

## INSTALLATION



# ID ISC.PRH102-B

HF Handheld Reader with Bluetooth Interface



## Note

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**1. Safety Instructions / Warning - Read before start-up !**

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- The device may only be used for the intended purpose designed by for the manufacturer.
- When installing the device in areas covered under FCC 47 CFR Part 15 a minimum separation of 20 cm (8 inch) between antenna and the human body must be maintained.
- The operation manual should be conveniently kept available at all times for each user.
- Unauthorized changes and the use of spare parts and additional devices which have not been sold or recommended by the manufacturer may cause fire, electric shocks or injuries. Such unauthorized measures shall exclude any liability by the manufacturer.
- The liability-prescriptions of the manufacturer in the issue valid at the time of purchase are valid for the device. The manufacturer shall not be held legally responsible for inaccuracies, errors, or omissions in the manual or automatically set parameters for a device or for an incorrect application of a device.
- Repairs may only be executed by the manufacturer.
- Installation, operation, and maintenance procedures should only be carried out by qualified personnel.
- Use of the device and its installation must be in accordance with national legal requirements and local electrical codes .
- When working on devices the valid safety regulations must be observed.
- Special advice for carriers of cardiac pacemakers:  
Although this device doesn't exceed the valid limits for electromagnetic fields you should keep a minimum distance of 25 cm between the device and your cardiac pacemaker and not stay in an immediate proximity of the device respective the antenna for some time.

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## 2. Performance Features of the ID ISC.PRH102-B

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### 2.1. Performance features

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The ID ISC.PRH102 are devices for contactless data exchange with common Transponder according ISO 15693. The readers have an internal antenna and will be delivered ready for connection. The device is designed as a handheld.

An anti-collision function enables simultaneous reading of several transponders per second.

The Reader electronic is fitted in a plastic housing with a protection class IP30.

The Reader ID ISC.PRH102-B has a class1 Bluetooth interface

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### 2.2. Available Reader-Types

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The following Bluetooth Reader-Types are available at present:

Reader-Types	Description
ID ISC.PRH102-B	Bluetooth interface with internal antenna and voltage supply by means of 4 rechargeable Mignon AA batteries Transponder according the ISO15693 standard are supported.
ID ISC.PRHD102-B	Bluetooth interface with internal antenna and voltage supply by means of 4 rechargeable Mignon AA batteries. Transponder according the ISO15693 (HF) standard and the EPC class1 GEN2 (UHF) are supported.

Table 1: Available Bluetooth Reader-Types

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### 3. Control and Display Elements

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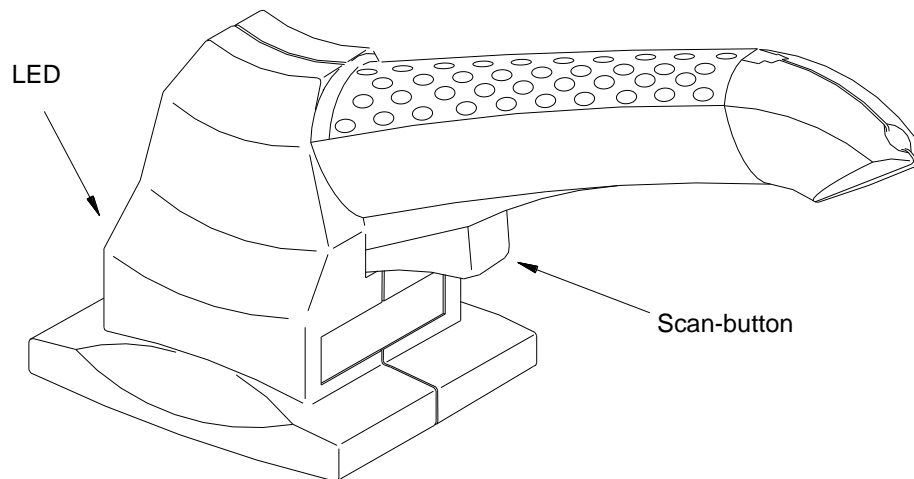


Fig. 1: Control and Display Elements

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#### 3.1. Signal buzzer

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The signal buzzer can be configured by the software.

