

Invented for life



**BOSCH**

# Access Control Systems

Product overview

February 2023



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# Bosch Access Control Systems

Access control is one of the most important subsystems in a security installation

## Why is access control so important?

- Increasing demand for security
- Growing need to restrict access to buildings and areas
- Mechanical access systems are prone to misuse
- More flexible working time models



Access in a company



Protect secure areas



Unlock doors in case of an emergency



## Reliable, versatile, scalable

Access Control is a key pillar of today’s security. The growing need to control access to and within buildings and areas, more flexible working time models and the limitations of mechanical locks make a modern and reliable access control system indispensable. Bosch offers complete, reliable and scalable access control solutions for any medium to large sized application.

## Key advantages of access control

Investing in the right technology is central to the protection of your employees, site visitors and ultimately the success of your company. While you naturally want your business premises to be as open and welcoming as possible you need to ensure maximum protection against unauthorized intruders.

## Comprehensive portfolio for every application

Bosch Access Control solutions offer you a flexible system for any project.

Our portfolio includes all access control components from different software options and controllers to a wide range of readers and credentials to comply with your individual needs. State of the art security features and encryption functionalities make sure your data is protected and privacy regulations are fulfilled. Thanks to the scalability of the components, the system grows according to your security needs. Our support and training team will be happy to consult you to create the system that fits your requirements.



Financial Institutions



Manufacturing



Office buildings



IT Centers



Transportation



Healthcare



Hotels



Energy and utilities



Education

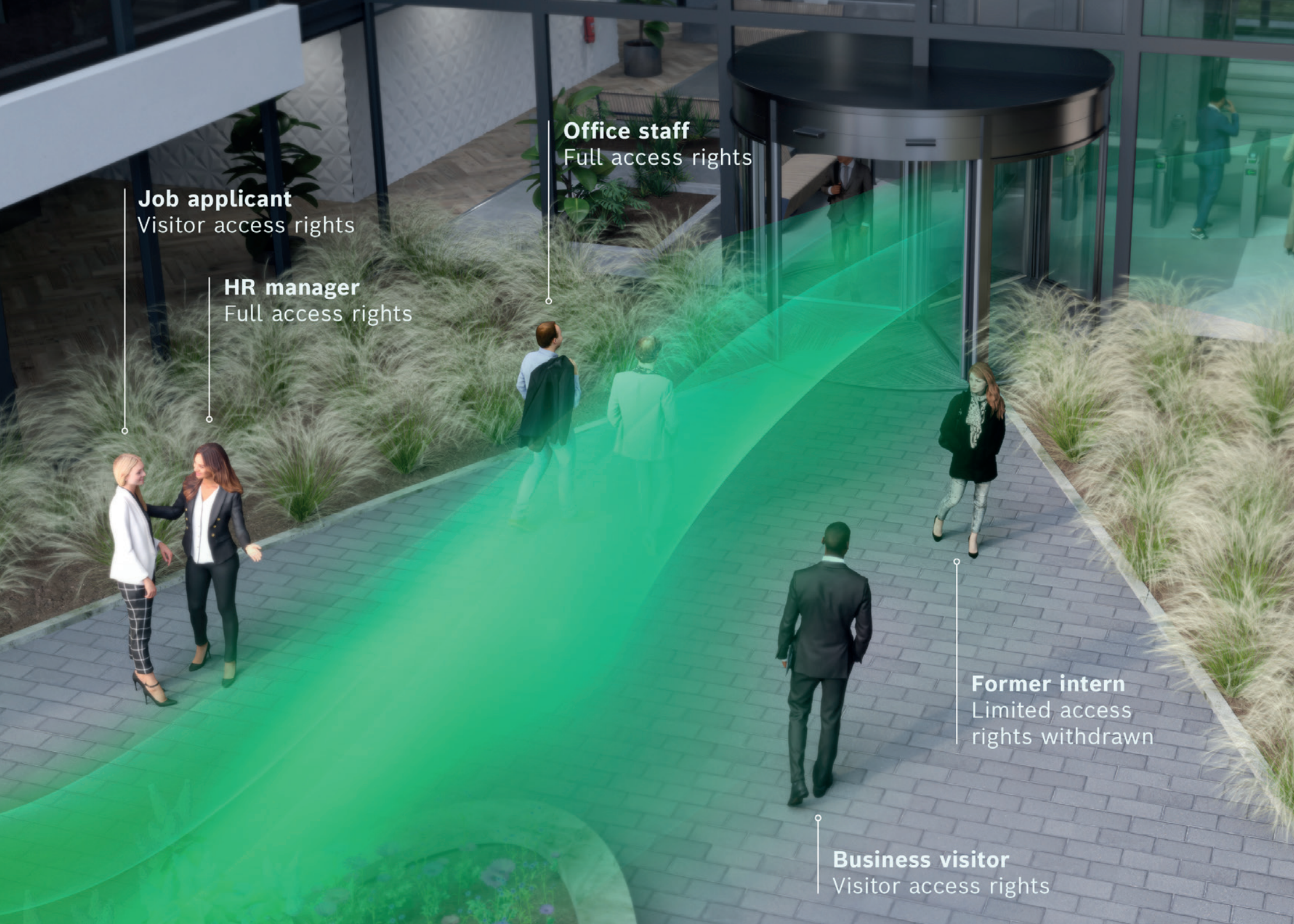
## Our Access Control software options

The Access Engine of the Building Integration System is an ideal access control software solution for large and complex projects, such as industrial sites, airports or governmental buildings. Our software solution for medium to large sized projects such as offices, retail stores or healthcare facilities is the Access Management System. All software solutions work with our Access Modular Controller, and can be combined with the wide range of our reader and credential portfolio.

Proven expertise in the security industry

- Vertical solutions expert
- More than 35 years of experience in access control
- Worldwide support near you





# Software

## Access Management System (AMS) for medium to large sized projects

- Easy-to-use, scalable and resilient software with intuitive, modern graphical user interface (GUI)
- Integration of third-party functionalities such as time and attendance and other HR systems via API
- Integration with BVMS (10.1 or higher) and other video management systems
- Support of Open Supervised Device Protocol (OSDPv2 secure channel) for bi-directional encrypted communication between reader and controller
- Encrypted database and communication at all stages
- Suitable for office and governmental buildings, educational institutions, hospitals, etc.
- Administrates up to:
  - 200 divisions
  - 10,000 doors
  - 400,000 cardholders
  - 200 clients
- Browser-based Visitor Management offering all the benefits for enhancing the visiting process
- Easy to add Mobile Access solution to truly enhance your access system to the next level when it comes to security and convenience



### Simplicity

Efficient and user-friendly tools to configure the system and an intuitive, modern GUI for easy and convenient operation.



### Maximum resilience

An additional third layer of security – Master Access Controller – between the server and the controllers ensures controller communication, even if the server fails.



### Future-proof investment

AMS grows with your needs thanks to the three different license editions: you can start with Lite and switch to Plus or Professional when your security requirements grow. If your needs grow even further, you can even switch to BIS-ACE.

Perfect solution for office buildings, hospitals and medical centers, schools, hotels and warehouses.

## Building Integration System – Access Engine (BIS-ACE) for large and complex projects

- Resilient and highly scalable software
- Integration of Bosch video, fire, intrusion and public address systems via the Building Integration System (BIS)
- Integration of third-party products such as time and attendance and building automation via open protocols (OPC) and API
- Support of Open Supervised Device Protocol (OSDP V2 secure channel) for bi-directional encrypted communication between reader and controller
- Suitable for public transport, critical infrastructure, industry, etc.
- Multi-server topology support
- Administrates up to:
  - 400 divisions
  - 10,000 doors per server
  - 400,000 cardholders per field controller (AMC)
  - 80 concurrent workplace clients per server
  - 200,000 detectors per server
- Browser-based Visitor Management offering all the benefits for enhancing the visiting process
- Easy to add Mobile Access solution to truly enhance your access system to the next level when it comes to security and convenience



### Flexibility and integration

Modular system to combine different security, safety and building management functions from Bosch and third parties to create exactly the solution you need.



