

HS 6578 2D-Code-Handscanner with Radio Transmission

Quick Start Guide



Preamble

Congratulations on your purchase of one of the most powerful hand-held scanner for decoding direct marked 2D-Codes. This document is intended for information about the handling and use of the HS 6508 from Leuze electronic.

The most important information that is needed for operation is explained. Furthermore, even explains the main types of connections and presented the programming using the codes.

You can find more in the document Users Guide, which you can find on our home page www.leuze.com.

Content

PREAMBLE	2
CONTENT	2
DELIVERY HS 6578 XX	4
PARTS	4
DELIVERY BASE F. HS 6578.....	5
PARTS	5
INSTALLATION	6
CONNECT THE HAND-HELD SCANNER	6
<i>Switching off the computer</i>	6
<i>Connect the cable to the Base f. HS 6578.....</i>	6
<i>Connect the hand scanner HS 6578 with the Base</i>	6
<i>How to scan?</i>	7
TESTING THE SCANNER	7
TECHNICAL DATA	8
PINNING OF THE CABLES	8
<i>KB 232-1 HS65x8 Part-No. 50120436</i>	8
<i>KB 232-2 HS65x8 Part-No. 50120434</i>	8
<i>KB PS2-1 HS65x8 Part-No. 50120438.....</i>	9
<i>KB USB-1 HS 65x8 Part-No. 50120432.....</i>	9
READING DISTANCES	9
RESET THE HS 6578 TO FACTORY SETTINGS.....	10
PARAMETERIZATION.....	10

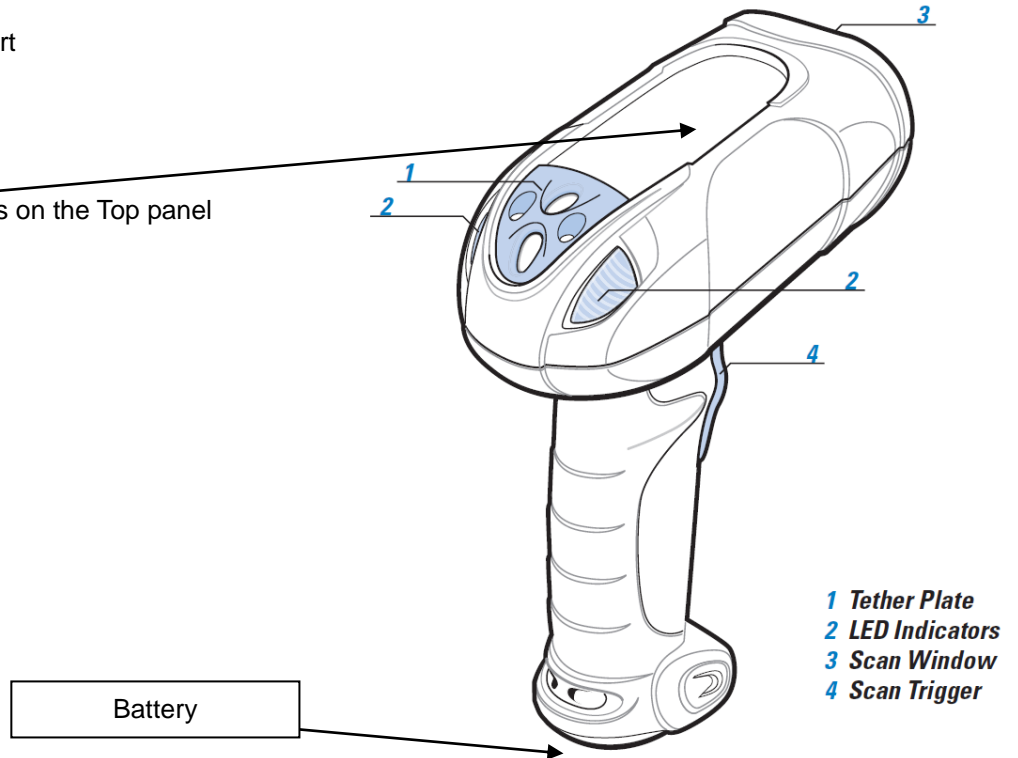
HS 6578 ON THE PC SERIAL PORT	11
<i>With KB 232-2 HS65x8 Part-No. 50120434</i>	11
<i>Parameterization for Leuze-Standard-Protocol</i>	11
HS 6578 AT MA 200i	12
<i>Initial Operation</i>	12
HS 6578 AT MA 21	13
HS 6578 AT PS2-INTERFACE.....	14
<i>Initial Operation</i>	14
HS 6578 AT USB-INTERFACE (KEYBOARD-EMULATION)	15
<i>Initial Operation</i>	15
HS 6578 AT USB-INTERFACE (COM-PORT-EMULATION)	16
<i>Initial Operation</i>	16
CODE 2/5 INTERLEAVED	17
DATA TRANSMISSION WITH SUFFIX ENTER	18
YOU WILL FIND FURTHER ADJUSTMENT IN THE:	19
TROUBLESHOOTING.....	19
OVERVIEW OF TYPES AND ACCESSORIES.....	20
CONNECTION TO LEUZE MULTINET PLUS	21
CONNECTING SEVERAL FIELDBUSES WITH MA 200i	21