In the standard configuration the signal buzzer will be active if a Transponder is recognised.

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#### 3.2. Scan - button

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The switch of the reader can be configured by the software.

In the standard configuration (Scan Mode) the serial number of the Transponder is read and will be send to the host after pressing the scan - button.

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### 3.3. LED

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The Reader's LED can be configured through software.

Abbreviation	Description
LED green	"RUN " - Turns on when the Reader is ready. - Flashes during Bluetooth initialization and connection establishment.
LED blue	„TRANSPONDER“ - Turns on when a Transponder is detected.
LED red	„WARNING“ - Signals a warning - Turns on if battery voltage is flat (no more scanning possible)
LED orange	„INITIALIZING “ and „WARNING“ - Flashes during Reader initialization after power-up. - Turns on if battery voltage is too low (rechargeable battery must be charged)
LED violet (red & blue)	„INITIALIZING internal Bluetooth interface“ - Turns on during writing Bluetooth parameters in internal Bluetooth interface.

Table 2: Standard configuration of the LEDs

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## 4. Assembly and Wiring

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### 4.1. Reader with Bluetooth™ interface ID ISC.PRH102-B

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The Reader has a class1 Bluetooth port. The supply voltage is provided only by rechargeable batteries.

The Reader is activated using the Scan button. This opens a Bluetooth connection automatically within approx. 3 seconds. The Reader is now ready to use. After releasing the button, the Reader remains active for several minutes. During this time the Bluetooth connection remains open. Pressing the button again immediately starts a Scan.

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#### 4.1.1. Bluetooth™(BT) interface

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Communication to the Reader is through a Bluetooth connection. Bluetooth is a short-distance wireless RF connection which enables permanent wireless communications connections between portable and desktop or peripheral devices. Each Bluetooth device has a unique address and can be optionally identified with a self-explanatory name. Password protection is used for security of a Bluetooth connection, with the Bluetooth partner being added to a confidential list. SPP (Serial Port Profile) is used.

Initial setup of a “paired connection” to the Reader is done by the host. After initial setup the establishment of the Bluetooth connection happens automatically by pressing the Scan button. To establish a connection to another Bluetooth-Dongle you must first clear the existing “paired connection” entry in the Bluetooth interface of the reader (see [4.1.4. Reset - button ID ISC.PRH102-B](#)).

All Readers have a factory set name and a preset password. The name "OBID\_PRH102B" consists of a fixed (OBID\_PRH) and a user modifiable (102B) part.

Description	Default setting
Name variable	102B
Password	1234

Table 3: Standard configuration of the Bluetooth Interface

**Note:**

**We recommend the use of the FECOM.DLL version >2.8.8.**



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#### 4.1.2. Supply voltage

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The Reader is powered by rechargeable batteries. Four AA type rechargeable batteries are used. These are inserted into the handle of the Reader. To change the batteries, remove the battery cover. After unlatching the springs the cover can be removed. The rechargeable batteries are placed in the compartment according to the + and – symbols indicated (note polarity). Then replace the cover and listen for the spring to audibly latch.

General type	Europe	USA	Size (D*I)
Mignon	R6 / UM-3	AA	15mm * 51mm

Table 4: Designations for rechargeable Mignon-type batteries

#### Notes:

- Use only Nickel/Cadmium (NiCd) or Nickel/Metal Hydride (NiMH) batteries.
- Do not use single-use batteries (e.g. zinc-carbon / alkaline) batteries.
- Reversed polarity may destroy the device.
- Rechargeable batteries should never be discarded with normal trash; please return them to a proper collection location !