### Maximum resilience

An additional third layer of security – Master Access Controller – between the server and the controllers ensures controller communication, even if the server fails.



### Future-proof investment

BIS-ACE grows with your requirements, allowing you to set-up a large multi-server system which can be enhanced with various integrations at any time.

Ideal for banks, factories, public transportation applications, power plants, data centers and stadiums.



# Access control functionalities at a glance\*

## Basic access control functionalities

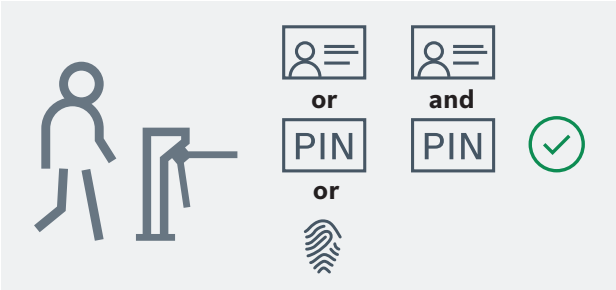
### Single authentication (identification)

- Various identification modes are possible: card, mobile credential, pin code, biometric
- Admin user configures verification or identification mode for reader
- After authentication, reader sends information to controller and controller verifies with the server if the user is authorized to enter
- Access is granted or denied by the controller

### Multi-factor authentication (verification)

- Two or more authentication features need to be provided by the user, e.g. card and PIN
- Access can only be granted if both features match

- ✓
- Convenience
  - Speed
  - High level of security

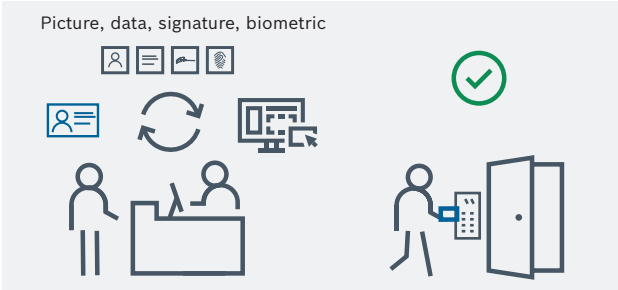


## Administrative functionalities

### Employee onboarding and offboarding

- One enrollment dialog to easily collect and upload all cardholder information such as data, photo, PIN codes and biometric features
- Enrollment of secured Bosch code card data from MIFARE DESFire cards supported
- Cardholders can be assigned more than one card and even threat alert cards
- For VIP cardholders, special functionalities can be configured, e.g. the right to permanently open a door or the automatic calling of an elevator when entering a building
- With the Mobile Access solution comes a new web-browser based credential management allowing you to manage physical and mobile credentials much more conveniently

- ✓
- Efficiency
  - Facilitation of compliance regulations



### Visitor management

- Web browser based visitor management system
- Comprehensive and user-friendly application for receptionists
- Host view for employees to pre-register their visitors
- Self-registration option for visitors
- Scanning of ID / passport for fast upload of personal information
- Upload and signing of documents
- Flexible configuration options to adjust the system to individual requirements and legal needs
- With the Mobile Access solution comes an add on for visitor management as well allowing you to manage also mobile credentials and sending them to a visitor upfront

- ✓
- Efficiency
  - Improved visitor experience



## Advanced access control functionalities

### Anti-passback

- User 1 scans his credential and enters an access-controlled area
- User 2 does not have authorization to enter the premise
- User 1 hands his credential to user 2 so he can enter the access-controlled area as well
- Anti-passback ensures that re-entry is only possible if the cardholder had checked out before or a defined time period is exceeded
- User 2 is denied access

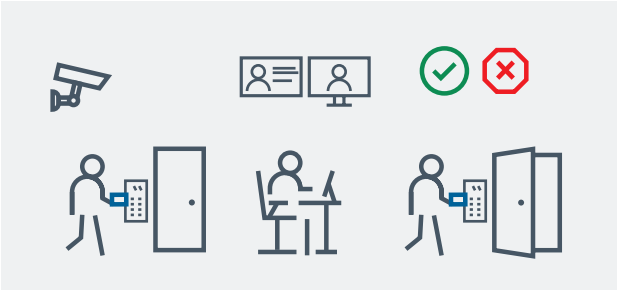
- ✓
- High level of security
  - Prevention of misuse of cards



### Video verification

- User requests access with credential
- Video camera is installed at the door, providing the security operator with live video stream
- Cardholder image and information such as name or employee number and live video stream pop up in the operator's event list
- Operator verifies if user at the door matches authorized cardholder
- Operator grants or denies access

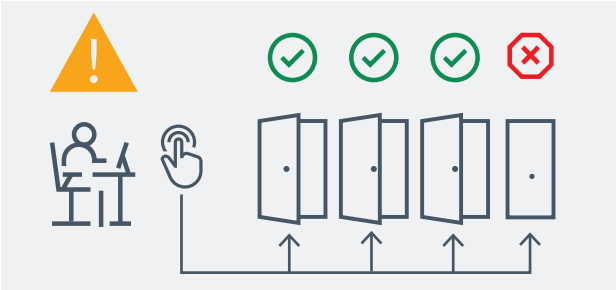
- ✓
- High level of security
  - Prevention of misuse of credentials



### Threat level management

- High or low threat situation occurs
- Behavior of all defined doors changes with one click at the operator workstation, by pushing an emergency button or by presenting a specially configured "emergency" credential to a reader
- Safety measures are initiated within seconds by the security operator, a cardholder with an emergency credential or by anyone pushing the emergency button
- Doors can be preconfigured to behave in different modes: e.g. lockdown or permanent open mode
- Possible high threat levels: attack, fire
- Possible low threat levels: sports event, family day in a company, parents' evening in a school

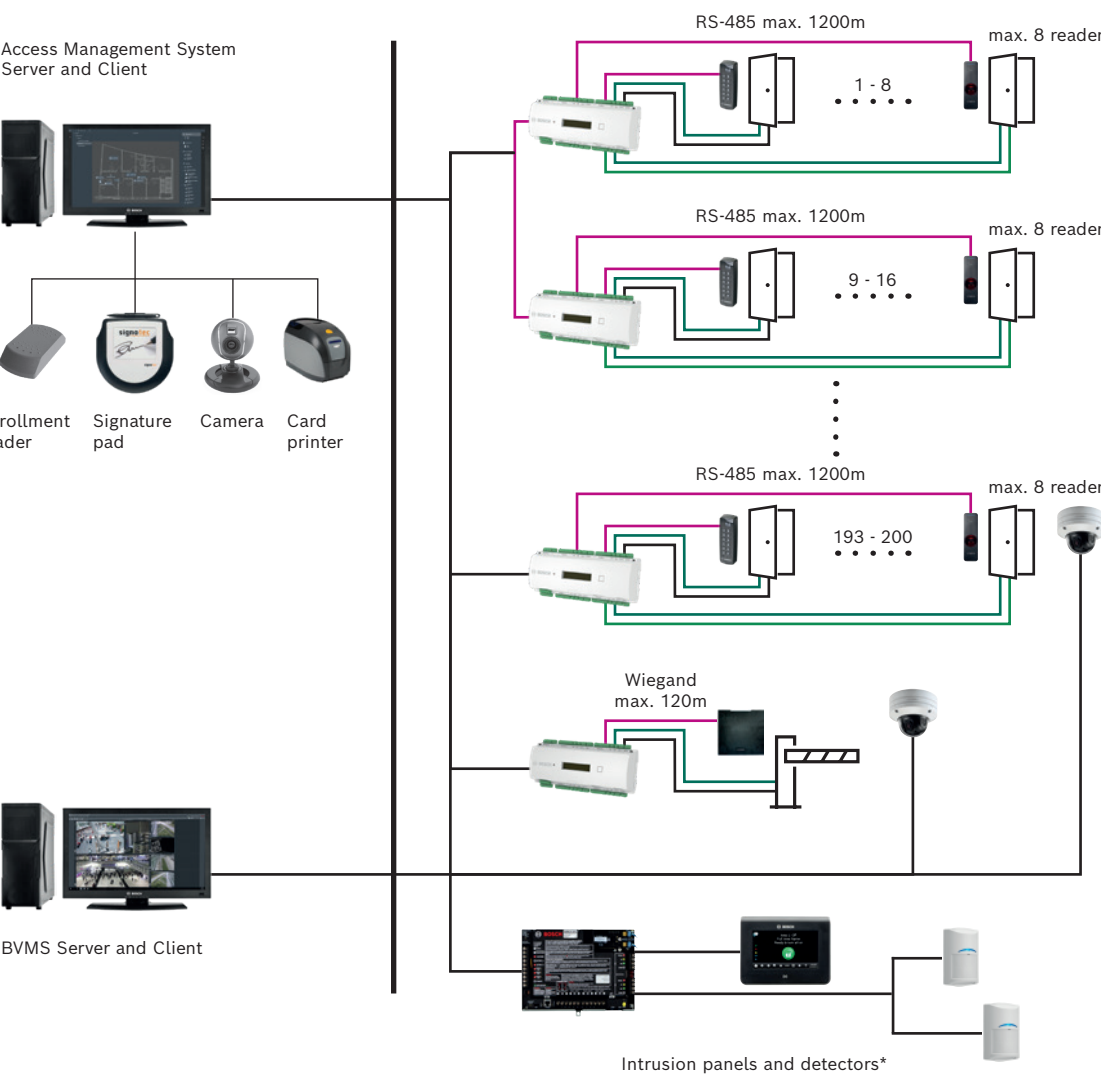
- ✓
- High level of safety on site
  - Fast reaction in critical situations



