![KABA - BEYOND SECURITY]

Registration units
(US/CAN)

Technical Manual

04/2016

1 About this Document

The following registration units can be used in a range of Kaba system solutions (Kaba exos, B-COMM, KEM):

Product name until 2014/06/30	Product from 2014/07/01
▪ Registration unit RFID	▪ Kaba registration unit 90 01
	▪ Kone registration unit 90 01
▪ Registration unit RFID PIN	▪ Kaba registration unit 90 02
	▪ Kone registration unit 90 02
▪ Registration unit Print RFID	▪ Kaba registration unit 90 00
	▪ Kone registration unit PCB

This document describes the mounting and installation of registration units. The instructions should be followed consistently to ensure fault-free and safe application.

All drawing dimensions in millimeters (mm).

1.1 Validity

Compatibility between registration units and control units (reading devices) is described in Chapter 3.2.1 on page 12.

1.2 Target Group

This manual is only intended for specialist personnel.
The descriptions require personnel trained by the manufacturer.
The descriptions do not replace product training.

NOTICE

For reasons of device safety, the actions described in this document for installation, maintenance and servicing may only be carried out by a service person in accordance with EN 60950-1 (Information Technology Equipment – Safety).

A service person is a person who has appropriate technical training and experience, which is required in order to be aware of the risks which they or other people are exposed to when carrying out this work as well as to keep the risks for themselves and other people as low as possible. It is the responsibility of the service person to ensure compliance with the conditions stated by the manufacturer, as well as applicable regulations and standards, when conducting this work.

This document is also used for information for people undertaking the following work:

- Project planning and project implementation
- Commissioning of the product within the network
- Connection of the product to the user software by programming customer applications
- Customer specific adjustment via parameterization of the product

1.3 Supplementary Documents

Document name until 2014/06/30	Document name from 2014/07/01	Contents	Availability
TM_AccessManagerMIFARE_V0x	TM_AccessManager9200	Kaba Access Manager 92 00 - Technical Manual	http://ftp.kaba.com/ExosDownload partly on Kaba Portal AC
TM_RemoteReaderMIFARE_V0x	TM_ RemoteReader9115	Remote Reader 91 15 - Technical Manual	
PGL_*Thema* Kaba exos 9300	PGL_Thema Kaba exos 9300	Planning Guidelines, according to subject, e.g., hardware	
		Kaba exos iDML2 Technical Documentation	
		Kaba exos DML2 Technical Documentation	

1.4 Change Protocol

The most important changes to the last edition of this manual are listed below:

Version Number	Edition	Brief Description
V01	12/2010	First edition
V02	01/2011	Various adjustments
V03	12/2011	▪ *Abbreviations* chapter ▪ *Topologies* chapter supplement with *Replacing Kaba exos LT-PN with Registration Unit RFID PIN* and *B-COMM* ▪ *Hardware Compatibility* chapter ▪ *Supported RFID Standards* chapter ▪ New chapter: *Distance between Antennae* ▪ Text and graphics: *Typical Maximum Reading Distances* with registration units ▪ New chapter: egistration unit *LA-PP* ▪ New chapter: *Bolt Handle for IT Cabinets* ▪ *Registration Units – Conformity* chapter
V04	01/2014	▪ Integration of registration unit 90 04 ▪ Various adjustments and additions
201406	06/2014	▪ New product names ▪ New file names
201604	04/2016	▪ Additional FCC / IC sentences ▪ List of supported registration units

1.5 Abbreviations

Abbreviation	Term name until 2014/06/30	Term from 2014/07/01
Host	Host system	Host system
Control unit	**Fehler! Keine gültige Verknüpfung.**	Access manager, terminal or Kaba exos AMC/-II
Remote Reader	Remote Reader MIFARE (RR-M) or Remote Reader LEGIC (RR-L)	Kaba remote reader 91 15
Access Manager	Access Manager MIFARE (AM-M), or Access Manager LEGIC (AM-L)	Kaba access manager 92 00
Registration unit	Registration unit RFID Registration unit RFID PIN Registration unit Print RFID	Kaba registration unit 90 01 Kone registration unit 90 01 Kaba registration unit 90 02 Kone registration unit 90 02 Kaba registration unit 90 00 Kone registration unit PCB
Antennas	Registration units	Registration units

1.6 Danger categories

Notes containing information, requirements, and prohibitions are clearly marked to help prevent injury to personnel and damage to equipment.

Observe these danger warnings. They are intended to help prevent accidents and avoid damage.

Danger warnings are categorized as follows:

NOTICE

Important information regarding proper handling of the product.
Failure to observe this information may lead to malfunctions and may cause the device or other items in its vicinity to be damaged.

Notes
Please pay particular attention to the warnings marked with symbols.

User tips and useful information which help to utilize the product and its functions to their full potential.

2 Basic safety information

The devices are constructed in accordance with the state of the art and recognized safety rules. Despite this, handling this product may present sources of danger for persons and valuables.

Read and observe the following safety information before you use the product.

2.1 Intended usage

The devices and system are only intended to be used as outlined in the chapter Product description.

Any type of usage beyond the scope of this is not considered to be intended usage. The manufacturer shall accept no liability for damage resulting from this unintended usage. The user/operator alone shall bear the associated risk.

Only service persons may carry out the mounting and installation of a device; see Chapter 1.2, page 5.

Installation may only be carried out at locations that fulfill the climatic and technical conditions specified by the manufacturer.

Kaba GmbH shall not accept liability for any damage that occurs as a result of improper handling or incorrect installation.

2.2 Service and maintenance

Maintenance work/Correcting faults
Troubleshooting and maintenance work must only be performed by a service person; see Chapter 1.2, page 5.

Modifications and alterations
Conversions and modifications of the device must only be performed by a service person; see Chapter 1.2, page 5. Any conversions and modifications performed by other persons will result in a complete exclusion of liability. Any modifications and alterations carried out by other persons will lead to total exclusion of liability.

