

Invented for life



# Access Control Systems

Product overview

Aug 2024



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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.

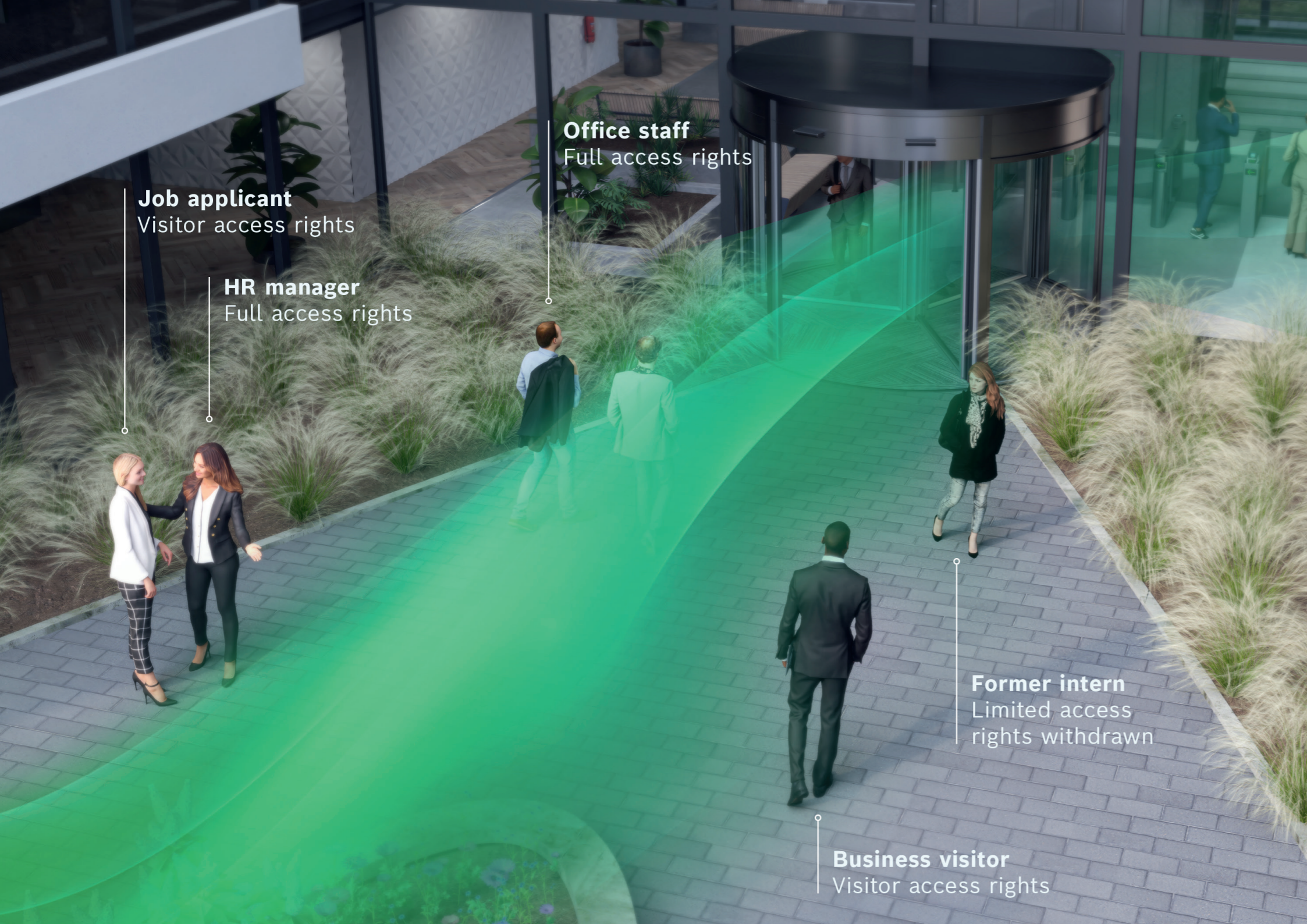


### Our Access Control software options

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



**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**  
Investing in AMS is a future proof decision. The system is highly scalable, due to the various expansion packs. Our software is also open for integration with third-party systems, available now or in the future.