\* All functionalities are available in all software options (AMS, BIS-ACE)

# System design example

## Access Management System



\* Not applicable in European countries

# Software licenses

## AMS licenses

	Lite	Plus	Pro	SMA
License Professional base	-	-	AMS-BPRO	AMS-SMA-PRO
License Plus base	-	AMS-BPLU	-	AMS-SMA-PLUS
License Lite base	AMS-BLIT	-	-	AMS-SMA-LITE
License bundle Mobile Access Pro	AMS-BMOBLIT			AMS-SMA-BMOBPRO
License bundle Mobile Access Plus	AMS-BMOBPLU			AMS-SMA-BMOBPLU
License bundle Mobile Access Lite	AMS-BMOBPRO			AMS-SMA-BMOBLIT
License Mobile Access	AMS-FMOBLIT	AMS-FMOBPLU	AMS-FMOBPRO	AMS-SMA-FMOB
License Visitor Management	AMS-FVISLIT	AMS-FVISPLU	B.A. (included by default)	
License 5 Operator Client exp	-	-	AMS-X5CLIPRO	AMS-SMA-5CLI
License 1 Division expansion	-	AMS-XDIVPLU	AMS-XDIVPRO	AMS-SMA-1DIV
License 32 Door expansion	AMS-X32DORLIT	AMS-X32DORPLU	AMS-X32DORPRO	AMS-SMA-32DRS
License 128 Door expansion	-	AMS-X128DORPLU	AMS-X128DORPRO	AMS-SMA-128DRS
License 512 Door expansion	-	-	AMS-X512DORPRO	AMS-SMA-512DRS
License 100 ID Card expansion	AMS-X100CRDLIT	-	-	AMS-SMA-100CRD
License 1000 ID Card expansion	AMS-X1KCRDLIT	AMS-X1KCRDPLU	-	AMS-SMA-1KCRD
License 10000 ID Card exp	-	AMS-X10KCRDPLU	AMS-X10KCRDPRO	AMS-SMA-10KCRD
License 50000 ID Card exp	-	-	AMS-X50KCRDPRO	AMS-SMA-50KCRD
License 50 Mobile Credentials	AMS-X50MOBLIT	AMS-X50MOBPLU	AMS-X50MOBPRO	AMS-SMA-X50MOB
License 100 Mobile Credentials	AMS-X100MOBLIT	AMS-X100MOBPLU	AMS-X100MOBPRO	AMS-SMA-X100MOB
License 1000 Mobile Credentials	AMS-X1KMOBLIT	AMS-X1KMOBPLU	AMS-X1KMOBPRO	AMS-SMA-X1KMOB
License 5000 Mobile Credentials	AMS-X5KMOBLIT	AMS-X5KMOBPLU	AMS-X5KMOBPRO	AMS-SMA-X5KMOB
License 1 MAC expansion	-	AMS-XMACPLU	AMS-XMACPRO	AMS-SMA-1MAC
License 1 Key Management exp	-	-	AMS-XKEYPRO	AMS-SMA-1KEY
License 25 Pegasys Door exp	-	AMS-X25OFFPLU	AMS-X25OFFPRO	AMS-SMA-25OFF
License 25 OSO Offline Doors	-	AMS-X25OSOPLU	AMS-X25OSOPRO	AMS-SMA-25OSO
License 5 SmartIntego Doors	AMS-X5SIOPLU			AMS-SMA-5SIO
License 25 SmartIntego Doors	-	-	AMS-X25SIOPRO	AMS-SMA-25OND
License 1 G Series expansion	AMS-XPANLIT	AMS-XPANPLU	AMS-XPANPRO	AMS-SMA-1PAN
License 10 G Series expansion	-	AMS-X10PANPLU	AMS-X10PANPRO	AMS-SMA-10PAN

## BIS-ACE licenses

	BIS
BIS 4.9 Basic License	BIS-BGEN-B49
BIS 4.9 Alarm Management Package	BIS-FGEN-AMPK49
BIS 4.9 Multi-Server Connect per Server	BIS-FGEN-MSRV49
BIS 4.9 BVMS Connectivity	BIS-FGEN-BVMS49
AUE 4.9 Basic License	BIS-FAUE-BPA49
ACE 4.9 Basic License	BIS-FACE-BPA49
ACE 4.9 Extended Carpark Management	BIS-FACE-PRK49
ACE 4.9 Application Programming Interface (API)	BIS-FACE-API49
ACE 4.9 Visitor Management	BIS-FACE-VISWEB49
VIE 4.9 Basic License	BIS-FVIE-BPA49
ACE 4.9 additional 100 ID Cards	BIS-XACE-100C49
ACE 4.9 additional 1,000 ID Cards	BIS-XACE-1KC49
ACE 4.9 additional 10,000 ID Cards	BIS-XACE-10KC49
ACE 4.9 additional 50,000 ID Cards	BIS-XACE-50KC49
ACE 4.9 additional 32 Doors	BIS-XACE-32DR49
ACE 4.9 additional 128 Doors	BIS-XACE-128D49
ACE 4.9 additional 512 Doors	BIS-XACE-512D49
ACE 4.9 additional 25 Offline Doors	BIS-XACE-25OF49
ACE 4.9 25 wireless online doors	BIS-XACE-25ON49
ACE 4.9 additional 1 MAC	BIS-XACE-1MAC49
ACE 4.9 additional 10 MAC	BIS-XACE-10MC49
ACE 4.9 additional 1 Key Cabinet	BIS-XACE-1KEY49

