



Page 1 of 21  
2002-08-05  
Release: 1.0  
ID: ID020058



**ScanID**

---

Technical Reports

<b>1</b>	<b>INTRODUCTION</b>	<b>3</b>
1.1	SYSTEM DESCRIPTION	3
<b>2</b>	<b>IMPORTANT NOTES</b>	<b>4</b>
<b>3</b>	<b>HARDWARE</b>	<b>5</b>
3.1	MEMBRANE KEYBOARD	6
3.2	TECHNICAL DATA	7
3.3	READING RANGES	8
3.4	CHARGE STATION	8
3.5	LICENSES AND CERTIFICATES / DECLARATION OF CONFORMITY	8
<b>4</b>	<b>SOFTWARE</b>	<b>9</b>
4.1	STANDARD SOFTWARE	9
4.2	ENTER THE MENU	10
4.2.1	<i>Menu Settings</i>	10
4.2.2	<i>Brightness of the Display</i>	10
4.2.3	<i>Read Mode</i>	11
4.2.4	<i>Code Type</i>	12
4.2.5	<i>Page Select</i>	12
4.2.6	<i>HERMOS Menu</i>	14
4.2.7	<i>HERMOS Setup</i>	15

## **1 Introduction**

### **1.1 System Description**

The ScanID hand held System is a high frequency identification system using the FM-transmission.

The basic item is a transponder working as a forgery-proof electronic identity disc.

The reading unit of the system sends an energy impulse via the antenna. The capacitor of the passive, battery-less transponder is charged by this impulse. After that, the transponder returns a signal with the stored data.

The data received by the transponder reader were checked in the  $\mu$ -controller and send to the display.

The total reading cycle takes less than 100 ms.

As a sight-connection between transponder and reader is not absolutely necessary, the transponder can also be identified through non-metallic material.

## 2 Important Notes

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.

### **CAUTION:**

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

### **NOTE:**

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:

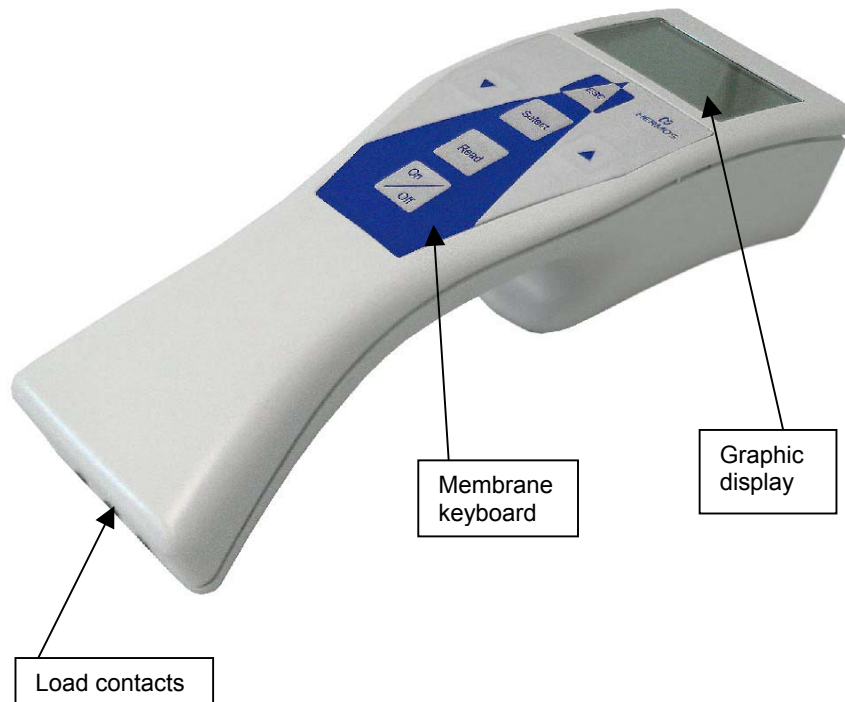
- Reorientate or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



**Please note when opening the device:**

**Static sensitive devices!  
Handle only at static safe work stations!**

### 3 Hardware



The three load contacts are used to load the ScanID in the load station. The charging activity is shown on the display during the battery charging. The message 'battery charged' is shown in case of a full charged battery.

### 3.1 Membrane Keyboard

**On/Off:**

This key switches on and off the reader. Push the key for more than 3 seconds to switch off.

