



BEYOND SECURITY **KABA**[®]

Kaba access manager 92 30

Technical Manual

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Table of Contents

1	About this Document	7
1.1	Validity.....	7
1.2	Target group	7
1.3	Contents and purpose.....	7
1.4	Orientation in the document	8
1.5	Additional documentation	8
1.6	Warnings.....	9
1.6.1	Hazard Categories	9
1.6.2	Symbols.....	9
1.7	Notes	9
2	Grouped safety messages.....	10
2.1	Use as directed	10
2.2	Mounting and installation.....	10
2.3	Service and Maintenance	10
2.4	Accessories and spare parts	10
2.5	ESD (electrostatic discharge) protective measures.....	11
2.6	Environmental protection	11
3	Product Description	12
3.1	Overview.....	12
3.2	Device variants	13
3.3	B-Client AC30 terminal software.....	14
3.3.1	Areas of application.....	14
3.3.2	Software options	14
3.3.3	Supported readers/subterminals	15
3.3.4	Readers via Wiegand.....	15
3.3.5	Registration units	16
3.4	Technical Data	17
3.4.1	Power supply	17
3.4.2	Output voltages.....	17
3.4.3	Outputs	18
3.4.4	Inputs	18
3.4.5	Interfaces	19
3.4.6	Reader.....	19
3.4.7	Ambient conditions.....	20
3.4.8	Dimensions/Weight.....	20
3.4.9	Dimensional drawings.....	20
3.5	Conformity.....	21
3.6	Labeling	22
4	Design and function	23
4.1	Opening the housing.....	23
4.2	Functional principle.....	24
4.2.1	Typical applications.....	25
4.2.2	Superior system	26
4.2.3	Reader.....	26
4.2.4	Function of the inputs	27

4.2.5	Function of the outputs	27
4.3	Access control with B-Client AC30	28
4.3.1	Operating states	28
4.3.2	Sequence of authorization checks	30
4.3.3	Examples of door surveillance time sequences	31
4.4	Light emitting diodes	34
4.4.1	Device status	35
5	Installation	36
5.1	Installation conditions	36
5.1.1	General	36
5.1.2	Installation site	36
5.1.3	Connections	36
5.1.4	Cable entry	37
5.2	Installation diagram	38
5.2.1	Access control with registration unit	38
5.2.2	Access control with reader via RS-485	39
5.2.3	Access control with readers via Wiegand	40
5.3	Installation lines	41
5.3.1	Ethernet	41
5.3.2	Power supply of the reader	41
5.3.3	Data line to reader/subterminal	41
5.3.4	Line to the door opener, the door opener key, and the door contacts	41
5.3.5	Coaxial cables to registration units	41
5.3.6	Line to the Wiegand reader	41
5.4	Wall mounting	42
5.5	Cable routing	43
5.6	Setting the PoE switches	44
5.7	Connections	45
5.7.1	Network connection	45
5.7.2	Overview of terminals	46
5.7.3	External 24 V DC power supply	47
5.7.4	Registration units	48
5.7.5	Readers via RS-485	49
5.7.6	Readers via Wiegand	52
5.7.7	Inputs	53
5.7.8	Outputs	57
5.7.9	Standard assignment of inputs/outputs (B-Client AC30)	64
5.7.10	Configuration-dependent assignment (B-Client AC30)	65
5.8	Vandal contact	67
5.9	Fastening the cover	68
6	Start-up	69
6.1	Network requirements	69
6.1.1	Communication	69
6.1.2	Automatic registration via B-COMM	69
6.2	Automatic registration via B-COMM	70
6.3	Start options	71
6.3.1	Performing a cold start	71
6.3.2	Perform a cold start and set the default IP address 123.0.0.2	72
6.3.3	Setting the default IP address 123.0.0.2 (without cold start)	72
6.4	Service Interface	73

6.4.1	Login	73
6.4.2	Basic structure	73
6.4.3	Overview of the service functions	74
6.4.4	Actions within the service functions	74
6.4.5	Network settings.....	75
6.4.6	Host settings	77
6.4.7	FTCS host settings	79
6.4.8	CardLink host settings	79
6.5	Device Discovery Tool	80
6.5.1	System requirements.....	80
6.5.2	Selecting the network interface.....	80
6.5.3	Displaying devices with B-Client AC30.....	80
6.5.4	Changing network parameters	81
6.6	SFTP server.....	82
6.6.1	Prerequisites.....	82
6.6.2	Establishing an SFTP connection.....	82
7	Packaging/Return.....	84
7.1	Complete Devices	84
7.2	Electronic Assemblies	84
7.3	Marking	85
8	Disposal	86
9	Appendix.....	87
9.1	Configuration Kaba Access Manager 92 30	87
	Index.....	88

1 About this Document

1.1 Validity

This document describes the product:

Product name: Kaba access manager 92 30

Item number 04079230

Terminal software: B-Client AC30 from version 669-01-X-K00

Manufacturing date: Starting from March 2016

This document describes all device versions and optional equipment and functions. Options need to be paid for and are therefore only available if they have been purchased. Additional equipment and functions may not yet be available at the time of issuing the document and, possibly, can only be purchased at a later stage.

1.2 Target group

This document is exclusively intended for specialist personnel.

The descriptions require specialist personnel trained by the manufacturer. The descriptions do not replace product training.

For reasons of device safety, the installation and maintenance operations described in this document must be carried out only by service persons according to EN 60950-1 (Information technology equipment - Safety).

Service persons are persons having adequate technical training and sufficient experience to be aware of and to minimize the possible risks for themselves or other persons, which may occur when carrying out these operations. The service persons are responsible for adhering to the instructions given by the manufacturer and to the applicable standards and regulations during execution of their work.

This document is also used as information for persons with the following tasks:

- project planning and implementation
- Commissioning the product within the network
- Connecting the product to the user software by programming customer applications
- Customer-specific adjustment by setting the parameters of the product

1.3 Contents and purpose

The contents is limited to the assembly, installation, start-up, and basic operation of the hardware.

1.4 Orientation in the document

This document contains the following orientation aids to facilitate finding of specific topics:

- The table of contents at the beginning of the manual gives an overview of all topics.
- The header always contains the respective main chapter.
- Cross references always indicate the number of the chapter in which the supplementary information can be found. Example [▶ 5.7].
- An index in the alphabetical order is given at the end of the manual.


1.5 Additional documentation

Details on setting specific device parameters can be found in the reference manual of the terminal software used.

Supplementary documentation is available on the Kaba website. The technical manuals are located in a secured area of the website.

- Access is only possible after logging in.
- An account will need to be created before logging in for the first time.

Access and login:

1. In the browser, access the Kaba page <http://www.kaba.com>.
2. Select the language in the top right.
3. Under "Products", select the "Access Management" or "Workforce Management" product division.
4. In the top right section of the screen, click on the following symbol:

5. Enter your e-mail address and password and login or create an account (see below).

⇒ The technical manuals can be found under "Downloads".

Create account:

1. Click "Create account".
2. Complete the data fields and confirm.
⇒ A confirmation link will be sent to your e-mail address.
3. To activate your account, click on the confirmation link in your e-mail.

1.6 Warnings

Warnings containing information/instructions and prohibitions to prevent injury to persons and damage to property are specially labeled.

Please pay attention to warnings. They are intended to help prevent accidents and avoid damage.

1.6.1 Hazard Categories

Warnings are split into the following categories:



CAUTION

Slight Risk

Describes a potentially hazardous situation that could result in minor physical injuries.



NOTICE

Information on how to handle the product correctly.

Failure to comply with these warnings may result in malfunctions. The product or something in its vicinity could be damaged.

1.6.2 Symbols

Depending on the source of the hazard, symbols are used for the warnings, and these have the following meanings:



General danger



Danger for electronic components from electrostatic discharge

1.7 Notes

Notes are labeled with an info symbol.



Tips and useful information.

These help you to make best use of the product and its functions.

2 Grouped safety messages

This product has been built in accordance with state-of-the-art standards and the recognized safety rules. Nevertheless, its use may constitute a risk to persons and cause damage to material property.



Read and observe the following safety instructions before using the product.

2.1 Use as directed

The product is only intended for use as described in chapter "Product description". Any use beyond that is considered contrary to its designated use. The manufacturer cannot be held liable for damage resulting from such use. Such use is at the sole risk of the user/operator.

2.2 Mounting and installation

Mounting and installation may only be carried out by service persons (see chapter 1 "Target group").

Mains voltage installations may only be carried out by a certified specialized company or authorized electricians.

Installation may only be carried out in places that fulfill the climatic and technical conditions stated by the manufacturer.

The manufacturer is not liable for damages resulting from improper handling or incorrect installation.

2.3 Service and Maintenance

Maintenance work / troubleshooting

Only the service person (see chapter 1 "Target group") is entitled to remove faults and carry out maintenance work.

Reconstruction and modification

Any alteration or modification to the device may only be performed by the service person (see chapter 1 "Target group"). Any alteration or modification performed by unauthorized persons shall render void any liability.

2.4 Accessories and spare parts

Accessories and spare parts must comply with the technical requirements specified by the manufacturer. This is guaranteed when using original accessories and spare parts from Kaba.

2.5 ESD (electrostatic discharge) protective measures



NOTICE

Danger for electronic components due to electrostatic discharge.

Improper handling of printed circuit boards or components can cause damages that lead to complete failures or sporadic errors.

- During installation and repair of the product, the ESD protective measures must be considered.
 - Wear an ESD wristband when handling electronic components. Connect the end of the wristband to a discharge socket or an unvarnished grounded metal component. This way, static charges are discharged from your body securely and effectively.
 - Touch only the edges of circuit boards. Do not touch the circuit board nor the connector.
 - Place all dismantled components on an antistatic surface or in an antistatic container.
 - Avoid contact between circuit boards and clothing. The wristband only protects the printed circuit boards against electrostatic discharge from your body, but there is still a risk of damage through electrostatic discharge from your clothing.
 - Transport and dispatch dismantled modules only in electrostatically shielded protective bags.
-

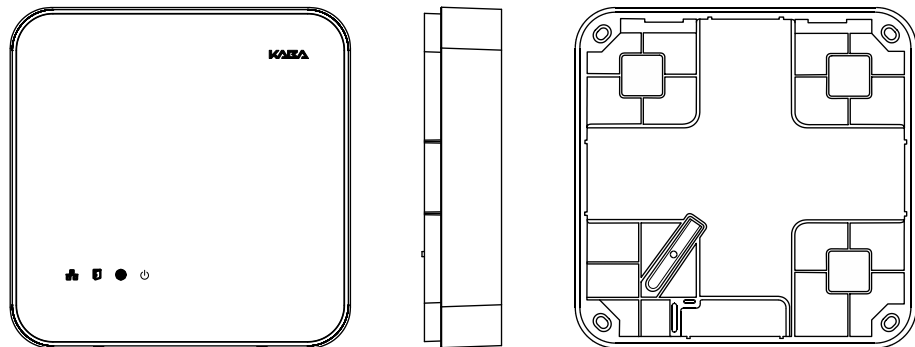
2.6 Environmental protection

It is prohibited to dispose of the device in your domestic waste.

Used devices contain valuable materials that should be recycled. Properly dispose of used devices.

3 Product Description

3.1 Overview



The Kaba access manager 92 30 is designed specifically for control of an individual door (access/exit). The access manager can also be used for the decentralized access control applications.

This is why the device is installed in secure indoor locations near the access. The device is designed for direct mounting on the wall. However, it can also be mounted in suspended ceilings, wall recesses etc.

Depending on the device version, the access manager supports the connection of registration units, readers/subterminals via RS-485 or Wiegand. The registration unit allows contact-free reading and writing of RFID media in MIFARE or LEGIC technology (depending on the configuration).

A 10BASE-T/100BASE-TX Ethernet interface is provided for communication with the host on the network.

Power is supplied over PoE (Power over Ethernet). As an alternative the power supply can also be performed via an external 24 V DC power supply unit.

The device has 4 inputs and 3 outputs. They can be used for control and monitoring of Door management.

3.2 Device variants

The Kaba access manager 92 30 is available in two device variants: The difference is in the possible reader connection.

One variant allows connection of 2 RFID registration units or readers/subterminals via RS-485. The other variant allows connection of 2 readers via Wiegand.

Equipment depending on the device version - Overview

Equipment / Variant	RFID	Wiegand
Communication		
Ethernet interface	X	X
Connections for readers		
Registration units	X	
Readers/subterminals via RS-485	X	
Readers via Wiegand		X
Serial interface		
RS-232 for specific applications	X	X
Inputs / Outputs		
4 digital inputs	X	X
3 relay outputs	X	X
Vandal contact Cover	X	X
Vandal contact Wall	X	X
Power supply		
PoE (Power over Ethernet)	X	X
24 V DC power supply	X	X
Output voltages		
5 V DC		X
12 V DC	X	X
24 V DC (only for 24 V DC power supply)	X	X



Depending on the device variants, the corresponding terminals are available or not available for readers.

3.3 B-Client AC30 terminal software



B-Client AC30 is a terminal software for access control. This terminal software makes the device compatible with the data records used in previous access controls of the B-Net series.

3.3.1 Areas of application

Access control

The access manager uses various test criteria to check whether a booking made on a reader/subterminal is authorized or not.

Door management

- Sluice control
- Door activation
- Monitoring of door opening
- Monitoring of door opening time
- Access monitoring

Alarm Management

The access manager reports irregularities in access control or door management to the host computer. An additional function is to activate relays.

3.3.2 Software options

Various software options can be used to expand the functional scope of the terminal software. Software options need to be enabled in the "sop.ini" license file using a suitable license key.

The **sop.ini** license file is located in the following directory:

home/admin/Program/Share/Init

The following software options are available:

Memory options

	Standard	Option 1	Option 2
Master records	2,000	10,000	50,000
Registration records	8,000	40,000	100,000
CardLink update records	4,000	20,000	25,000
CardLink validation records	2,000	10,000	25,000

CardLink

CardLink validation in connection with LEGIC or MIFARE readers/subterminals.

CardLink update via registration units

AVISO

Customer-specific functional upgrades by means of AVISO routines.

Data encryption

Data encryption via Ethernet UDP in connection with the B-COMM communication software.

Data encryption via HTTPS for XML communication.

Number of subterminals

The fixed number of supported subterminals is 2 (registration units and / or subterminals via RS-485 or readers via Wiegand).

3.3.3 Supported readers/subterminals

The access manager (RFID device variant) supports max. 2 readers/subterminals.

Subterminal	Supported function
Compact reader 91 04 Compact reader 91 10 Remote reader 91 15	LEGIC mode: Reading and writing LEGIC prime (CardLink validation) Reading and writing LEGIC advant (CardLink validation) MIFARE mode: Reading and writing MIFARE DESFire/Classic (CardLink validation)
Biometric reader 91 50	Finger template transfer via subpartyline LEGIC mode: Reading LEGIC prime** Reading LEGIC advant*/** MIFARE mode: Reading MIFARE DESFire/Classic

* not part of standard equipment, function depends on the reader driver used.

** only devices with optional RFID reader.



The readers listed above must be equipped with the firmware of "Subterminal" function type.

Power supply of the subterminals

For power supply of subterminals connected via the RS-485 interface, the 12 V DC output voltage of the access manager can be used.

The supply of readers/subterminals by a separate external power supply is also possible.

Inputs/Outputs of the subterminals

The inputs and outputs of the subterminals can be used, thus increasing the usable number of inputs/outputs.

The control of the door openers by means of a relay is recommended only in secured areas.

Time-critical contacts (door frame contact) should not be queried via the inputs of subterminals.

3.3.4 Readers via Wiegand

Two external readers can be connected to the access manager (Wiegand device variant) via Wiegand. The power supply of the readers is performed via the access manager. For this purpose, 5 V DC and 12 V DC are available at Wiegand terminals.

Addressing

The addresses 1 and 2 are reserved or assigned automatically to the readers via Wiegand.

GID/DID	Subterminal
00/01	Reader at Wiegand connection 1
00/02	Reader at Wiegand connection 2

3.3.5 Registration units

Two registration units can be connected to the access manager via coaxial cables (connections Ant. A and Ant. B).

Supported registration units

- Kaba registration unit 90 00
- Kaba registration unit 90 01
- Kaba registration unit 90 02 (with PIN keypad)
- Kaba registration unit 90 03
- Kaba registration unit 90 04

Functional features

- A registration unit allows contact-free reading and writing of RFID media in MI-FARE or LEGIC technology (depending on the configuration).
- The registration units can be used for CardLink validation and CardLink update.
- The registration units are supplied with power by the access manager.

Program number

A registration unit is reported to the communication software as a subterminal with a program number.

Registration unit	Program number
Registration unit without PIN keypad	801-00-X-K00
Registration unit with PIN keypad	802-00-X-K00

Addressing

By default, the addresses 1 and 2 are preset for the registration units and are not available as subterminal addresses.

GID/DID	Subterminal
00/01	Registration unit connection Ant. A
00/02	Registration unit connection Ant. B
From 00/03	Subterminals connected via the RS-485 subpartyline

This presetting can be changed using the parameters.

Parameterizing information

For the two registration units, it is not possible to use different reader configurations. The reader configuration can be established via address 1 or address 2 and is valid for both registration units.

External inputs, relays and vandal contact are not available.

3.4 Technical Data

3.4.1 Power supply

For power supply of the device, there are the following alternative options:

- PoE (Power over Ethernet)
- External 24 V DC power supply unit

PoE (Power over Ethernet)

Power supply via the 8-wire Ethernet cable (max. 100 m).

- Acc. to IEEE 802.3af (12.95 W) and IEEE802.3at (25.5 W).

24 V DC input

Power supply via the 24 V DC input using an external power supply unit.

- Input voltage: 24 V DC \pm 10%
- Current consumption: max. 2.3 A
- Power of the power supply unit: 12-60 W

For supply of the device, a power output of approx. 12 W is necessary. Depending on the required power for output voltages, additionally up to 48 W for external consumers.

Use only power supply units that fulfill the requirements of EN 60950-1 as limited power source.

3.4.2 Output voltages

Use	Terminals	Performance figures
Power supply for external readers	Wiegand 1 + 2	5 V DC; max. 2.5 W ¹ respectively
	Wiegand 1 + 2	12 V DC; max. 3 W ¹ respectively
	12 V DC OUT	12 V DC; max. 3 W ¹ respectively
Power supply for door opener etc.	Switchable to OUT1 Selection via jumper	12 V DC; max 7 W (PoE)
		12 V DC; max. 17 W (PoE+)
		24 V DC; max. 48 W ²

- 1 The power specification requires that the permissible maximum impulse power for PoE supply is not exceeded.
 - IEEE 802.3af (PoE) = 12.95 W
 - IEEE802.3at (PoE+) = 25.5 W
- 2 The output voltage 24 V DC is available only for power supply via an external power supply unit. Not for PoE power supply.

The power specification refers to the contact loading capacity. The actual available power depends on the power of the external power supply unit.

3.4.3 Outputs

3 relay outputs

- OUT1: Switches one of the following power sources to the terminal (can be selected via jumper):
 - 12 V DC
 - 24 V DC (external device power supply)
 - External relay voltage (can be fed in via the terminals)
- OUT2 + OUT3: Potential-free change-over contact
- Contact rating: 30 V AC/DC; 2 A max.
- LED status display

3.4.4 Inputs

4 digital inputs

- With integrated power supply and common ground to connect potential-free contacts.
- Input voltage: 5 V DC max.
- Optional line monitoring
- LED status display

Tamper

- Switching contact for removal of the housing cover
- Switching contact for removal of the device from the wall (bridge using jumper)

3.4.5 Interfaces

Ethernet interface

- IEEE802.3 compatible 10BASE-T/100BASE-TX Auto sensing, Auto MDIX.