2.2.1 ESD protective measures

> **NOTICE**
>
> **Danger to electronic components due to electrostatic discharge.**
> Improper handling of electronic PCBs or components may lead to damage that causes total failure or sporadic errors.
> - General ESD protective measures must be observed when installing and repairing the device

The following rules must be observed:
- Wear an ESD grounding armband when handling electronic components
- Connect the end of the armband to a discharge socket or an unpainted, grounded metal component. This will discharge static loads safely and effectively from your body
- Only handle PCBs by their edges. Do not touch PCBs or connectors
- Place any removed components on an antistatic surface or in an antistatic shielded container
- Avoid contact between PCBs and articles of clothing. The armband only protects the PCBs against electrostatic discharge voltage on the body; damage may still result from electrostatic discharge on clothing
- Only use electrostatically shielding and conductive protective bags to transport and ship modules that have been removed

2.2.2 Environmental Hazards

See Chapter 7.2, page 29

3 General Rules and Information

The registration units can be used in a wide range of Kaba system solutions (Kaba exos, B-COMM, KEM).

3.1 Topologies

The separation of the registration units from the control unit facilitates various antenna designs. With the help of suitable housing, the antennae can be adjusted to the spatial and security-related requirements of a building.

The registration units 90 02 is used for entering the personal PIN code. It is therefore particularly suitable for external access or installations with increased security requirements. It can be retro-fitted at any time with no or minimal wiring changes.

The different antenna variants allow different RFID reading-writing distances to be achieved. The properties also result from local events and the identification medium used.

Tampering Security

The registration units are separate from the hardware (reading devices). Regardless of the mounting location, the associated control unit can be installed in a tamper-proof room.

Manipulation Security

The communication between registration unit and associated control unit is encrypted and therefore offers optimal security.

3.1.1 Access Management System MIFARE / LEGIC
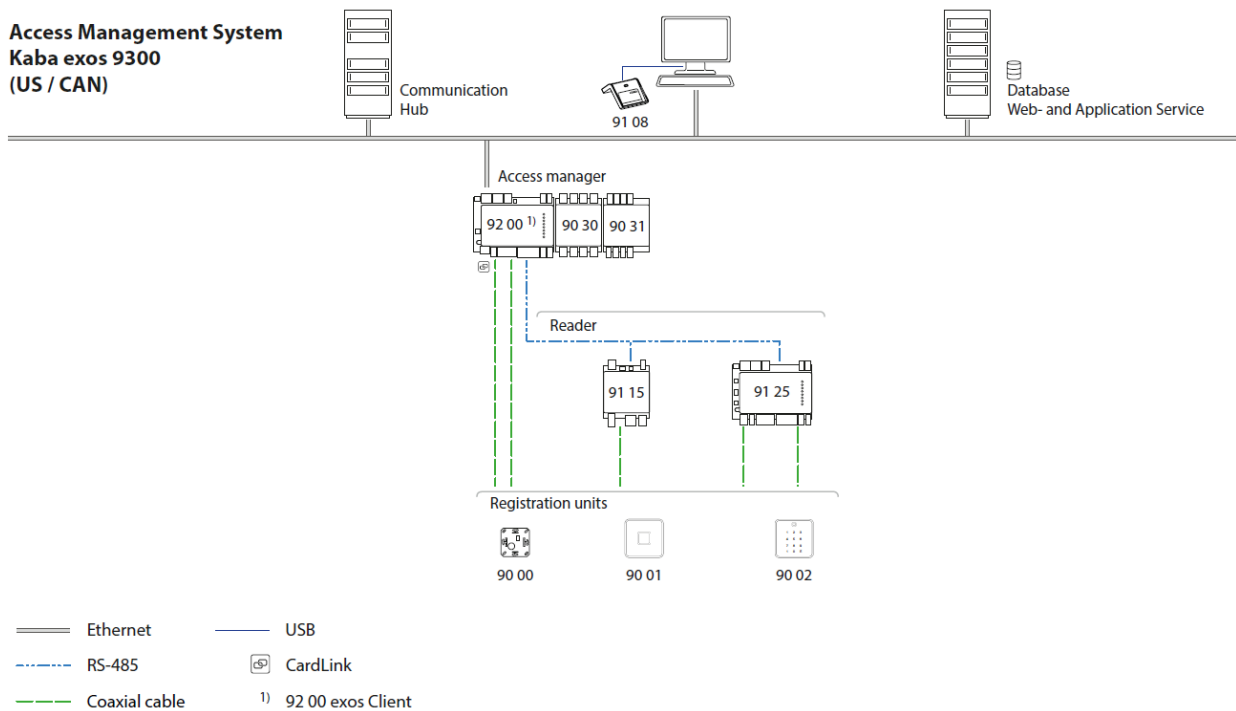
3.1.2 Replacing Kaba exos LT-PN with Registration Unit 90 02