**Read:**

The 'Read' button is used to start the reading of the RF-tag data. In case of an unsuccessful reading, the handheld tries to read the RF tag up to 5 times (default setting).

In menu mode this key applies the entered code to enter the HERMOS menu.

**Select:**

Normally this key is used to rotate between the different views of the tag information. Also it selects the marked menu items in the menu mode.

**In triggered mode the select button establishes a channel to the base station to transmit the data.**

**ESC:**

The ESC key steps out of the current menu up to the start screen.

**Shift up and down:**

These buttons are used to scroll in the different menus.

**Display:**

Graphic display with a resolution of 128x64 dots.

The display can show 8 lines with 21 signs per line.

The big font needs two lines per sign.

The display memory can hold 32 lines with 21 signs which can be scrolled.

### 3.2 Technical Data

Parameter	Value
Operation temperature	0 to +50°C
Stock temperature	-25 to +70 °C
Permissible humidity @ 50C°	25 - 80 %
Transmitter frequency LF	134.2 kHz
Typical period of charging impulse	50ms
Max. repeat of reading	8/s
Protection mode	IP 40
Housing material	ABS
Weight	about 300g
Li-Ion Accu	7,2 V / 1450 mAh

The accumulator is designed to read more than 2500 tags before you have to reload the ScanID.  
The ScanID turn off automatically after a adjustable time – typically 60 seconds.

### 3.3 Reading Ranges

The reading range is only valid for the transponder types *Read only*, *Read/Write* and for the *first page* of the multipage transponder.

If you want to read another page than page 1 of a multipage transponder, the transponder requires the page number. In this case the reading range can be reduced.

Rod Antenna: 2,4 inch (Transponder parallel to antenna)  
Frame Antenna: 4 inch (Transponder parallel to axis of frame)

### 3.4 Charge Station

The charge station charges automatically the li-ion accumulator. The charging time is about 4 hours, a message occurred on the display, when the device is charged. The supply voltage is 100-240V AC.

The housing of this charge station is made of ABS or high-grade steel. The charge station can be mounted horizontal or vertical.

### 3.5 Licenses and Certificates / Declaration of Conformity

- **CE 0682** 

- **FCC ID: N5GSID**

Compliance with:

FCC Code of Federal Regulations, Part 15 Subpart C, Section §15.205

FCC Code of Federal Regulations, Part 15 Subpart C, Section §15.209



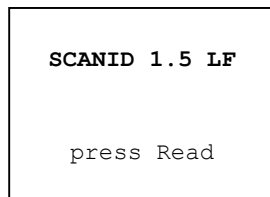
#### 4 Software

The software of the ScanID is designed for a wide range of customer applications. It can also be developed for special applications and it is possible to update the firmware.

**! The red colored modes are not available for this type !**

##### 4.1 Standard Software

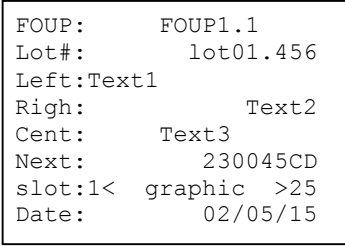
After switching on the ScanID the start page with the current software version is shown.



Press the 'Read' button to start the reading process of the ScanID. Therefore a transponder should be in the reading range of the antenna. The default number of attempts to read a transponder is 5 times.

Was the reading of the transponder data successfully, the data is shown on the display.

Example:



A rectangular box representing a screen display showing transponder data. The text is as follows:  
FOUP: FOUN1.1  
Lot#: lot01.456  
Left:Text1  
Righ: Text2  
Cent: Text3  
Next: 230045CD  
slot:1< graphic >25  
Date: 02/05/15

## 4.2 Enter the Menu

To switch into the menu mode press the two arrow buttons for more than 3 seconds.

### 4.2.1 Menu Settings

The menu items can be selected by the two cursor buttons. To activate a selected menu item press the ,Select' button.

```
Settings
Brightness
Read Mode
Code Type
Page Select
HERMOS menu
```

### 4.2.2 Brightness of the Display

Select the wanted option (light or dark) with the cursor buttons. By pressing the ,Select' button you can increase or decrease the contrast of the display.

```
Brightness

Light
Dark
```

#### 4.2.3 Read Mode

The current mode is shown in the last line. To change the mode, select the requested mode with help of the cursor buttons and activate the mode by pressing the ,Select' button.