RS-485

B-COMM mode:

- 2-wire subpartyline for connecting readers/subterminals
- Transmission parameters: 19,200 baud, 7 data bits, even parity, 1 stop bit
- Protocol: BPA/9 subset

exos mode:

- 2-wire subpartyline for connecting readers
- Transmission parameters: 19,200 baud, 8 data bits, even parity, 1 stop bit
- Protocol: KCP

RS-232

- Serial interface for specific applications
- Transmission parameters can be set via the terminal software.

Wiegand

- 2 Wiegand interfaces for connection of external lasers
- 5 V DC or 12 V DC power supply for the reader

HF-RFID

- 2 registration units with or without PIN keypad (connections ant. A and ant. B)
- Coaxial cable, impedance 50 Ohm
- Encrypted data transmission

3.4.6 Reader

Depending on the reader configuration, the registration units allow reading and writing of MIFARE or LEGIC media.

MIFARE

- RFID standard: ISO 14443A
- Supported badge media:
 - MIFARE DESFire
 - MIFARE Classic

LEGIC

- RFID standard: ISO 14443A, ISO 15693, LEGIC RF
- Supported badge media:
 - LEGIC advant
 - LEGIC prime

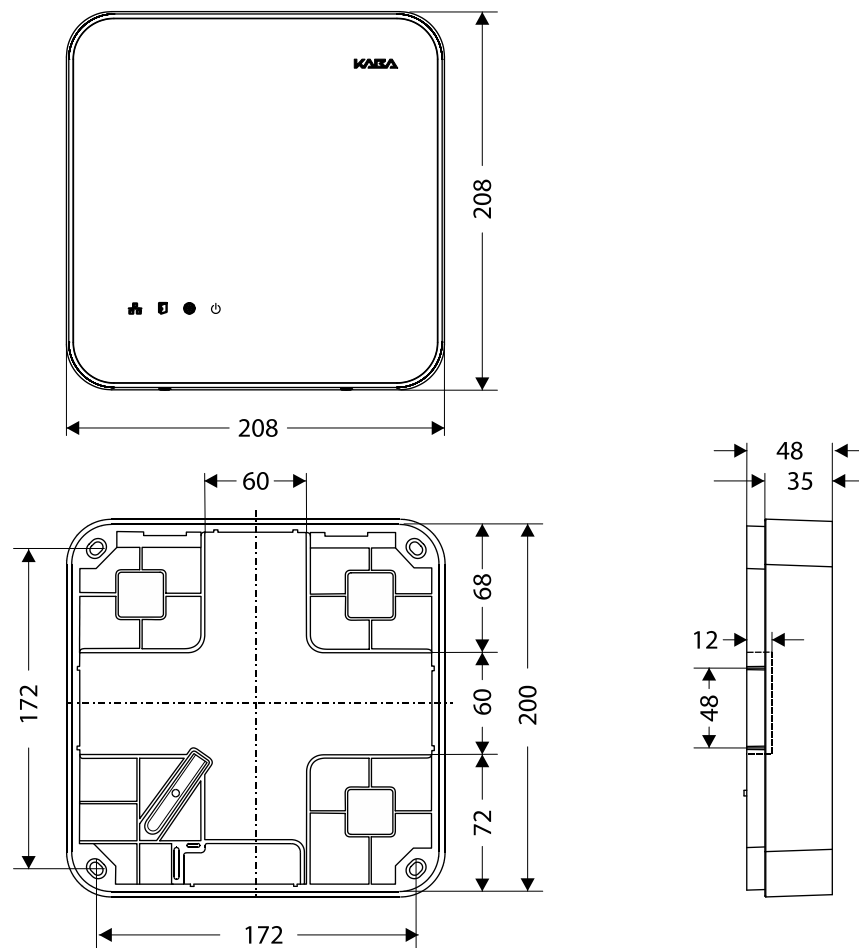
3.4.7 Ambient conditions

- Ingress protection according to IEC 60529: IP40
- Relative humidity: 5% to 85%, non-condensing
- Ambient temperature:
 - 0 °C – +50 °C (operation)
 - -20 °C – +65 °C (storage)

3.4.8 Dimensions/Weight

- Length: 208 mm
- Width: 208 mm
- Depth: 48 mm
- Weight: approx. 0.6 kg

3.4.9 Dimensional drawings



Dimensions in mm

3.5 Conformity



This product conforms to the following standards:

EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011

EN 300 330-1 V1.7.1

EN 300 330-2 V1.5.1

EN 301 489-1 V1.9.2

EN 301 489-3 V1.6.1

EN 55022:2010, Class B

EN 55024:2010

according to the regulations of the EC Directive

1999/5/EC R&TTE Directive



The original Declaration of Conformity can be downloaded from www.kaba.com/conformity in PDF format.

In addition, the product also conforms to the following standards:

UL 60950-1

UL 294, security performance level 1

RoHS This device complies with the regulations of the Directive **2011/65/EU** of the European Parliament and of the Council of June 8, 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

FCC **FCC Code of Federal Regulations, CFR 47, Part 15, Sections 15.205, 15.207, 15.215 and 15.225**

FCC ID NVI-KAM9230-K5

FCC § 15.19

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC § 15.21 (Warning Statement)

[Any] changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC § 15.105

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

IC Industry Canada Radio Standards Specifications RSS-GEN Issue 4, Sections 8.8, 8.9 and 8.10 and RSS-210 Issue 8, Section A2.6 (Category I Equipment)**IC:11038A-KAM9230K5****ICES-003**

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Canada RSS-GEN 8.4

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- 1) l'appareil ne doit pas produire de brouillage;
- 2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

3.6 Labeling

Identification plate

The identification plate is located on the rear of the device.

The identification plate contains:

- Device name
- Item number
- Serial number
- Connection data (power supply)
- CE marking
- WEEE labeling acc. to DIN EN 50419

MAC address

An adhesive label with the MAC address of the device is located on the Ethernet receptacle.

4 Design and function

4.1 Opening the housing



NOTICE

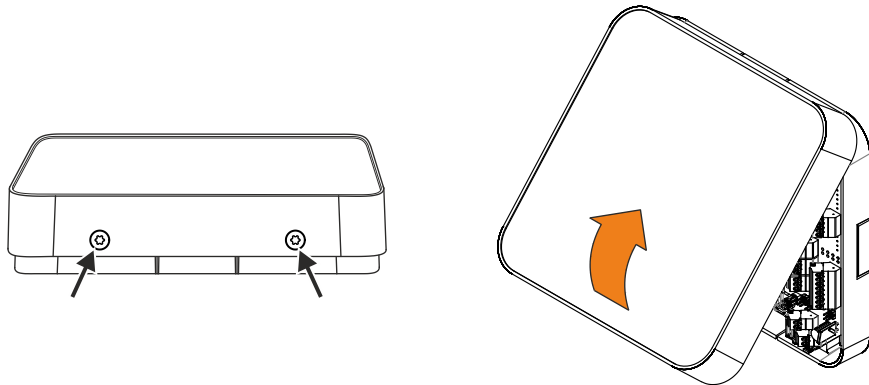
Danger for electronic components due to electrostatic discharge.

Improper handling can damage or destroy electrostatically sensitive components on printed circuit boards (PCB).

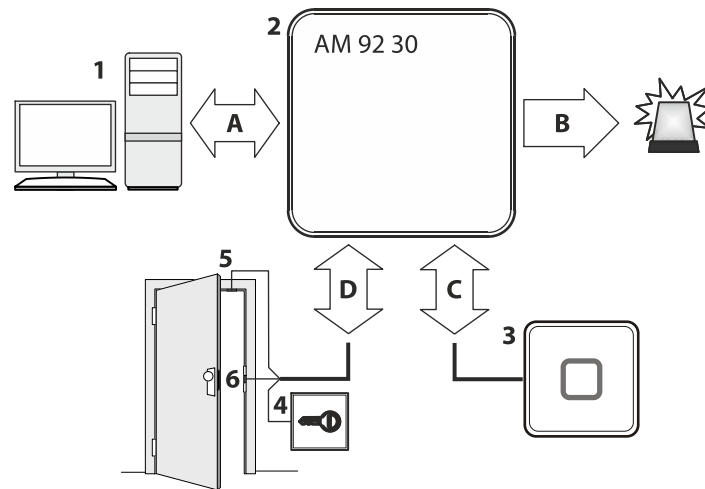
- General ESD protective measures must be observed and applied.

Remove the housing cover in the following way:

1. Remove two screws M3x8 (TORX 8) on the device bottom side.
2. Swivel the bottom side of the cover and disengage it at the top.



4.2 Functional principle

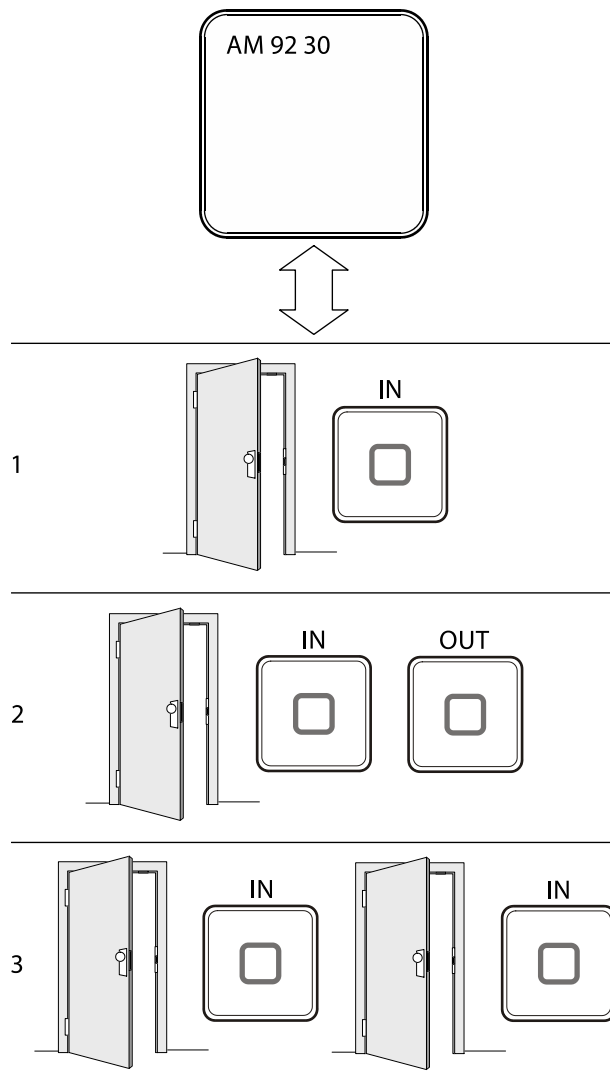


- 1 Host computer (superior system)
- 2 Kaba access manager 92 30
- 3 External readers
- 4 Door opener key
- 5 Door frame contact
- 6 Door-opener
- A Communication with the superior host computer
- B Alarm signals
- C Badge data and user guidance
- D Signals for door opening and monitoring

4.2.1 Typical applications

The Kaba access manager 92 30 is designed for control of one or maximum two accesses with a total of 2 readers. The following overview shows the three typical applications.

The terminal software offers basically the possibility to configure further sub-variants.



- 1 Access with reader for entry
- 2 Access with reader for entry and reader for exit
- 3 Two accesses with one reader for each entry respectively

4.2.2 Superior system

Communication with the superior system (host computer) takes place via the Ethernet network.

The superior system serves for centralized management of authorizations, access and room profiles, system configuration and alarm management.

4.2.3 Reader

The data collection of identification data is performed via external readers.

Up to 2 readers can be connected. The readers which are supported depend on the device variant.

Kaba access manager 92 30 with connections for readers via Wiegand

Kaba access manager supports the connection of two readers via the Wiegand interface.

- Connection individually via Wiegand interface
- Data collection of identification data
- Control of optical and acoustic signal generators
- Power supply via the access manager

Kaba access manager 92 30 with connections for registration units and readers via RS-485

The Kaba access manager supports connection of two Kaba RFID registration units via the coaxial cable.

Alternatively, up to 2 readers/subterminals can be connected via the RS-485 interface.

Registration unit:

- Connection individually via coaxial cable
- Data collection of identification data
- CardLink validation and update
- Control of optical and acoustic signal generators
- Keypad is supported
- Power supply via the access manager

Readers via RS-485:

- Connection via RS-485 partyline in bus or star wiring
- Data collection of identification data
- CardLink validation
- Control of optical and acoustic signal generators
- Keypad is supported
- The inputs and outputs of subterminals can be used.
- Power supply via the access manager possible

4.2.4 Function of the inputs

The function of the inputs depends on the configuration. The following functionalities are possible:

Door frame contact

With a door frame contact, the access manager is able to detect if and how long the door is open. If the maximum allowed door-opening time has elapsed and the door is still open, the access manager sends an alarm record to the host computer. A relay can be activated additionally.

Door opener key

A door-opener key can be connected if no subterminal is mounted in the interior and if the door is not equipped with a door handle. If the door-opener key is pressed the respective door-opener relay is activated.

Bolt contact

With the bolt contact, the access manager can identify the door's current bolt position. If the bolt is not in the expected position after the end of the allowed time, the access control manager sends an alarm record to the host computer.

Door handle contact

With the door handle contact, the access manager can identify the door handle's current position. If the door frame contact responds without previous activation of the door opener or pressing of the door handle, the access manager sends an alarm record to the host computer.

Pass through

This input monitors if access has really taken place. To this end, a light barrier, contact mat, etc., is connected to this input which reports if a person has passed through.



The functions of door frame contact and door opener key are preset for the inputs per access.

4.2.5 Function of the outputs

The function of the individual outputs depends on the configuration. Important functions are:

Door-opener relay

A door opener can be connected to the door opener relay. The door-opener relay is activated if the access manager releases access, e.g., after an authorized booking.

Alarm relay

Depending on the configuration, the alarm relay can be activated in case of an authorized booking or alarm (e.g. door breakup).

4.3 Access control with B-Client AC30

4.3.1 Operating states

The access manager allows the following operating states:

- Online
- Fast online
- Offline
- Autonomous

4.3.1.1 Online

The "Online" operating mode is recommended if the arising data records must be permanently available in the host computer.

After a booking, the access manager carries out the programmed checks and writes the test result as an error ID into the registration record. **The registration record is transferred to the host computer.** After that, the access manager expects a logical booking response from the host computer. With this response, the access manager is informed by the host whether or not the booking is authorized.

If the access manager does not receive a logical booking response from the host computer, it will change to offline mode and decide itself, according to the programmed verifications, if the booking is authorized or not. As soon as the host computer is accessible again, the access manager changes back to online mode. All data records stored in the meantime in Offline mode are transmitted to the host computer.

4.3.1.2 Fast online

In contrast to online mode, a query to the host computer takes only place if the internal booking response is negative. Individual access points can be set to Fast Online.

4.3.1.3 Offline

After a booking has been made, the access manager carries out the programmed checks and decides **immediately by way of an internal booking response** whether or not the booking is authorized. If the host computer is available, registration data records of authorized and unauthorized bookings (depending on the set parameters) will be transferred immediately. Otherwise, the registration records will be stored in the access manager. As soon as the host computer is available, all data records stored since the last transmission are transferred to the host computer.

4.3.1.4 Autonomous

After a booking has been made, the access manager carries out the programmed checks and decides **immediately by way of an internal booking response** whether or not the booking is authorized. Registration data records of authorized or unauthorized bookings are stored in the access manager, depending on the set parameters.

If the host computer is available, any existing error and alarm records will be transmitted to the host computer.

The stored registration data records are transmitted to the host computer with a special data record after request. Once transferred to the host, the data records will be deleted in the access manager.

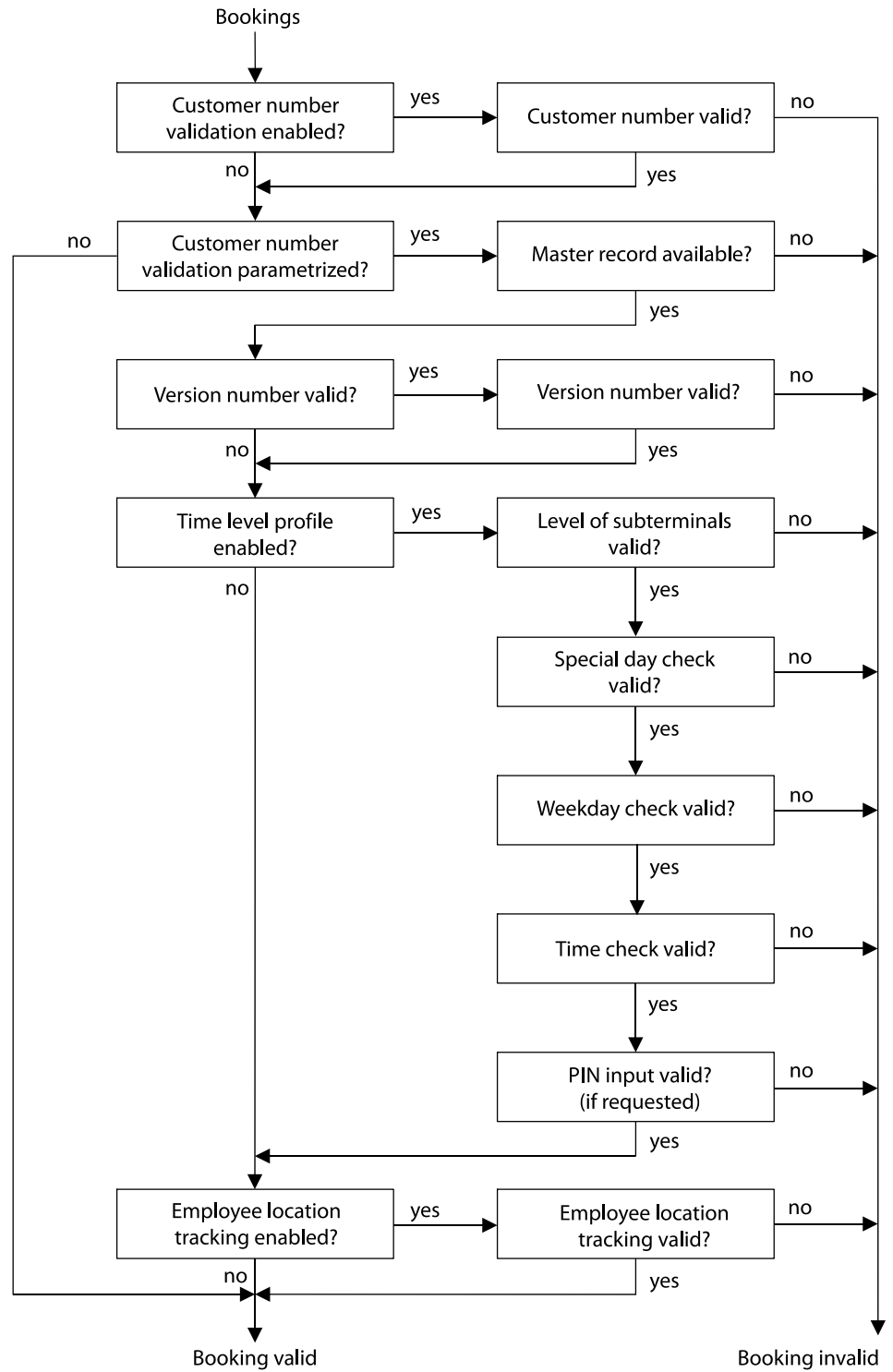
4.3.1.5 Overview of the most important differences of the operating modes

Proceeding	Online	Fast Online	Offline	Autonomous
The host decides whether a booking is valid	X	(X) ¹		
The access manager decides whether a booking is valid	(X) ²	(X) ^{1,2}	X	X
Transmission of the registration records	X	X	X	
Transmission of the registration records only upon request				X
Storage of the registration records in the access manager	(X) ³	(X) ³	(X) ³	X
Transmission of error and alarm records	X	X	X	X

Explanations

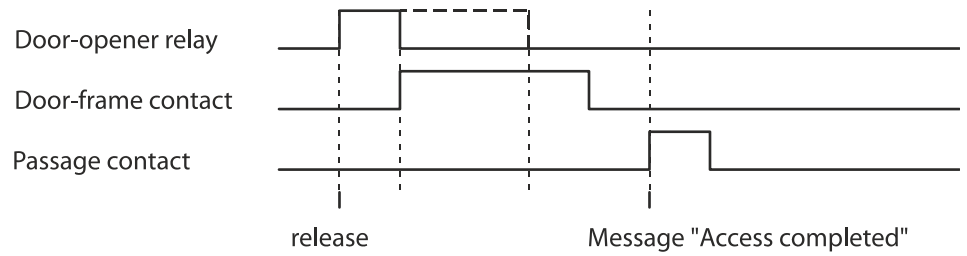
- 1 A request to the host takes only place if the internal booking response is negative.
- 2 If there is no booking response from the host, the control decides itself if the booking is authorized or not.
- 3 If the host computer is not available, the registration data will be stored in the access manager. As soon as the host computer is available, the registration records will be transmitted.