## System description / application

System size		
<ul style="list-style-type: none"><li>150 doors</li><li>1,200 cardholders</li><li>Three operators</li></ul>		
AMS PLUS features	AMC features	Reader features
<ul style="list-style-type: none"><li>Max. 288 doors</li><li>Max. 10,000 cardholders</li><li>5 cards per person</li><li>1,024 authorizations per MAC</li><li>Graphical location map</li><li>Video integration for video verification via BVMS</li></ul>	<ul style="list-style-type: none"><li>2 RS-485 buses</li><li>8 inputs</li><li>8 relays</li><li>TCP/IP connection</li></ul>	<ul style="list-style-type: none"><li>Support of OSDPv2 secure channel</li><li>Outdoor resistant (up to IP67)</li><li>Multitechnology support (125kHz and 13.56MHz)</li><li>Wiegand and RS-485 support</li><li>Keypad or fingerprint for verification</li></ul>
Access components		
Readers	ARD-AYBS6380, ARD-FPBEW2-H3, ARD-SER90-WI	
Lock	4710760066	
Magnetic contact	ISN-CSM35-W	
REX button	4710760047	
AMS Software	1 x AMS-BASE-PLUSxx**, 1 x AMS-XDRS-128Vxx, 2 x AMS-XCLI-1Vxx	
Controller	APC-AMC2-4R4CF, APC-AMC2-4WCF	
Power supply	APS-PSU-60	
Battery	D126	
BVMS Software	MBV-BPLU-100	
Cameras	NDE-8504-R	
Intrusion control panel *	B8512G	
Intrusion touch screen keypad *	B942	
Intrusion detectors	ISC-CDL1-W15G	

\*\* Version dependent



# Mobile Access

## The smart addition to your access control solution

Mobile Access can be fully integrated into your current Bosch access control system, enhancing its capabilities and providing added benefits. With its compatibility and ease of integration, Mobile Access offers a smooth transition to a modernized access control setup. Mobile Access works together with our premium access control readers, equipped with BLE. A dedicated installation app, supporting both iOS and Android, is used to set up the system.

## How does Mobile Access work?

Mobile Access facilitates the use of the smartphone as a digital access medium to replace the classic access card or to be used as an alternative form of identification.

- You can use your smartphone instead of a physical card to request access
- You assign all mobile access rights centrally in your access solution
- You can transmit access credentials via e-mail or QR code
- You record all access events securely and centrally in your access control solution on premise



Easy to use, comfortable and innovative solution



Advanced security with state-of-the-art encryption



Data privacy guaranteed, biometric data on user's smartphone



Mobile Access application for smartphones



Access control premium readers with BLE\*



Access Management software to administrate visitors and employees

\*BLE = Bluetooth Low Energy



# Hardware

## Access Modular Controller

- Intelligent access management controller
- Carries out independent authorization checks on access points, takes access decisions, controls closing/opening elements and registers movement events – even when offline
- Specifically designed to work with AMS and BIS-ACE systems
- Support of RS-485/OSDPv2 secure channel and Wiegand technology
- Offline capability
- Administrates up to:
  - 8 readers
  - 400,000 cardholders



### Speed of installation

The modular concept makes system planning and stocking easy. The service display allows for quick troubleshooting and system maintenance. Thanks to the fast and reliable Ethernet host interface, cardholder updates are completed within seconds.



### State of the art security

Communication between controllers and central server is secured by AES 256 bit encryption with custom keys running on DTLS protocol.



### Reliability

Thanks to its offline capability and supervised battery extensions, the AMC works continuously. To avoid losing data, the event buffer memory stores up to 2 million events offline.



### Future-proof investment

Modular system design ensures that the system can grow and adapt according to your needs and changes in technology.

## Readers and Credentials

Bosch offers a wide range of readers and credentials, from fully featured advanced solutions to cost-effective starter systems. Most models are available with or without keypad or as biometric versions. Wiegand and RS-485 (OSDPv2 SC) support ensures that our solutions work seamlessly with your technology. Our support team will be happy to assist you in choosing the right system.

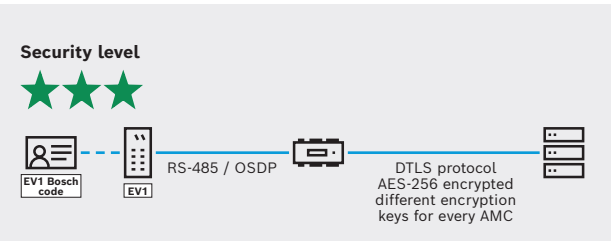
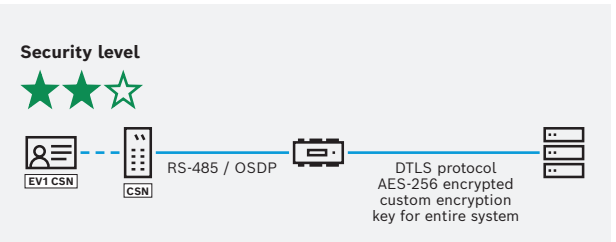
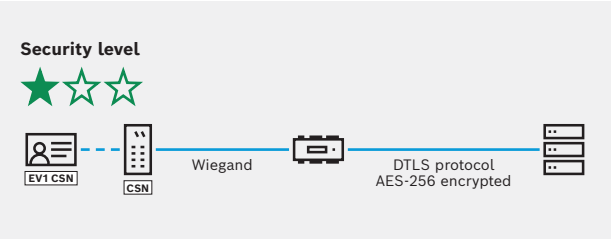
## Proximity Readers

Proximity readers act as an interface between the proximity card and the access controller. The data is transferred from the card to the reader on 125 kHz frequency band.

## Smart Readers

Smart readers act as an interface between the smart card and the access controller. The data is transferred from the card to the reader on 13.56 MHz frequency band. Bosch offers all customers highest security standards with their unique Bosch data elements. Our premium reader line also includes BLE modules in order to communicate with mobile phones for identification.

## Readers Security Level



- Support of OSDP (up to OSDPv2 secure channel)
- Support of Bosch coded MIFARE credentials
- Secure communication via AES 256bit encryption
- Latest SQL data base support



## Proximity Readers

Material description	Card Reader, HIDprox, mullion	Card Reader, HIDprox, mini mullion	Standalone device, HIDprox	Card Reader, EM, mini mullion
Commercial type number (CTN)	ARD-MINIPROX	ARD-PROX-PPL	ARD-ENTRYPROX	ARD-AYK12
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Bosch controller compatibility	AMC2-4WCF, AMC2-2WCF, AEC, B/G-Series	AMC2-4WCF, AMC2-2WCF, AEC, B/G-Series	Standalone device	AMC2-4WCF, AMC2-2WCF, AEC, B/G-Series
Software compatibility	BIS-ACE, AEC, AMS	BIS-ACE, AEC, AMS	BIS-ACE, AEC, AMS	BIS-ACE, AEC, AMS
Interfaces	Wiegand	Wiegand	Wiegand	Wiegand
Supported protocol	Wiegand	Wiegand	Wiegand	Wiegand
Panel connection	Pigtail	Pigtail	Terminal strip	Pigtail
Mounting	Surface mount	Surface mount	Surface mount	Surface mount
Supported credential technology	HID Prox	HID Prox	HID Prox	EM4102
Bosch code	–	–	–	–
Power supply	5 – 16 VDC	5 – 16 VDC	10 – 16 VDC	5 – 16 VDC
Environment class	IP55	IP55	IP55	IP65
Maximum reading distance	13 cm	6 cm	6 cm	8 cm
Keypad	no	no	yes	no
Dimensions (H x W x D)	152 x 43 x 25,4 mm	79,6 x 44 x 17 mm	133 x 70 x 35 mm	80 x 40 x 13 mm