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)
  - 120 concurrent workplace clients per server
  - 200,000 detectors per server
- Browser-based Visitor Management offering all the benefits for enhancing the visiting process



**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.

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

# Access control functionalities at a glance\*

## Basic access control functionalities

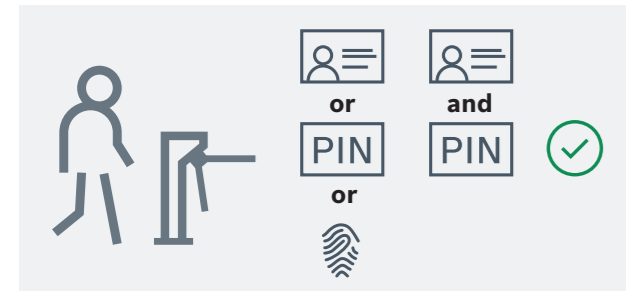
### Single authentication (identification)

- 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**

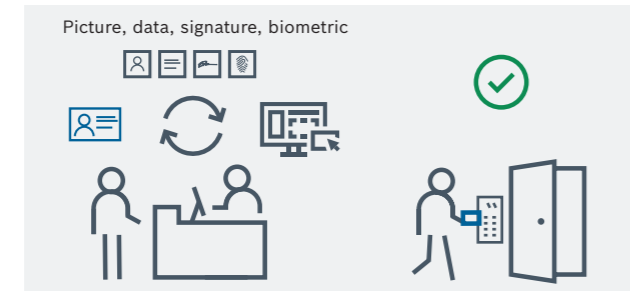


## Administrative functionalities

### 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
- Web-browser based credential management allows you to manage physical 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

- ✓ **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

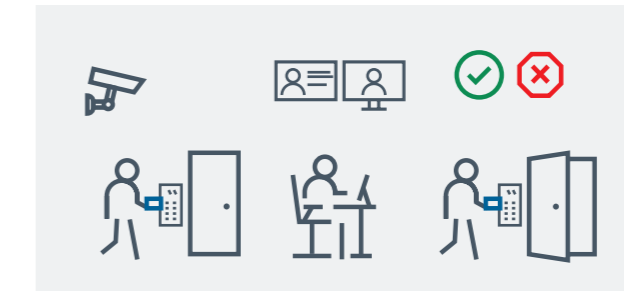
- ✓ **High level of security**
- ✓ **Prevention of misuse of cards**



### Division management

- Up to 400 divisions possible
- Multiple companies can share one system in one building
- Only information from own company as well as shared areas are shown
- Building owners buy only one access control system and implement individual settings to each of their renters
- Divisions can be adjusted and enhanced at any time

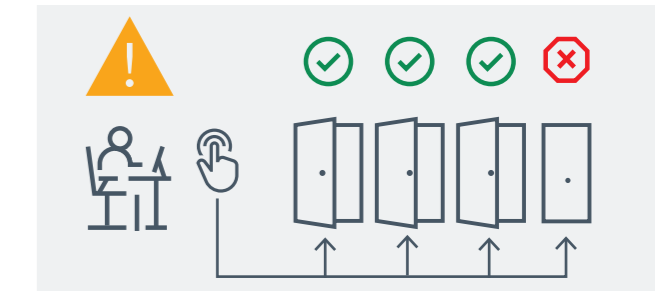
- ✓ **High level of security**
- ✓ **Prevention of misuse of credentials**