4.3.2 Sequence of authorization checks

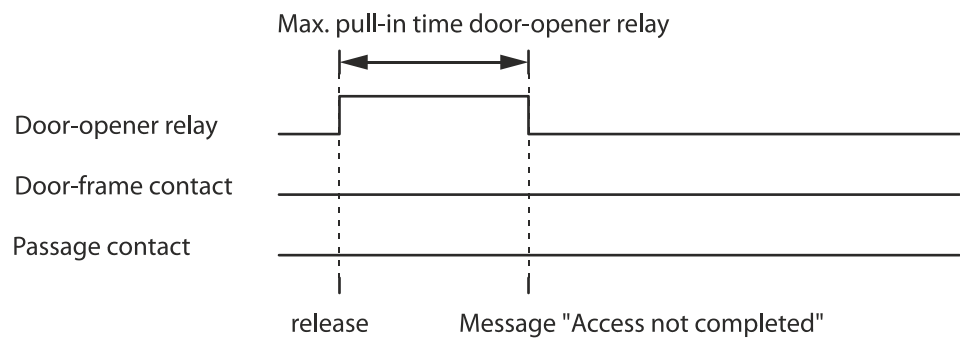


4.3.3 Examples of door surveillance time sequences

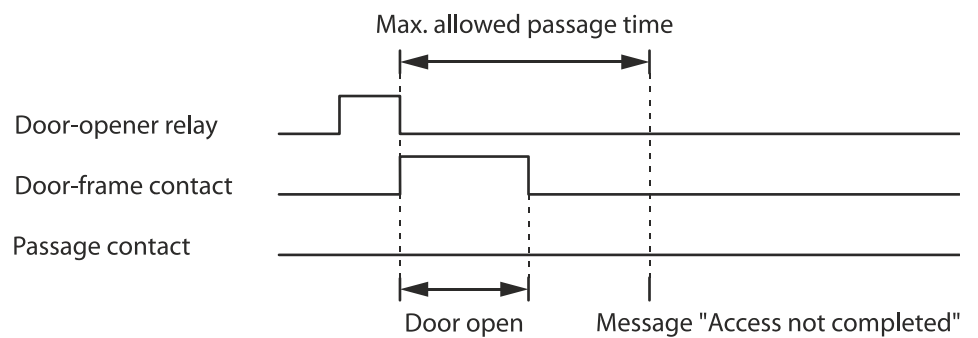
4.3.3.1 Normal sequence with pass through control



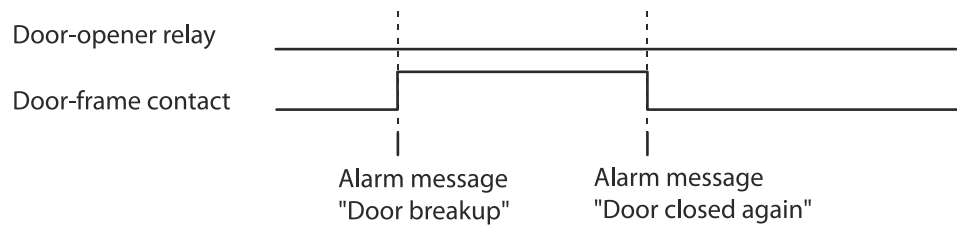
4.3.3.2 Door is not opened after release (extended access control)



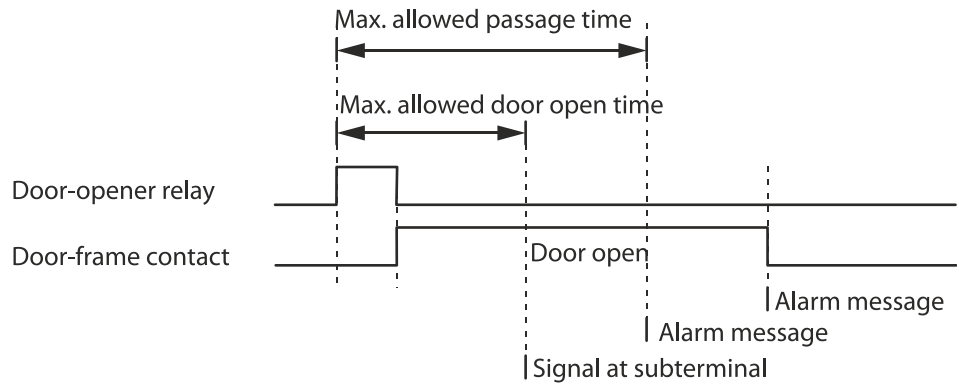
4.3.3.3 No pass through (extended access control)



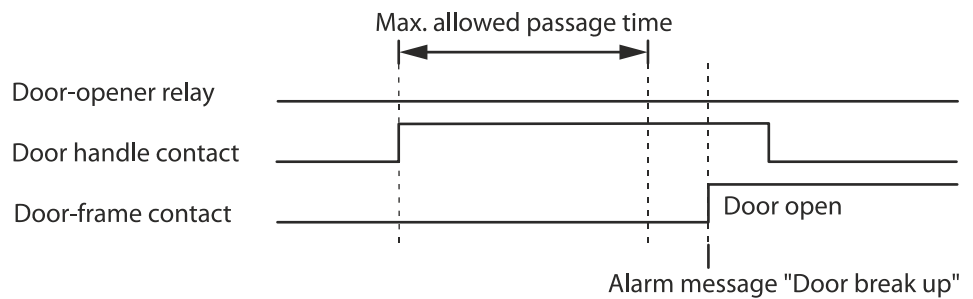
4.3.3.4 Door breakup (door monitored in basic state)



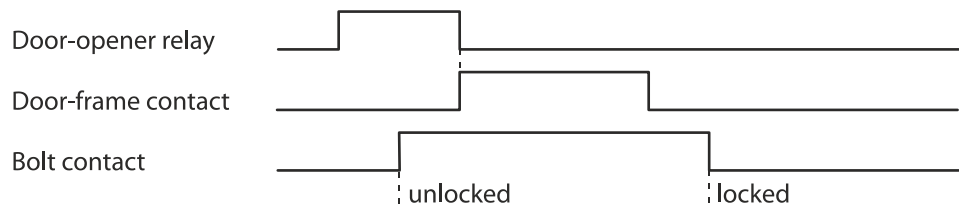
4.3.3.5 Door open too long



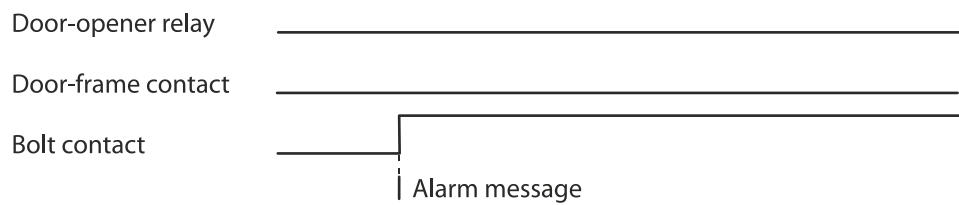
4.3.3.6 Time exceeded access with door handle



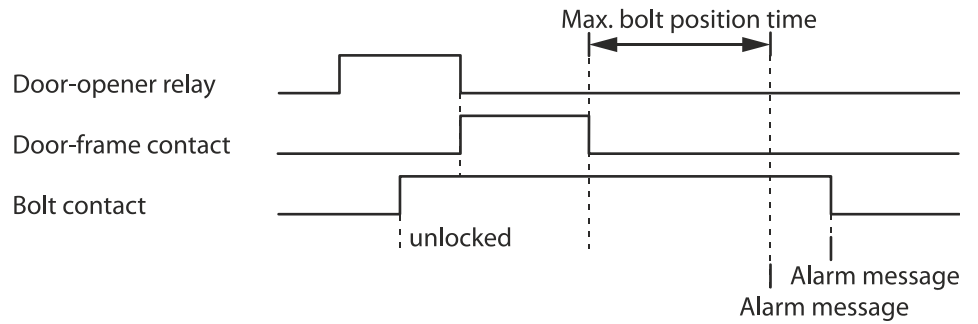
4.3.3.7 Bolt monitoring, normal sequence



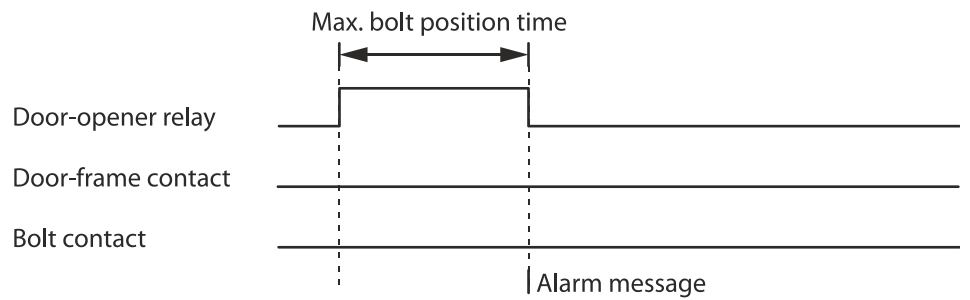
4.3.3.8 Bolt monitoring, bolt message without door release



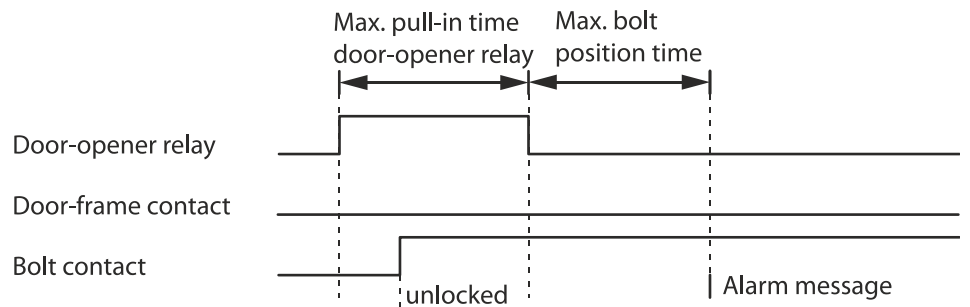
4.3.3.9 Bolt monitoring, bolt position time exceeded when locking



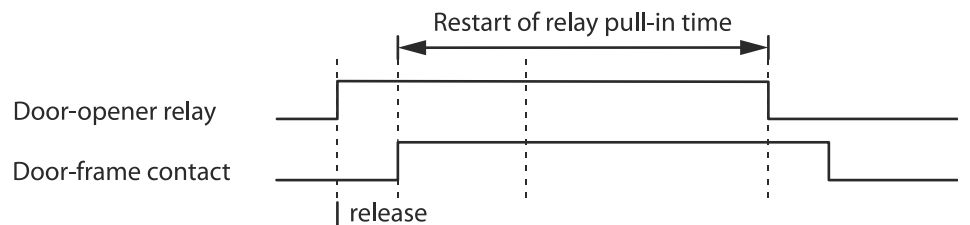
4.3.3.10 Bolt monitoring, bolt position time exceeded when unlocking



4.3.3.11 Bolt monitoring, bolt position time exceeded when locking – after door has not been opened

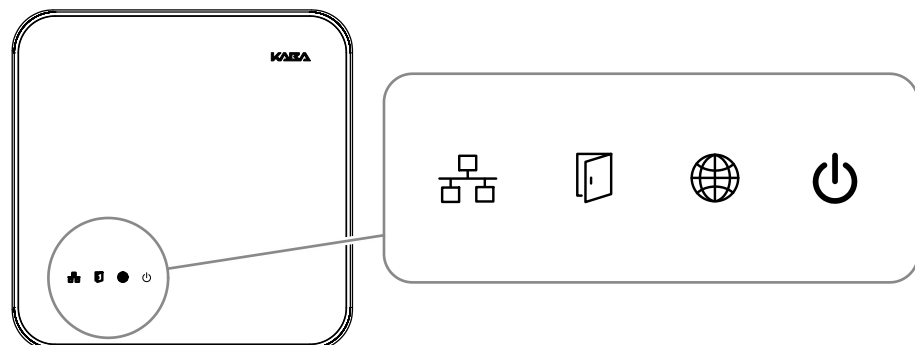






4.3.3.12 Normal sequence with motor-driven door



4.4 Light emitting diodes

The housing front contains 4 light emitting diodes for status display.



Icon	Designation	Signal	Meaning
	Ethernet	yellow	Data transfer is active
		Off	No data transfer
	Device status	See chapter 4.4.1	
	no function	-	-
	Power	green	Device power supply is stable
		red	Load of the device power supply is within the limits. Application of further load leads to the switch-off due to overload.
		Off	no power supply

4.4.1 Device status

The status of the device is indicated by the LED with the following icon.



The signal sequences and their meaning depend on the terminal software used.

4.4.1.1 B-Client AC30 terminal software

The B-Client AC30 terminal software signals different states and sequences via the State LED as follows.

System start

After starting the device, the system performs several steps until it is ready for use. These steps are signaled as follows:

Signal	Meaning
Yellow (approx. 40 sec.)	The operating system is started
Yellow flashing (approx. 10 sec.)	Waiting for possible key actuation (cold start)
Red (approx. 5 sec.)	Waiting for possible key actuation (default IP)
Green, then short green flashing signals	The terminal software is started.

Status and error states after system start

Signal	Meaning
Green	Terminal software was started successfully.
Red/green flashing	1-Click installation active The device is waiting for registration by the host (B-COMM).
Yellow flashing	Terminal software was not started. Reason: No or invalid software license
Red flashing	Terminal software could not be started. Reason: Program or configuration file(s) not available or defective
Green flashing (long green flashing signals)	Terminal software must be restarted. Reason: Network parameters were changed



If the terminal software cannot be started by the system, a file named "appstate" will be created. This file contains an entry indicating the reason for the abort.

The "appstate" file is stored in the /home/admin/ directory.

5 Installation

5.1 Installation conditions

5.1.1 General

An accurate installation of all components is a basic requirement for a properly functioning device. The following installation instructions must be adhered to.

5.1.2 Installation site

The access manager is installed near the access. The device is designed for the direct mounting on the wall. Depending on the conditions, the device can also be mounted in suspended ceilings, wall recesses etc.

The access manager should be installed in the interior of the area to be secured.

The access manager must be installed exclusively in interiors.

Electromagnetic fields

The device must not be installed in the area of strong electromagnetic fields caused by switching power supply, power lines, phase controllers, etc.!

5.1.3 Connections

The following connectors must have been prepared at the installation site of the access manager:

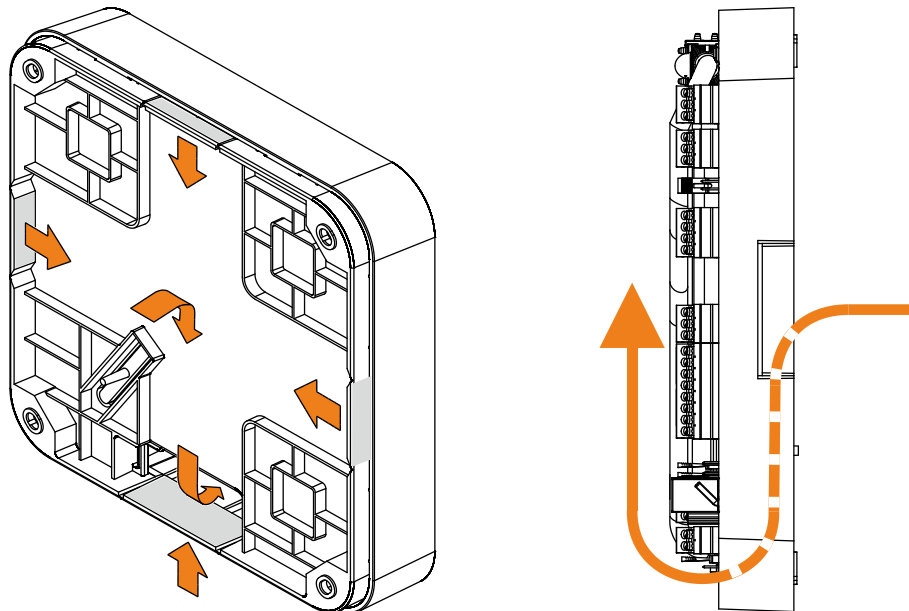
- Ethernet network connection for host communication
 - For PoE power supply of the access manager, a PSE (Power Sourcing Equipment) must be provided on the network cable for power feeding.
 - Possible methods for feeding the power supply via the PSE:
 - End span (direct supply, e.g. via PoE switch)
 - Midspan (supply via intermediate sources, e.g. PoE injector)
- 24 V DC power supply for the access manager (only for external 24 V DC power supply as an alternative to the PoE power supply)
- Signal lines to door openers and contacts
- Coaxial lines to the registration units and/or data lines to the readers.



The installation lines have to be flush with the surface or be laid in the vandal-proof area.

5.1.4 Cable entry

The installation lines can be routed to the device from behind, from the side, from above and below.



There are holes in the bottom part of the housing, on the sides and on the top and bottom; they can be removed if necessary,

The lines are routed in a duct in the lower part of the rear side, there is the gland to the connections on the front side.



NOTICE

Ensure sufficient line lengths on the installation site.

When inserting the lines from the rear (center of the housing), the installation lines and network cable with the plug protrude from the wall for approx. 35 cm.