Delivery HS 6578 xx

1. Handheld scanner HS 6578 DPM
2. Battery
3. Leaflet for Quick Start

Parts

The model designation is on the Top panel



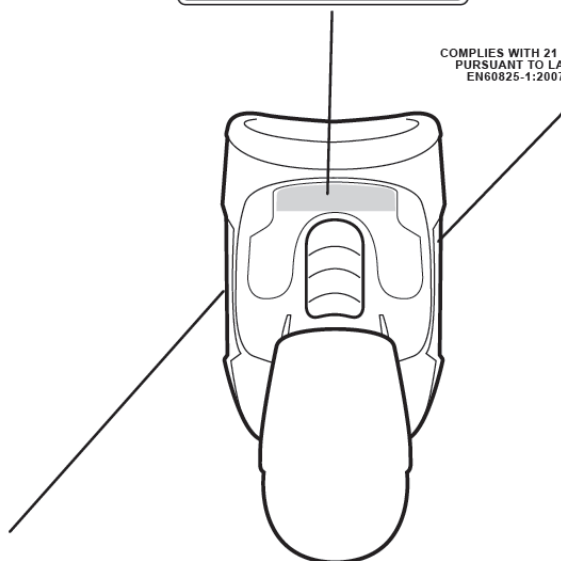
- 1 Tether Plate
- 2 LED Indicators
- 3 Scan Window
- 4 Scan Trigger

References to standards are located on the bottom side

LASER LIGHT- DO NOT STARE INTO BEAM .
 CLASS 2 LASER PRODUCT. LASERLICHT - NICHT IN DEN STRAHL BLICKEN, LASER KLASSE 2.
 LUMIÈRE LASER- NE PAS REGARDER DANS LE FAISCEAU. APPAREIL À LASER DE CLASSE 2 630-680nm, 1mW
 激光辐射 勿直视光束 2类激光产品



COMPLIES WITH 21 CFR1040.10 AND 1040.11 EXCEPT FOR DEVIATIONS PURSUANT TO LASER NOTICE No. 50, DATED JUNE 24, 2007, AND EN60825-1:2007 AND IEC 60825-1(ED.2).