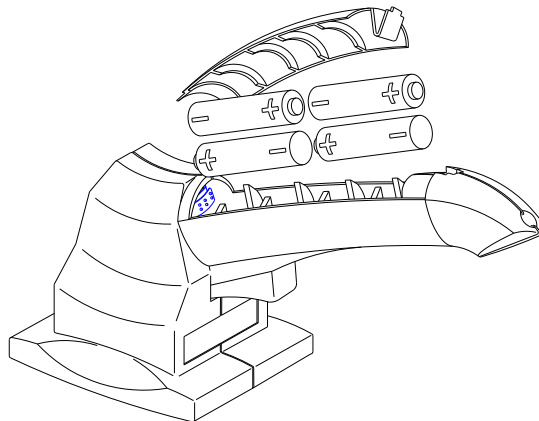


Fig. 2: Inserting the rechargeable batteries

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### 4.1.3. Charging the batteries

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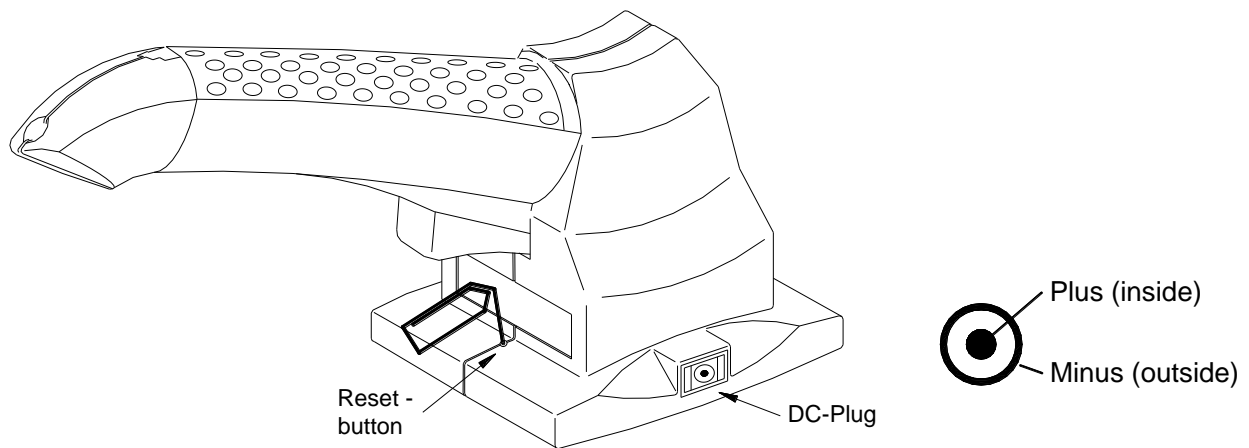


Fig. 3+ 4: ID ISC.PRH102-B: Reset button and DC/⎓ plug 2.1mm\*5.5mm

The rechargeable batteries may remain in the Reader for charging. You will need an external charger connected to the DC/⎓ jack.

DC jack	Abbreviation	Description
Inside	+	Plus – charge voltage
Outside	-	Minus – charge voltage

Table 5: Charger connection

**Note:**

- Reversing the polarity of the charger can destroy the batteries.
- The Reader is not functional while the batteries are charging.

**Charger :**

Use a charger suitable for the battery type specified (4-cell pack).

<b>Feig Article No.</b>	<b>Name</b>
2650.000.00	ID CHA.NiMH-A

Table 6: Recommended charger

The recommended charger is designed for nickel/cadmium (NiCd) type rechargeable batteries and nickel/metal hydride (NiMH) with a capacity range of 800mAh to 7200 mAh.

Alternately the batteries can be removed from the Reader and charged in a separate battery charger.