5.2 Installation diagram

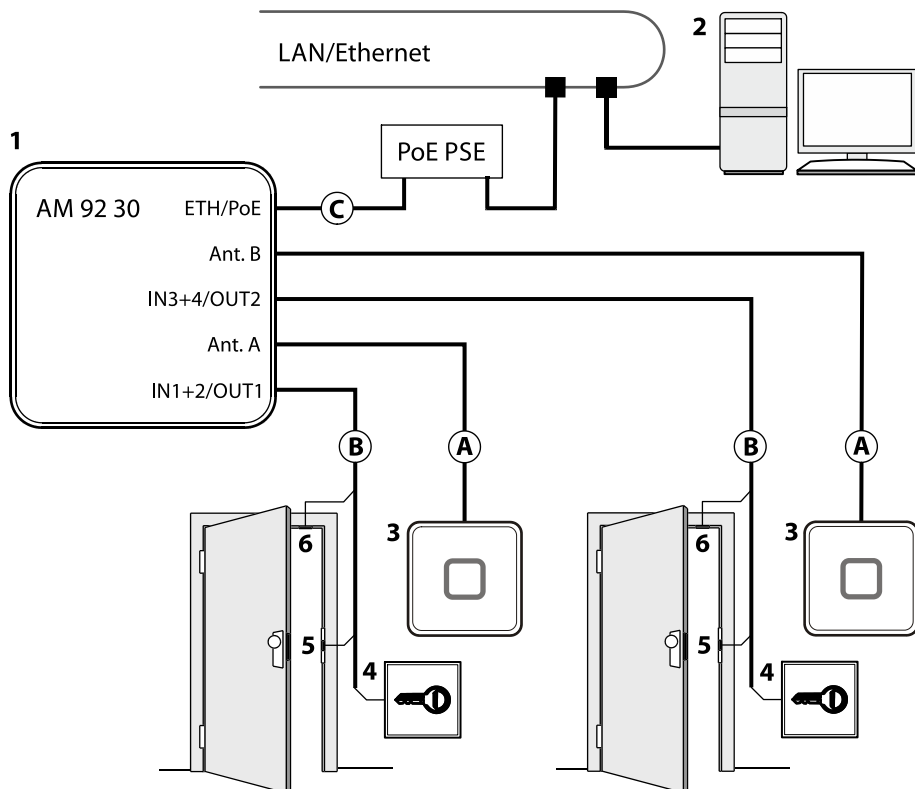
5.2.1 Access control with registration unit

Example:

- Access control with RFID registration units
- PoE power supply of the access manager

Method for feeding in the power supply via the PSE (Power Sourcing Equipment):

- End span (direct supply, e.g. via PoE switch)
- Midspan (supply via intermediate sources, e.g. PoE injector)



- 1 Kaba access manager 92 30
- 2 Host computer
- 3 Registration unit
- 4 Door opener key
- 5 Door-opener
- 6 Door frame contact

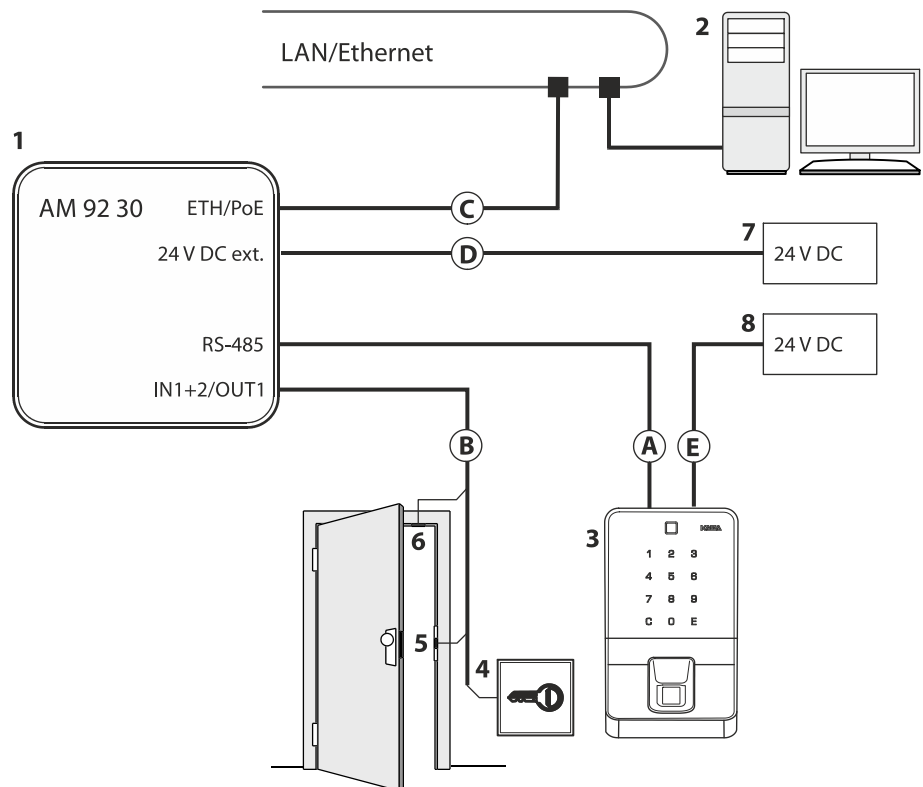
Installation lines

- A Coaxial cable to the registration unit
- B Line to the door contact, the door opener key, and the door opener
- C Ethernet network cable

5.2.2 Access control with reader via RS-485

Example:

- Access control with biometric reader via RS-485
- External power supply of the biometric reader
- External power supply of the access manager



- 1 Kaba access manager 92 30
- 2 Host computer
- 3 Biometric reader
- 4 Door opener key
- 5 Door opener
- 6 Door frame contact
- 7 External 24 V DC power supply for the access manager
- 8 External 24 V DC power supply for the biometric reader

Installation lines

- A Data line to the reader (RS-485)
- B Line to the door contact, the door opener key, and the door opener
- C Ethernet network cable
- D Power supply line Access manager
- E Power supply line Biometric reader

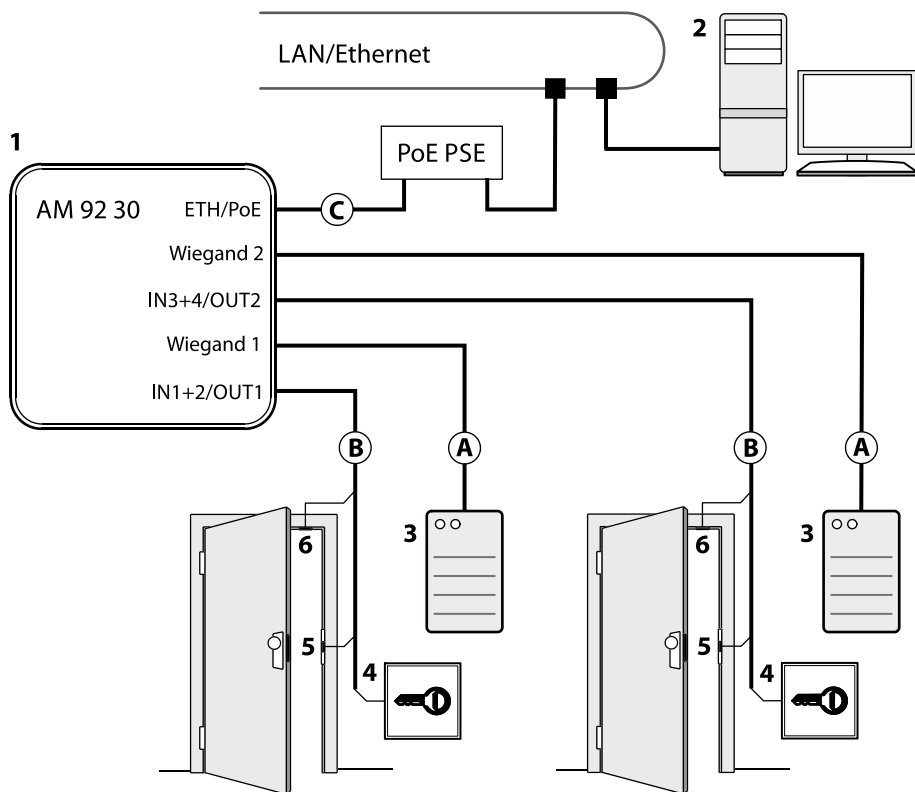
5.2.3 Access control with readers via Wiegand

Example:

- Access control with external readers via Wiegand interface
- PoE power supply of the access manager

Method for feeding in the power supply via the PSE (Power Sourcing Equipment):

- End span (direct supply, e.g. via PoE switch)
- Midspan (supply via intermediate sources, e.g. PoE injector)



- 1 Kaba access manager 92 30
- 2 Host computer
- 3 External reader equipped with Wiegand interface
- 4 Door opener key
- 5 Door-opener
- 6 Door frame contact

Installation lines

- A Data cable to the reader (Wiegand)
- B Line to the door contact, the door opener key, and the door opener
- C Ethernet network cable

5.3 Installation lines

5.3.1 Ethernet

Network cable with RJ45 plug, Line requirement: CAT.5 E or higher quality.

5.3.2 Power supply of the reader

For short distances of up to 20 meters max., a single cable may be used for the power supply for the reader and data line. A separate power supply cable needs to be provided for longer distances.

Recommended cable: 1 x 2 x 0.6 mm or 1 x 2 x AWG 24.



In case of long lines, the voltage drop due to line resistance will have to be considered.

5.3.3 Data line to reader/subterminal

Connection to the readers is performed via partyline, a 2-wire RS-485 interface. For this connection, you may choose a star topology or a bus topology.



No further signals or voltages may be transmitted via the data cable to the reader, for example door-opener activation, door-frame contact, etc. (exception power supply up to a line length of 20 m).

The shielding of the data line is generally connected on both sides.

The complete bus network (master lines and stubs) may be up to 1,200 m long. One stub must not exceed 100 m.

Line requirements:

Shielded line with twisted wire pairs. Cables with wire diameter from 0.25 mm² to 1 mm² can be used.

Recommended cable:

CAT.5 S/UTP 4 x 2 AWG 24 or AWG 22 (according to EIA/TIA568).

5.3.4 Line to the door opener, the door opener key, and the door contacts

Line requirements: Cable diameters from 0.5 mm to 0.8 mm.

Recommended cable: CAT.5 S-UTP 4 x 2 AWG 24 or AWG 22 (according to EIA/TIA568) or higher.

5.3.5 Coaxial cables to registration units

Registration units are connected to the access manager via coaxial cables. The coaxial cable transfers the HF signals from the RFID antenna, keyboard data and trigger data for the optical and acoustic signal generators.

Line requirements: Coaxial cable 50 ohms, type RG174/U.

Maximum cable length: 30 m

Recommended cable length: < 10 m

5.3.6 Line to the Wiegand reader

Line requirements: Shielded line 6 x 0.6 mm (0.34 mm²) or 6 x 22 AWG

Maximum line length: 10 m



Length and technical design of the line must comply with the requirements specified by the reader manufacturer.

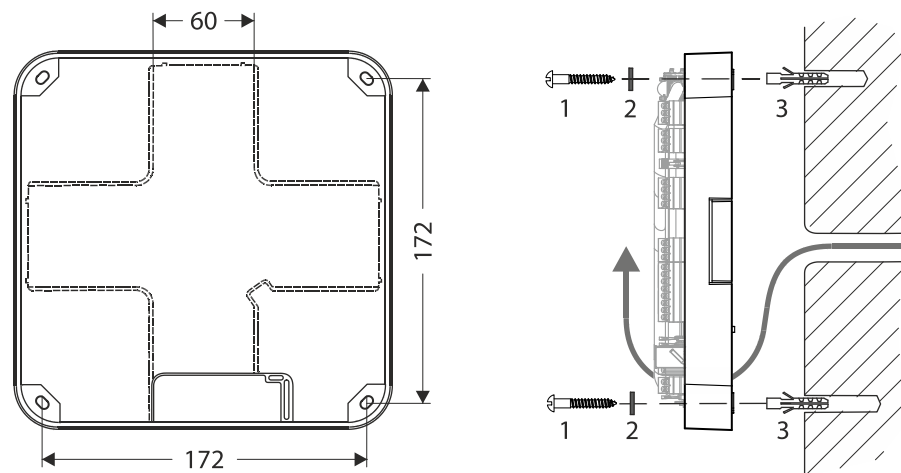
5.4 Wall mounting

When feeding the cable from the side, top or below, first, provide holes for the entry of the installation lines. Not necessary for cable entry from the rear.

The housing is mounted directly to the wall using screws/dowels. There are three oval fastening holes for fastening in the housing.

Fastening material (included in the delivery):

- 4 round-head wood screws DIN 96, diam. 4.5 x 35 (1)
- 4 washers (2)
- 4 dowels S6 (3)



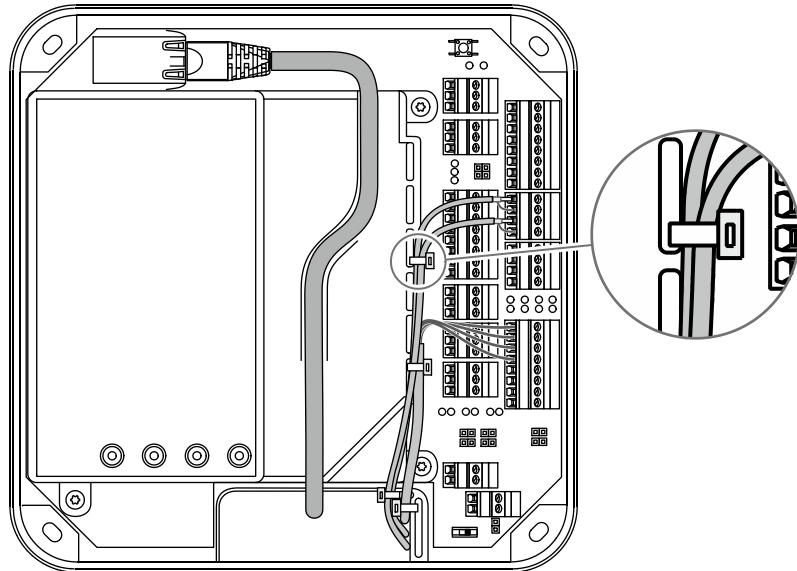
The washers absorb mechanical tensions in case of slightly uneven surfaces and cover the fastening hole completely once the screw has been tightened. The delivered washers must also be used if you use other fastening screws (depending on the mounting surface).

In case of soft mounting surfaces, make sure that the housing is not pressed into the surface when mounting it. The unevenness of the mounting surface may not exceed 0.5 mm. The unevenness of the mounting surface may have to be compensated for or adjusted by means of suitable measures (e.g. washers).

The installation lines are led down in the duct on the rear side of the device and then to the front side of the device with connections. Make sure that the lines are not squeezed or buckled during mounting.

5.5 Cable routing

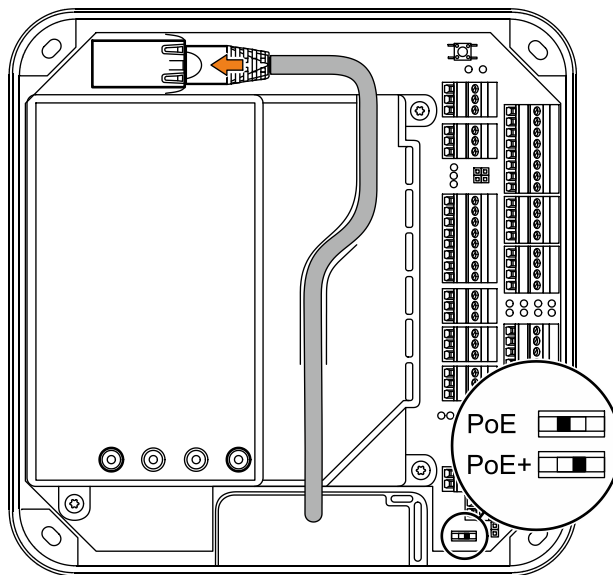
The installation lines are guided through an opening on the bottom side of the device from the rear side to the front side of the device.



The cable passage and the internal cover have eyelets for fastening of installation lines by means of cable ties (not included in the scope of delivery).

For the network cable, there is a routing duct on the inner cover.

5.6 Setting the PoE switches



Depending on the power supply type, the PoE switch must be set as described below.

Power supply	Standard/Power	Switch position
PoE	IEEE 802.3af (12.95 W)	PoE
PoE+	IEEE802.3at (25.5 W)	PoE+
External 24 V DC power supply unit	12-60 W	PoE+

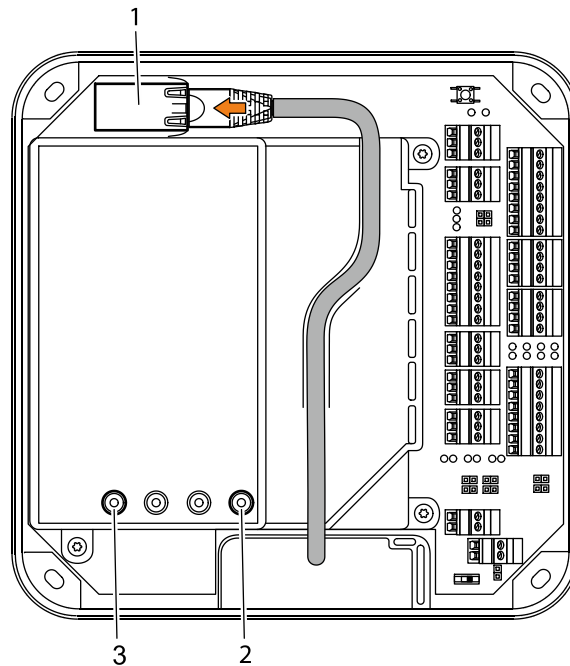
In case of power supply via an external power supply unit, the switch position PoE+ is required to prevent the access manager from limiting the power for external consumers.

5.7 Connections

5.7.1 Network connection

Establishing the network connection

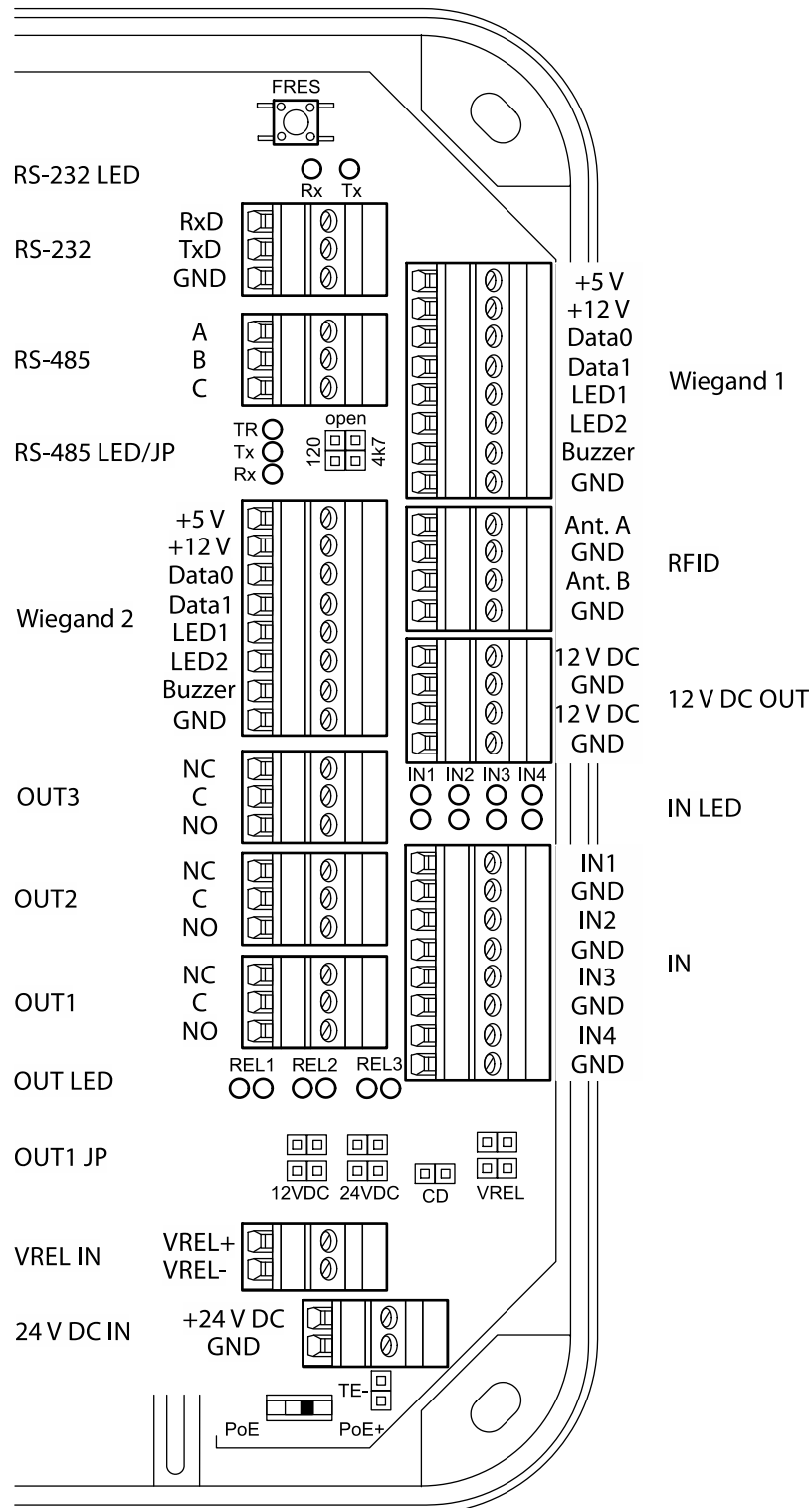
Plug in the network cable into the Ethernet receptacle (1) and fasten it in the gland on the cover.