## Smart Card Readers (Wiegand) iCLASS



Name	LECTUS secure 1000 WI	LECTUS secure 4000 WI	LECTUS secure 5000 WI	LECTUS secure 9000 WI
Material description	Card reader, iCLASS, Wiegand	Handsfree card reader, iCLASS, Wiegand	Card reader with keypad, iCLASS, Wiegand	Handsfree card reader, iCLASS, Wiegand
Commercial type number (CTN)	ARD-SER10-WI	ARD-SER40-WI	ARD-SERK40-W1	ARD-SER90-WI
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Bosch controller compatibility	APC- AMC2-4WCF, APC- AMC2-2WCF, AEC, B/G-Series	APC- AMC2-4WCF, APC- AMC2-2WCF, AEC, B/G-Series	APC- AMC2-4WCF, APC- AMC2-2WCF, AEC, B/G-Series	APC- AMC2-4WCF, APC- AMC2-2WCF, AEC, B/G-Series
Software compatibility	BIS-ACE, AEC, AMS	BIS-ACE, AEC, AMS	BIS-ACE, AEC, AMS	BIS-ACE, AEC, AMS
Interfaces	Wiegand	Wiegand	Wiegand	Wiegand
Supported protocol	Wiegand	Wiegand	Wiegand	Wiegand
Panel connection	Pigtail	Pigtail	Pigtail	Pigtail
Mounting	Surface mount	Surface mount	Surface mount	Surface mount
Supported standard	ISO 1443A, ISO 15693, ISO 14443B	ISO 1443A, ISO 15693, ISO 14443B	ISO 1443A, ISO 15693, ISO 14443B	ISO 1443A, ISO 15693, ISO 14443B
Supported credential technology	iCLASS, iCLASS SE, Seos, MIFARE Classic (CSN)	iCLASS, iCLASS SE, Seos, MIFARE Classic (CSN)	iCLASS, iCLASS SE, Seos, MIFARE Classic (CSN)	iCLASS, iCLASS SE, Seos, MIFARE Classic (CSN)
Bosch code	–	–	–	–
Power supply	5 – 16 VDC	5 – 16 VDC	5 – 16 VDC	5 – 16 VDC
Environment class	IP55 (IP65 with gasket)	IP55 (IP65 with gasket)	IP55 (IP65 with gasket)	IP65
Maximum reading distance	7.6 cm	11.4 cm	14 cm	33.6 cm
Keypad	no	no	yes	no
Dimensions (H x W x D)	103 x 48 x 23 mm	122 x 84 x 24 mm	122 x 85 x 28 mm	333 x 333 x 39 mm

- 13.56 MHz proximity readers for connecting to access controllers with Wiegand interfaces
- Available with four different form factors, LECTUS secure readers meet nearly all installation requirements



# Smart Card Readers

## (Wiegand and RS-485 (OSDP V2)) – MIFARE

Name	LECTUS duo 3000C	LECTUS duo 3000 CK	LECTUS duo 3000 E	LECTUS duo 3000 EK
Material description	Card reader, MIFARE Classic	Card reader with keypad, MIFARE Classic	Card Reader, MIFARE EV1	Card reader with keypad, MIFARE EV1
Commercial type number (CTN)	ARD-AYBS6260	ARD-AYBS6360	ARD-AYBS6280	ARD-AYBS6380
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Bosch controller compatibility	AMC2-4WCF, AMC2-2WCF, AMC2-4R4CF, AEC	AMC2-4WCF, AMC2-2WCF, AMC2-4R4CF, AEC	AMC2-4WCF, AMC2-2WCF, AMC2-4R4CF, AEC	AMC2-4WCF, AMC2-2WCF, AMC2-4R4CF, AEC
Software compatibility	BIS-ACE, AMS, AEC	BIS-ACE, AMS, AEC	BIS-ACE, AMS, AEC	BIS-ACE, AMS, AEC
Interfaces	Wiegand, RS-485	Wiegand, RS-485	Wiegand, RS-485	Wiegand, RS-485
Supported protocol	Wiegand, OSDP v2 SC	Wiegand, OSDP v2 SC	Wiegand, OSDP v2 SC	Wiegand, OSDP v2 SC
Panel connection	Terminal strip	Terminal strip	Terminal strip	Terminal strip
Mounting	Surface mount	Surface mount	Surface mount	Surface mount
Supported standard	ISO 1443A	ISO 1443A	ISO 1443A	ISO 1443A
Supported credential technology	ISO14443A CSN , MIFARE Classic	ISO14443A CSN , MIFARE Classic	ISO14443A CSN, MIFARE DESFire, MIFARE Classic	ISO14443A CSN, MIFARE DESFire, MIFARE Classic
Bosch code	yes	yes	yes	yes
Power supply	8.5 – 16 VDC	8.5 – 16 VDC	8.5 – 16 VDC	8.5 – 16 VDC
Environment class	IP65	IP65	IP65	IP65
Vandal resistance	IK-08	IK-10	IK-08	IK-10
Maximum reading distance	3 cm	3 cm	3 cm	3 cm
Keypad	no	yes	no	yes
Dimensions (H x W x D)	137 x 44 x 27,5 mm	137 x 44 x 27,5 mm	137 x 44 x 27,5 mm	137 x 44 x 27,5 mm

- The LECTUS duo 3000 Classic line consists of a keypad and a non keypad version for MIFARE Classic and MIFARE DESFire. They come equipped with the Bosch coded MIFARE data sector and support reading the CSN of ISO14443A cards as well.
- Both reader types provide a Wiegand and RS-485/ OSDP interface, selectable easily by DIP switch.
- Three LED indicators and a beeper give clear feedback to the user during operation. The reader’s logo is illuminated in the dark.

# Smart Card Readers

## Multitech smart card readers (RS-485 OSDP V2 encrypted) – iCLASS and MIFARE

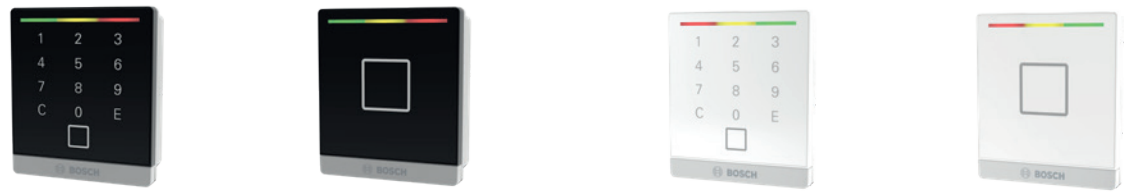
Name	LECTUS secure 1000 RO	LECTUS secure 2000 RO	LECTUS secure 4000 RO	LECTUS secure 5000 RO
Material description	Card reader, OSDP	Card reader, OSDP	Card reader, OSDP	Card reader with keypad, OSDP
Commercial type number (CTN)	ARD-SER10-RO	ARD-SER15-RO	ARD-SER40-RO	ARD-SERK40-RO
<div></div>				
Bosch controller compatibility	APC-AMC2-4R4CF	APC-AMC2-4R4CF	APC-AMC2-4R4CF	APC-AMC2-4R4CF
Software compatibility	BIS-ACE, AMS	BIS-ACE, AMS	BIS-ACE, AMS	BIS-ACE, AMS
Interfaces	RS-485	RS-485	RS-485	RS-485
Supported protocol	OSDPv2 SC	OSDPv2 SC	OSDPv2 SC	OSDPv2 SC
Panel connection	Terminal strip	Terminal strip	Terminal strip	Terminal strip
Mounting	Surface mount	Surface mount	Surface mount	Surface mount
Supported standard	ISO 1443A, ISO 15693, ISO 14443B	ISO 1443A, ISO 15693, ISO 14443B	ISO 1443A, ISO 15693, ISO 14443B	ISO 1443A, ISO 15693, ISO 14443B
Supported credential technology	MIFARE DESFire EV1, MIFARE Classic, iCLASS, iCLASS SE, Seos	MIFARE DESFire EV1, MIFARE Classic, iCLASS, iCLASS SE, Seos	MIFARE DESFire EV1, MIFARE Classic, iCLASS, iCLASS SE, Seos	MIFARE DESFire EV1, MIFARE Classic, iCLASS, iCLASS SE, Seos
Bosch code	yes	yes	yes	yes
Power supply	5 – 16 VDC	5 – 16 VDC	5 – 16 VDC	5 – 16 VDC
Environment class	IP55 (IP65 with gasket)	IP55 (IP65 with gasket)	IP55 (IP65 with gasket)	IP55 (IP65 with gasket)
Maximum reading distance	7.6 cm	7.6 cm	13 cm	13 cm
Keypad	no	no	no	yes
Dimensions (H x W x D)	103 x 48 x 23 mm	153 x 48 x 23 mm	122 x 85 x 24 mm	122 x 85 x 28 mm

