

Reading Device

AS x70i DUO/IRRL
AS x70i DUO/IRIR
AS x70i DUO/KEY

Manual and operational description

SKIDATA[™]
access unlimited



Version January 2004

SKIDATA AG

Technical Documentation
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Declaration of Conformity

The AS x70i DUO product family has been developed, designed and manufactured in accordance with the following EU directive:

R&TTE (99/5/EC)

CE 0408

Note:

In the US only the variants AS x70i DUO/KEY and AS x70i DUO/IRRL are sold and operated. Hence, only these two variants are FCC certified and the FCC rules are subject to these variants only.

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:

IMPORTANT: Any changes to or modifications of AS x70i DUO (all variants) unless expressly approved by SKIDATA AG, may void the user's authority to operate this device.

AS x70i DUO (all Variants) 1

Document Management – Version Table*Tab. 1: Document Version Table for Installation & Maintenance Instructions*

Section	Document	Pages	Version	Date
1	AS x70i DUO (all Variants)	16	1.0	08-01-2004

1

AS x70i DUO/IRRL

AS x70i DUO/IRIR

AS x70i DUO/KEY

Version 1.0

16 pages

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1.2 Safety Instructions

All components of the AS x70i DUO (all variants) have been subjected to a series of safety tests. Any remaining dangers that may exist are pointed out during system training courses as well as in this manual and the installation guide.

1.2.1 General safety instructions and warnings

- System devices may be used exclusively for their intended purpose, as specified by the manufacturer.
- Unauthorised modifications of the devices as well as the use of replacement parts and/or add-on devices not approved by the manufacturer may increase the risk of electric shock or cause other serious bodily harm and will void the manufacturer's warranty.
- The setup, installation, maintenance and configuration of the devices is limited to certified electricians with special training in accident prevention.
- The executive or commissioned technician, or the project manager, is responsible for ensuring that the devices are installed and configured in compliance with local technical requirements as well as other applicable local rules and regulations. This applies particularly to cable dimensions, protection against risks, earth connection, deactivation, disconnection, insulation testing, and overcurrent protection.

1.2.1.1 Notes concerning wearers of medical devices and implants

SKIDATA™ devices are CE certified and therefore comply with all applicable health and safety guidelines.

Like all handsfree scanners and contactless RF devices (e.g., ski lift access control devices), SKIDATA™ handsfree products used for contactless processing (reading and coding) of chip-based data carriers inevitably generate an electromagnetic field in close proximity to the antenna. To ensure the greatest possible safety for wearers of active medical implants (e.g. pacemakers), RF-based SKIDATA™ devices have been subjected to further tests by an accredited testing body.

The test results indicate that SKIDATA™ devices, when used as directed, are perfectly safe for pacemaker wearers passing a handsfree ski lift access gate (note that this does not necessarily apply to devices by other manufacturers). However, to safeguard the health of those concerned (e.g. pacemaker wearers) and to comply with statutory warning obligations, people wearing medical devices (e.g. pacemakers) should be required to adhere to the general recommendations for the use of electromagnetic devices in addition to the following guidelines:

- Persons affected by these guidelines (e.g. pacemaker wearers) are not allowed to place keycards or other contactless (electronic) access control data carriers next to the implant when passing an access device.
- When passing through an access gate, a minimum distance of 30 cm should be kept between the antenna and the implant (to ensure this minimum distance, the use of a Swatch Access watch or Gore [s-key] gloves is recommended).
- Wearers of medical implants such as pacemakers should avoid leaning against an antenna unit.
- For wearers of medical implants such as pacemakers, the time of exposure to the RF scanning signal should be as short as possible when passing through the gate at normal speed; when queuing, they should stand at an appropriate distance from RF-based devices.
- Persons experiencing problems such as dizziness or nausea when passing an antenna should leave the scanning range of the device immediately.

Antennas must bear a warning label or prohibit label (shown in figures below), which must be readily visible to wearers of medical devices. In addition, a warning sign with the above-mentioned safety guidelines should be placed at every point of initial access (e.g. cash desks).

Also, lift staff should receive appropriate instructions to be able to provide information and assistance if and when required.

Fig. 1:
Warning label



Fig. 2:
Prohibition label



1.2.1.2 Danger of injury by rotating parts

Operators should be aware of the danger of bruising by the rotating worm drive inside Turnstile DKZ 350.