If the power supply is correct, the Power LED (2) lights up in green after a short time. Once the network connection has been established, the Ethernet LED (3) is flashing in yellow.

5.7.2 Overview of terminals

The following terminals are located in the connection area of the device.



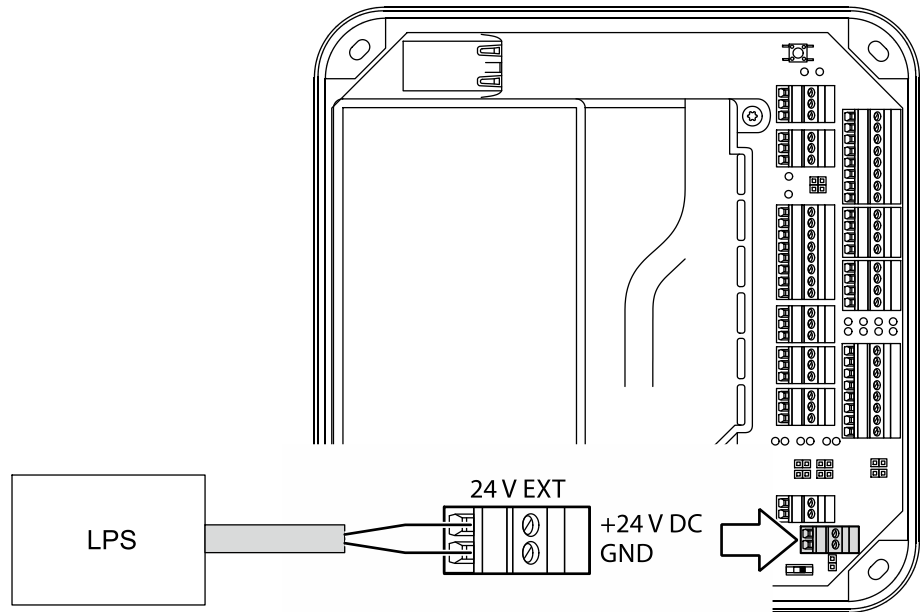
Depending on the device variant, the terminals RFID or Wiegand 1+2 are not available.

5.7.3 External 24 V DC power supply

As an alternative to the PoE power supply, the access manager can also be supplied via an external 24 V DC power supply unit.

The connection of the external power supply is performed at terminal 24 V EXT.

The PoE switch [▶ 5.6] must be set to "PoE+" position in this case.

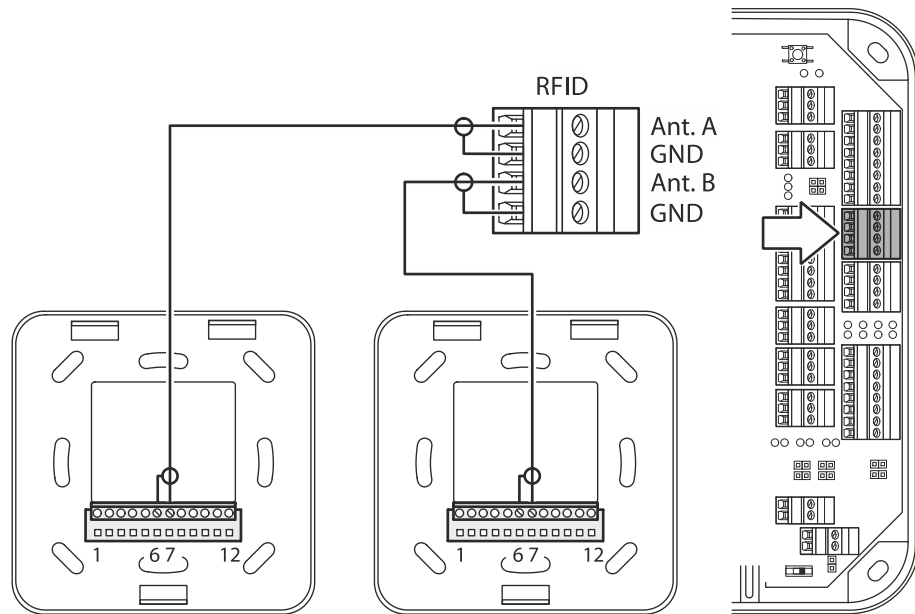


Use only power supply units that fulfill the requirements of EN 60950-1 as limited power source.

5.7.4 Registration units

Up to 2 registration units can be connected. The registration units A + B are connected by means of the coaxial cable to the RFID input terminal.

Example: Connection of Kaba registration unit 90 01/90 02.



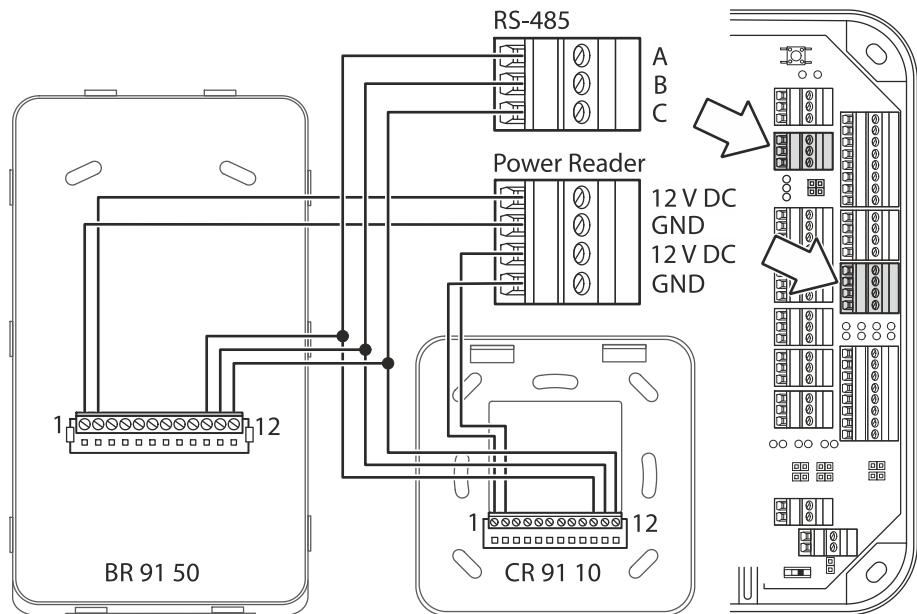
Connection designation	Assignment
Ant. A/B	Central conductor of coaxial cable
GND	Shield of coaxial cable

5.7.5 Readers via RS-485

The RS-485 interface serves for communication with readers. The RS-485 interface (connections A, B, C) is operated in 2-wire mode. For this connection, you may choose a star topology or a bus topology.

In case of star wiring, an additional support point terminal needs to be provided to allow parallel distribution of RS-485.

Example: Connection of biometric reader 91 50 and compact reader 91 10 via RS-485 interface with 12 V DC power supply from the access manager.



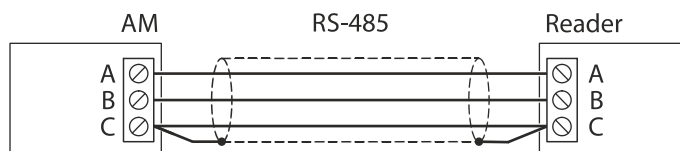
5.7.5.1 Connection diagram

Twisted-pair cabling is used for the lines A and B. Lines are wired one-to-one, i.e., line A of the access manager to line A of the reader and line B of the access manager to line B of the reader.

5.7.5.2 Shielding

The data line shielding is generally connected on both sides. For this, connect the additional wire to connection C.

Insulate the additional wire with heat-shrink tubing to avoid short-circuits!

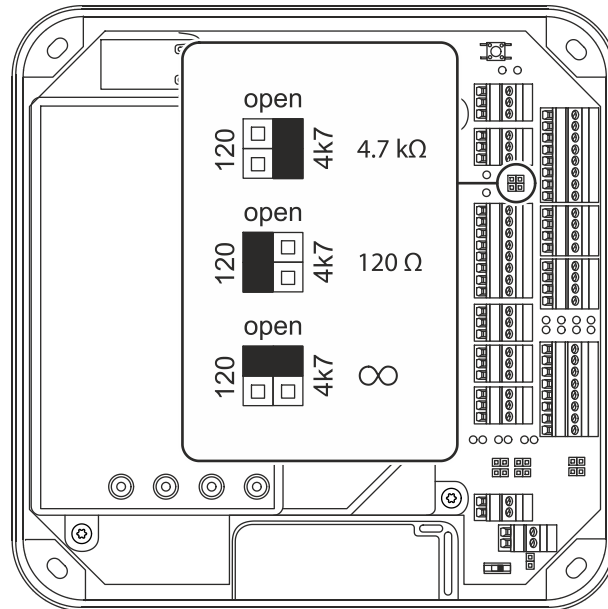


5.7.5.3 Line lengths

The complete bus network (master lines and stubs) may be up to 1,200 m long. One stub must not exceed 100 m.

5.7.5.4 Bus termination

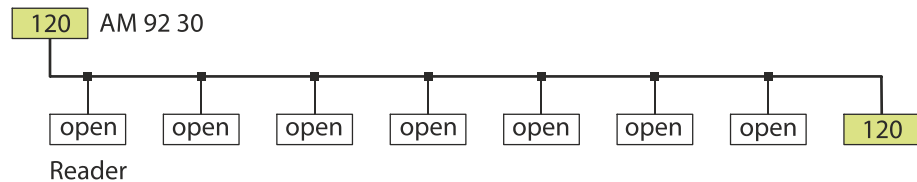
Below the RS-485 terminal, there is a jumper for setting the RS-485 terminating resistor.



The selection of the terminating resistors depends on the connection architecture.

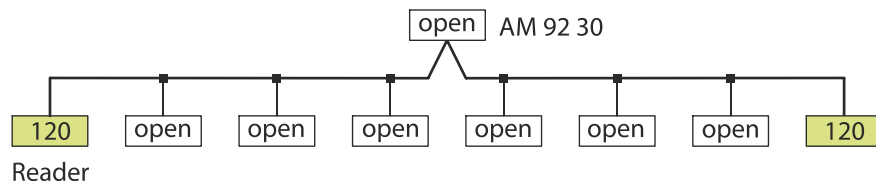
Bus with one root

The first device of the bus (access manager 92 30) and the last device of the bus (reader 8) need a 120-ohm terminating resistor.



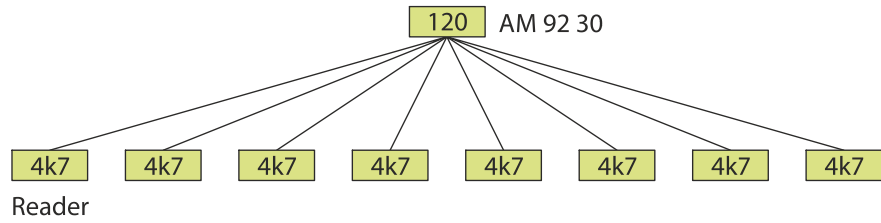
Bus with two roots

The last device of the first root and the last device of the second root need a 120-ohm terminating resistor.



Star wiring

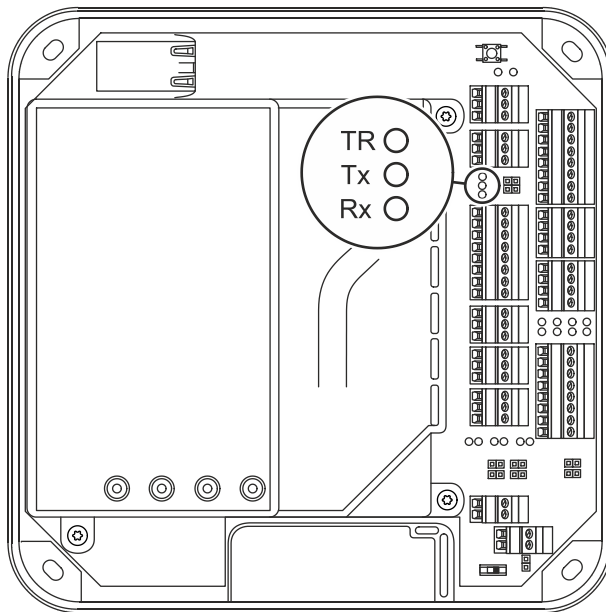
The example shows a star-type reader connection with 8 branches. The access manager requires a 120-ohm terminating resistor. All readers require a 4.7-kOhm terminating resistor.



In readers, the terminating resistor can be set by means of a DIP switch.

5.7.5.5 RS-485 LEDs

Three light emitting diodes are located below the RS-485 terminal. They indicate the states of the RS-485 interface.



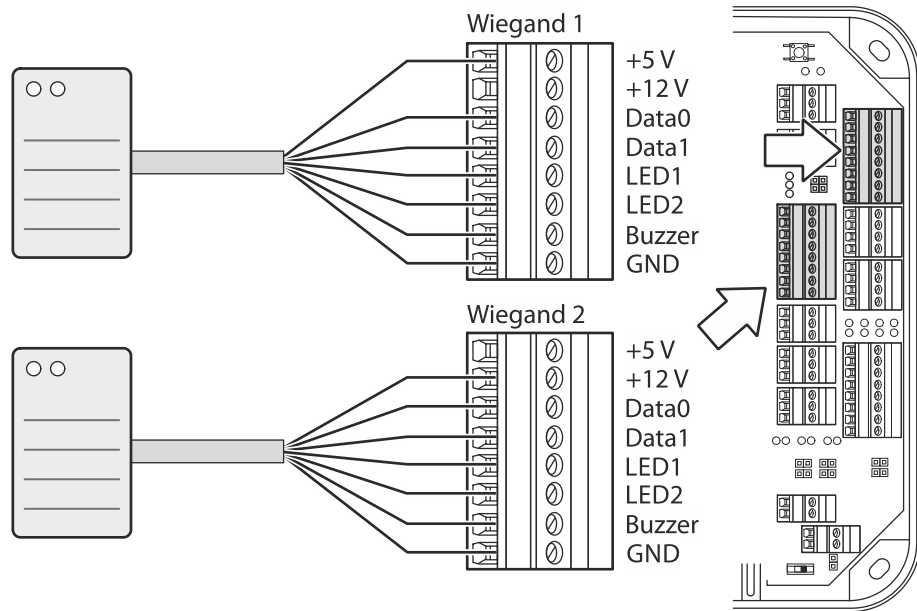
The signals have the following meaning:

Designation	Signal	Meaning
TR	Off	Transmission direction, no readiness for reception
	Lit	Readiness for reception
Tx	Off	No data
	Lit/flashing	Data are being sent
Rx	Off	No data
	Lit/flashing	Data are being received

5.7.6 Readers via Wiegand

Two readers can be connected to the access manager via the Wiegand interface.

Example: Reader connection via Wiegand with 5 V and 12 V power supply from the access manager.



5.7.7 Inputs

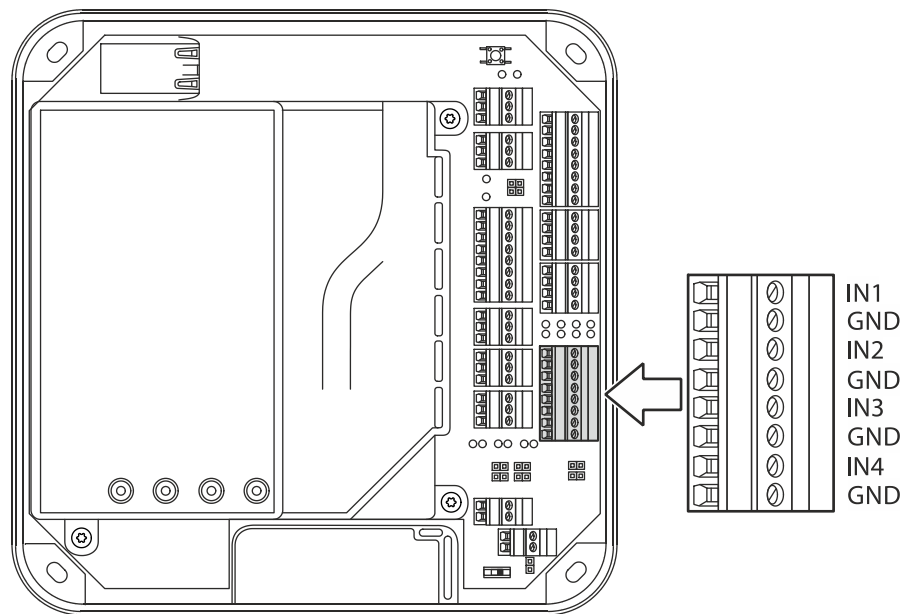
The access manager has 4 inputs IN1 to IN4.

Function of the inputs

The inputs are used for the inquiry of sensors such as door-opener key, door handle contact, door frame contact, bolt contact, vandal contact, pass-through contact (e.g., turnstile, light barrier), etc.



The function of the individual outputs depends on the settings of the terminal software.



Principle

The inputs (IN1-IN4) are connected to GND using a simple switch or relay contact. An open input is recognized as “high” due to the internal pull-up resistor. Ground potential equals “low.”

5.7.7.1 Line monitoring

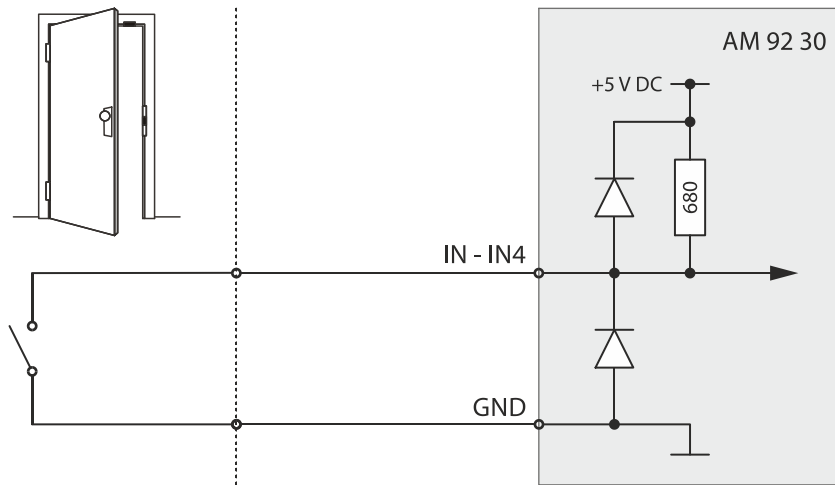
The inputs can be designed as follows:

- Without line monitoring
- With line monitoring (if supported and activated by the terminal software)

Line monitoring allows the terminal software to detect the states short circuit and interruption, in addition to the states active (input closed) and not active (input open) and report them to the higher-level system.

The current states of the inputs are signaled by light emitting diodes [► 5.7.7.5].