4.1.4. Reset - button ID ISC.PRH102-B

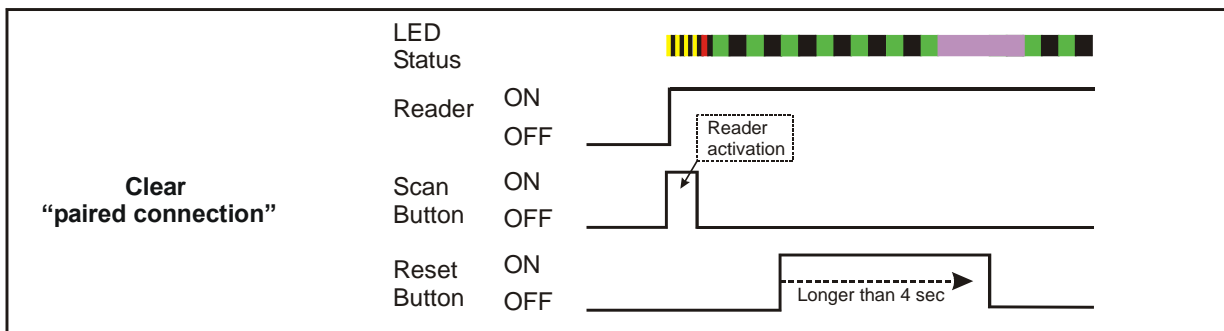
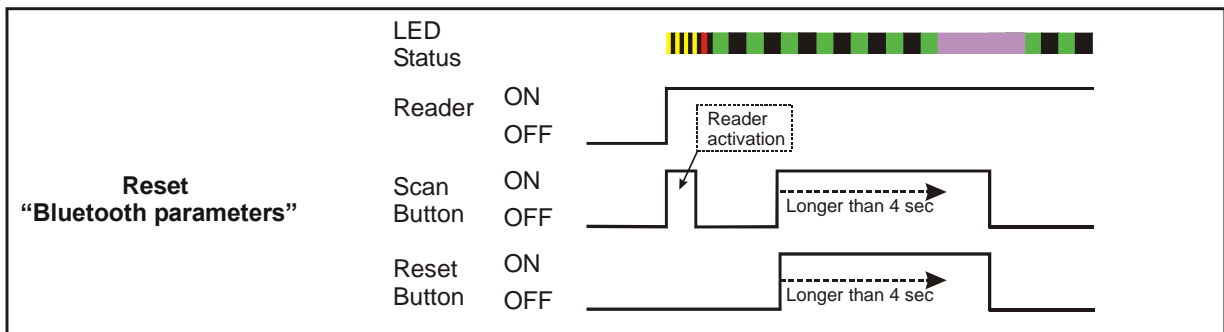
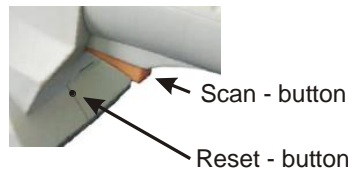
The Reader has a reset button. Below the yellow Scan button is a small hole in the housing. Below this is the Reset button. On the one hand you can restore the Bluetooth settings to their original configuration on the other hand you can clear a existing “paired connection” entry.

**1. Reset Bluetooth parameters of the reader to its factory settings**

After activating the Reader with the Scan button the Reader is reset to its factory settings by holding the Reset button and the Scan button down for longer than 4 seconds until the violet LED light up.

**2. Clear “paired connection” entry in internal Bluetooth interface**

After activating the Reader with the Scan button the “paired connection” entry in Bluetooth interface is cleared by holding the Reset button down for longer than 4 seconds until the violet LED light up.



4.1.5. Switching over → “HID-Mode” and “Standard Mode” (ID ISC.PRH102-B only)

Up from firmware version v01.06.00 the reader firmware supports additionally the “HID Mode” (Keyboard Mode). Its behavior is like the output of the USB variant of this reader. It is similar like a keyboard wedge. Default the reader has configured the “Standard Mode” for the output of the data.

For switching the reader over between the two output modes you must press the “Reset-button” before using the “Scan-button” to power on the device. This is shown in figure 7.