### 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

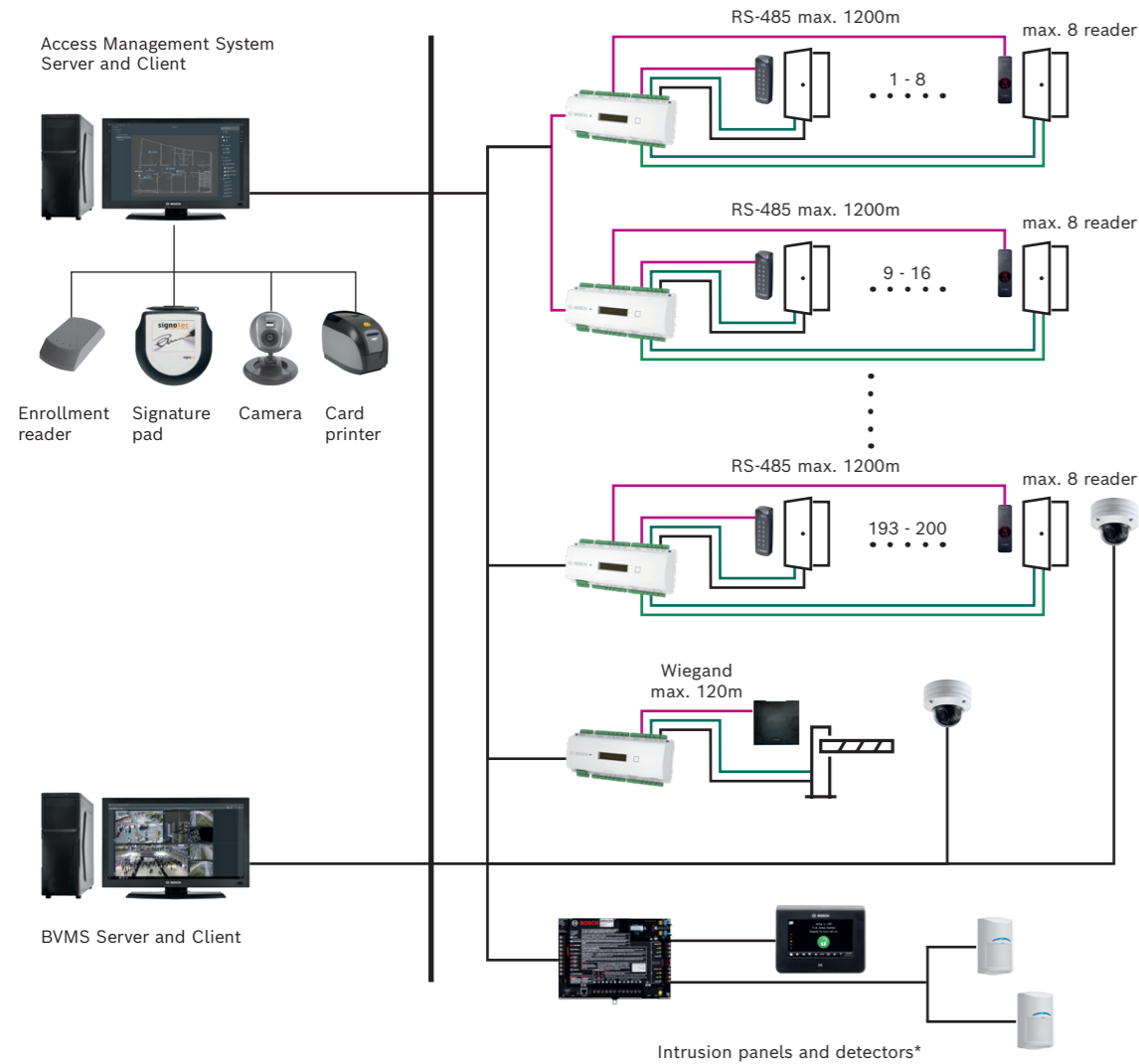
- ✓ **High level of safety on site**
- ✓ **Fast reaction in critical situations**



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

# System design example

## Access Management System



\* Not applicable in European countries

### System description / application

#### System size

- 150 doors
- 1,200 cardholders
- Three operators

#### AMS PLUS features

- Max. 10000 doors
- Max. 400,000 cardholders
- 5 cards per person
- 1,024 authorizations per MAC
- Graphical location map
- Video integration for video verification via BVMS

#### AMC features

- 2 RS-485 buses
- 8 inputs
- 8 relays
- TCP/IP connection

#### Reader features

- Support of OSDPv2 secure channel
- Outdoor resistant (up to IP67)
- Multitechnology support (125kHz and 13.56MHz)
- Wiegand and RS-485 support
- Keypad or fingerprint for verification

#### Access components

Access components	Item type
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



# Software licenses

## AMS licenses

	Lite	Plus	SMA
<b>License Plus base</b>	-	AMS-BPLU	AMS-SMA-PLUS
<b>License Lite base</b>	AMS-BLIT	-	AMS-SMA-LITE
<b>License Visitor Management</b>	AMS-FVISLIT	AMS-FVISPLU	
<b>License 5 Operator Client exp</b>	-	AMS-X5CLIPLU	AMS-SMA-5CLI
<b>License 1 Division expansion</b>	-	AMS-XDIVPLU	AMS-SMA-1DIV
<b>License 32 Door expansion</b>	AMS-X32DORLIT	AMS-X32DORPLU	AMS-SMA-32DRS
<b>License 128 Door expansion</b>	-	AMS-X128DORPLU	AMS-SMA-128DRS
<b>License 512 Door expansion</b>	-	AMS-X512DORPLU	AMS-SMA-512DRS
<b>License 100 ID Card expansion</b>	AMS-X100CRDLIT	-	AMS-SMA-100CRD
<b>License 1000 ID Card expansion</b>	AMS-X1KCRDLIT	AMS-X1KCRDPLU	AMS-SMA-1KCRD
<b>License 10000 ID Card exp</b>	-	AMS-X10KCRDPLU	AMS-SMA-10KCRD
<b>License 50000 ID Card exp</b>	-	AMS-X50KCRDPLU	AMS-SMA-50KCRD
<b>License 1 MAC expansion</b>	-	AMS-XMACPLU	AMS-SMA-1MAC
<b>License 1 Key Management exp</b>	-	AMS-XKEYPLU	AMS-SMA-1KEY
<b>License 25 Pegasys Door exp</b>	-	AMS-X25OFFPLU	AMS-SMA-25OFF
<b>License 25 OSO Offline Doors</b>	-	AMS-X25OSOPLU	AMS-SMA-25OSO
<b>License 5 SmartIntego Doors</b>	AMS-X5SIOPLU	-	AMS-SMA-5SIO
<b>License 25 SmartIntego Doors</b>	-	-	AMS-SMA-25OND
<b>License 1 G Series expansion</b>	AMS-XPANLIT	AMS-XPANPLU	AMS-SMA-1PAN
<b>License 10 G Series expansion</b>	-	AMS-X10PANPLU	AMS-SMA-10PAN