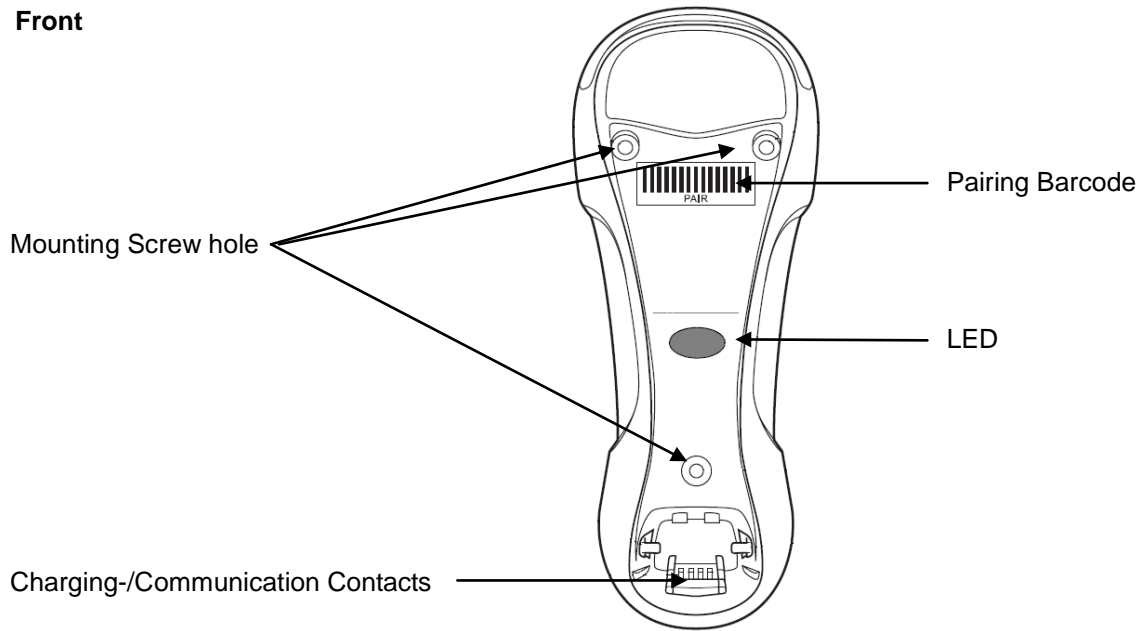
CAUTION- CLASS 2 LASER LIGHT WHEN OPEN. DO NOT STARE INTO THE BEAM. ATTENTION- LUMIÈRE LASER EN CAS D'OUVERTURE. NE PAS REGARDER DANS LE FAISCEAU. VORSICHT- LASERLICHT KLASSE 2, WENN ABDECKUNG GEÖFFNET. NICHT IN DEN STRAHL BLICKEN.
 注意：打开时及联锁失效时有激光辐射 勿直视光束

Delivery Base f. HS 6578

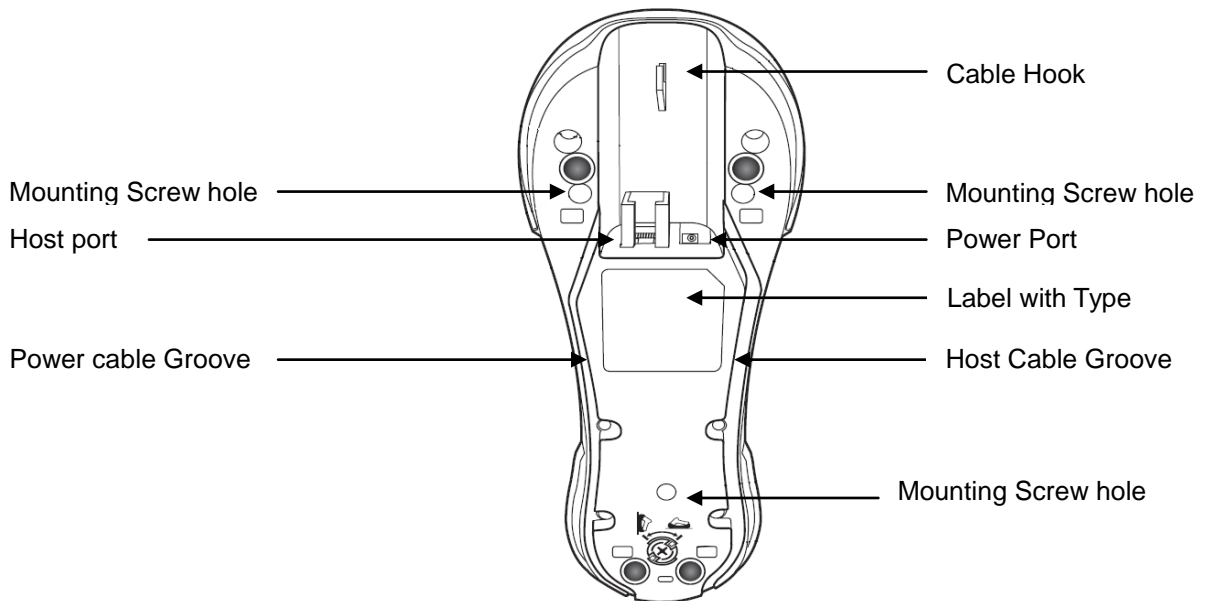
1. Base-Station for Handheld scanner HS 6578
2. Rubber feet (4 pcs.)