5.7.7.2 Non-line-monitored inputs

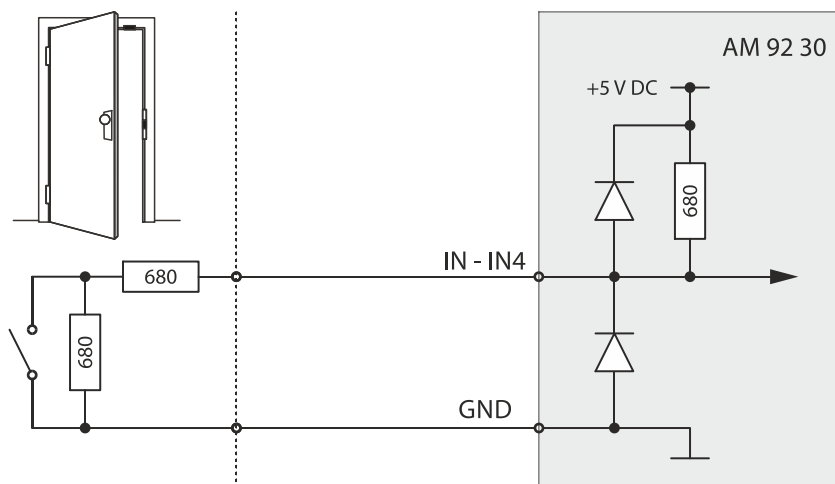


Example: Connection to door frame contact not line-monitored.

Tampering to lines between access manager and door frame contact is not detected.

5.7.7.3 Line-monitored inputs

With line monitoring activated, resistors (680 Ω , 0.25 W, 2 %) must be connected in series and in parallel to the respective contact. The resistors must be attached in a vandal secure manner directly to the external contact.



Example: Connection to door frame contact line-monitored.

Tampering to lines between access manager and door frame contact is detected.

5.7.7.4 Switching criteria

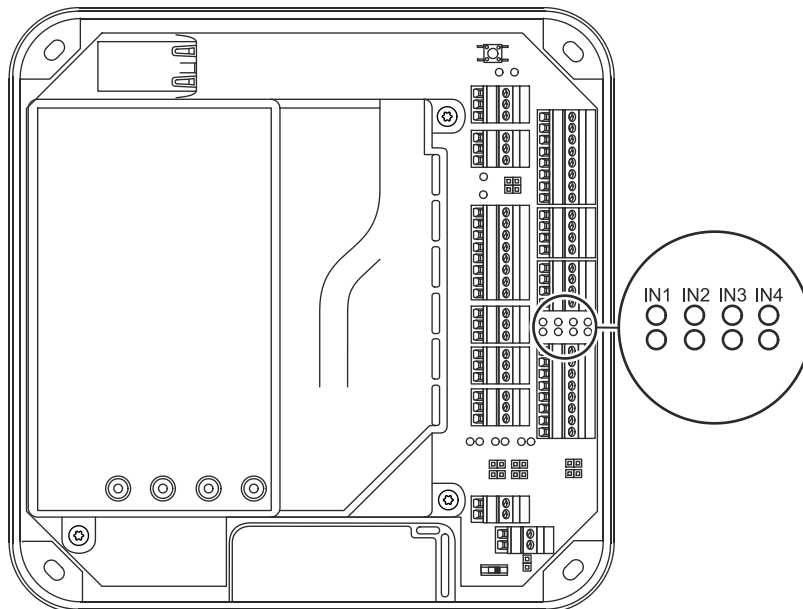
Function	Contact	State
Vandal contact	open:	Vandalism alarm
	closed:	Idle state
Door-opener key	open:	Idle state
	closed:	Door opener key pressed
Door frame contact	open:	Door open
	closed:	Door closed
Bolt contact	open:	Door unlocked
	closed:	Door locked
Entry contact	open:	Idle state
	closed:	Entry taken place
Door handle contact	open:	Idle state
	closed:	Door handle operated
Block access points	open:	Idle state
	closed:	All assigned access doors locked (all door-opener relays drop out)
Release access points	open:	Idle state
	closed:	All assigned access doors released (all door-opener relays are pulled-in, e.g. emergency in case of fire)



The states described correspond to the default settings. Depending on the settings of the terminal software, the states can also be interpreted inverted (see reference manual of the terminal software).

5.7.7.5 Status display

Above the terminal for the inputs, there are light emitting diodes for status display of the inputs.



The current status of the inputs is indicated by a red and green LED respectively as follows.

Designation	Signal	Meaning
IN1 - IN4	Off	Input is not active (open)
	lit green	Input is active (closed)
	red and green lit	Short circuit*
	red lit	Interruption*

* only with active line monitoring

5.7.8 Outputs

The access manager has 3 relay outputs OUT1 to OUT3.

Contact rating: 30 V AC/DC; 2 A max.

The outputs can be used for the activation of motor locks, door openers, turnstile drives, technical alarm day/night, security alarm day/night etc.

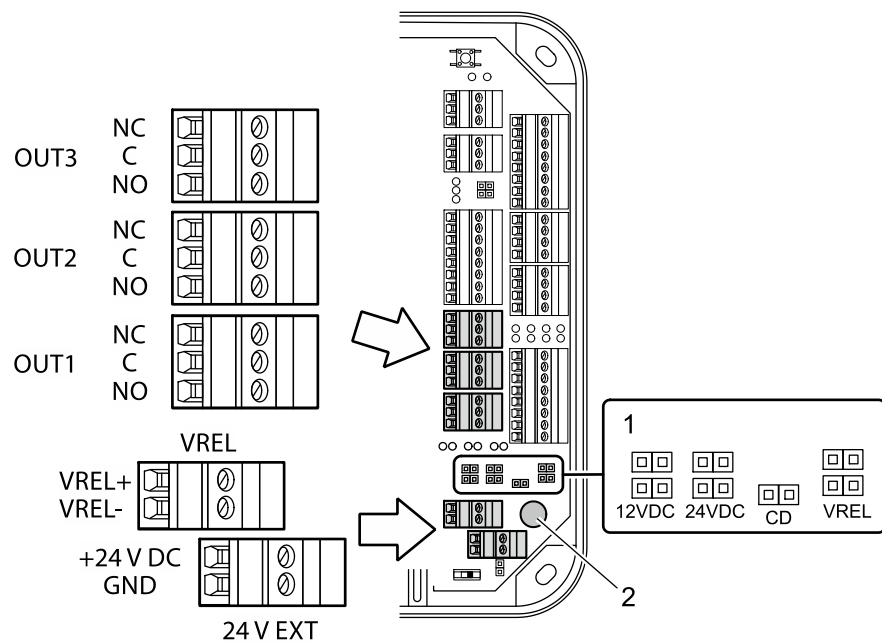


The function of the individual outputs depends on the settings of the terminal software.

The wiring of the output OUT1 can be adjusted via jumper (1). The following variants are possible as an alternative:

- OUT1 is used as a potential-free contact
- The internal 12 V DC power supply is switched to the output OUT1.
- A DC power supply applied to the VREL terminal is switched to the output OUT1.
- The external 24 V DC power supply (24 V EXT terminal) is switched to the output OUT1.

The outputs OUT2 and OUT3 are designed permanently as potential-free relay outputs with one switching contact each.



- 1 Jumper for the wiring of output OUT1
- 2 Fuse F1 for protection of the power supply via OUT1
Fuse value: T2.5 A

The fuse is plugged in and can be replaced without problems.



The fuse F1 may only be replaced with fuses of the same type.

5.7.8.1 OUT1 as potential-free switching contact

By setting the jumper with the designation CD, the OUT1 output can be used similarly to the outputs OUT2 and OUT3 as potential-free switching contact.

Principle of output wiring		Jumper position
	<p>IMPORTANT: Only the CD jumper may be set. All other jumpers may not be set.</p>	

5.7.8.2 Switching 12 V DC to OUT1

By setting the jumper with designation 12 V DC, the internal 12 V DC power supply is switched to the OUT1 output. Consumers, for example door openers which are operated with 12 V DC can be directly connected to OUT1 in this way.

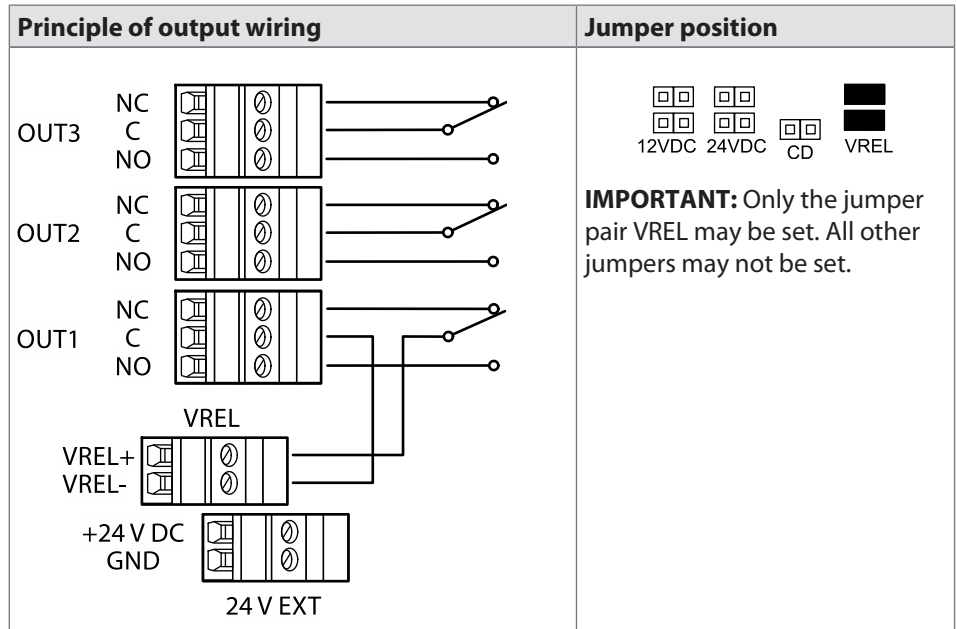
This variant can be used both with device power supply via PoE and device power supply via an external 24 V DC power supply unit.

Principle of output wiring		Jumper position
	<p>IMPORTANT: Only the jumper pair 12 V DC may be set. All other jumpers may not be set.</p>	

5.7.8.3 Switching the external DC power supply to OUT1

By setting the jumper pair with designation VREL, a DC power supply connected via the VREL terminal (max. 30 V DC, 2 A) is switched to the OUT1 output.

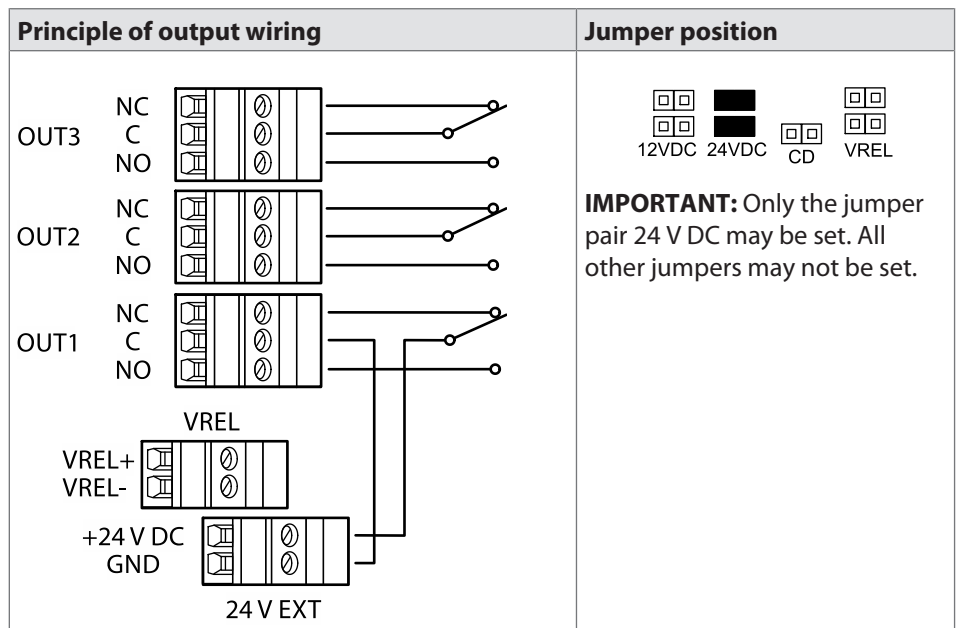
This variant can be used both with device power supply via PoE and device power supply via an external 24 V DC power supply unit.



5.7.8.4 Switching 24 V DC to OUT1

By setting the jumper pair with designation 24 V DC, the 24 V DC power supply (terminal 24 V EXT) is switched to the OUT1 output. Consumers, for example door operators which are operated with 24 V DC, can be directly connected to OUT1 in this way.

This variant can be used only with device power supply via an external 24 V DC power supply unit. Not for power supply via PoE.



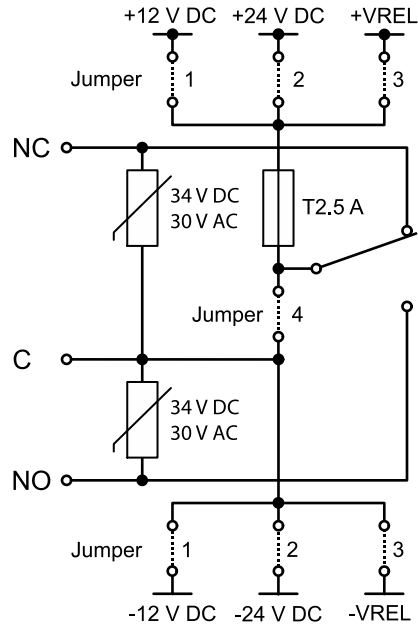
5.7.8.5 Principle of output wiring

OUT1

The jumper pairs 1 - 3 are used to select the power supply which is switched directly to the consumer via the relay output OUT1.

The power supply is protected by a fuse.

By setting the jumper 4 (designation CD), OUT1 can also be used as a potential-free switching contact.

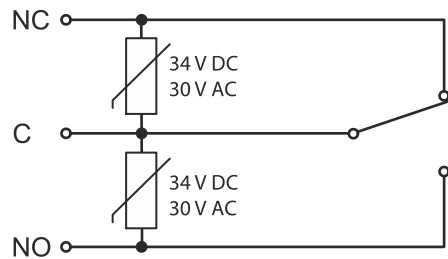


- 1 Switch the internal 12 V DC power supply to OUT1
- 2 Switch 24 V DC power supply (terminal 24 V EXT) to OUT1
- 3 Switch the external DC power supply (terminal VREL) to OUT1
- 4 Use OUT1 as potential-free switching contact

Only the jumpers may be set to a setting. I.e. jumper pair 1 or 2 or 3 or jumper 4.

OUT2 and OUT3

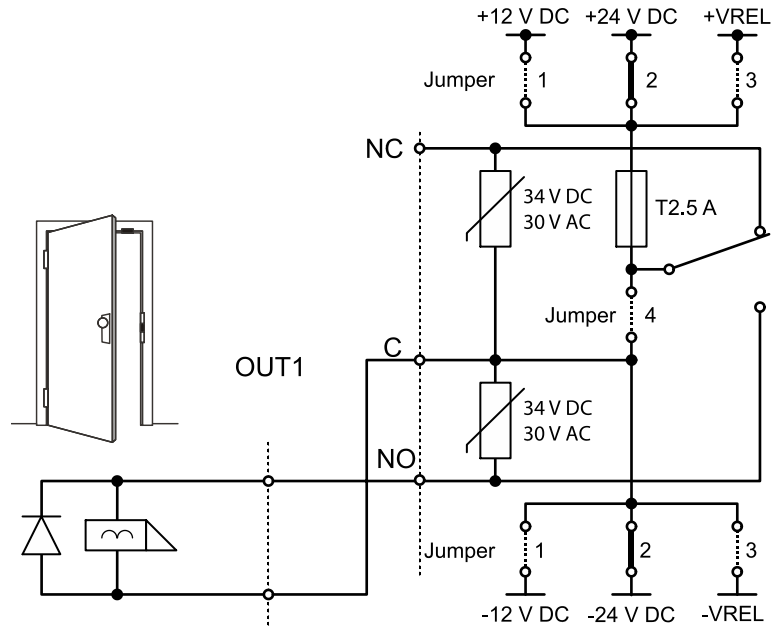
The outputs OUT2 and OUT3 are designed as potential-free relay outputs with one switching contact each.



5.7.8.6 Examples

Example 1

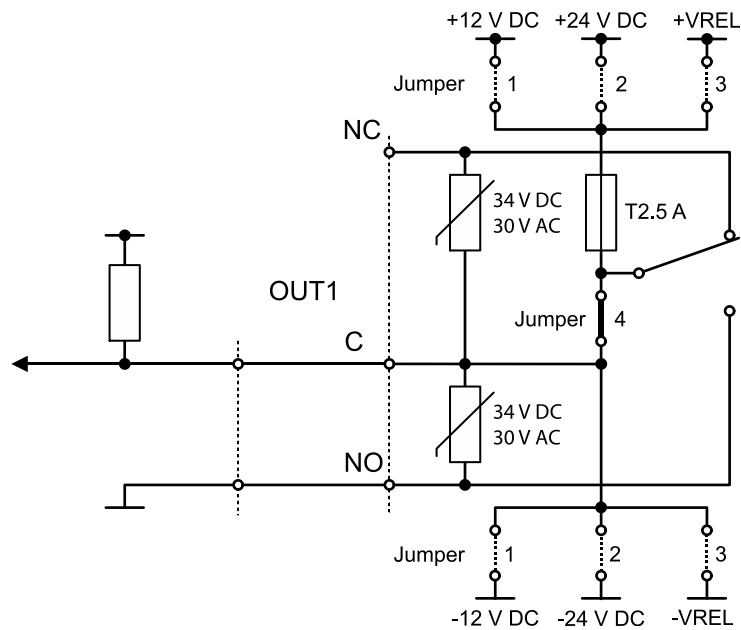
Connection of a door opener with 24 V DC power supply to OUT1.



Only jumper pair 2 is set. All other jumpers may not be set.

Example 2

Potential-free control of a digital input via OUT1.



Only jumper 4 is set. All other jumpers may not be set.

5.7.8.7 Connecting door openers

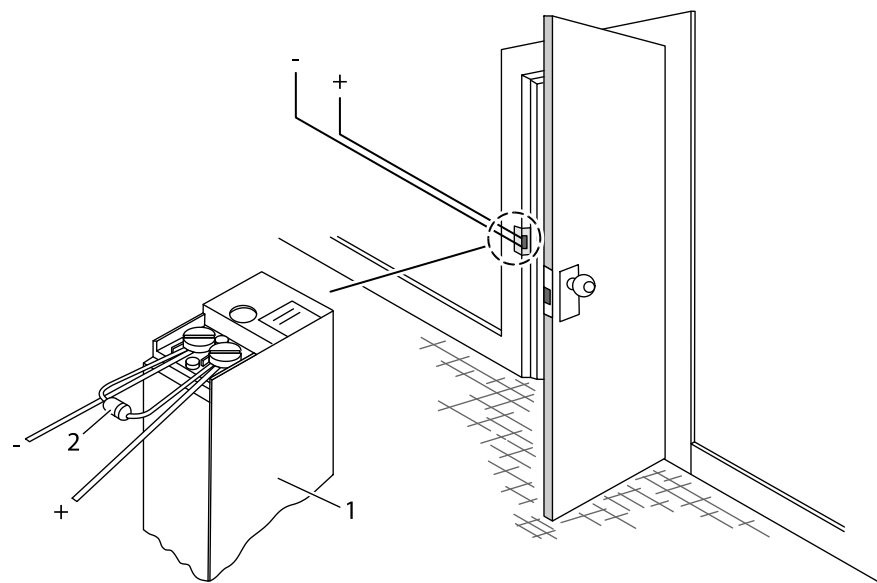
Closed-circuit door-openers and open-circuit door-openers can be used.

For door openers that are supplied with DC voltage, a diode (a freewheeling diode) must be connected in parallel to the door opener to suppress interference. In doing so, make sure that the diode is connected in reverse-bias direction and check the polarity of the connected voltage.

When using an alternating voltage power supply, a varistor or a bipolar suppressor diode must be connected in parallel. As regards the dimensioning and type, observe the specifications of the door opener manufacturer.

The diode or varistor must be connected directly to the door opener and may not be fitted to the access manager.