- Highest level of security due to OSDPv2 AES 128bit encryption.
- 13.56 MHz proximity readers for connecting to access controllers with OSDP interfaces
- They come equipped with the Bosch coded MIFARE data sector and support reading the CSN of ISO14443A cards as well.
- Interoperable with a growing range of technology environments and form factors



# Smart Card Readers

## Multitech smart readers – MIFARE and LEGIC

Name	LECTUS select	LECTUS select	LECTUS select	LECTUS select	<ul style="list-style-type: none"><li>■ Compact design, front cover, rear panel and surface-mounted housing made of plastic</li><li>■ They come equipped with the Bosch coded MIFARE data sector and support reading the CSN of ISO14443A cards as well.</li><li>■ Easy installation</li><li>■ Flush-mount: on standard flush-mounting box Ø 60 mm</li><li>■ Surface-mount: directly on the wall - cable entry options from above, below and behind the device</li><li>■ Sabotage monitoring</li><li>■ When using smart cards that carry multiple applets (e.g. MIFARE &amp; Legic), please check with your integrator for the best performance of the installation</li></ul>
Material description	Card reader with keypad, OSDP (black)	Card reader, OSDP (black)	Card reader with keypad, OSDP (white)	Card reader, OSDP (white)	
Commercial type number (CTN)	ARD-SELECT-BOK*	ARD-SELECT-BO*	ARD-SELECT-WOK*	ARD-SELECT-WO*	
					
Bosch controller compatibility	APC-AMC2-4R4CF	APC-AMC2-4R4CF	APC-AMC2-4R4CF	APC-AMC2-4R4CF	
Software compatibility	BIS-ACE, AMS	BIS-ACE, AMS	BIS-ACE, AMS	BIS-ACE, AMS	
Interfaces	RS-485	RS-485	RS-485	RS-485	
Supported protocol	OSDPv2 SC	OSDPv2 SC	OSDPv2 SC	OSDPv2 SC	
Panel connection	Terminal strip	Terminal strip	Terminal strip	Terminal strip	
Mounting	Flush mount / Surface mount (use optional mount panel) **	Surface mount	Surface mount	Surface mount	
Supported standard	ISO 14443A, ISO 15693, ISO 14443B	ISO 14443A, ISO 15693, ISO 14443B	ISO 14443A, ISO 15693, ISO 14443B	ISO 14443A, ISO 15693, ISO 14443B	
Supported credential technology	MIFARE DESFire EV1 & EV2, LEGIC advant	MIFARE DESFire EV1 & EV2, LEGIC advant	MIFARE DESFire EV1 & EV2, LEGIC advant	MIFARE DESFire EV1 & EV2, LEGIC advant	
Bosch code	yes	yes	yes	yes	
Power supply	8 – 30 VDC	8 – 30 VDC	8 – 30 VDC	8 – 30 VDC	
Environment class	IP54	IP54	IP54	IP54	
Maximum reading distance	7.6 cm	7.6 cm	7.6 cm	7.6 cm	
Keypad	yes	no	yes	no	
Dimensions (H x W x D)	88 x 99 x 27 mm	88 x 99 x 27 mm	88 x 99 x 27 mm	88 x 99 x 27 mm	

\* Check regional availability with your local sales contact  
\*\* Surface-mount: directly on the wall - cable entry options from above, below and behind the device. Use optional mount panel. For the black model CTN: ARA-SELECT-SWA. For the white model CTN: ARA-SELECT-WWA.

# Smart Card Readers

## Multitech smart readers – MIFARE and LEGIC – Mobile Access ready



Name	LECTUS select	LECTUS select	LECTUS select	LECTUS select	<ul style="list-style-type: none"><li>■ Compact design, front cover, rear panel and surface-mounted housing made of plastic</li><li>■ Readers are equipped with Bluetooth(R) Low Energy module and allows to use physical as well as virtual cards</li><li>■ They come equipped with the Bosch coded MIFARE data sector and support reading the CSN of ISO14443A cards as well.</li><li>■ Seamless access by using a mobile phone for authentication in front of the LECTUS select reader can be enabled with Mobile Access.</li><li>■ Easy installation</li><li>■ Flush-mount: on standard flush-mounting box Ø 60 mm</li><li>■ Surface-mount: directly on the wall - cable entry options from above, below and behind the device</li><li>■ Sabotage monitoring</li><li>■ When using smart cards that carry multiple applets (e.g. MIFARE &amp; Legic), please check with your integrator for the best performance of the installation</li></ul>
Material description	Card reader with keypad, OSDP, BLE (black)	Card reader, OSDP, BLE (black)	Card reader with keypad, OSDP, BLE (white)	Card reader, OSDP, BLE (white)	
Commercial type number (CTN)	ARD-SELECT-BOKM*	ARD-SELECT-BOM*	ARD-SELECT-WOKM*	ARD-SELECT-WOM*	
					
Bosch controller compatibility	APC-AMC2-4R4CF	APC-AMC2-4R4CF	APC-AMC2-4R4CF	APC-AMC2-4R4CF	
Software compatibility	BIS-ACE, AMS	BIS-ACE, AMS	BIS-ACE, AMS	BIS-ACE, AMS	
Interfaces	RS-485	RS-485	RS-485	RS-485	
Supported protocol	OSDPv2 SC	OSDPv2 SC	OSDPv2 SC	OSDPv2 SC	
Panel connection	Terminal strip	Terminal strip	Terminal strip	Terminal strip	
Mounting	Flush mount / Surface mount (use optional mount panel) **	Surface mount	Surface mount	Surface mount	
Supported standard	ISO 14443A, ISO 15693, ISO 14443B	ISO 14443A, ISO 15693, ISO 14443B	ISO 14443A, ISO 15693, ISO 14443B	ISO 14443A, ISO 15693, ISO 14443B	
Supported credential technology	MIFARE DESFire EV1 & EV2, LEGIC advant, Mobile Credential	MIFARE DESFire EV1 & EV2, LEGIC advant, Mobile Credential	MIFARE DESFire EV1 & EV2, LEGIC advant, Mobile Credential	MIFARE DESFire EV1 & EV2, LEGIC advant, Mobile Credential	
Bosch code	yes	yes	yes	yes	
Power supply	8 – 30 VDC	8 – 30 VDC	8 – 30 VDC	8 – 30 VDC	
Environment class	IP54	IP54	IP54	IP54	
Maximum reading distance	7.6 cm	7.6 cm	7.6 cm	7.6 cm	
Keypad	yes	no	yes	no	
Dimensions (H x W x D)	88 x 99 x 27 mm	88 x 99 x 27 mm	88 x 99 x 27 mm	88 x 99 x 27 mm	
Wireless technology standard	BLUETOOTH®	BLUETOOTH®	BLUETOOTH®	BLUETOOTH®	

\* Check regional availability with your local sales contact  
\*\* Surface-mount: directly on the wall - cable entry options from above, below and behind the device. Use optional mount panel. For the black model CTN: ARA-SELECT-SWA. For the white model CTN: ARA-SELECT-WWA.



