zone at a certain time. The system feature also allows you to manage evacuation lists as follows:

- Automatic printing (via trigger)
- Selectable and predefined related zones in printing
- Selectable simultaneous print destinations: printer, Web-applications and data screens

ASSA ARX Antipassback

Anti-passback can be used to block the ability of a person to pass through the same door twice (namely using their card twice in a reader at the door). Anti-passback feature applies to the zone you pass into, namely, the zone that a person goes to.

ASSA ARX Interlocking

The interlock function is used when you want areas where only one door at a time can be open. When a door within the interlock group is open it blocks all other doors associated to the interlock until it is closed again.

ASSA ARX Fotolog

ASSA ARX Fotolog makes it possible to increase the control at an entry by presenting personal photos in ASSA ARX when passing selected doors, such as a desk or at the guardian.

ASSA ARX elevator control / post boxes function

Control of an elevator can be integrated as part of the ASSA ARX access control system. Access control is done automatically at each floor with the card reader and the lift cage keypad. The function has individual access control for up to 256 floors. The election of the floor is made through either elevator floor buttons or the readers. The solution can be applied to post boxes.

ASSA ARX Entry Phone function

Apartment buildings and businesses often have trouble with unauthorized persons entering the premises. If an entry phone is connected at the entrance you can easily control who should be allowed to enter depending on the time of day. The entry phone can be connected to a telephone exchange in an office or directly to the residents of a apartment building.

ASSA ARX Booking function

For administration of bookable objects such as laundries, saunas, conference rooms and car wash sites, etc. booking can be, made physically at the booking panel with a built in proximity reader, or over the internet via a web interface. All reservations are stored in the server, which means you can reserve any item from any booking panel over Internet in the system.



Hi-O™ – smart technology provides lower costs

Standardized technology for door environments

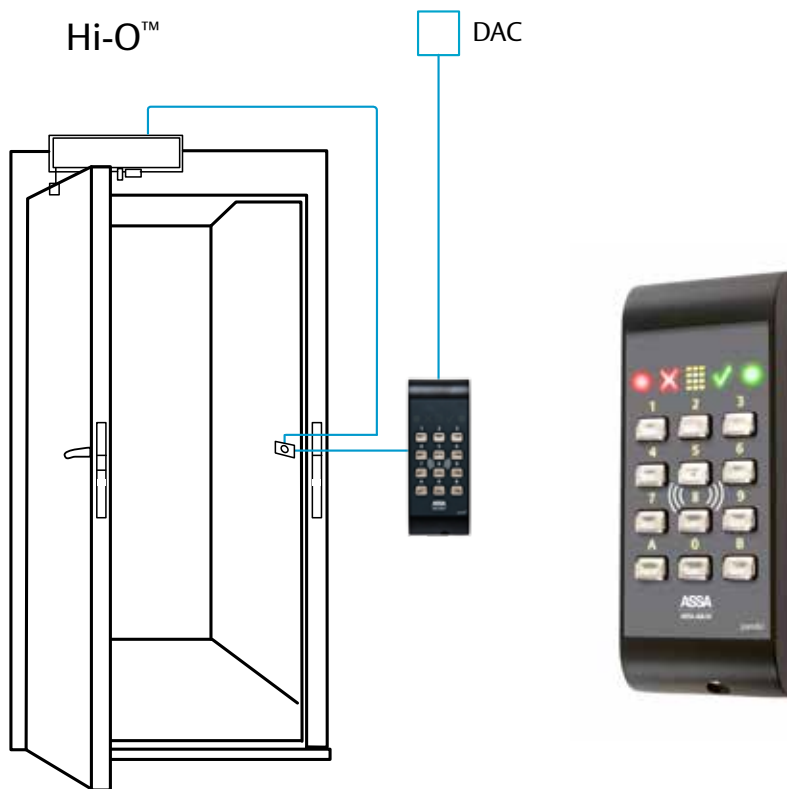
Hi-O™ means that all units surrounding the door environment speak the “same language.” This simplifies installation and troubleshooting, which leads to a longer life time for the products and the door environment, and tranquility to the owner of the building. Because the products automatically work better together and will report back if anything goes wrong, our customers can feel more secure with Hi-O.

All Hi-O units, around a door environment, have built-in intelligence in order to share encrypted information with other Hi-O units. Each unit reports its status and its properties to the other units to make door opening as trouble-free

as possible at every occasion. The Hi-O feature is built into most products used in the ASSA ARX security system today, and more products with Hi-O are being developed all the time.

Preventive maintenance

Hi-O offers detailed information about each unit to facilitate planned and targeted maintenance where necessary. For example, a technician can easily familiarize himself with how the system works, discover any problems, prepare service and replace any faulty units before they break down completely. All this results in reduced costs and continuous functioning of the door environment.



Advantages of Hi-O technology

- High security in the door environment creates safety for the users
- Intelligent devices for easier installation
- Important information from units increases control and a more efficient service level.





What door should you choose?

This table makes it easy to see which ARX reader is best suited for your needs.

ARX	Online wired Wall reader, split installation	Online wired Wall reader, compact installation	Online wired Escutcheon	Online wireless Door-mounted reader and Aperio electronic cylinder	Offline Door-mounted reader and Aperio electronic cylinder	Offline wall-mounted reader
Type of door environment	Outer door or interior door with high security requirements	Interior door or outer door without high security requirements	Interior door	Interior door	Interior door	Outer door/ interior door
Alarm control option	Yes	Yes	No	No	No	No
Wiring	Yes, from central unit to DAC and reader	Yes, from central unit to DAC and reader	Yes, from central unit to reader	Yes, from central unit to reader	No	No
Intervention on door/frame	Yes	Yes	Yes	No	No	Yes
Reading technologies	EM, MIFARE Classic, MIFARE DESFire (CSN and sector), SEOS, iCLASS	EM, MIFARE Classic (serial no./ sector)	EM, MIFARE Classic (serial no./ sector)	EM, MIFARE Classic, MIFARE DESFire (serial no./ sector)	MIFARE Classic, MIFARE DESFire (sector)	MIFARE Classic (sector)
Changing authorization	Online in ARX	Online in ARX	Online in ARX	Online in ARX	Using the person's access card	Using the person's access card
Traceability	In realtime in ARX	In realtime in ARX	In realtime in ARX	In realtime in ARX	Retrieved in the reader	No
Keypad	Yes	Yes	No	Yes	No	Yes
Schedule control, Door unlocked	Yes	Yes	Yes	Yes	Only manually with card	Yes
Schedule control, Person	Yes	Yes	Yes	Yes	Yes	Yes
Power supply	External	External	External	Battery	Battery	PoE