The Communication Adapter PIN allows the registration units 90 02 to be integrated into existing or new LEGIC customer sites. The communication adapter PIN enables connection of the registration units 90 02 to the door managers Kaba exos DML2 and Kaba exos LS-110 and to the Access Manager Kaba exos iDML2.
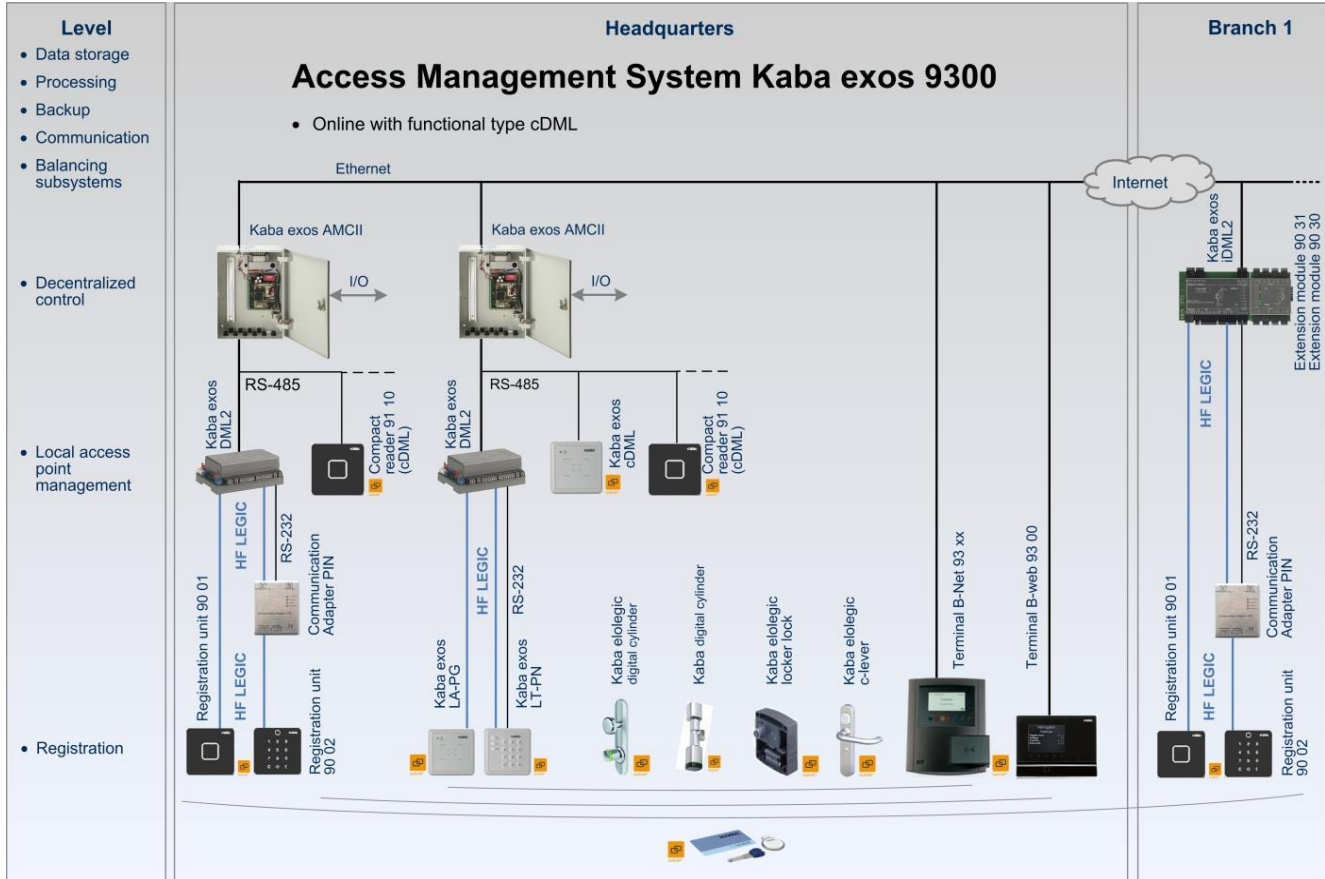
Illustration of Communication Adapter PIN

Detailed information on the mounting and connection of the Communication Adapter PIN can be found in the supplementary sheet.

3.1.3 B-COMM

The remote reader works as a subterminal on a B-web series terminal. The data exchange between remote reader and terminal is performed in half-duplex mode via the RS-485 interface (subpartyline). Communication is performed via the transfer protocol BPA/9 subset.
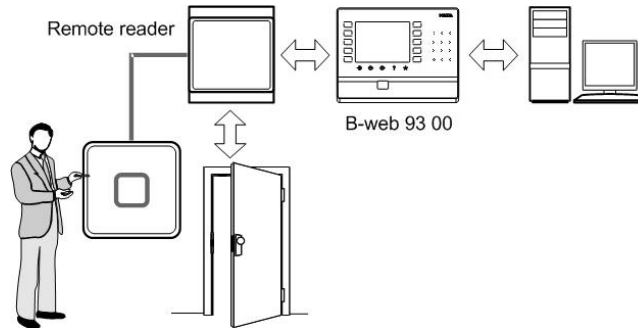
3.1.4 Standalone Mode

The required data for the whitelist or CardLink are saved in the remote reader via the programmer 1460. The authorization check and access control are therefore sensed by the remote reader.
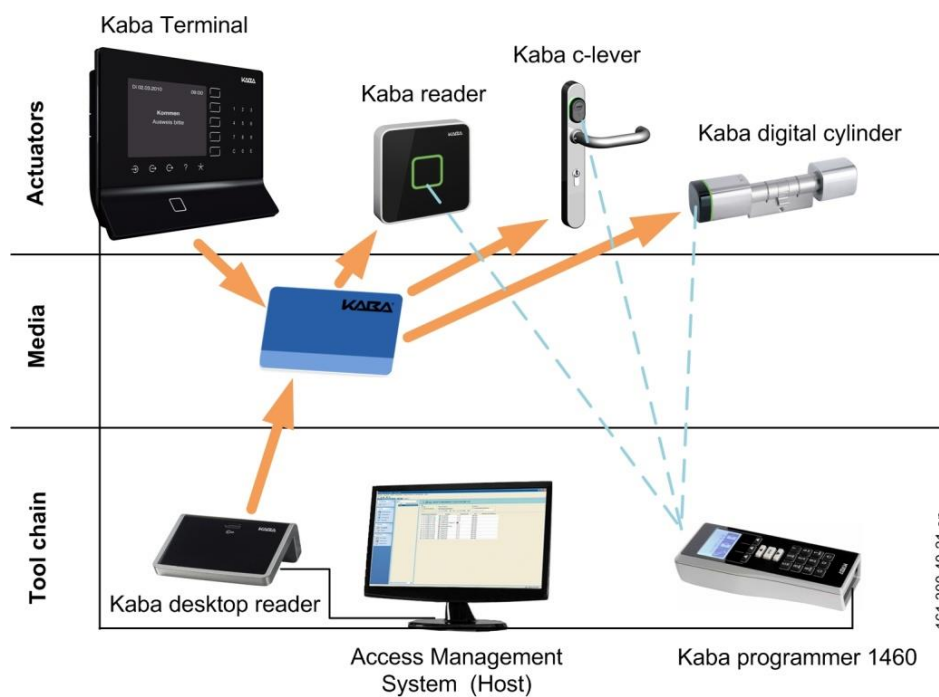
3.2 Hardware Compatibility

3.2.1 Registration Unit Compatibility

Registration unit	Access Manager	Kaba exos iDML2	Remote Reader ▪ Functional type Access Manager	Remote Reader ▪ Functional type Subterminal	Remote Reader ▪ Functional type E300 V4	Kaba exos DML2	Kaba exos LS-110	Kaba elolegic Remote Reader
Registration unit 90 01	✓	✓	✓	✓	✓	✓	✓	✓
Registration unit 90 02	✓	✓[1]	✓	✓	--	✓[1]	✓[1]	--
Registration unit 90 00	✓	✓	✓	✓	✓	✓	✓	✓

[1] = only compatible with use of Communication Adapter PIN

3.3 Supported RFID Standards

Depending on the access manager to which the registration unit is connected to, the following RFID standards are supported:

- ISO 14443A MIFARE/LEGIC
- LEGIC RF
- ISO 15693

3.4   Reading and Writing Properties

The typical maximum reading distance of a registration units is detailed in the corresponding chapters.