Parts

Front



Back



Installation

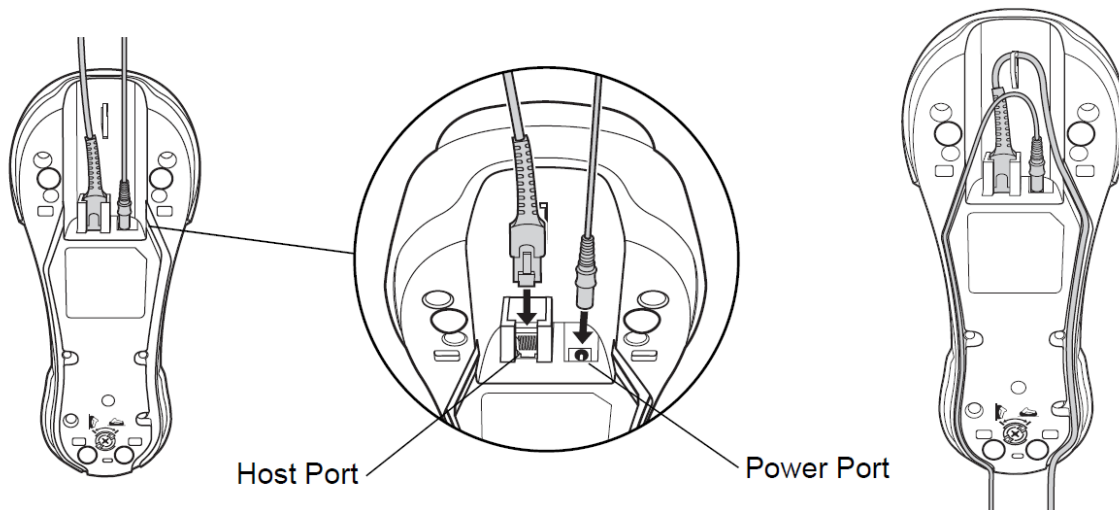
Connect the hand-held scanner

Switching off the computer

Information on switching off and shut down the connected computer - what ever before to connect peripheral devices such as a scanner is - please refer to the instruction manual of your computer.

Connect the cable to the Base f. HS 6578

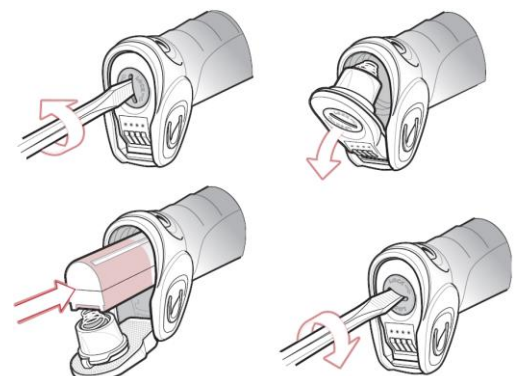
The following illustrations show the steps required to install the cable at the base station are shown, which are described below.