# 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.

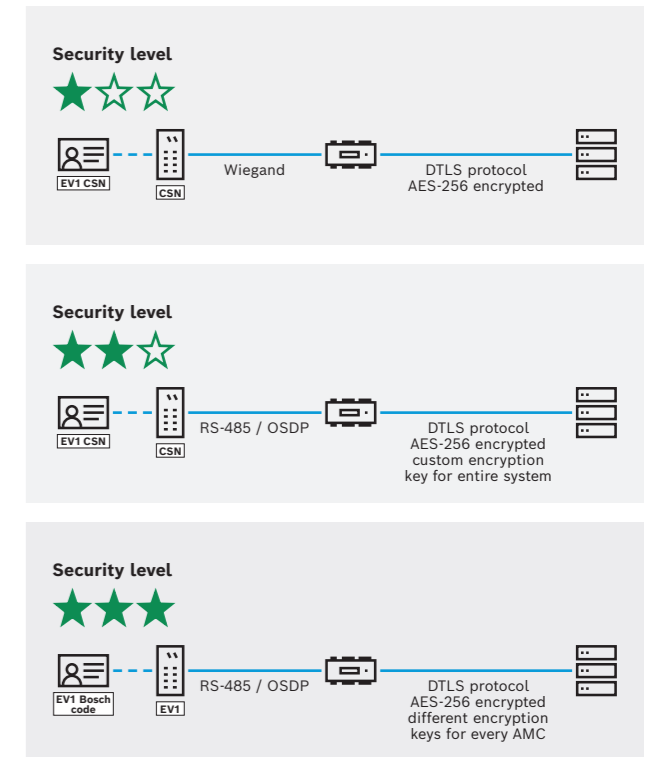
## Proximity Readers

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
<b>Commercial type number (CTN)</b>	ARD-MINIPROX	ARD-PROX-PPL	ARD-ENTRYPROX	ARD-AYK12
				
<b>Bosch controller compatibility</b>	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
<b>Software compatibility</b>	BIS-ACE, AEC, AMS	BIS-ACE, AEC, AMS	BIS-ACE, AEC, AMS	BIS-ACE, AEC, AMS
<b>Interfaces</b>	Wiegand	Wiegand	Wiegand	Wiegand
<b>Supported protocol</b>	Wiegand	Wiegand	Wiegand	Wiegand
<b>Panel connection</b>	Pigtail	Pigtail	Terminal strip	Pigtail
<b>Mounting</b>	Surface mount	Surface mount	Surface mount	Surface mount
<b>Supported credential technology</b>	HID Prox	HID Prox	HID Prox	EM4102
<b>Bosch code</b>	-	-	-	-
<b>Power supply</b>	5 – 16 VDC	5 – 16 VDC	10 – 16 VDC	5 – 16 VDC
<b>Environment class</b>	IP55	IP55	IP55	IP65
<b>Maximum reading distance</b>	13 cm	6 cm	6 cm	8 cm
<b>Keypad</b>	no	no	yes	no
<b>Dimensions (H x W x D)</b>	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

## STid readers

- 13.56 MHz proximity readers for connecting to access controllers with Wiegand interfaces or OSDP interfaces
- Easy installation
- Pre-configured and programmed
- For In- and outdoor use (IP65) with high level of resistance to vandalism (IK08 – IK10)
- Support reading CSN of ISO14443A & B
- Available with three different form factors

**NOW AVAILABLE!**  
**OSDP V2 readers support reading the Bosch Coded MIFARE DESFire data**

Configuration card is needed to enable the OSDP reader to read the MIFARE DESFire EV1/EV3 Bosch Code credentials (CTN for the configuration card: ARA-OSDP-ARCBC)





### Wiegand – MIFARE (CSN)

### OSDP V2 – MIFARE (CSN)

Name	Card reader	Card reader	Card reader	Card reader	Card reader	Card reader
Material description	Card reader, Wiegand, mullion	Card reader, Wiegand, standard	Card reader, Wiegand, standard, keypad	Card reader, OSDP, mullion	Card reader, OSDP, standard	Card reader, OSDP, standard, keypad
Commercial type number (CTN)	ARC1R31B103B101A	ARCR31A103B101A	ARCR31B103B101A	ARC1W33BPH5B201A	ARCW33APH5B201A	ARCW33BPH5B201A
						