> The following planning guidelines (PGL) will help you to select suitable media/compact reader combinations:
> - PGL_Media_LEGIC
> - PGL_Media_MIFARE_ARIOS
> - PGL_Migration_RFID_Technology_Kabaexos9300

3.4.1   Basic Technical Relationships

The read and write distance fundamentally depends on the size of the registration unit's antenna, the size of the medium, and the media technology

LEGIC prime, MIFARE classic and ISO15693:
- Cards: The read and write distance tends to be slightly greater than the diameter of the registration unit's antenna
- Key fobs and smart keys: The read and write distance tends to be slightly smaller than the diameter of the registration unit's antenna

LEGIC advant, MIFARE DESFire
- The read and write distance is approx. 3/4 of the size of the figures given above.

Influence of a Metallic Environment and the Cable Length
- A metallic environment reduces the reading and writing distance The read and write properties of registration unit 90 04 are not impaired by metallic objects in its surroundings.
- The shorter the coaxial cable, the better the reading and writing distance
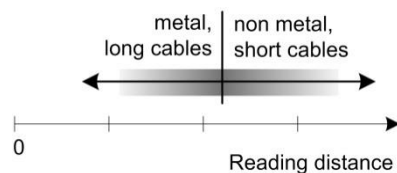
The reading distances in the diagram for the respective registration units RFID are calculated average values from:
- Metal - non-metal
- Cable lengths 1 m to 30 m
  (registration unit 90 02: 3 - 30 m)

See Chapter 3.5.4,page Seite 14

3.4.2   Reading and Writing Distances

Information on writing and reading distances can be found on the Kaba Portal Access Management portal.kaba.biz in the Mechatronics/Kaba evolo/Kaba Media/Instructions tab.

3.5 Mounting and Installation Information

The mounting and installation of the device may only be carried out by a service person as per DIN EN 60950-1:2006 + A11:2009.
The device must only be installed in locations that fulfill the climatic and technical conditions specified by the manufacturer.

3.5.1 Concealed Cable Mounting

The registration unit PCB RFID and registration unit LA-PP are screwed onto the switch box for concealed mounting. The following must be observed when doing so:
There must be sufficient cable in reserve so that no tension is created at the terminal connections. The reserve cable should not be too long (max. 25 cm) and, where necessary, should be laid in a figure eight.

3.5.2 Antenna Cable to the Registration Units

The signals of the antenna, LED, buzzer and PIN code keypad are conducted via the coaxial cable.

Cable Type RG 174/U	Coaxial cable 50 Ohm Recommended: RG 174/U, 50 Ohm, Supplier: Huber + Suhner
Recommended Cable Length	< 10 m
Max. Cable Length	30 m

WARNING

- To avoid external interference, the antenna cable must not be laid parallel to power lines or other sources subject to disturbance
- Unnecessary antenna cables should be stored in a figure eight

3.5.3 Coaxial Cable Terminal

The inner conductor and shield of the coaxial cable must not be connected to ground.
The coaxial cable terminal of the registration units is described in the corresponding chapters.

3.5.4 Distance between Antennae

Placing registration units and compact readers close together may reduce the read and write distances*.

- Install registration units and compact readers at a sufficient distance

* Exception: registration units which are connected to the same reader (e.g. remoter reader 91 15)

1 Reader
e.g. remote reader 91 15

2 Registration unit
e.g. registration unit
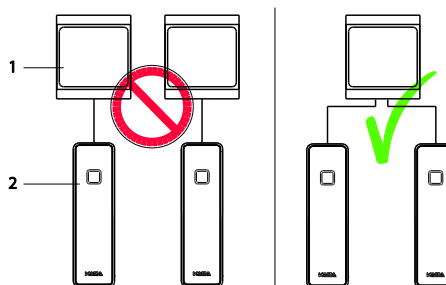
3.5.5 Antenna Distance - Metal Bodies

Influence of the magnetic field in the vicinity of the antenna by a metal body results in shorter reading distances and can even cause failure of reading functionality. The electro-magnetic field is short-circuited in the metallic environment.

WARNING

- To maximize the antenna when mounting, we recommend surface cable mounting with a spacer frame
- The read/write quality of the antenna should be checked in all cases
- Often an air gap in the conductive body is sufficient to weaken the magnetic sufficiently so that the antenna is no longer materially influenced

3.6 Display and Signal Elements

The registration units are equipped with a two-color, red/green illuminating symbol and a buzzer.

- The buzzers provide acoustic signaling of the access decision
- The red/green illuminating symbol indicates the operating state and access decision
- The keypad lights up brightly when a PIN code input is required

The detailed signaling of all registration units during the different booking processes is described in the documentation *Operation of Registration Units RFID*.

4 Kaba registration unit 90 01 / Kone registration unit 90 01

4.1 Product description

The registration unit 90 01 with integrated antenna, together with a control unit, represents a fully-integrated solution for access control with simultaneous convenient identification of the user. This registration unit is suitable for both internal and external applications.