1. Plug the interface cable to the host port.
2. Connect the other end of the interface cable to the PC, PLC or MA
3. Plug the cable from the adapter to the power port.
4. Connect the other end to the power adapter and plug it into the outlet.

Connect the hand scanner HS 6578 with the Base

5. Insert the battery into the HS 6578th see Figures
6. Scan the bar code, PAIR 'on the base.
7. The connection is now established. Scan the appropriate code for your application in the section configuration from page 10



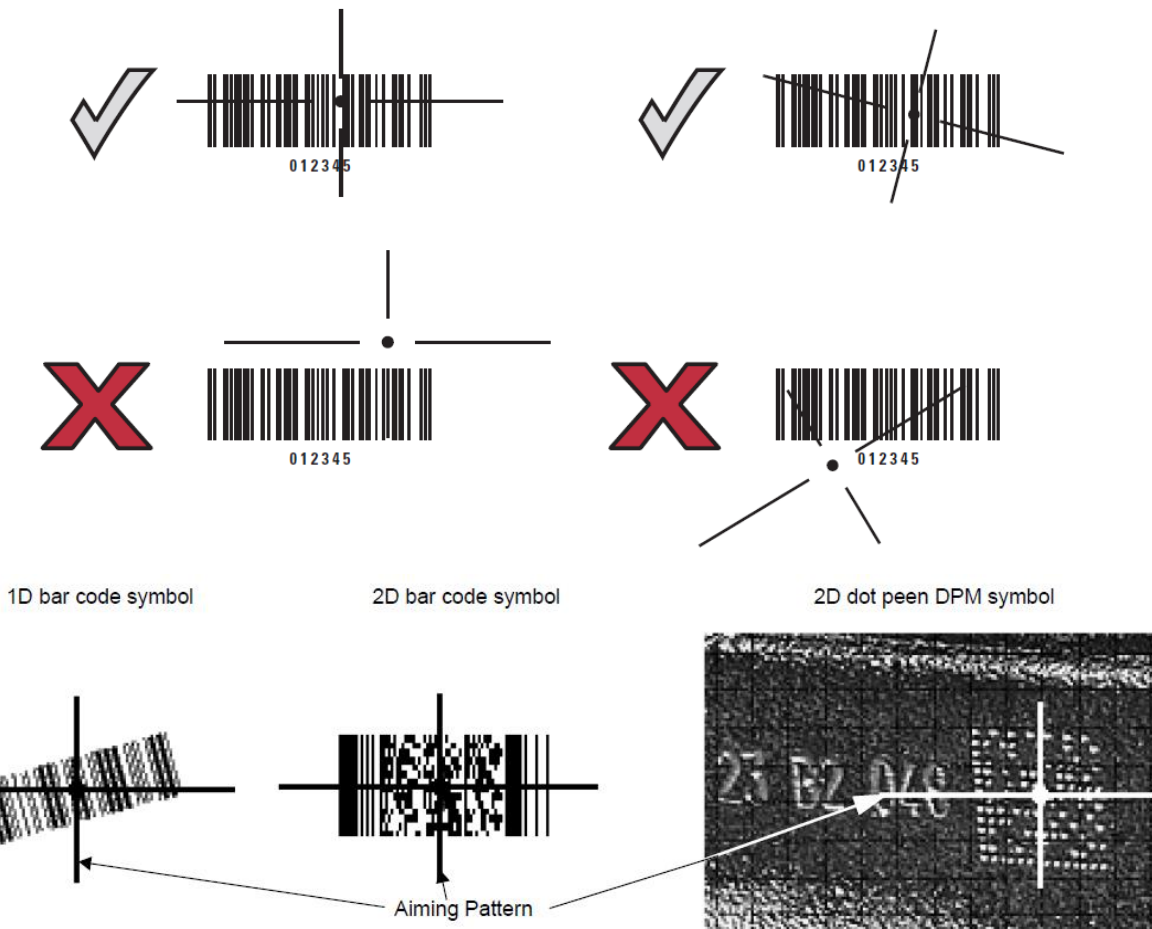
How to scan?