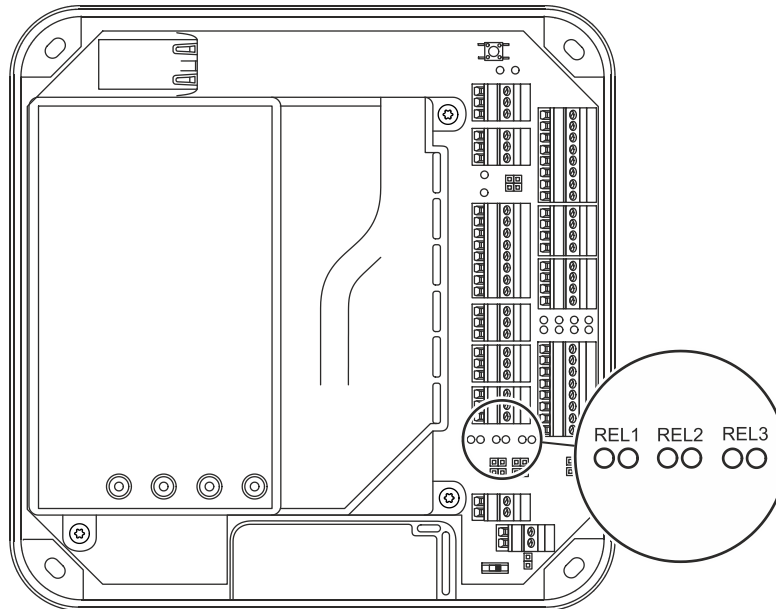
This step is not required if a door opener with internal varistor or diode is used.



- 1 Door-opener
- 2 Freewheeling diode or varistor

5.7.8.8 Status display

Below the terminals for the outputs, there are light emitting diodes for status display of the outputs.



The current status of the outputs is indicated as follows.

Designation	Signal	Meaning
REL1-3	Off	Relay is not pulled-in
	lit green	Relay is pulled-in

5.7.9 Standard assignment of inputs/outputs (B-Client AC30)

The following assignment for the inputs and outputs has been preset for the B-Client AC30 terminal software [► 5.7.10.3].

The assignment of the functions can be adjusted in the **b_client_ac30.ini** configuration file. Details on the configuration can be found in the B-Client AC30 reference manual.

5.7.9.1 Inputs

The following functions are assigned by default to the inputs by the terminal software.

Input	Connection	Function
BI01	IN1	Door frame contact 1
BI02	IN2	Door-opener key 1
BI03	IN3	Door frame contact 2
BI04	IN4	Door-opener key 2
BI36	IN5	Vandal contact

5.7.9.2 Outputs

The following functions are assigned by default to the outputs by the terminal software.

Output	Connection	Function
BO01	OUT1	Door opener relay Door 1
BO02	OUT2	Door opener relay Door 2
BO20	OUT3	General alarm

5.7.10 Configuration-dependent assignment (B-Client AC30)

The B-Client AC30 terminal software provides 6 default configurations which can be assigned via a door management parameter.

The configuration 2 (door-opener with 1 subterminal and 1 door-opener key) is the preset default upon delivery.

Below, 5 configurations are listed which can be used due to a limited number of inputs and outputs of Kaba access manager 92 30.

The tables on the following pages show the assignment of inputs and outputs for the corresponding configuration type.

5.7.10.1 Configuration 0: Subterminal without access

The inputs and outputs have no functions in this configuration. The logical group/device addresses 00/01 to 00/02 need to be set in the subterminals.

This configuration is recommended if the device is only used for time and attendance.

5.7.10.2 Configuration 1: Door with 2 door opener keys



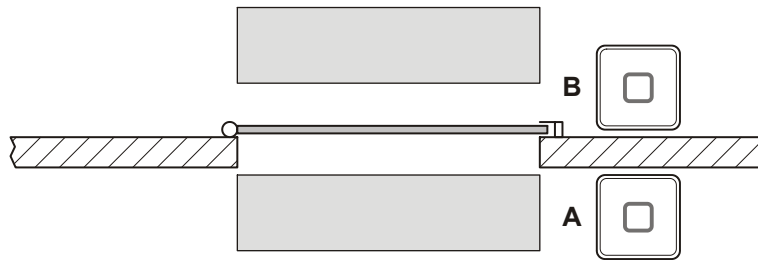
Access	1	2
Door frame contact	IN1	IN3
Door opener key	IN2	IN4
Door opener relay	BO1	BO2

5.7.10.3 Configuration 2: Door with 1 subterminal and 1 door opener key



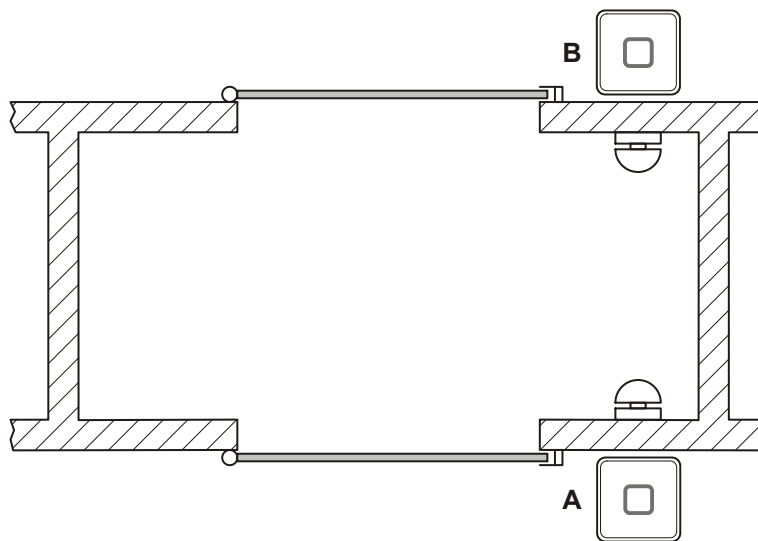
Access	1	2
Door frame contact	IN1	IN3
Door opener key	IN2	IN4
Door opener relay	BO1	BO2
GID/DID	00/01	00/02

5.7.10.4 Configuration 3: Door with 2 subterminals and contact mat, barrier, etc.



Access	1
Door frame contact	IN1
Barrier	IN2
Bolt contact	IN3
Door opener relay	BO1
Alarm relay	BO2
GID/DID Subt. A	00/01
GID/DID Subt. B	00/02

5.7.10.5 Configuration 4: Sally port with 2 subterminals and 2 door opener keys



Access	1 A	1 B
Door frame contact	IN1	IN3
Door opener key	IN2	IN4
Door opener relay	BO1	BO2
GID/DID	00/01	00/02

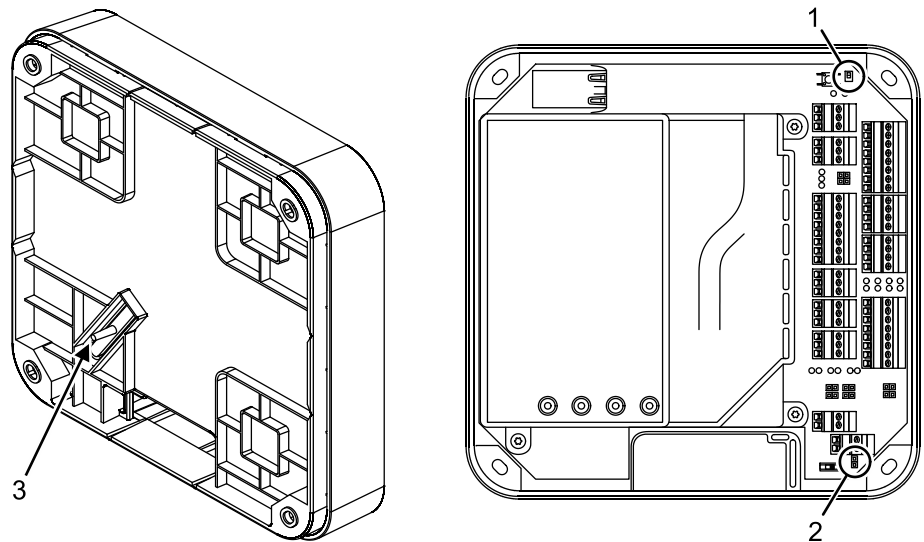
5.8 Vandal contact

The device has two vandal contacts (tamper).

A switching contact (1) is opened if the housing cover is removed.

Another switching contact (3) is opened if the device is removed from the wall.

Switching contact (3) is deactivated by the jumper with designation TE- (2) in the delivery state. To activate the switching contact (3), the jumper TE- (2) must be removed.

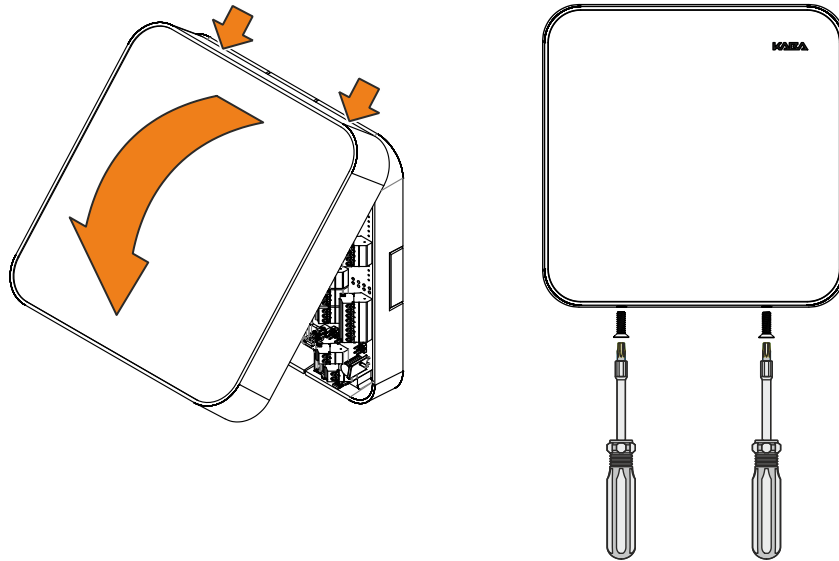


Opening of one or both switching contacts leads to the status indication of the internal input 5.

5.9 Fastening the cover

Fasten the housing cover in the following way:

1. Hang the mounting lugs of the housing cover at the top of the bottom part of the housing.
2. Pivot the housing cover down and close the housing.
3. Fasten the housing cover by means of two screws M3x8 (TORX 8) on the bottom part of the housing.



6 Start-up

6.1 Network requirements

Start-up and communication in regular operation are done via an Ethernet network.

To guarantee unhindered and trouble-free data traffic, the UDP ports used for communication must have been enabled.

The firewall configuration must therefore be adapted accordingly.

6.1.1 Communication

The UDP port used for communication between B-COMM and the terminal must have been enabled.

The UDP port is in the range from 7700 hex. to 77EF hex. (30464 dec. to 30703 dec.), depending on configuration.

6.1.2 Automatic registration via B-COMM

The network must have been equipped with a working DHCP server.

It must be possible to transfer UDP data packages unhindered to the B-COMM server.

- IP address 239.255.255.250, UDP port 1900 dec. and UDP port 7900 (30976 dec.) must have been enabled.
- The SSDP service has to be enabled in the Windows service management.
- The SFTP connection via the standard port 22 must have been enabled.



If the device does not receive an IP address because there is no DHCP server in the network or the DHCP server does not answer, the device will assign an address to itself.

Auto IP addresses always have the format 169.254.x.y, with x and y being two random numbers between 0 and 255.

6.2 Automatic registration via B-COMM

Start-up of the access manager takes place largely automatically in connection with the B-COMM communication software.



The device is preset at the factory for automatic registration via B-COMM.

System requirements

- B-COMM communication software version 3.10 and higher.
- Network with a working DHCP server.

Start-up procedure

1. Connect the access manager to the network and switch it on.
 - ⇒ After booting, the device cyclically reports to the B-COMMs active in the network.
 - ⇒ In this status, the status LED lights up alternately 0.5 seconds in red and 0.5 seconds in green.
 - ⇒ Once the device is found by B-COMM, the relevant data that identifies the device will be queried.
 - ⇒ If the device is not known, it will be entered in B-COMM under the B-COMM Terminal Discovery client under BCTDS (Terminal Discovery Stream).
 2. If the device is to be managed via a B-COMM, it can be moved to the desired stream and provided with the corresponding communication parameters.
 - ⇒ After having assigned the device permanently to B-COMM, B-COMM first updates the settings of the device and then makes a backup of the settings together with the "sop.ini" license file.
 3. Transmitting specific parameters and master records to the device.
 - ⇒ The terminal software is automatically restarted, after which the device is ready for use.
 - ⇒ The device now reports to the B-COMMs active in the network that registration has been carried out, after which the device will be removed again from the BCTDS stream by the other B-COMMS.
- ⇒ This concludes the automatic registration via B-COMM.

6.3 Start options

6.3.1 Performing a cold start



NOTICE

When performing a cold start, parameters are reset to their default values. Master records and booking records are deleted.

Network settings as well as group and terminal addresses remain unchanged.

1. Turn off the device.
 2. Turn on the device.
 - ⇒ The yellow status LED is lit.
 - ⇒ After approx. 40 seconds, the yellow status LED starts flashing.
 3. Within 10 seconds, press the reset key and keep it depressed.
 - ⇒ The status LED flashes faster for 5 seconds.
 - ⇒ The status LED lights up in green for 2 seconds.
 - ⇒ A cold start was performed.
 4. Release the reset key again.
 - ⇒ The status LED lights up in red for 5 seconds.
 - ⇒ The status LED is lit in green.
- ⇒ The system is ready for use, a cold start was performed.

6.3.2 Perform a cold start and set the default IP address 123.0.0.2



When performing a cold start, parameters are reset to their default values. Master records and booking records are deleted.

1. Turn off the device.
 2. Turn on the device.
 - ⇒ The yellow status LED is lit.
 - ⇒ After approx. 40 seconds, the yellow status LED starts flashing.
 3. Within 10 seconds, press the reset key and keep it depressed.
 - ⇒ The status LED flashes faster for 5 seconds.
 - ⇒ The status LED lights up in green for 2 seconds.
 - ⇒ A cold start was performed.
 - ⇒ The status LED lights up briefly in red and then flashes in red for 5 seconds.
 - ⇒ The status LED flashes in green for 2 seconds.
 - ⇒ The default IP address 123.0.0.2 has been set.
 4. Release the reset key again.
 - ⇒ The status LED is lit in green.
- ⇒ The system is ready for use, a cold start was performed, and the default IP address 123.0.0.2 was set.

6.3.3 Setting the default IP address 123.0.0.2 (without cold start)

1. Turn off the device.
 2. Turn on the device.
 - ⇒ The yellow status LED is lit.
 - ⇒ After approx. 40 seconds, the yellow status LED starts flashing.
 - ⇒ After another 10 seconds, the red status LED is lit.
 3. Within 5 seconds, press the reset key and keep it depressed.
 - ⇒ The status LED flashes faster for 5 seconds.
 - ⇒ The status LED flashes green for 2 seconds.
 - ⇒ The default IP address 123.0.0.2 has been set.
 4. Release the reset key again.
 - ⇒ The green status LED is lit.
- ⇒ The system is ready for use, the default IP address 123.0.0.2 was set.

6.4 Service Interface

The device is provided with a service interface allowing you to make manual settings. Access takes place via the network connection of the device, either directly or via the network. For direct connection, an Ethernet cross-over cable (crossed RJ-45 cable) or an Ethernet patch cable 1:1 can be used (Auto MDIX).

The service interface can be accessed from a service PC via web browser by typing the device IP address into the address box. If the IP address of the device is not known, you can either set the default IP address 123.0.0.2 or determine and assign the IP address using the Device Discovery Tool [▶ 6.5].

The Device Discovery Tool is always available for download on the Internet at the Kaba site.

6.4.1 Login

User name and password are requested after selecting the service interface.

The following users are already defined by default:

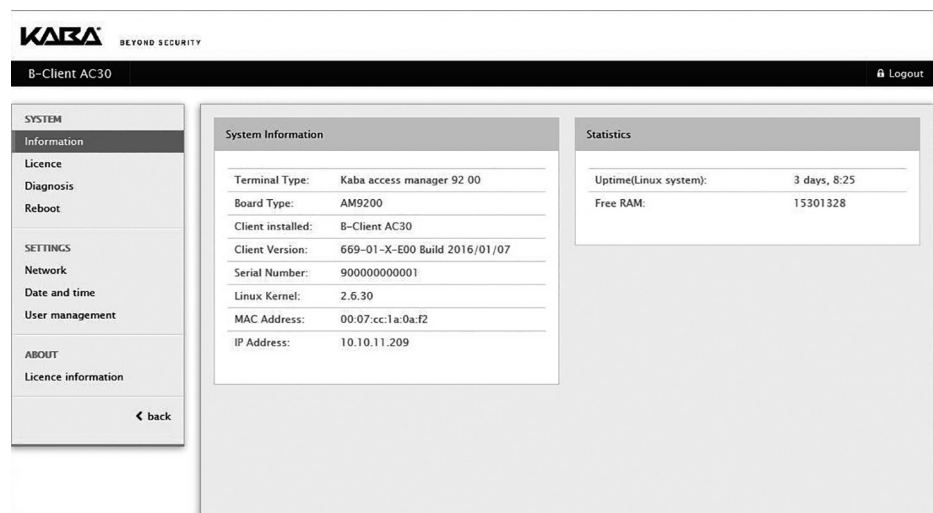
User name	Password
admin	admin
root	root

6.4.1.1 Changing passwords

For security reasons, the default password should be changed. After the login with user "root", both passwords can be changed by means of the "User management" function.

6.4.2 Basic structure

After successful login, you can use the service functions. Select the desired function from the main menu on the left.



6.4.3 Overview of the service functions

SYSTEM	Function	Description
Information	System Information	Information on hardware and software of the device and display of IP address and MAC address
	Statistics	Time elapsed since last system start
License	License	Display of the current software license
	Create temporary test license	Creation of a temporary test license with full functionality. This test license allows you to use all options. It is valid for a duration of 7 days and can be generated five times.
Diagnosis	Log overview	Display/download of the log files
Reboot	Reboot B-Client AC30	Restart access manager, in order to accept, for example, modified network settings or to perform a cold start, see chapter 6.3.1).

SETTINGS	Function	Description
Network	Network Settings	Settings for communication via the network.
	Host Settings	Definition of the host computer
	FTCS Settings	Definition of the FTCS (Finger Template Control Server). These settings are required if the device is equipped with a biometric reader.
	CardLink Settings	Definition of the CardLink host. These settings are required if a separate host is used to distribute the specific parameters and data records for CardLink.
Date and time	Date and time	Display and, if necessary, set date and time.
User management	Change user passwords	Change the passwords for the "admin" and "root" users

6.4.4 Actions within the service functions

Clearing input fields

- Click the **Clear** button.

Applying entries and closing the function

- Click the **Submit** button.

Canceling the function, discarding entries

- Click the **Cancel** button or select a different function from the menu.

6.4.5 Network settings

Function call: Menu > SETTINGS > Network > Network Settings

Getting an IP address from the DHCP server

1. Tick "Enable DHCP".
2. Enter the IP address of the DNS server in the "DNS Server Address" input field. Enter 0.0.0.0 if no DNS server is to be used in the network.

Requesting the IP address from the DHCP server on the basis of the terminal name

1. Tick "Enable DHCP".
2. Enter the "Terminal Name" and "Terminal Domain Name" according to RFC 1123.
3. Enter the IP address of the DNS server in the "DNS Server Address" input field. Enter 0.0.0.0 if no DNS server is to be used in the network.