# Biometric Reader and Enrollment Reader





## BioEntry W2 and Lectus enroll 5000

Name	BioEntry W2	Lectus enroll 5000
Material description	Fingerprint-card reader, OSDP, multiCLASS	USB enrollment reader, MIFARE EV1
Commercial type number (CTN)	ARD-FPBEW2-H3	ARD-EDMCV002-USB
<div></div>		
Bosch controller compatibility	AMC2-4WCF, AMC2-2WCF, AMC2-4R4CF, AEC	n.a.
Software compatibility	BIS-ACE, AMS, AEC	BIS-ACE, AMS
Interfaces	Wiegand, RS-485	n.a.
Supported protocol	Wiegand, OSDPv2 SC	n.a.
Panel connection	Terminal strip, RJ45 (PoE)	USB
Mounting	Surface mount	Surface mount
Supported standard	ISO 14443A	ISO 14443A
Supported credential technology	EM, HID Prox, MIFARE Classic, MIFARE DESFire EV1, HID-Corporate-1000, iCLASS, iCLASS SE, Seos	MIFARE classic, DESFire EV1
Bosch code	yes	yes
Power supply	12 VDC or PoE	Powered by USB
Environment class	IP67	IP40 (indoor)
Maximum reading distance	13 – 127 mm	n.a.
Keypad	no	no
Dimensions (H x W x D)	172 x 50 x 43 mm	112 x 54 x 27 mm



# Biometric Reader

## IDEMIA SIGMA Lite

Name	IDEMIA SIGMA Lite	IDEMIA SIGMA Lite	IDEMIA SIGMA Lite	IDEMIA SIGMA Lite
Material description	Fingerprint reader, LED indicator	Fingerprint-card reader, iClass, LED indicator	Fingerprint-card reader, Prox, LED indicator	Fingerprint-card reader, Multi, LED indicator
Commercial type number (CTN)	293678615	293678628	293673665	293678636
<div></div>				
Bosch controller compatibility	AMC2-4WCF, AMC2-2WCF, AMC2- 4R4CF	AMC2-4WCF, AMC2-2WCF, AMC2- 4R4CF	AMC2-4WCF, AMC2-2WCF, AMC2- 4R4CF	AMC2-4WCF, AMC2-2WCF, AMC2- 4R4CF
Software compatibility	BIS ACE, AMS	BIS ACE, AMS	BIS ACE, AMS	BIS ACE, AMS
Interfaces	Wiegand, RS-485	Wiegand, RS-485	Wiegand, RS-485	Wiegand, RS-485
Supported protocol	Wiegand, OSDPv2 SC	Wiegand, OSDPv2 SC	Wiegand, OSDPv2 SC	Wiegand, OSDPv2 SC
Panel connection	Pigtail	Pigtail	Pigtail	Pigtail
Mounting	Surface mount	Surface mount	Surface mount	Surface mount
Supported standard	-	ISO 15693	-	ISO 14443A
Supported credential technology	-	HID iClass, iClass SE, Seos	HID Prox	MIFARE Classic, MIFARE DESFire
Bosch code	-	-	-	-
Power supply	12 - 24 VDC or PoE	12 - 24 VDC or PoE	12 - 24 VDC or PoE	12 - 24 VDC or PoE
Environment class	IP65	IP65	IP65	IP65
Keypad	no	no	no	no
Dimensions (H x W x D)	156 x 68 x 62 mm	156 x 68 x 62 mm	156 x 68 x 62 mm	156 x 68 x 62 mm



# Biometric Reader

## IDEMIA SIGMA Lite+

Name	IDEMIA SIGMA Lite+	IDEMIA SIGMA Lite+	IDEMIA SIGMA Lite+
Material description	Fingerprint-card reader, iClass, touchscreen	Fingerprint-card reader, Prox, touchscreen	Fingerprint-card reader, Multi, touchscreen
Commercial type number (CTN)	293673644	293678678	293678660



Bosch controller compatibility	AMC2-4WCF, AMC2-2WCF, AMC2-4R4CF	AMC2-4WCF, AMC2-2WCF, AMC2-4R4CF	AMC2-4WCF, AMC2-2WCF, AMC2-4R4CF
Software compatibility	BIS ACE, AMS	BIS ACE, AMS	BIS ACE, AMS
Interfaces	Wiegand, RS-485	Wiegand, RS-485	Wiegand, RS-485
Supported protocol	Wiegand, OSDPv2 SC	Wiegand, OSDPv2 SC	Wiegand, OSDPv2 SC
Panel connection	Pigtail	Pigtail	Pigtail
Mounting	Surface mount	Surface mount	Surface mount
Supported standard	ISO 15693	-	ISO 14443A
Supported credential technology	HID iClass, iClass SE, Seos	HID Prox	MIFARE Classic, MIFARE DESFire
Bosch code	-	-	-
Power supply	12 - 24 VDC or PoE	12 - 24 VDC or PoE	12 - 24 VDC or PoE
Environment class	IP65	IP65	IP65
Keypad	yes	yes	yes
Dimensions (H x W x D)	156 x 68 x 62 mm	156 x 68 x 62 mm	156 x 68 x 62 mm

# Biometric Reader

## IDEMIA MorphoWave Compact and IDEMIA VisionPass

Name	IDEMIA MorphoWave Compact	IDEMIA VisionPass
Material description	Contactless 3D fingerprint-card reader, MDPI	Facial recognition card reader, MDPI
Commercial type number (CTN)	293722319	293744604






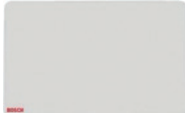




Bosch controller compatibility	AMC2-4WCF, AMC2-2WCF, AMC2-4R4CF	AMC2-4WCF, AMC2-2WCF, AMC2-4R4CF
Software compatibility	BIS ACE, AMS	BIS ACE, AMS
Interfaces	Wiegand, RS-485	Wiegand, RS-485
Supported protocol	Wiegand, OSDPv2 SC	Wiegand, OSDPv2 SC
Panel connection	Pigtail	Pigtail
Mounting	Surface mount or pedestal mount (optional)	Surface mount
Supported standard	ISO 14443A (MiFare) and ISO 15693 (iClass and SEOS)	ISO 14443A (MiFare) and ISO 15693 (iClass and SEOS)
Supported credential technology	HID iClass, iClass SE, Seos HID Prox MIFARE DESFire	HID iClass, iClass SE, Seos HID Prox MIFARE DESFire
Bosch code	-	-
Power supply	12 - 24 VDC or PoE+	12 - 24 VDC
Environment class	IP65	IP65
Keypad	yes	yes
Dimensions (H x W x D)	250 x 152 x 216 mm	156 x 68 x 62 mm



# Credentials

## MIFARE DESFire, MIFARE Classic and iCLASS

Material description	Card, MIFARE EV1, Bosch coded	Keyfob MIFARE EV1	MIFARE Classic Card Imprinted Card Number/ Bosch coded	Contactless MIFARE ID Keyfob 1
Commercial type number (CTN)	ACD-EV1-ISO	ACT-EV1TRF-SA1	ACD-MFC-ISO	ACT-MFCTRF-SA1
				
Description	MIFARE DESFire EV1 ID card with 8 kByte data storage, 2 application areas, one of which can be customized.	MIFARE DESFire EV1 ID keyfob with 8 kByte data storage, 2 application areas, one of which can be customized.	MIFARE Classic ID card with 1 kByte data storage, 2 application areas, one of which can be customized <ul style="list-style-type: none"><li>■ PVC plastic card</li><li>■ Credit card size</li><li>■ Imprinted card number</li><li>■ MIFARE Classic chip or</li></ul>	MIFARE Classic ID keyfob with 1 kByte data storage, 2 application areas, one of which can be customized
Material description	iCLASS 26 bit Card with printed Bosch Logo	iCLASS 37 bit card with printed Bosch Logo	iCLASS 26bit Keyfob	iCLASS 37bit Keyfob
Commercial type number (CTN)	ACD-ICL2K-2AR	ACD-ICL2K-16AR	ACT-ICL256-2AR	ACA-ICL256-2AR
				
Description	A 13.56 MHz contactless smart card programmed to Wiegand 26-bit format. It has two 1 Kb application areas (256 Byte capacity).	A 13.56 MHz contactless smart card programmed to Wiegand 37-bit format. It has two 1 Kb application areas (256 Byte capacity).	<ul style="list-style-type: none"><li>■ Plastic Tag, PVC</li><li>■ Dimensions: 34 x 31 x 4.4 mm</li><li>■ Fastening Slot</li><li>■ iCLASS chip</li></ul>	A contactless adhesive tag with smart card technology programmed to Wiegand 37-bit format. It operates at 13.56 MHz. It is 16K (2K Byte) with 16 application areas.