Bosch controller compatibility	AMC2-4WCF, AMC2-2WCF	AMC2-4WCF, AMC2-2WCF	AMC2-4WCF, AMC2-2WCF	AMC2-4R4CF	AMC2-4R4CF	AMC2-4R4CF
Software compatibility	BIS-ACE, AMS	BIS-ACE, AMS	BIS-ACE, AMS	BIS-ACE, AMS	BIS-ACE, AMS	BIS-ACE, AMS
Interfaces	Wiegand	Wiegand	Wiegand	RS-485	RS-485	RS-485
Supported protocol	Wiegand	Wiegand	Wiegand	OSDPv2 SC	OSDPv2 SC	OSDPv2 SC
Panel connection	Plug-in /Plug-out connector	Terminal	Terminal	Plug-in /Plug-out connector	Terminal	Terminal
Mounting	Surface mount	Surface mount	Surface mount	Surface mount	Surface mount	Surface mount
Supported standard	ISO 14443 A & B, ISO18092	ISO 14443 A & B, ISO18092	ISO 14443 A & B, ISO18092	ISO 14443 A & B, ISO18092	ISO 14443 A & B, ISO18092	ISO 14443 A & B, ISO18092
Supported credential technology	MIFARE Classic (CSN), MIFARE DESFire EV1, EV3 (CSN)	MIFARE Classic (CSN), MIFARE DESFire EV1, EV3 (CSN)	MIFARE Classic (CSN), MIFARE DESFire EV1, EV3 (CSN)	MIFARE Classic (CSN), MIFARE DESFire EV1, EV3 (CSN)	MIFARE Classic (CSN), MIFARE DESFire EV1, EV3 (CSN)	MIFARE Classic (CSN), MIFARE DESFire EV1, EV3 (CSN)
Bosch code	No	No	No	No	No	No
Power supply	9 – 15 VDC	7 – 28 VDC	7 – 28 VDC	9 – 15 VDC	7 – 28 VDC	7 – 28 VDC
Environment class	IP65	IP65	IP65	IP65	IP65	IP65
Vandal resistance	IK10	IK10	IK08	IK10	IK10	IK08
Maximum reading distance	6 cm	8 cm	6 cm	6 cm	8 cm	6 cm
Keypad	No	No	Yes	No	No	Yes
Dimensions (H x W x D)	111.5 x 42.2 x 22 mm	106.6 x 80 x 25.7 mm	106.6 x 80 x 25.7 mm	111.5 x 42.2 x 22 mm	106.6 x 80 x 25.7 mm	106.6 x 80 x 25.7 mm

# 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
				
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, EV1 & EV3	ISO14443A CSN, MIFARE DESFire, MIFARE Classic, EV1 & EV3
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 (Wiegand) – iCLASS and Seos

Name	LECTUS secure 1000 IC	LECTUS secure 3000 IC	LECTUS secure 4000 IC	LECTUS secure 5000 IC	LECTUS secure 1000 SO
Material description	Card reader, R20, iCLASS, Wiegand	Card reader w/ kp, R20, iCLASS, Wiegand	Card reader, R40, iCLASS, Wiegand	Card reader w/ kp, R40, iCLASS, Wiegand	Card reader, R20, Seos, Wiegand
Commercial type number (CTN)	ARD-SIGR20-ICL	ARD-SIGR20K-ICL	ARD-SIGR40-ICL	ARD-SIGR40K-ICL	ARD-SIGR20-SEO
					
Bosch controller compatibility	AMC2-4WCF, AMC2-2WCF	AMC2-4WCF, AMC2-2WCF	AMC2-4WCF, AMC2-2WCF	AMC2-4WCF, AMC2-2WCF	AMC2-4WCF, AMC2-2WCF
Software compatibility	BIS, AMS	BIS, AMS	BIS, AMS	BIS, AMS	BIS, AMS
Interfaces	Wiegand	Wiegand	Wiegand	Wiegand	Wiegand
Supported protocol	Wiegand	Wiegand	Wiegand	Wiegand	Wiegand
Panel connection	Terminal strip	Terminal strip	Terminal strip	Terminal strip	Terminal strip
Mounting	Surface mount	Surface mount	Surface mount	Surface mount	Surface mount
Supported standard	ISO 14443A	ISO 14443A	ISO 14443A	ISO 14443A	ISO 14443A
Supported credential technology	iCLASS, iCLASS SE, Seos	iCLASS, iCLASS SE, Seos	iCLASS, iCLASS SE, Seos	iCLASS, iCLASS SE, Seos	Seos
Bosch code	No	No	No	No	No
Power supply	12 VDC	12 VDC	12 VDC	12 VDC	12 VDC
Environment class	IP65	IP65	IP65	IP65	IP65
Maximum reading distance*	10 cm	10 cm	10 cm	10 cm	10 cm
Keypad	no	yes	no	yes	no
Dimensions (H x W x D)	121,5 x 45 x 19,5 mm	121,5 x 45 x 21,5 mm	121,5 x 80 x 19,5 mm	121,5 x 80 x 21,5 mm	121,5 x 45 x 19,5 mm