DANGER OF INJURY – Never touch these parts while the unit is in operation.



1.2.2 Safety instructions – Turnstile DKZ 350

The DKZ 350 Turnstile unit is a machine as defined by EU Directive '98/37/EC Machinery'. This directive sets forth the safety requirements to be met by both the manufacturer and the operator of the turnstile unit.

The DKZ 350 Turnstile Unit has been designed and manufactured in accordance with the most advanced technological standards and in full compliance with acknowledged technical rules and regulations. However, the possibility of impairment to material assets or injury to users or operators cannot be ruled out completely. Remaining dangers are pointed out in this manual as well as during system training courses.

The turnstile unit may be used only

- for its intended purpose (see below)
- if it is operationally safe
- Any faults which might impair the operating safety of the unit must be removed without delay.
- To ensure a safe and fault-free operation of the DKZ 350 Turnstile, operators must be familiar with the basic instructions and regulations regarding operating safety.

- These instructions, particularly the safety instructions, must be followed by all operators responsible for maintaining and configuring the unit.
- Applicable local rules and regulations for accident prevention must be adhered to at all times.

1.2.2.1 Operating hazards of Turnstile 350

- There is a theoretical risk of small children being hit in the back of the head by the automatically controlled turnstile bars. This danger can be virtually eliminated by deactivating the light sensor.

(Note: Automatic control of the turnstile bars facilitates the process of clearing the gate, as it requires no force on the part of the user.)

In model DKZ 350 S1 with only one bar, the automatic control function cannot be deactivated. The use of model DKZ 350 S1 turnstiles therefore requires additional measures to minimise the risk of injury to small children. Such measures might include multi-lingual warning messages, pictograms, etc, to caution accompanying adults against the danger.

1.2.2.2 Safety precautions during maintenance

Danger of injury to fingers by rotating worm drive when gear casing is open.

- To avoid injury, turn off the turnstile unit during maintenance or avoid reaching into the gear casing while the turnstile bars are in motion.
- When maintenance work is performed on the turnstile unit, the access area must be cordoned off for the duration.

1.2.2.3 Obligation of the operator to meet safety requirements

According to EU Directive '98/37/EC Machinery' operator is under obligation

- to provide adequate means for securing the danger area around the turnstile unit and to caution against remaining safety hazards;
- to restrict handling of the turnstile unit to authorised personnel who have been properly instructed in the operation of the turnstile and who have been advised of possible dangers in training courses provided by SKIDATA AG and the study of the



safety regulations and instructions contained in this documentation;

- to ensure safety around the access area;
- to ensure that the required system maintenance tasks are carried out regularly.

1.2.2.4 Safety and warning devices

- The protection and warning devices to be installed around the danger area of the turnstile are to be kept in good condition.
- Warning signs and information posters are to be kept in readable condition.

1.2.2.5 Training of operating personnel

Configuration and maintenance of the DKZ 350 Turnstile Unit is restricted to personnel with proper training and experience.

1.2.2.6 Appropriate use

The DKZ 350 Turnstile Unit is intended exclusively for controlling passage through personnel access and exit points. The unit can be operated either manually or automatically in combination with a control device for verifying access authorisations. Users can clear the DKZ 350 Turnstile with their skis on.

Any use not described in this documentation is considered as being inappropriate. SKIDATA AG will under no circumstances assume liability for any damage arising from such inappropriate use of the turnstile unit.

1.2.2.7 Warranty and liability

In the event of damage to person or property, all warranty and liability claims shall be excluded, should this damage be attributable to one or more of the following:

- Inappropriate use of the DKZ 350 Turnstile Unit
- Improper installation of the turnstile or any part thereof
- Inadequate or missing warning facilities and/or safety devices inside the danger area around the DKZ 350 Turnstile Unit
- Irregular or insufficient maintenance
- Use of material not approved by SKIDATA AG
- Insufficient structural renovation
- Insufficient training of operating personnel
- Unauthorised constructional or technical modifications of the DKZ 350 Turnstile Unit, particularly modifications of the turnstile drum or its support fixture

- Disaster situations brought about by impact of foreign bodies or acts of God.

1.2.3 Electromagnetic Compatibility (EMC)

All integral devices of Access Control System 350 have been developed, designed and manufactured in full compliance with EU Directive '89/336/EEC Electromagnetic Compatibility'.