After the device was powered up release the “Reset-button”. Now the reader will toggle the output mode to “HID-Mode”. If you want to switch back the “Standard Mode” you must switch off the reader by double click on the “Scan-button” and repeat the above described procedure again. The reader will remain in the output mode you’ve configured last till you start the procedure again to change the output mode.

**NOTE:**

**The pairing of PRH102-B reader and a Bluetooth dongle should be done in “Standard Mode”!**

If the reader is in “HID Mode” and the reader already has established a connection to a Bluetooth dongle an orange LED, flashing once every 10sec. signs that the reader firmware is currently configured in “HID Mode”!

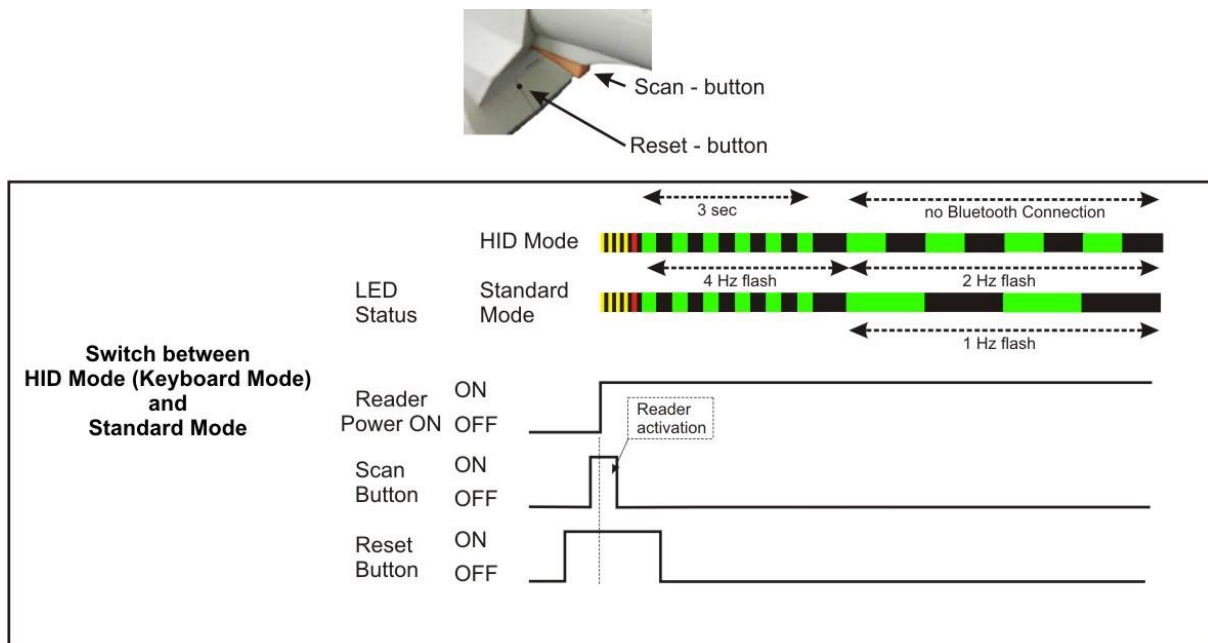


Figure 1: Switching over – HID Mode / Standard Mode

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## 5. Technical Data

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### Mechanical Data

- **Housing** ABS plastic (enclosed)
- **Dimensions ( W x H x D )** 230 x 100 x 80 mm (9,06 x 3,94 x 3,15 inch)
- **Weight** 320 g
- **Degree of Protection** IP 30
- **Color** similar RAL 9002

### Electrical Data

- **Supply Voltage** 4 Mignon AA rechargeable batteries  
for nickel/cadmium (NiCd) type rechargeable batteries or  
nickel/metal hydride (NiMH) with a capacity range of  
800mAh to 7200 mAh
- **Current Draw** max. 0,5 A
- **Power Consumption** max. 2,5 VA
- **Operating Frequency** 13,56 MHz
- **Transmitting Power** 200mW ± 1dB
- **Antenna** internal antenna
- **Interface** Bluetooth class1 (Serial Port Profile)