- 13.56 MHz proximity readers for connecting to access controller with Wiegand interfaces
- Available with four different form factors, LECTUS secure readers meet nearly all installation requirements
- Easy installation, plug and play
- For in- & outdoor use (IP65)

\* Depending on card technology

# Smart Card Readers

## Multitech smart readers – MIFARE and LEGIC

Name	LECTUS select	LECTUS select	LECTUS select	LECTUS select
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 & EV3, LEGIC advant	MIFARE DESFire EV1 & EV3, LEGIC advant	MIFARE DESFire EV1 & EV3, LEGIC advant	MIFARE DESFire EV1 & EV3, 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

- Compact design, front cover, rear panel and surface-mounted housing made of plastic
- They come equipped with the Bosch coded MIFARE data sector and support reading the CSN of ISO14443A cards as well.
- Easy installation
- Flush-mount: on standard flush-mounting box Ø 60 mm
- Surface-mount: directly on the wall - cable entry options from above, below and behind the device
- Sabotage monitoring
- When using smart cards that carry multiple applets (e.g. MIFARE & Legic), please check with your integrator for the best performance of the installation

\* 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

## Fingerprint reader and Lectus enroll 5000

Name	Fingerprint reader	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



<b>Bosch controller compatibility</b>	AMC2-4WCF, AMC2-2WCF, AMC2-4R4CF, AEC	n.a.
<b>Software compatibility</b>	BIS-ACE, AMS, AEC	BIS-ACE, AMS
<b>Interfaces</b>	Wiegand, RS-485	n.a.
<b>Supported protocol</b>	Wiegand, OSDPv2 SC	n.a.
<b>Panel connection</b>	Terminal strip, RJ45 (PoE)	USB
<b>Mounting</b>	Surface mount	Surface mount
<b>Supported standard</b>	ISO 14443A	ISO 14443A
<b>Supported credential technology</b>	EM, HID Prox, MIFARE Classic, MIFARE DESFire EV1, HID-Corporate-1000, iCLASS, iCLASS SE, Seos	MIFARE classic, DESFire EV1
<b>Bosch code</b>	yes	yes
<b>Power supply</b>	12 VDC or PoE	Powered by USB
<b>Environment class</b>	IP67	IP40 (indoor)
<b>Maximum reading distance</b>	13 – 127 mm	n.a.
<b>Keypad</b>	no	no
<b>Dimensions (H x W x D)</b>	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



<b>Bosch controller compatibility</b>	AMC2-4WCF, AMC2-2WCF, AMC2- 4R4CF	AMC2-4WCF, AMC2-2WCF, AMC2- 4R4CF	AMC2-4WCF, AMC2-2WCF, AMC2- 4R4CF	AMC2-4WCF, AMC2-2WCF, AMC2- 4R4CF
<b>Software compatibility</b>	BIS ACE, AMS	BIS ACE, AMS	BIS ACE, AMS	BIS ACE, AMS
<b>Interfaces</b>	Wiegand, RS-485	Wiegand, RS-485	Wiegand, RS-485	Wiegand, RS-485
<b>Supported protocol</b>	Wiegand, OSDPv2 SC	Wiegand, OSDPv2 SC	Wiegand, OSDPv2 SC	Wiegand, OSDPv2 SC
<b>Panel connection</b>	Pigtail	Pigtail	Pigtail	Pigtail
<b>Mounting</b>	Surface mount	Surface mount	Surface mount	Surface mount
<b>Supported standard</b>	-	ISO 15693	-	ISO 14443A
<b>Supported credential technology</b>	-	HID iClass, iClass SE, Seos	HID Prox	MIFARE Classic, MIFARE DESFire
<b>Bosch code</b>	-	-	-	-
<b>Power supply</b>	12 - 24 VDC or PoE	12 - 24 VDC or PoE	12 - 24 VDC or PoE	12 - 24 VDC or PoE
<b>Environment class</b>	IP65	IP65	IP65	IP65
<b>Keypad</b>	no	no	no	no
<b>Dimensions (H x W x D)</b>	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	<b>Fingerprint-card reader, iClass, touchscreen</b>	<b>Fingerprint-card reader, Prox, touchscreen</b>	<b>Fingerprint-card reader, Multi, touchscreen</b>
Commercial type number (CTN)	293673644	293678678	293678660