The active mode is shown under item ,active'.

```
Read Mode  
  
auto. send  
trig. send  
not send  
  
active: not send
```

**auto. send:** After reading the FOUP-ID the ScanID establishes a connection to a host data base automatically and sends the FOUP-ID in message S3F81.

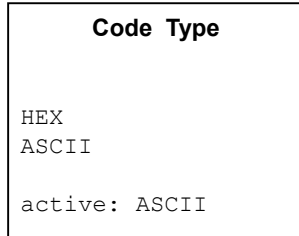
**trig. send:** After reading the FOUP-ID the information is shown on the display. The operator can decide whether he establishes a connection to the host or not by pressing the ,Select' button or not.

**not send:** After reading the FOUP-ID the information is shown on the display. The ScanID is not able to establish a connection to the host.

**! The red colored modes are not available for this type !**

#### 4.2.4 Code Type

The display of the current mode and the possibly change is similar to the described ,Read Mode'.



If the current setting is ,ASCII', the FOU-PID is shown in ASCII characters. In case of the setting is ,HEX', the 8 bytes of the ID are shown in hexadecimal format on the display.

Example:

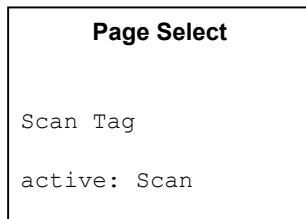
ASCII: 00123456

Hex: 3030313233343536

#### 4.2.5 Page Select

Select the different types of transponders or a special page of the transponder by using the cursor buttons. Apply the selection by pressing the ,Select' button. The active page is shown behind ,active'.

The option ,Scan Tag' reads always the first page of the transponder equal which type it is.



Scan:	The first page of a any transponder will be read. (RO - Tags, RW - Tags, Multipage)
R/O Transponder:	Read a R/O transponder
R/W Transponder:	Read a R/W transponder
Multipage all:	all pages of a multipage transponder will be read (only available in single device mode!)
Multipage 1:	1. page of multipage will be read
...	
Multipage 17:	17. page of multipage will be read

#### 4.2.6 HERMOS Menu

The menu item **,announce to base'** initialize the DECT module of the ScanID to the address of the base station. Should the ScanID after an aborted firmware upload still be configured to the download station, this menu item can be used to configure the DECT module of the ScanID again to the base station.

The **,Download mode'** is used for the update of the ScanID software. If there is an online download station near by the ScanID, the ScanID can connect this download station to upload a new software.

After choosing the menu item **,HERMOS settings'** the user will be requested to input a code. The code can be entered with the cursor buttons (number up and down) and the **,Select'** button (step to next digit). The **,Read'** button applies the code and in case of the right code the ScanID switches to the **,HERMOS Setup'**.

The **'DECT commands'** item is used to configure the DECT module. The user can request the active DECT parameters and can change some settings of the module there.

```
HERMOS menu  
  
announce to base  
Download mode  
HERMOS settings
```

**! The red colored modes are not available for this type !**

**ScanID**  
**Release 1.0**

## 4.2.7 HERMOS Setup


Select the wanted parameter with the cursor buttons. To change the value of the parameter, use the ‚Select‘ button.

Readmode: 1 = read mode changeable, 0 = read mode fix  
Typemode: 1 = ScanID type adjustable, 0 = ScanID type fix (dummy)  
Pagemode: 1 = type/page adjustable, 0 = typ/page fix  
Codemode: 1 = display mode adjustable, 0 = display mode fix  
Testmode: 0 .. 2; 0 = Off, 1 = test msg. 0x81,  
2 = test msg 0x81 with sync.-reset  
Language: 0 = German, 1 = English  
MaxRepeat: 1 .. 9, number of repeated readings , default = 5  
Baudrate: baud rate of the module (dummy)  
TimeOut5 : 1 .. 9, message timeout after X x 5s, default = 2 → 10s

```
HERMOS Setup
Readmode: 1
Typemode: 1
Pagemode: 1
Codemode: 1
Testmode: 0
Language: 0
MaxRepeat: 5
Baudrate: 3
TimeOut5: 2
```

! The red colored modes are not available for this type !

ScanID  
Release 1.0

  
**HERMOS**  
Page 16 of 21  
2002-08-05  
ID: ID020058

  
**HERMOS**  
HERMOS Informatik GmbH  
Gartenstrasse 19, 95490 Mistelgau, Germany

Tel. +49-9279/991-910  
Fax +49-9279/991-900  
[info@carmas.com](mailto:info@carmas.com)