Compliance with EU Directive '89/336/EEC Electromagnetic Compatibility' must be maintained during operation. This requires that

- Specified max. network connection distances are not exceeded
- Network connections are properly installed and maintained
- Network terminals are connected as specified, and star distributor links are properly installed and maintained
- Network cable screens are properly installed and maintained
- Recommendation: connect each AS x70i DUO to the potential equalisation panel by way of a 16 mm² earth lead
- All system devices and facility installations subject to EMC regulations are inspected regularly and repaired if required.

1.3 Reading device AS x70i DUO

1.3.1 Replacing the reader mechanism assembly

Removing the reader mechanism assembly

- Using a 4 mm Allen wrench, unfasten and remove the fastening screw (Allen screw) at the rear of the reader.
- Press in the locking screw at the rear.
- Carefully tilt the top section towards the front, as indicated by the arrow in the illustration below.
- Disconnect the cables leading into the interior of the casing (cables for heater, signal light control, etc.).
- Remove the reader top section by lifting it up and taking it out of its housing.

Fig. 3:
Replacing the reader top section

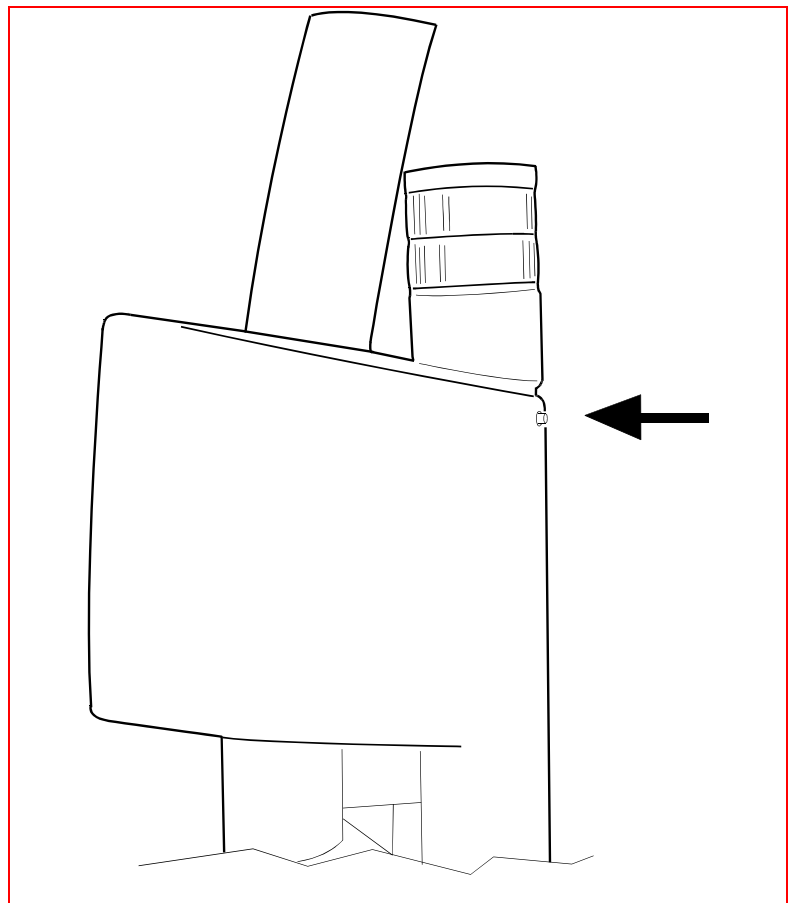
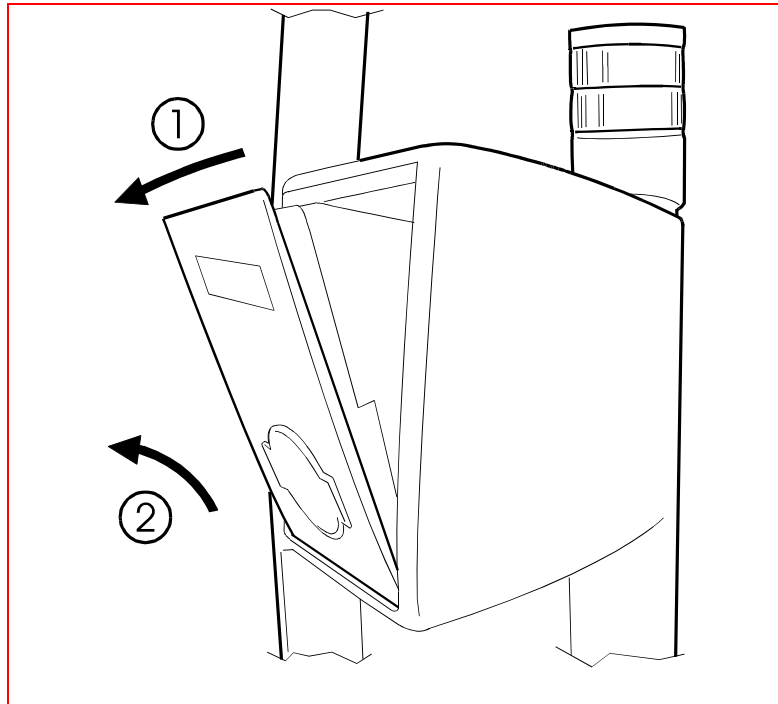