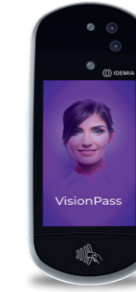


<b>Bosch controller compatibility</b>	AMC2-4WCF, AMC2-2WCF, AMC2-4R4CF	AMC2-4WCF, AMC2-2WCF, AMC2-4R4CF	AMC2-4WCF, AMC2-2WCF, AMC2-4R4CF
<b>Software compatibility</b>	BIS ACE, AMS	BIS ACE, AMS	BIS ACE, AMS
<b>Interfaces</b>	Wiegand, RS-485	Wiegand, RS-485	Wiegand, RS-485
<b>Supported protocol</b>	Wiegand, OSDPv2 SC	Wiegand, OSDPv2 SC	Wiegand, OSDPv2 SC
<b>Panel connection</b>	Pigtail	Pigtail	Pigtail
<b>Mounting</b>	Surface mount	Surface mount	Surface mount
<b>Supported standard</b>	ISO 15693	-	ISO 14443A
<b>Supported credential technology</b>	HID iClass, iClass SE, Seos	HID Prox	MIFARE Classic, MIFARE DESFire
<b>Bosch code</b>	-	-	-
<b>Power supply</b>	12 - 24 VDC or PoE	12 - 24 VDC or PoE	12 - 24 VDC or PoE
<b>Environment class</b>	IP65	IP65	IP65
<b>Keypad</b>	yes	yes	yes
<b>Dimensions (H x W x D)</b>	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	<b>Contactless 3D fingerprint-card reader, MDPI</b>	<b>Facial recognition card reader, MDPI</b>
Commercial type number (CTN)	293722319	293744604



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

# Credentials

## MIFARE DESFire, MIFARE Classic


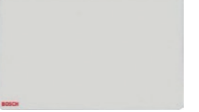


Material description	Card, MIFARE EV1, Bosch coded	Keyfob MIFARE EV1	MIFARE Classic Card Imprinted Card Number/ Bosch coded	Contactless MIFARE ID Keyfob 1
<b>Commercial type number (CTN)</b>	ACD-EV1-ISO	ACT-EV1TRF-SA1	ACD-MFC-ISO	ACT-MFCTRF-SA1
				
<b>Description</b>	MIFARE DESFire EV1 ID card with 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	Card, MIFARE EV3, Bosch coded	Keyfob, MIFARE EV3, Bosch coded
<b>Commercial type number (CTN)</b>	ACD-EV3-ISO	ACT-EV3TRF-SA1
		
<b>Description</b>	MIFARE DESFire EV3 ID card with 8 kByte data storage, one application can be customized.	MIFARE DESFire EV3 ID keyfob with 8 kByte data storage, one application can be customized.

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/xc/en/product-catalog/>).

# Credentials




## iCLASS & Seos credentials

Material description	iCLASS 26 bit Card with printed Bosch Logo	iCLASS 37 bit card with printed Bosch Logo	iCLASS 26bit Keyfob	iCLASS 37bit Keyfob
<b>Commercial type number (CTN)</b>	ACD-ICL2K-2AR	ACD-ICL2K-16AR	ACT-ICL256-2AR	ACA-ICL256-2AR
				
<b>Description</b>	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.





Material description	Card, Seos, 8K, 26 bit	Keyfob, Seos, 8K, 26 bit	Card, Seos, 8K, 37 bit	Keyfob, Seos, 8K, 37 bit
<b>Commercial type number (CTN)</b>	ACD-SEO8K26-50	ACT-SEO8K26-10	ACD-SEO8K37-50	ACT-SEO8K37-10
				
<b>Description</b>	A 13.56 MHz contactless smart card programmed to Wiegand 26-bit format in 8 kByte capacity.	A 13.56 MHz contactless Keyfob programmed to Wiegand 26-bit format in 8 kByte capacity.	A 13.56 MHz contactless smart card programmed to Wiegand 37-bit format in 8 kByte capacity.	A 13.56 MHz contactless Keyfob programmed to Wiegand 37-bit format in 8 kByte capacity.