4.2 Dimension drawing
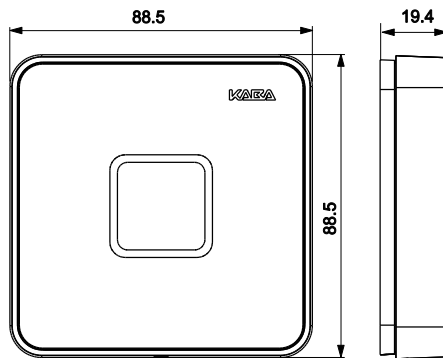
Height incl. rear panel: 19,4 mm
Height spacer frame: 26,4 mm

External dimensions
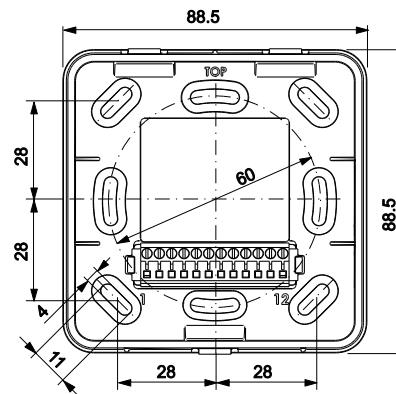
Dimensions of rear panel/spacer frame

4.3 Installation

4.3.1 Preparation

If necessary, drill holes for the frame bracket.
A dimension drawing of the frame can be found above.

Surface cable mounting:
- Use the spacer frame (only indoors).
- Break open the cable inlet on the spacer frame.
- Lead the cable away at the bottom or at the side in a siphon shape.

> **NOTICE**
>
> - Only connect the wires when the power is switched off.

Procedure

1. Pull the cable through the rear panel or the spacer frame.

   Screw the rear panel or the spacer frame to an even surface.
   - The rear panel or spacer frame must not lose its shape.
   - Small bumps can be balanced out using the sealing pad.

   Lead the cable away in a siphon shape to prevent the ingress of water.

2. Connect the cable strands to the connection terminal.
   An overview showing the assignment of connection terminals can be found in Chapter 4.4.2

> **NOTICE**
>
> The pin strip can be damaged. Observe the following instructions.
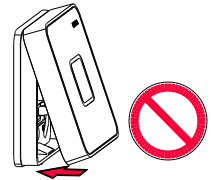
3. Slide the registration unit in a parallel position over the rear panel or the spacer frame.
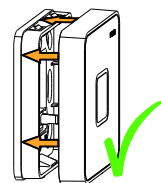
4. Press the registration unit against the rear panel or the spacer frame until it clicks into position at both the top and the bottom.

4.4 Connection

4.4.1 Connection with quickwire^{TM} Technology

With the innovative quickwire technology, the wiring is performed completely separately from the electronics on the mounting plate (rear panel or spacer frame). The electronics are mounted as a unit during commissioning. The practical click connection makes mounting simpler and means the registration unit is quickly changed in case of repair.

In addition, it is possible to upgrade from a registration unit without a PIN to a registration unit with PIN with no or minimal changes to wiring.

NOTICE

Notice:
The device may only be supplied with SELV (Safety Extra Low Voltage) and LPS (Limited Power Source), according to IEC/UL/CSA 60950-1.

4.4.2 Connecting the Coaxial Cable

Terminal Number		Meaning	Control Unit
6		Antenna cable shield wire	AS
7		Antenna cable inner conductor	A+

4.5 Typical Maximum Reading Distance

1 = Badge, ISO 14443A
2 = Key fob, ISO 14443A
3 = Badge, LEGIC RF
4 = Badge, ISO 15693
5 = Kaba elolegic smart key, LEGIC RF

4.5.1 Reading and Writing Distance with Direct Mounting on Metal

If the registration unit is mounted directly on a metallic surface, the reading and writing distance is approx. 10% smaller than an RFID neutral environment (wood, masonry).

4.6 Technical Data

Spacer Frame / Rear Panel:	
▪ Material	PC-ABS
Frame:	
▪ Material	PC-ABS
▪	
Front:	
▪ Material	PMMA back-printed
▪	
Dimensions:	
▪ With rear panel (concealed cable mounting)	88.5 x 88.5 x 19.4 mm (length x width x height)
▪ With spacer frame (surface cable mounting)	88.5 x 88.5 x 26.4mm (length x width x height)
Protection Type IEC 60529	IP54; Only with concealed cable mounting and sealing pad
Temperature Range	- 25° - +70°C (operation) - 40° - +85°C (storage)
Ambient Conditions	Relative humidity 0% - 95% non condensing
Application	▪ Concealed cable mounting with real panel ▪ Surface cable mounting with spacer frame ▪ Mounting possible directly on metal or neutral subsurface
Coaxial cable	▪ Recommended: RG 174/U, 50 Ohm Supplier: Huber + Suhner ▪ max. lenght 30 m
Power supply The registration unit is powerd by the host control device	**Notice:** ▪ The device may only be supplied with SELV (Safety Extra Low Voltage) and LPS (Limited Power Source), according to IEC/UL/CSA 60950-1.

4.7   Dismantling

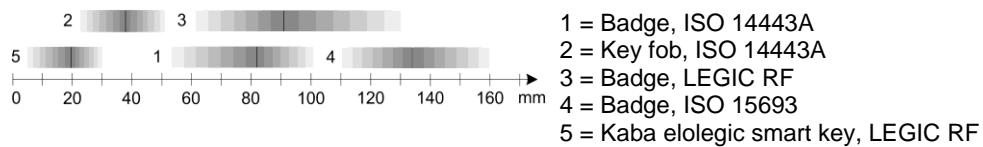1. Insert a screwdriver (no. 1) into the bottom of the opening and press it upwards.
    The quick-release lock opens up.
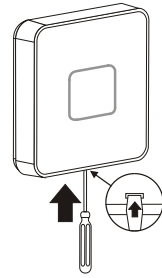
NOTICE

The pin strip can be damaged.
Observe the following instructions.

2. Slightly raise the bottom of the registration unit (max. 10⁰).
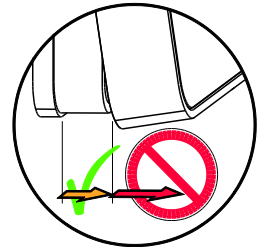
3. Pull the registration unit forwards in a parallel position.
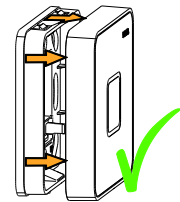
4.7.1   Accessories

- Rear panel SL for concealed cable mounting
- Spacer frame SL for surface cable mounting
- Sealing pad

4.8   Conformity

See Chapter 8.

5   Kaba Registration 90 02 / Kone Registration 90 02

5.1   Product description

The registration unit 90 02 with integrated antenna and keypad, together with the control unit, represents a fully-integrated solution for access control with simultaneous convenient identification of the user.