MIFARE DESFire and MIFARE Classic are all Bosch coded and compatible with the complete Bosch reader portfolio. Further credentials can be found in your local online product catalogue (link: <https://www.boschsecurity.com/x/en/product-catalog/>).

# Readers and credentials

## Compatibility matrix




Bus type	Recommended Bosch Readers	Card format						
		MIFARE DESFire EV1 (Bosch code)	MIFARE Classic (Bosch code)	iCLASS, iCLASS SE, Seos	LEGIC advant	ISO 14443-A CSN	EM card	HID Prox
RS-485		13.56 MHz						125kHz
	LECTUS secure 1000 RO LECTUS secure 2000 RO LECTUS secure 4000 RO LECTUS secure 5000 RO	   	●	●	●	●*		
	LECTUS select	   	●	●*	●**	●*		
	LECTUS duo 3000 C LECTUS duo 3000 CK	   		●		●		
	LECTUS duo 3000 E LECTUS duo 3000 EK		●	●		●		
	ARD-FPBEW2-H3		●	●	●	●	●	●
Wiegand	LECTUS secure 1000 WI LECTUS secure 4000 WI LECTUS secure 5000 W1 LECTUS secure 9000 WI	   		●		●		
	ARD-AYK12						●	
	ARD Miniprox ARD Entryprox ARD-PROX-PPL	  						●

\* Special configuration is needed    \*\* Special configuration needed for LEGIC prime







# Access Modular Controller

## AMC Controllers

Material description	Door controller Wiegand, 2 readers	Door controller Wiegand, 4-8 readers	Door controller RS-485, 8 readers
Commercial type number (CTN)	APC-AMC2-2WCF	APC-AMC2-4WCF	APC-AMC2-4R4CF
<div></div>			
Input voltage	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
Output voltage	12 VDC	12 VDC	10 - 30 VDC
Number of connectable readers	2	4	8
Number of Inputs	4	8	8
Number of Outputs	4	8	8
Display	yes	yes	yes
Amount of cardholders	400.000	400.000	400.000
Reader Interface	Wiegand	Wiegand	RS-485
Max reader cable length	110m per reader port	110m per reader port	1200m per Bus
Reader operating voltage	12V DC	12V DC	10-30V DC
Reader monitoring	no	no	yes
Number of wires per reader	6 + shield	6 + shield	4 + shield
Number of connectable reader extensions	1	1	–
Number of connectable I/O extensions	3	3	3
Mounting	Standard DIN rail	Standard DIN rail	Standard DIN rail
Reader protocol support	Wiegand	Wiegand	OSDP, LBUS, MICOS, BG900
Standards	CE, UL	CE, UL	CE, UL, VDS
Dimensions (H x W x D)	90 x 232 x 63 mm	90 x 232 x 63 mm	90 x 232 x 63 mm




# Access Modular Controller

## AMC I/O Extension Boards



Material description	Wiegand extension board for 4 readers	I/O extension board with 8-input & 8-output	I/O extension board with 16-input & 16-output	I extension board with 16-input
Commercial type number (CTN)	API-AMC2-4WE	API-AMC2-8IOE	API-AMC2-16IOE	API-AMC2-16IE
<div></div>				
Input voltage	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
Output voltage to reader	12 VDC	n/a	n/a	n/a
Number of connetcable readers	4	–	–	–
Number of Inputs	8	8	16	16
Number of Outputs	8	8	16	
Mounting	Standard DIN rail	Standard DIN rail	Standard DIN rail	Standard DIN rail
Display	no	no	no	no
Dimensions (H x W x D)	90 x 232 x 46 mm	90 x 232 x 46 mm	90 x 232 x 46 mm	90 x 232 x 46 mm

# Access Modular Controller Accessories

## Enclosures





Material description	Enclosure with 1 DIN rail	Enclosure with 2 DIN rails	Enclosure with power supply & DIN rail
Commercial type number (CTN)	AEC-AMC2-UL01	AEC-AMC2-UL02	AEC-AMC2-ENC3/ENC3Z (China)
			
Information	<ul style="list-style-type: none"><li>■ Steel enclosure with status LED and preassembled cables</li><li>■ 1 DIN rail system for easy mounting of AMC2 or AMC2 extension board, power supply and battery</li></ul>	<ul style="list-style-type: none"><li>■ Steel enclosure with status LED and preassembled cables</li><li>■ 2 DIN rail system for easy mounting of AMC2 or extension board, power supply and battery</li></ul>	<ul style="list-style-type: none"><li>■ Steel enclosure with preassembled cabling</li><li>■ This enclosure can be used for securely mounting and housing AEC and AMC2 and a power supply</li></ul>

## Mounting Plate, Power supply

Material description	Mounting plate for 2 or 4 DIN rails	Power Supply Unit
Commercial type number (CTN)	AEC-PANEL19-UPS/AEC-PANEL19-4DR	APS-PSU-60
		
Information	<ul style="list-style-type: none"><li>■ 4 rack units/ 88 horizontal pitches</li><li>■ Up to four rails for AMC devices</li><li>■ Battery bracket</li><li>■ Screw socket for PBC-60</li><li>■ Cable kits to connect the power supply</li></ul>	<ul style="list-style-type: none"><li>■ Power supply unit with integrated battery charging device</li><li>■ Support of 12 V/7 Ah, 12 V/14 Ah and 24 V/7 Ah batteries</li></ul>

# Access Hardware Extensions

## Request-to-Exit

Material description		Standard PIR		High-performance PIR	
Commercial type number (CTN)		DS150i	DS151i	DS160	DS161
					
Overview	Application type	Small to large commercial	Small to large commercial	Small to large commercial	Small to large commercial
	Application risk level	Low to moderate risk	Low to moderate risk	Moderate to high risk	Moderate to high risk
	Environment	Standard	Standard	Standard	Standard
	Coverage/range	2.4 x 3 m	2.4 x 3 m	2.4 x 3 m	2.4 x 3 m
	Mounting height	2.1 to 3 m	2.1 to 3 m	2.3 to 4.6 m	2.3 to 4.6 m
Specifications	Operating temperature	-29° to 49° C	-29° to 49° C	-29° to 49° C	-29° to 49° C
	Operating voltage	12 VAC or VDC; 24 VAC or VDC	12 VAC or VDC; 24 VAC or VDC	12 VAC or VDC; 30 VAC or VDC	12 VAC or VDC; 30 VAC or VDC
	Current draw (typical)	26 mA nominal	26 mA nominal	8 mA nominal	8 mA nominal
	Door monitor with sounder	–	–	■	■
	Keycard reader input	–	–	■	■
Features	Sequential logic input	–	–	■	■
	Relay fail-safe/fail-secure	■	■	■	■
	Relay settable select	■	■	■	■
	Relay latch time adjustment	0.25 to 60 seconds	0.25 to 60 seconds	0.5 to 64 seconds	0.5 to 64 seconds
	Pattern masking	■	■	■	■
	Alarm output/memory	–/■	–/■	–/■	–/■
	Tamper	–	–	■	■
	Pointable optics	Vertical adjustment	Vertical adjustment	Vertical adjustment	Vertical adjustment
	Switchable relay mode	■	■	■	■
	Switchable timer reset mode	■	■	■	■
	Adjustable sounder volume	–	–	■	■
	PIR sensitivity adjustment	■	■	■	■
	Enable/disable LED	–	–	■	■
	Flexible mounting height	■	■	■	■
		■	■	■	■
Certifications		UL, CE	UL, CE	UL, CE	UL, CE
		■ Available	– Not available	■ Available	– Not available

\* Check regional availability with your local sales contact



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