Here are some notes on how to get the best scan performance (see Fig.)

The scanner must be kept at a slight angle to the bar code. (Hold the scanner perpendicular to the barcode.)

Cross the red line should be addressed as an aiming aid centered on the code. So that the camera is aligned with the center of the code. (The scanner cannot recognize the label correctly if it is not completely covered by the camera and recorded).

Cross the red line is smaller and narrower when the scanner is closer to the code. Smaller codes should be read with a smaller reading distance, with larger codes, the distance chosen such that the camera can be fully



Testing the Scanner

The adjacent bar code (code 39) is for testing the scanner,

The module size is 0.5 mm (20 mil)



Technical Data

For the technical Data please refer the data sheet of the HS 6578

Pinning of the cables

KB 232-1 HS65x8 Part-No. 50120436

Coiled cable with a length of 2.8 meters (Stretched).

Pinning 9 pin D-sub connector (female) for cable CBA-R36-C09ZAR

PIN-Number	Signal	Description
1	nc	Not connected
2	TX	Transmit Data
3	RX	Recieve Data
4	nc	Not connected
5	GND	Signal Ground
6	DTR	Data set ready (Output with +5 Volt)
7	CTS	Clear to send
8	RTS	Request to send
9	VCC IN	4,75 – 5,25 Volt DC

KB 232-2 HS65x8 Part-No. 50120434

Coiled cable with a length of 2.8 meters (Stretched).

Pinning 9 pin D-sub connector (female) for cable CBA-R02-C09PAR

PIN-Number	Signal	Description
1	nc	Not connected
2	TX	Transmit Data
3	RX	Recieve Data
4	nc	Not connected
5	GND	Signal Ground
6	DTR	Data set ready (Output with +5 Volt)
7	CTS	Clear to send
8	RTS	Request to send
9	nc	Not connected
PIN Power supply		
Inner	VCC IN	5 Volt DC
Outer	GND	Ground

The right power supply for the HS 6508 (100-230V/50-60Hz) is the article no. 50120428.

KB PS2-1 HS65x8 Part-No. 50120438

Coiled cable with a length of 2.8 meters (Stretched).

Pinning PS2 female and male connector of cable CBA-K02-C09PAR

PIN PS2 male	PIN PS2 female	Signal	Description
1	-	PC Data	Data PC
2	2	NC	Not connected
3	3	GND	Signal Ground
4	4	VCC IN	5 Volt DC
5	-	PC Clock	Clock PC
6	6	NC	Not connected
-	1	KB Data	Data Keyboard
-	2	KB Clock	Clock Keyboard

KB USB-1 HS 65x8 Part-No. 50120432

Coiled cable with a length of 2.8 meters (Stretched).

Pinning USB Type A connector of cable CBA-U12-C09ZAR

USB-Type A-Connector	Signal	Description
1	VCC IN	5 Volt DC
2	Data -	Data -
3	Data -	Data +
4	GND	Signal Ground

Reading distances

Code type	Modul size	Modul size	from (mm)	to (mm)
Code 39	3 mil	0,076 mm	27,9	40,6
Code 39	5 mil	0,127 mm	0	88,9
Code 39	7,5 mil	0,19 mm	0	137,2
Code 39	20 mil	0,508 mm	27,9	233,7
UPC / EAN 13	100 %	0,33 mm	20,3	157,5
PDF 417	6,67 mil	0,169 mm	0	94,0
PDF 417	10 mil	0,254 mm	0	114,3
PDF 417	15 mil	0,381 mm	0	142,2
Data Matrix Code	4 mil	0,102 mm	25,4	53,3
Data Matrix Code	5 mil	0,127 mm	10,2	68,6
Data Matrix Code	7,5 mil	0,19 mm	0	88,9
Data Matrix Code	10 mil	0,254 mm	0	111,8
QR Code	4 mil	0,102 mm	27,9	35,6
QR Code	5 mil	0,127 mm	12,7	55,9
QR Code	7,5 mil	0,19 mm	0	83,8
QR Code	10 mil	0,254 mm	0	101,6

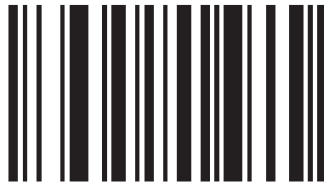
Note:

Note that the real reading distances are still influenced by factors such as labeling, quality printing, scanning angle, printing contrast etc. and therefore may differ from those given here reading distances.