In addition, for identification in the event of increased security requirements, it is also possible to demand verification of the user via entry of his/her personal PIN code.

This registration unit is suitable for both internal and external applications.

Additional Product descriptions:

- Door code entry for access without a badge (Code lock function)
- Control of alarm systems

5.2   Dimensions
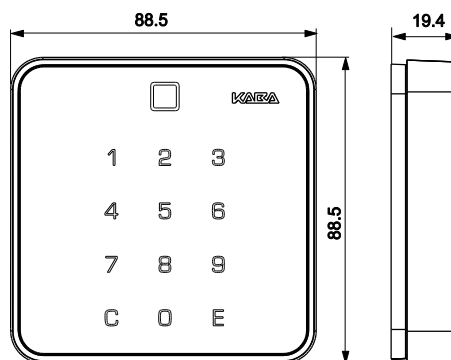
Height incl. rear panel: 19,4 mm
Height spacer frame: 26,4 mm

External dimensions
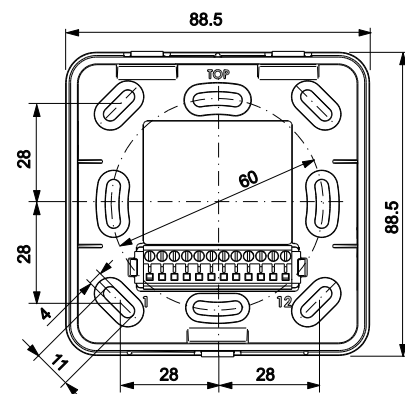
Dimensions of rear panel/spacer frame

5.3   Installation

5.3.1   Preparation

If necessary, drill holes for the frame bracket.
A dimension drawing of the frame can be found above.

Surface cable mounting:

- Use the spacer frame (only indoors).
- Break open the cable inlet on the spacer frame.
- Lead the cable away at the bottom or at the side in a siphon shape.

> **NOTICE**
>
> - Only connect the wires when the power is switched off.

Procedure

1. Pull the cable through the rear panel or the spacer frame.

   Screw the rear panel or the spacer frame to an even surface.
   - The rear panel or spacer frame must not lose its shape.
   - Small bumps can be balanced out using the sealing pad.

   Lead the cable away in a siphon shape to prevent the ingress of water.

2. Connect the cable strands to the connection terminal.
   An overview showing the assignment of connection terminals can be found in Chapter 5.4.2

NOTICE

The pin strip can be damaged. Observe the following instructions

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3. Slide the PIN keypad in a parallel position over the rear panel or the spacer frame.
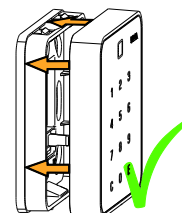
4. Press the PIN keypad against the rear panel or the spacer frame until it clicks into position at both the top and the bottom.

5.4 Connection

5.4.1 Connection with quickwire^{TM} Technology

With the innovative quickwire technology, the wiring is performed completely separately from the electronics on the mounting plate (rear panel or spacer frame). The electronics are mounted as a unit during commissioning. The practical click connection makes mounting simpler and means the registration unit is quickly changed in case of repair.

In addition, it is possible to upgrade from a registration unit without a PIN to a registration unit with PIN with no or minimal changes to wiring.

NOTICE

Notice:
The device may only be supplied with SELV (Safety Extra Low Voltage) and LPS (Limited Power Source), according to IEC/UL/CSA 60950-1.

### 5.4.2 Connecting the Coaxial Cable

Terminal Number		Meaning	Control Unit
6		Antenna cable shield wire	AS

| 7 | | Antenna cable inner conductor | A+ |

5.4.3 Operation of the keypad

When operating the keypad, please observe the following:

- Press your finger (covering as large an area as possible) gently in the center of the relevant key field
- The keypad does **not** react to fingernails, gloves or just fingertips

5.5 Typical Maximum Reading Distance

1 = Badge, ISO 14443A
2 = Key fob, ISO 14443A
3 = Badge, LEGIC RF
4 = Badge, ISO 15693
5 = Kaba elolegic smart key, LEGIC RF
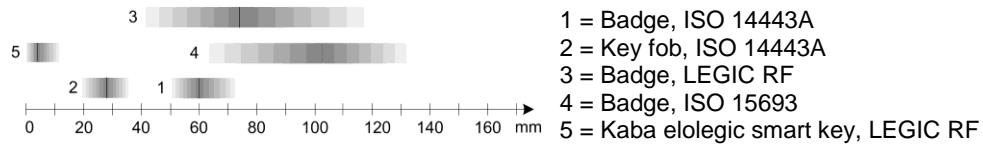
The Kaba elolegic smart key can only be used to a limited extent.

5.5.1 Reading and Writing Distance with Direct Mounting on Metal

If the registration unit is mounted directly on a metallic surface, the reading and writing distance is approx. 10% smaller than an RFID neutral environment (wood, masonry).

5.6   Technical Data

Rear Panel / Spacer Frame:	
▪ Material	PC-ABS GF10
Frame:	
▪ Material	PC-ABS
Front:	
▪ Material	ESG float glass
▪	
Dimensions:	
▪ With rear panel (concealed cable mounting)	88.5 x 88.5 x 19.4 mm (length x width x height)
▪ With spacer frame (surface cable mounting)	88.5 x 88.5 x 26.4mm (length x width x height)
Protection Type IEC 60529	IP54; Only with concealed cable mounting and sealing pad
Temperature Range	- 25° - +70°C (operation) - 40° - +85°C (storage)
Ambient Conditions	Relative humidity 0% - 95% non condensing
Application	▪ Concealed cable mounting with real panel ▪ Surface cable mounting with spacer frame ▪ Mounting possible directly on metal or neutral subsurface
Coaxial cable	▪ Recommended: RG 174/U, 50 Ohm Supplier: Huber + Suhner ▪ max. lenght 30 m
Power supply The registration unit is powerd by the host control device	**Notice:** ▪ The device may only be supplied with SELV (Safety Extra Low Voltage) and LPS (Limited Power Source), according to IEC/UL/CSA 60950-1.

5.7   Dismantling

1. Insert a screwdriver (no. 1) into the bottom of the opening and press it upwards.The quick-release lock opens up.

NOTICE

The pin strip can be damaged. Observe the following instructions.