### Functional Properties

- **Protocol Modes**
  - FEIG ISO HOST
  - Scan Mode
- **Supported Transponders**
  - ISO15693, ISO18000-3-Mode1  
(EM HF ISO Chips, Fujitsu HF ISO Chips, KSW Sensor Chips, Infineon my-d, NXP I-Code, STM LRI ISO Chips, TI Tag-it)
- **Address setting for interface** Bluetooth MAC address
- **Indicators**
  - optical 1 LED ( multicolor – red / green / blue)
  - acoustical buzzer

### Ambient Conditions

- **Temperature range**
  - Operation 0 °C to +50 °C (32 °F to 122 °F)
  - Storage -20 °C to +70 °C (-4 °F to 158 °F)
- **Humidity** 5 – 95% non condensing

### Applicable Norms

- **Radio approval**
  - Europe EN 300 330
  - USA FCC 47 CFR Part 15
  - Canada IC RSS-GEN, RSS-210
- **EMC** ETSI EN 301 489
- **Safety**
  - low voltage EN 60950
  - Human Exposure EN 50364
- **Fall** Withstands multiple 5´/1,5 m drops to concrete

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## 6. Approvals

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### 6.1. Europe (CE)

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When used according to regulation, this radio equipment conforms with the basic requirements of Article 3 and the other relevant provisions of the R&TTE Guideline 1999/5/EC dated March 99.



Equipment Classification according to ETSI EN 301 489: Class 2



## 6.2. Declaration of Conformity

### Declaration of Conformity

in accordance with the  
**Radio and Telecommunication Terminal  
 Equipment Act (FTEG)**  
 and  
**Directive 1999/5/EC (R&TTE Directive)**

# FEIG ELECTRONIC

Product Manufacturer : **FEIG ELECTRONIC GmbH**  
 Lange Strasse 4  
 D-35781 Weilburg-Waldhausen  
 Germany  
 Phone: +49 6471 3109 0

Product Designation : **ID ISC.PRH102**

Product Description : **RFID Reader**

Radio equipment, Equipment class (R&TTE) : **Class 1**

FEIG ELECTRONIC GmbH declares that the radio equipment complies with the essential requirements of §3 and the other relevant provisions of the FTEG (Article 3 of the R&TTE Directive), when used for its intended purpose.

#### Standards applied :

Health and Safety requirements pursuant to FTEG § 3 (1) 1 and R&TTE Article 3(1) a)	EN 60950-1:2006 EN 50364:2001
Protection requirements concerning electromagnetic compatibility § 3 (1) 2. (Article 3(1) b))	ETSI EN 301 489-3 V1.4.1
Measures for the efficient use of the radio frequency spectrum pursuant to § 3 (2) (Article 3(2))	ETSI EN 300 330-2 V1.5.1

Weilburg-Waldhausen 10.11.09

Place & date of issue

Eldor Walk

Name and signature



This declaration attests to conformity with the named Directives but does not represent assurance of properties. The safety guidelines in the accompanying product documentation must be observed.

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### 6.3. USA and Canada (FCC and IC)

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## FCC ID: PJMPRH102

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.

**NOTICE:**

*Changes or modifications made to this equipment not expressly approved by FEIG ELECTRONIC GmbH may void the FCC authorization to operate this equipment.*

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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## 7. Appendix

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### 7.1. Accessories

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The following accessories are available for the Reader.

Feig Article No.	Name	Description
2650.000.00	ID CHA.NiMH-A	Battery charger with suitable connector for ID ISC.PRH102-B

Table 7: Accessories

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### 7.2. Scope of delivery

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Reader	Scope of delivery
ID ISC.PRH102-B	- Reader ID ISC.PRH102-B - Quick user guide

Table 8: Scope of delivery

**Note:**

***Rechargeable batteries and battery charger are not included in delivery***