Fig. 4:
Opening the reader top section



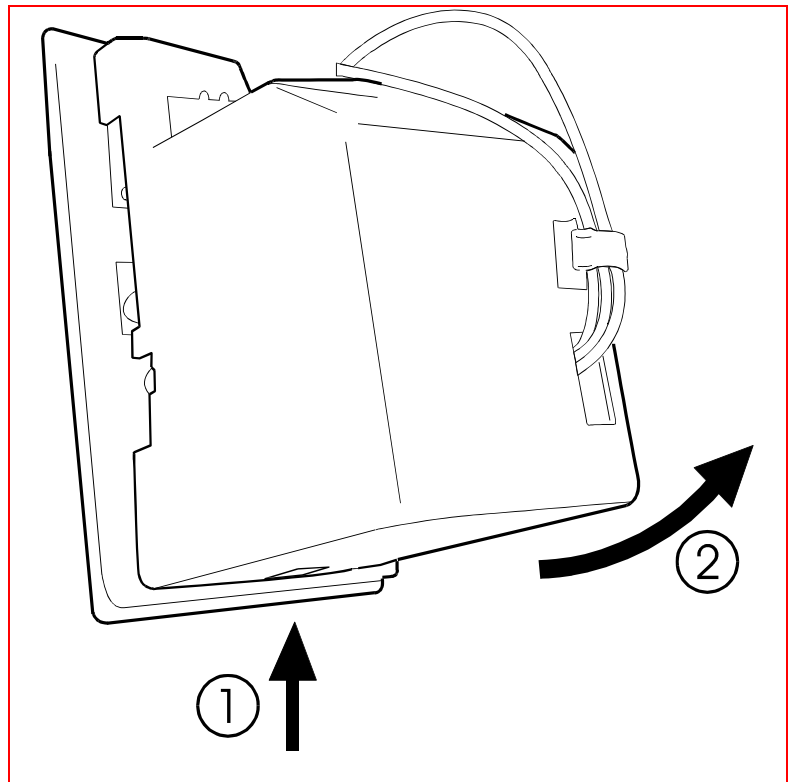
Reinstalling the reader mechanism assembly

- Place the top section into the groove at the bottom of the front opening of the housing.
- Reconnect all cables, making sure they are completely inside the housing to avoid them being pinched.
- Push the mechanism assembly back into the housing.
- Fasten the Allen screw at the rear of the reader using a 4 mm Allen screw.

1.3.1.1 Removing the protective hood of the reader mechanism assembly

- Press against the locking tab at the base of the hood (see illustration below: (2)).
- Remove the hood, bottom first (see illustration below: (2)).