# Access Modular Controller AMC Controllers




Material description	Door controller Wiegand, 2 readers	Door controller Wiegand, 4-8 readers	Door controller RS-485, 8 readers
<b>Commercial type number (CTN)</b>	APC-AMC2-2WCF	APC-AMC2-4WCF	APC-AMC2-4R4CF
			
<b>Input voltage</b>	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
<b>Output voltage</b>	12 VDC	12 VDC	10 - 30 VDC
<b>Number of connectable readers</b>	2	4	8
<b>Number of Inputs</b>	4	8	8
<b>Number of Outputs</b>	4	8	8
<b>Display</b>	yes	yes	yes
<b>Amount of cardholders</b>	400.000	400.000	400.000
<b>Reader Interface</b>	Wiegand	Wiegand	RS-485
<b>Max reader cable length</b>	110m per reader port	110m per reader port	1200m per Bus
<b>Reader operating voltage</b>	12V DC	12V DC	10-30V DC
<b>Reader monitoring</b>	no	no	yes
<b>Number of wires per reader</b>	6 + shield	6 + shield	4 + shield
<b>Number of connectable reader extensions</b>	1	1	-
<b>Number of connectable I/O extensions</b>	3	3	3
<b>Mounting</b>	Standard DIN rail	Standard DIN rail	Standard DIN rail
<b>Reader protocol support</b>	Wiegand	Wiegand	OSDP, LBUS, MICOS, BG900
<b>Standards</b>	CE, UL	CE, UL	CE, UL, VDS
<b>Dimensions (H x W x D)</b>	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
<b>Commercial type number (CTN)</b>	API-AMC2-4WE	API-AMC2-8IOE	API-AMC2-16IOE	API-AMC2-16IE
				
<b>Input voltage</b>	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
<b>Output voltage to reader</b>	12 VDC	n/a	n/a	n/a
<b>Number of connectable readers</b>	4	-	-	-
<b>Number of Inputs</b>	8	8	16	16
<b>Number of Outputs</b>	8	8	16	
<b>Mounting</b>	Standard DIN rail	Standard DIN rail	Standard DIN rail	Standard DIN rail
<b>Display</b>	no	no	no	no
<b>Dimensions (H x W x D)</b>	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
<b>Commercial type number (CTN)</b>	AEC-AMC2-UL01	AEC-AMC2-UL02	AEC-AMC2-ENC3
			
<b>Information</b>	<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
<b>Commercial type number (CTN)</b>	AEC-PANEL19-UPS/AEC-PANEL19-4DR	APS-PSU-60
		
<b>Information</b>	<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		
<b>Commercial type number (CTN)</b>	DS150i	DS151i	DS160	DS161	
					
<b>Overview</b>	<b>Application type</b>	Small to large commercial	Small to large commercial	Small to large commercial	Small to large commercial
	<b>Application risk level</b>	Low to moderate risk	Low to moderate risk	Moderate to high risk	Moderate to high risk
	<b>Environment</b>	Standard	Standard	Standard	Standard
<b>Specifications</b>	<b>Coverage/range</b>	2.4 x 3 m	2.4 x 3 m	2.4 x 3 m	2.4 x 3 m
	<b>Mounting height</b>	2.1 to 3 m	2.1 to 3 m	2.3 to 4.6 m	2.3 to 4.6 m
	<b>Operating temperature</b>	-29° to 49° C	-29° to 49° C	-29° to 49° C	-29° to 49° C
	<b>Operating voltage</b>	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
	<b>Current draw (typical)</b>	26 mA nominal	26 mA nominal	8 mA nominal	8 mA nominal
<b>Features</b>	<b>Door monitor with sounder</b>	–	–	■	■
	<b>Keycard reader input</b>	–	–	■	■
	<b>Sequential logic input</b>	–	–	■	■
	<b>Relay fail-safe/fail-secure</b>	■	■	■	■
	<b>Relay settable select</b>	■	■	■	■
	<b>Relay latch time adjustment</b>	0.25 to 60 seconds	0.25 to 60 seconds	0.5 to 64 seconds	0.5 to 64 seconds
	<b>Pattern masking</b>	■	■	■	■
	<b>Alarm output/memory</b>	–/■	–/■	–/■	–/■
	<b>Tamper</b>	–	–	■	■
	<b>Pointable optics</b>	Vertical adjustment	Vertical adjustment	Vertical adjustment	Vertical adjustment
	<b>Switchable relay mode</b>	■	■	■	■
	<b>Switchable timer reset mode</b>	■	■	■	■
	<b>Adjustable sounder volume</b>	–	–	■	■
	<b>PIR sensitivity adjustment</b>	■	■	■	■
	<b>Enable/disable LED</b>	–	–	■	■
	<b>Flexible mounting height</b>	■	■	■	■
<b>Certifications</b>		UL, CE	UL, CE	UL, CE	UL, CE

■ Available – Not available

\* Check regional availability with your local sales contact

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# Let them in.

# Keep them out.



# Let them in and keep them out.

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