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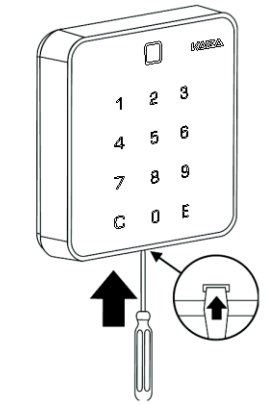
2. Slightly raise the bottom of the PIN keypad (max. 10⁰).
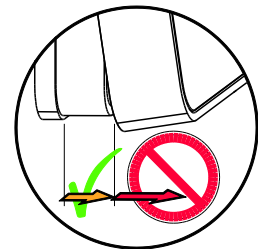
3. Pull the PIN keypad forwards in a parallel position.
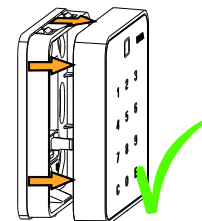
5.7.1   Accessories

- Rear panel SL for concealed cable mounting
- Spacer frame SL for surface cable mounting
- Sealing pad, black

5.8   Conformity

See Chapter 8.

6 Kaba Registration 90 00 / Kone registration unit PCB

6.1 Product description
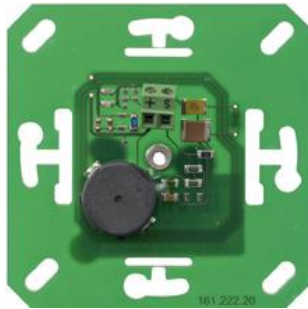
The registration unit 9, together with the control unit, represents a fully-integrated solution for access control with simultaneous convenient identification of the user. The registration unit is suitable for mounting in on-site assortment of switches or sockets or in customer-specific solutions. The new antenna design observes sufficient distance to the environment and is therefore also suitable for mounting in a metallic environment. Owing to the simple cabling, installation costs are very low.

6.2 Mounting and Connection

6.2.1 Mounting and Connection
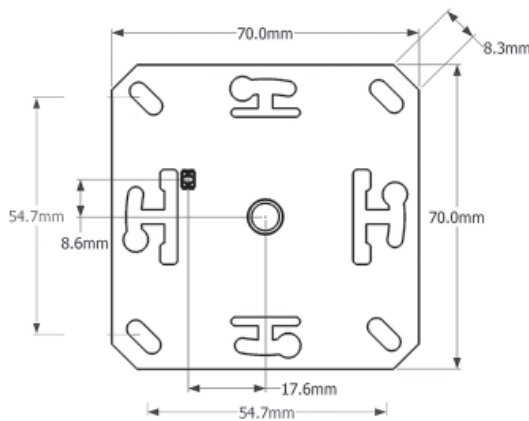
This registration unit can be simply integrated in current European standard installation sockets (size I). The thread insert with thread M3 is suitable for the mounting of various European covers.

Suitable Housing / Covers

- See Accessories

To ensure the visibility of the LED, the cover in the area of the LED must have a drill hole of Ø 5.2 mm.

NOTICE

Notice:
The device may only be supplied with SELV (Safety Extra Low Voltage) and LPS (Limited Power Source), according to IEC/UL/CSA 60950-1.

Connecting the Coaxial Cable

Terminal	Meaning	Control Unit
S	Antenna cable shield wire	AS
+	Antenna cable inner conductor	A+

6.2.2 LED

The registration unit 90 00 is equipped with a 2-color, red/green LED. To ensure the visibility of the LED, the cover in the area of the LED must have a drill hole of Ø 5.2 mm, where you would like visual as well as acoustic signaling.

The LED is mechanically compatible with registration unit LA-PB solutions

6.3 Typical Maximum Reading Distance
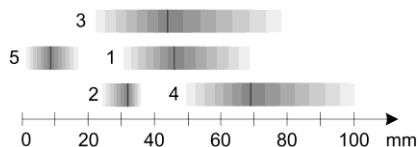
1 = Badge, ISO 14443A
2 = Key fob, ISO 14443A
3 = Badge, LEGIC RF
4 = Badge, ISO 15693
5 = Kaba elolegic smart key, LEGIC RF

6.3.1 Reading and Writing Distance with Direct Mounting on Metal

If the registration unit is mounted in metal facades or a metal frame, the reading and writing distance will be approx. 10% smaller than in an RFID neutral environment (wood, masonry).

6.4 Technical Data

Dimensions	70 x 70 x ~13 mm (length x width x height)
Temperature Range	- 25° - +70°C (operation) - 40° - +85°C (storage)
Ambient Conditions	Relative humidity 0% - 95%, non condensing
Application	On-site assortment of switches or sockets
Coaxial cable	▪ Recommended: RG 174/U, 50 Ohm Supplier: Huber + Suhner ▪ max. lenght 30 m
Power supply The registration unit is powerd by the host control device	**Notice:** ▪ The device may only be supplied with SELV (Safety Extra Low Voltage) and LPS (Limited Power Source), according to IEC/UL/CSA 60950-1.

6.4.1 Accessories

Supplier	Type
Amacher	▪ Basico ▪ Domino
Busch-Jäger	
Feller	▪ EDIZIOdue, pluggable ▪ NUP
Gira	▪ E2 ▪ Event ▪ Surface ▪ S-Color ▪ Standard
Jung	▪ CD500 ▪ CD Play ▪ ST 550
Legrand	▪ Diplomat
Merten	

6.5 Conformity

See Chapter 8.

7   Dismantling and disposal

7.1   Dismantling / Put out of operation

To dismantle the device in an access control system, proceed as follows:

1. During online operation: Check the configuration of the host system
2. Dismantle the device, see chapters Dismantling

7.2   Disposal

7.2.1   Disposing of packaging

Dispose of packaging in an environmentally responsible manner.
The packaging materials are recyclable. Do not throw the packaging away with domestic waste; instead, send it for recycling.

7.2.2   Disposing of the device

NOTICE

Before disposal, the system/device must be put out of operation by the sales partner (see Chapter 7.1, page 29).

Old devices contain valuable recyclable materials which should be recovered.