Assigning a permanent IP address

1. Enable "Static network configuration".
2. Enter the desired IP address of the device in the "Terminal IP Address" input field.
3. Enter the netmask in the "Netmask" input field.
4. If the device and the host PC are in different network segments, you will have to enter the gateway IP address that connects the network segments in the "Gateway IP address" input field. Enter 0.0.0.0 if no gateway is available.
5. Enter the IP address of the DNS server in the "DNS Server Address" input field. Enter 0.0.0.0 if no DNS server is to be used in the network.

Group identification and device identification

The group and device identifications are used to address a device. This identification is part of each parameter record and each data record.

1. Enter the group identification in the "Group ID (GID)" input field.
2. Enter the device identification in the "Device ID (GID)" input field.

Value range: GID: 00 to 29, DID: 00 to 59.



In combination with the communication software B-COMM, the following must be observed when assigning the device identification DID.

The device identifications must be assigned step-by-step for devices with connected subterminals. The device identifications in between are reserved for subterminals.

- Assign the device identifications for terminals with up to 4 subterminals in steps of 5, that is, 0/5/10/15, etc.
- Assign the device identifications for the access manager with up to 8 subterminals in steps of 10, that is, 0/10/20, etc.
- Assign the device identifications for the access manager with up to 16 subterminals in steps of 20, that is, 0/20/40, etc.

6.4.6 Host settings

Setting of the communication type and definition of the host computer.

Function call: Menu > SETTINGS > Network > Host Settings

Communication via Ethernet / UDP

This is the standard communication type

1. Set the "ETH/UDP" interface.
2. Enter the IP address of the computer communicating with the terminal software in the "Host name or IP address" field. If a DNS has been configured, it is also possible to specify the host name in this field.
3. In the "Port" field, select the UDP port used for communication. It is specified in hexadecimal format. Possible values are 7700 to 77EF.

Communication via Ethernet / XML

This communication type is a precondition for HTTP/HTTPS-based applications that are used directly as communication software instead of B-COMM.

1. Set the "ETH/XML" interface.
2. Enter the IP address of the computer communicating with the terminal software in the "Host name or IP address" field. If a DNS has been configured, it is also possible to specify the host name in this field.
3. In the "Port" field, select the UDP port used for communication. It is specified in hexadecimal format. Possible values are 7700 to 77EF.

Automatic registration

This function allows the device to be operated almost automatically. The device reports cyclically to the active B-COMMs in the network and is then registered [▶ 6.2] by them.

The function can be enabled or disabled by means of the "Host Registration" check box.

Encryption

The "Enable encryption" check box is used to enable and disable the encryption via Ethernet.

A license is required for this function.

Proxy server

If a proxy server is used:

1. Enable "Use a Proxy Server".
2. Enter the proxy server name or IP address and the port.

6.4.7 FTCS host settings

Definition of the FTCS (Finger Template Control Server).

Function call: Menu > SETTINGS > Network > FTCS Settings

Network Settings	Host Settings	FTCS Settings	CardLink Settings
<p>Host Name or IP Address</p> <input type="text" value="10.10.11.15"/>			
<p>Port (0x7800)</p> <input type="text" value="30720"/>			
<p> <input type="button" value="Cancel"/> <input type="button" value="Clear"/> <input type="button" value="Submit"/> </p>			

These settings are required if subterminals with biometric readers are connected. The settings are only required if the FTCS service is provided by a separate host server.

1. Enter the IP address of the computer on which the FTCS service is running (B-COMM server). If a DNS has been configured, it is also possible to specify the FTCS host name in this field.
2. Select the UDP port used for communication in the "Port" field, default=7800.

6.4.8 CardLink host settings

Definition of the CardLink host.

Function call: Menu > SETTINGS > Network > CardLink Settings

Network Settings	Host Settings	FTCS Settings	CardLink Settings
<p>Host Name or IP Address</p> <input type="text" value="10.10.11.15"/>			
<p>Port (0x7700)</p> <input type="text" value="30464"/>			
<p><input checked="" type="checkbox"/> Enable Encryption</p>			
<p> <input type="button" value="Cancel"/> <input type="button" value="Clear"/> <input type="button" value="Submit"/> </p>			

These settings are required if a separate host is used to distribute the specific parameters and data records for CardLink.

1. Enter the IP address of the host that provides the CardLink data. If a DNS has been configured, it is also possible to specify the CardLink host name in this field.
2. Select the UDP port used for communication in the "Port" field, default=7700.

Encryption

The UDP encryption function is optional. A license is required for this function.

The "Enable encryption" check box is used to enable and disable the encryption via Ethernet UDP.

6.5 Device Discovery Tool

The Device Discovery Tool allows a manual device start-up without automatic registration via B-COMM.

The Device Discovery Tool is started on a service PC. It detects any devices available in the network which wait for the host registration using the B-Client AC30 terminal software and displays them.

After selecting a device, the network parameters can be adjusted.

6.5.1 System requirements

The program is an executable Java archive (.jar) JavaRuntime (JRE) from version 1.4 installed is required to execute the program.

Thus the program is executable on any computer system for which Java is available.

The device sends SSDP multicasts via address 239.255.255.250 to port 1900. A fire-wall must be configured in such a way that these messages are not blocked. This restriction does not apply to the same network segment or a direct connection.

6.5.2 Selecting the network interface

After starting the Device Discovery Tool you first have to select the network interface of the service PC.

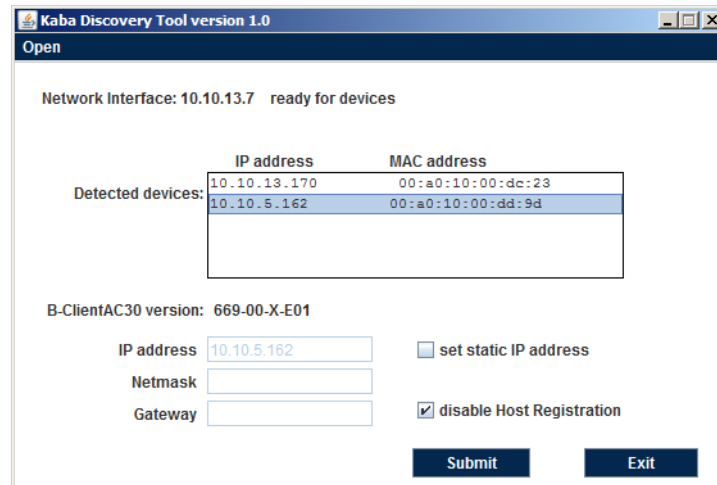
1. Start the Device Discovery Tool.
2. Execute the "Open" menu item.
 - ⇒ Any available network interfaces of the service PC are listed.
3. Select the network interface connected with the network which is used to communicate with the device in question.

6.5.3 Displaying devices with B-Client AC30

The program will now wait for SSDP packages from devices with B-Client AC30.

If a device is detected, its IP address and MAC address will be shown in the list.

This process may take up to one minute!



Physical assignment of a device is made via the MAC address. It is affixed to and visible on/in every device (CPU).

6.5.4 Changing network parameters

After selecting a device in the list, the current version of the installed terminal software is additionally indicated.

Furthermore the network parameters are displayed. IP address, net mask and gateway can be changed, if required.

Assigning a new IP address and disabling the host registration

1. Select the device to be changed in the list.
2. Enable the "Set static IP address" check box.
 - ⇒ The input fields are active.
3. Enter IP address and net mask.
4. Enter gateway. Enter "0.0.0.0" if no gateway is to be set or leave the field blank.
5. Leave the "Disable Host Registration" check box enabled.
6. Click the "Submit" button.
 - ⇒ The selected device applies the settings and executes a restart with disabled host registration.



When changing network settings please make sure that the values are entered correctly in the fields. Invalid values are not applied by "Submit" and a corresponding message is output.

The device does not send feedback to the Device Discovery Tool. After clicking the "Submit" button you can exit the program.

Disabling host registration and maintaining network parameters

1. Leave the "Disable Host Registration" check box enabled.
2. Leave the "Set static IP address" check box disabled.
3. Click the "Submit" button.
 - ⇒ The selected device executes a restart with disabled host registration.



Irrespective of any previously entered values the device network settings are not changed.

Do not make any changes, since host registration is supposed to remain enabled

1. Click the "Exit" button.
 - ⇒ The program is closed.

6.6 SFTP server

The device provides an SFTP server for a secure, encrypted connection via the “Secure File Transfer Protocol” (SFTP).

6.6.1 Prerequisites

For the SFTP to access the terminal, the following is required:

- SFTP client, for example WinSCP. WinSCP (Windows Secure CoPy) is a free “open source” SFTP and FTP client for Microsoft Windows.
- Kaba key file. The standard Kaba key file is always available for download on the Internet at the Kaba site in the secured area.
- The SFTP connection via the standard port 22 must have been enabled.

6.6.2 Establishing an SFTP connection

After installation and start of the SFTP client, the login window appears.

Required settings:

File protocol: SFTP

Host name: <IP address> e.g. 10.10.11.79

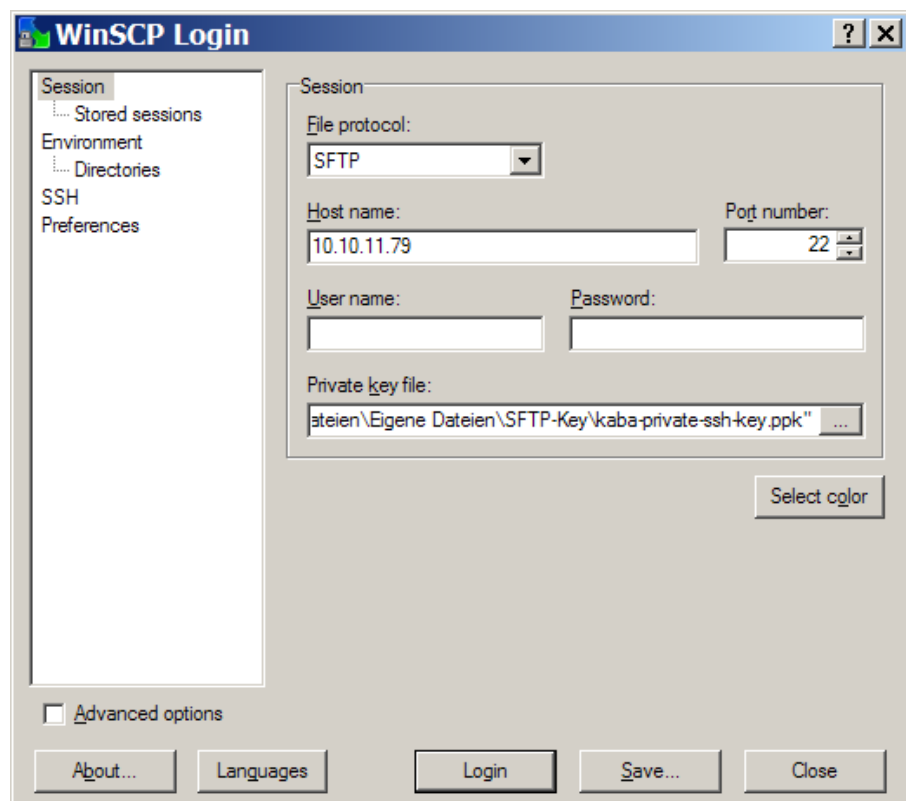
Port number 22

User name: admin

Password: leave blank

Private key file: Select Kaba key file on local computer.

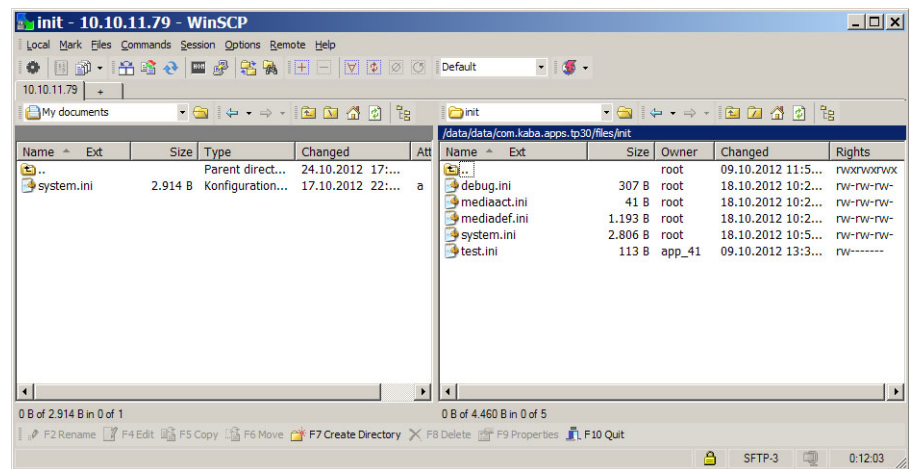
1. Make the following entries and settings
2. Click “Login”



3. Enter pass phrase.
Pass phrase for standard Kaba key = kaba
4. Click "OK"



⇒ The connection to the terminal is being established.



7 Packaging/Return

Incorrectly packaged assemblies and devices may cause expenses due to damage during transport.

Please observe the following information when sending Kaba products.

Kaba shall not be liable for damage to products which can be attributed to insufficient packaging.

7.1 Complete Devices

The original packaging is specially adapted for the device. It offers the greatest possible protection against transport damage.



Always use the original packaging for returns.

If this is not possible, then ensure the packaging prevents damage to the device.

- Use a stable, thick-walled transport crate or a box. The transport crate should be large enough that there is 8–10 cm space between the device and the container wall.
- Wrap the device in suitable film or put in a bag.
- Pad generously around the device e.g. using foam padding or bubble wrap. It must be ensured that the device does not move within the packaging.
- Only use dust-free environmentally-friendly filling material.

7.2 Electronic Assemblies



Electronic assemblies sensitive to ESD, such as circuit boards, readers, etc., must be stored, transported and sent in suitable ESD protective packaging. The packaging of electronic assemblies may only be carried out in ESD-protected workplaces by persons who are familiar with and follow the general ESD protective regulations.

The return of electronic assemblies in packaging with sufficient ESD protection is a condition for

- making guarantee claims in the event of malfunctions of any kind.
- replacement delivery of electronic circuit boards and components when an exchange is provided.

In order to guarantee a high quality standard, electronic components supplied in packaging without sufficient ESD protection will be neither analyzed nor repaired, but instead disposed of directly.

7.3 Marking

Complete return papers and correct labeling allow us to process matters quickly. Please ensure that a delivery note is included with the package. The delivery note should include the following information:

- Number of devices or components per package.
- Item numbers, serial numbers, designations.
- Address of your company/contact.
- Reason for the return, e.g. repair exchange.
- Informative description of the fault.

In the event of returns from outside of the EU, a customs invoice with the real customs value will also be required. In some countries (e.g. Switzerland) a preference will be required.

8 Disposal



This product meets the requirements of the WEEE Directive and, in accordance with DIN standard EN 50419, is labeled with the WEEE crossed-out garbage can symbol.

The symbol indicates the separate disposal of electric and electronic equipment in EU countries.

Do not dispose of the device with household waste under any circumstances.

Used devices contain valuable recyclable materials that should be recycled. Used devices should therefore be disposed of via the collection system used in your country.

Disposal in Germany:

After use, Kaba GmbH undertakes to carry out the proper disposal of the supplied goods in line with legal requirements (such as the ElektroG law in Germany). All costs incurred for the transport of goods to the manufacturer's plant will be borne by the owner of the used electronic equipment.

Disposal in Switzerland:

Send the device to an electronic equipment collection facility as per the VREG regulation.

In the EU, electrical devices should be disposed of in accordance with national waste disposal and environmental directives.

The erasure of personal data before disposal must be carried out self-dependent.



Dispose of packaging in an environmentally-friendly manner.

The packaging materials are recyclable. Please do not put the packaging in with household waste, instead dispose of with waste for recycling.

9 Appendix

9.1 Configuration Kaba Access Manager 92 30

Customer/Site:

Commissioning by	
Name/company:	Date:

TCP/IP settings	
MAC address:	IP address:
Host IP:	Gateway IP:
Netmask:	UDP Port:

Device settings	
GID/DID:	B-Client AC30 version:

Software license	
Readers/subterminals <input type="checkbox"/> 2	<input type="checkbox"/> Encryption <input type="checkbox"/> AVISO <input type="checkbox"/> CardLink
Master records <input type="checkbox"/> 2,000 <input type="checkbox"/> 10,000 <input type="checkbox"/> 50,000	Registration records <input type="checkbox"/> 8,000 <input type="checkbox"/> 40,000 <input type="checkbox"/> 100,000

Readers/subterminals				
Location	Address	Inputs	Outputs	Remark

Backup data directory + sop.ini	
Performed:	Date:
Backup stored with:	Phone:

Index

Numerical

24 V DC input 17

A

Alarm relay 27
 Ambient conditions 20
 Ambient temperature 20
 Automatic registration via B-COMM 70
 Autonomous 28
 AVISO 14

B

B-Client AC30 terminal software 14
 Bolt contact 27
 Bus termination 50

C

Cable entry 37
 CardLink 14
 CardLink host settings 79
 CardLink update records 14
 CardLink validation records 14
 CE conformity 21
 Coaxial cable 41
 Cold start 71
 Conformity 21

D

Data encryption 14
 Default IP address 72
 Designated use 10
 Device Discovery Tool 80
 Device status 35
 Device variants 13
 DHCP 70
 DHCP server 75
 DID 76
 Digital inputs 18
 Dimensional drawings 20
 Dimensions 20
 Disposal 86
 DNS server 75
 Door frame contact 27
 Door handle contact 27
 Door opener key 27
 Door-opener 62
 Door-opener relay 27

E

Electromagnetic fields 36
 ESD protective measures 11
 Ethernet interface 19
 Ethernet LED 34
 Ethernet receptacle 45
 External power supply unit 17

F

Fast online 28
 Fastening dimension 42
 Fastening the cover 68
 FTCS host settings 79
 Function of the inputs 27
 Function of the outputs 27
 Functional principle 24

G

GID: 76
 Group identification and device identification 76
 Grouped safety messages 10

H

HF-RFID 19
 Hole pattern 42
 Host settings 77
 HTTP/HTTPS 77

I

Identification plate 22
 Ingress protection 20
 Inputs 18, 53
 Inputs - Function 27
 Installation lines 41
 Installation scheme 38, 39, 40
 Interfaces 19
 IP address 75

J

Jumper bus termination 50

L

Labeling 22
 LEDs Inputs 56
 LEDs Outputs 63
 License file 14
 Light emitting diodes 34
 Light emitting diodes RS-485 51
 Limited power source 17
 Line lengths 49
 Line monitoring 53

M

MAC address 22
 Master line 49
 Master records 14
 Memory options 14

N

Network cable 41
 Network connection 45
 Network requirements 69
 Network settings 75
 Number of subterminals 14

O

Offline operating state 28
 Online operating state 28
 Operating states 28
 Output voltages 17
 Outputs 18, 57

P

Packaging 84
 Pass through 27
 PoE (Power over Ethernet) 17
 PoE switch 44
 Power LED 34
 Power supply 17
 Power supply of the subterminals 15
 Power supply unit 17
 Proxy server 78

R

R&TTE Directive 21
 Reader 19
 Reader interface 13
 Readers 26
 Registration records 14
 Registration unit 26, 48
 Relative humidity 20
 Relay outputs 18, 57
 Return 84
 RFID standard 19
 RoHS 21
 RS-232 19
 RS-485 19
 RS-485 bus termination 50
 RS-485 interface 49
 RS-485 LEDs 51

S

Safety 10
 Safety messages 10
 Serial interface 19
 Service Interface 73
 SFTP server 82
 Software options 14
 sop.ini 14
 Status display Inputs 56
 Status display Outputs 63
 Status LED 34, 35
 Stub line 49
 Supplementary Documentation 8
 Switch PoE 44
 Switching criteria 55
 System requirements 70

T

Tamper 67
 Terminal software 14

U

Update records 14

V

Validation records 14
 Vandal contact 67

W

Wall mounting 42
 Weight 20
 Wiegand 19, 52