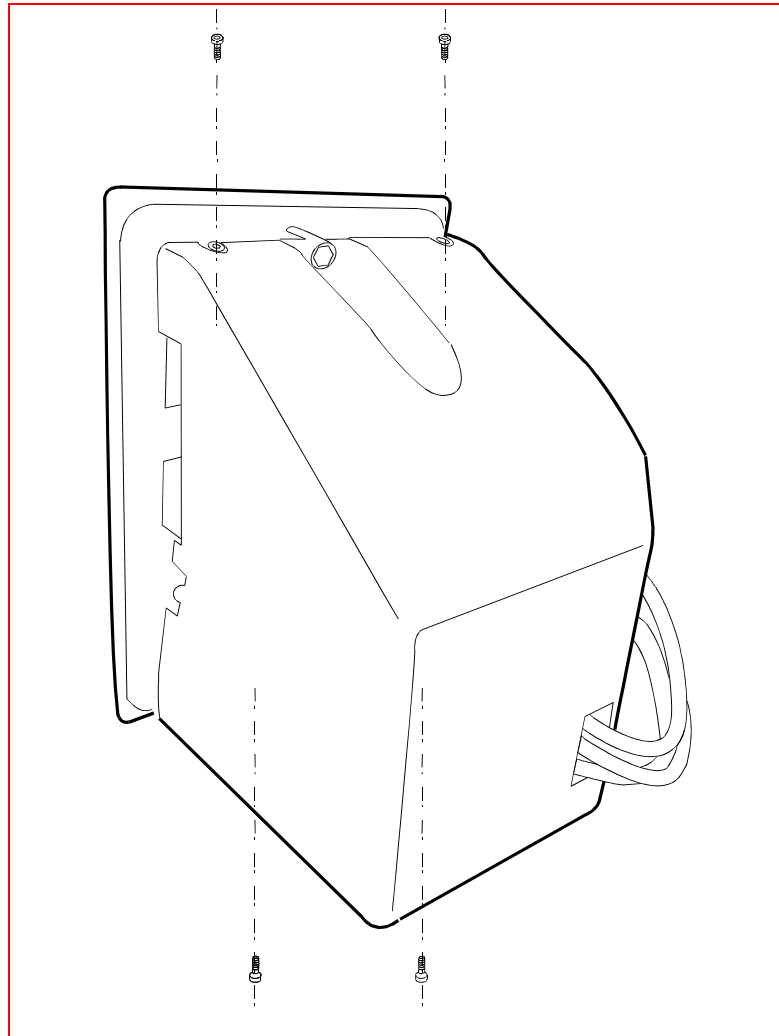
Fig. 5:
Removing the protective hood of
the reader mechanism assembly



1.3.1.2 Removing the protective hood of the reader mechanism assembly (old version)

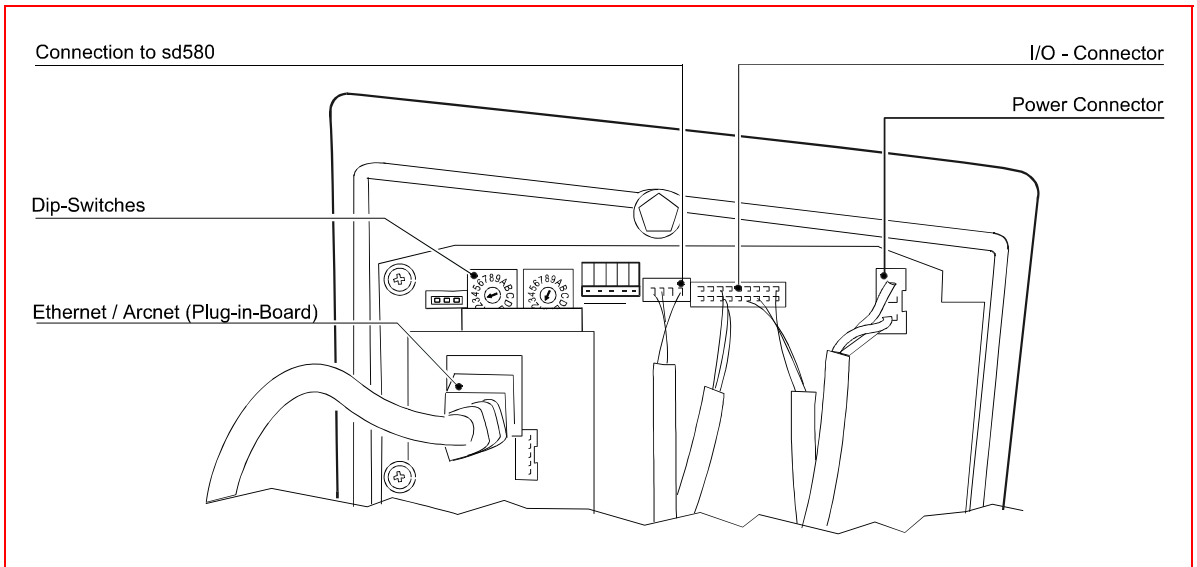
- Using a 2 mm Allen wrench, unfasten and remove the four Allen screws that hold the hood in place.
- Remove the hood.