This product meets the requirements of the WEEE Directive and, in accordance with DIN standard EN 50419, is labeled with the WEEE crossed-out trash can symbol (see Chapter 12.1.6, page 106). This symbol indicates the separate disposal of electrical and electronic equipment in EU countries.

Do not dispose of electrical devices with general waste
Used devices contain valuable recyclable materials which must 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 (the ElektroG law in Germany). All costs incurred for the transport of goods to the manufacturer's plant will be paid by the owner of the used electronic equipment.

Disposal in Switzerland:
Send the device to an electronic equipment collection facility. Contact the local authorities for further information.

Disposal in Austria:
Do not throw the device out with household waste. Dispose of the device and used batteries in accordance with the Act on Disposal of Waste Electrical and Electronic Equipment (Verordnung über Entsorgung von Elektro- und Elektronik-Altgeräten – VREG/WEEE) at a local collection point for waste electronic equipment.

RoHS   This device fulfills the requirements of Guideline 2011/65/EU of the European Parliament and Council of June 8, 2011, to limit the use of certain hazardous materials in electrical and electronic equipment.

8   Conformity

8.1   FCC- and IC- tested registration units

FCC- and IC- tested registration units	FCC	IC
Kone regsitration unit PCB Kaba registration unit 90 00 Kaba registration unit 90 01 / Kone registration unit 90 01 Kaba registration unit 90 02 / Kone registration unit 90 02	**Tested Standard:** FCC Code of Federal Regulations, CFR 47, Part 15, Sections 15.205, 15.207, 15.215 and 15.225	**Tested Standard:** 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)

8.2   Conformity Kone Registration Unit PCB

CE   The registration unit conforms to the following standards:

EN 60950-1:2006/A2:2013	**Notice:** The device may only be supplied with SELV (Safety Extra Low Voltage) and LPS (Limited Power Source), according to IEC/UL/CSA 60950-1.
UL 60950-1:2007/R:2014-10	
CAN/CSA-C22.2 No. 60950-1:2007/A2:2014-10	
EN 300 330-1 V1.7.1 EN 300 330-2 V1.5.1	

In accordance with the provisions of EC directive:

1999/5/EG	Radio and Telecommunications Terminal Equipment Directive (R&TTE).

FCC

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

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)

Tested Standard:
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)

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.

RoHS   This device fulfills the requirements of Guideline 2011/65/EU of the European Parliament and Council of June 8, 2011, to limit the use of certain hazardous materials in electrical and electronic equipment.

8.3   Conformity Kaba Registration Unit 90 00

The registration unit conforms to the following standards:

EN 60950-1:2006/A2:2013	**Notice:**
UL 60950-1:2007/R:2014-10	The device may only be supplied with SELV (Safety Extra Low Voltage) and LPS (Limited Power Source), according to IEC/UL/CSA 60950-1.
CAN/CSA-C22.2 No. 60950-1:2007/A2:2014-10	
EN 300 330-1 V1.7.1 EN 300 330-2 V1.5.1	

In accordance with the provisions of EC directive:

1999/5/EG	Radio and Telecommunications Terminal Equipment Directive (R&TTE).

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

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)	**Tested Standard:** 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)
	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.*
RoHS	This device fulfills the requirements of Guideline 2011/65/EU of the European Parliament and Council of June 8, 2011, to limit the use of certain hazardous materials in electrical and electronic equipment.

8.4 Conformity Kaba Registration Unit 90 01 / Kone Registration Unit 90 01

CE	The registration unit conforms to the following standards:

EN 60950-1:2006/A2:2013	**Notice:** The device may only be supplied with SELV (Safety Extra Low Voltage) and LPS (Limited Power Source), according to IEC/UL/CSA 60950-1.
UL 60950-1:2007/R:2014-10	
CAN/CSA-C22.2 No. 60950-1:2007/A2:2014-10	

EN 300 330-1 V1.7.1 EN 300 330-2 V1.5.1	

In accordance with the provisions of EC directive:

1999/5/EG	Radio and Telecommunications Terminal Equipment Directive (R&TTE).

FCC	**Tested Standard:** FCC Code of Federal Regulations, CFR 47, Part 15, Sections 15.205, 15.207, 15.215 and 15.225
	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)	**Tested Standard:** 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) **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.
RoHS	This device fulfills the requirements of Guideline 2011/65/EU of the European Parliament and Council of June 8, 2011, to limit the use of certain hazardous materials in electrical and electronic equipment.

8.5   Conformity Kaba Registration Unit 90 02 / Kone Registration Unit 90 02

CE   The registration unit conforms to the following standards:

EN 60950-1:2006/A2:2013	**Notice:** The device may only be supplied with SELV (Safety Extra Low Voltage) and LPS (Limited Power Source), according to IEC/UL/CSA 60950-1.
UL 60950-1:2007/R:2014-10	
CAN/CSA-C22.2 No. 60950-1:2007/A2:2014-10	
EN 300 330-1 V1.7.1 EN 300 330-2 V1.5.1	

In accordance with the provisions of EC directive:

1999/5/EG	Radio and Telecommunications Terminal Equipment Directive (R&TTE).

FCC	**Tested Standard:** FCC Code of Federal Regulations, CFR 47, Part 15, Sections 15.205, 15.207, 15.215 and 15.225 **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)	**Tested Standard:** 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) **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.
RoHS	This device fulfills the requirements of Guideline 2011/65/EU of the European Parliament and Council of June 8, 2011, to limit the use of certain hazardous materials in electrical and electronic equipment.

8.6 Declaration of conformity

Kaba GmbH, Access & Workforce Management, Albertistrasse 3, D-78056 Villingen-Schwenningen hereby declares as the manufacturer of the device that the Compact Readers conform to the fundamental requirements and other relevant stipulations of Directive 1999/5/EC (R&TTE).
The original declaration of conformity is available at
http://www.kaba.com/access-control/de/Sales-Support/81668/downloads.html?cat=355024
and can be downloaded in PDF format at any time.

8.7 Device mark

The following information can be found on the label:

- Device designation
- Article number
- Serial number
- Manufacturer
- CE mark
- WEEE labeling in accordance with DIN EN 50419

8.8 Manufacturer

Kaba GmbH

Access & Workforce Management

Albertistrasse 3

78056 Villingen-Schwenningen

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