Fig. 6:
Removing the protective hood of
the reader mechanism assembly



1.3.2 Cable connections inside the reader

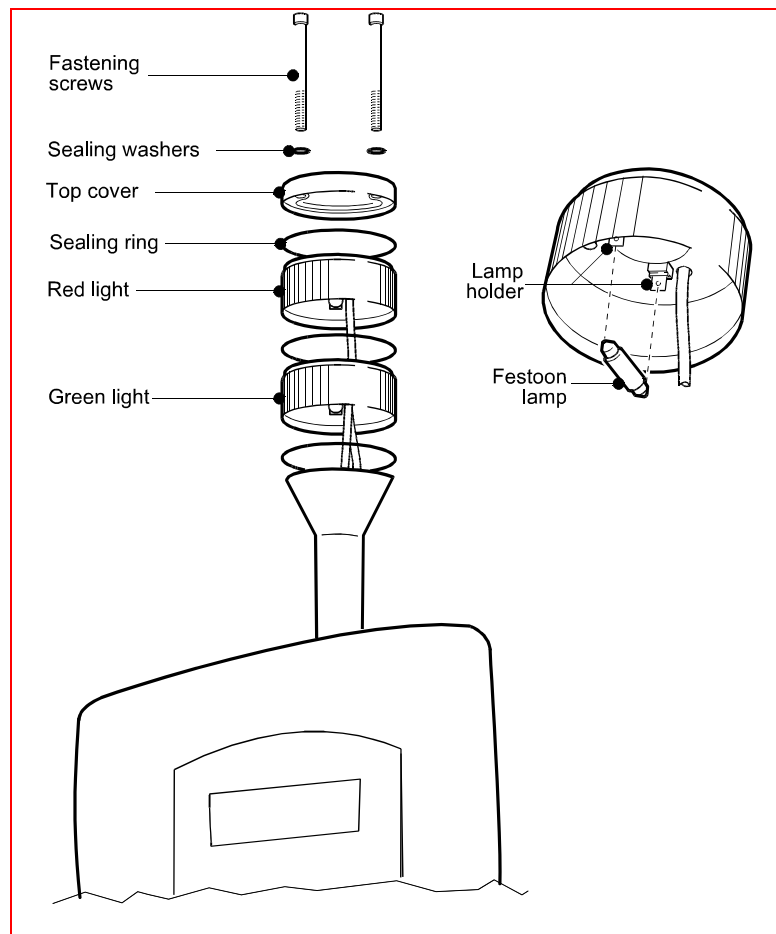
Fig. 7: Cable connections inside the reader



1.3.3 Replacing traffic light lamps

In the current production of the AS x70i DUO, LEDs are used for the traffic light. These LED lamps are maintenance free. Older versions of the AS x70i DUO use festoon bulbs. The replacing of the bulbs is described below.

Fig. 8:
Replacing traffic light lamps



To ensure water tightness after replacing the lamp(s), the screw washers should be replaced with O-rings.

SKIDATA™ article code for O-rings: AS 350 ZA,
No. 535200020

- Make sure the lamps are positioned tightly in the lamp holder (press the contact plates of the lamp holder inwards as necessary)
- When re-assembling the traffic light, ensure precise positioning of the sealing washers.
- Be careful not to fasten the screws too tightly.

The red/green traffic light is illuminated by special incandescent lamps. Spares are available from your SKIDATA™ service provider or from commercial hardware stores.

Technical specifications:

Festoon bulb, 24 V / 5 W, length: 37.5 mm

- Item code for **red** lamp: 470030050
- Item code for **green** lamp: 470030052

1.3.4 Cleaning the barcode scanner

Dirt accumulating on the optical system of the reader may cause a reduction in recognition rate and ticket reading speed. This can be prevented by cleaning the lenses of the barcode scanner at regular intervals (at least once every four weeks; more frequently if the device is exposed to conditions that cause heavy soiling). The lenses must also be cleaned in case of reading errors.

Note that the barcode scanner module of the AS x70i DUO cannot be de-installed. As a result, the scanner modules may only be cleaned by trained staff.

1.3.5 Replacing the Compact Flash card

To replace the compact flash card, proceed as follows:

- Push the card ejection button (see illustration below).
- Take out the card.
- Insert the new card (ensure correct alignment).

Fig. 9:
Replacing the Compact Flash
card