Reset the HS 6578 to factory settings

To reset all parameters to the factory setting you have to scan the code below.

Attention all settings will lose!



STANDARDEINSTELLUNGEN
Factory Default

Parameterization

Basically, the hand-held scanner is configured via barcodes. This, first select the bar code is in the manual, and then press the trigger button to read the code. The configuration is then immediately active.

A second option is to configure the hand scanner with USB and RS232 interface using the PC program ESP. This program lets you download and install from our website www.leuze.de. With the program settings can be made and transmitted to the hand-held scanner. The configuration can also be stored, so that later it can be reused.

For more information see also in the User's Guide to HS 6578.

In the following are some of the most important configurations.

HS 6578 on the PC serial port

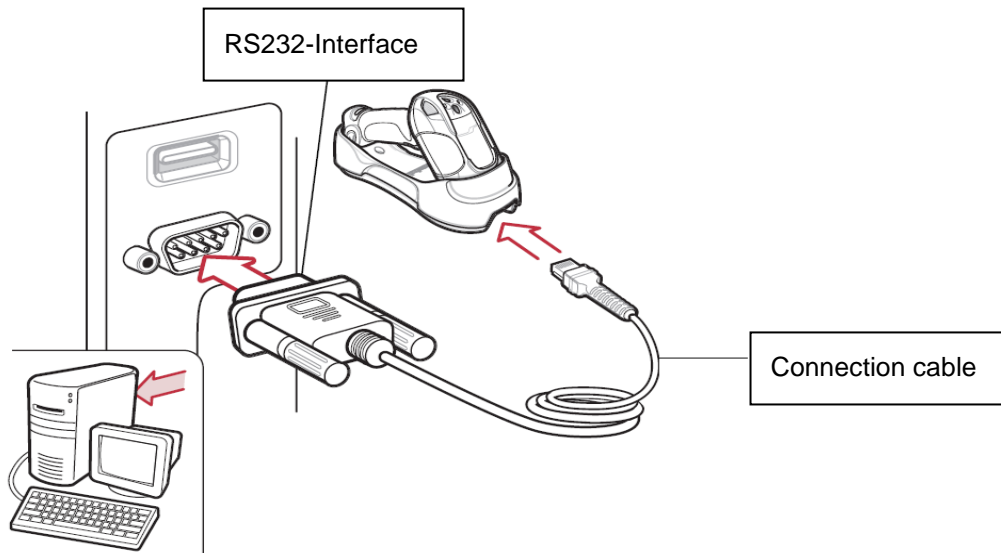
With KB 232-2 HS65x8 Part-No. 50120434

Required Parts:

1x	50120440	HS 6578 DPM
1x	50120434	KB 232-2 HS65x8
1x	50120446	Base f. HS 6578
1x	50120430	NT Base 6578

Coiled cable CBA-R02-C09PAR has a length of 2.8 meters (Stretched).

The pin assignment of the 9 pin D-sub connector (female) can be found on page 10



Please connect the HS 6578 in accordance with the illustration.

RS 232 with 9600 Baud, 8 Data bit, 1 Stopbit, No Parity, no Prefix and Postfix



STANDARD RS-232

Parameterization for Leuze-Standard-Protocol

Leuze Standard-Protocol:

RS 232 with 9600 Baud, 8 Data bit, 1 Stopbit, No Parity, Prefix STX and Postfixes CR/LF; Code 2/5

Interleaved with 10 digits



+

Barcode PAIR on Base

HS 6578 at MA 200i

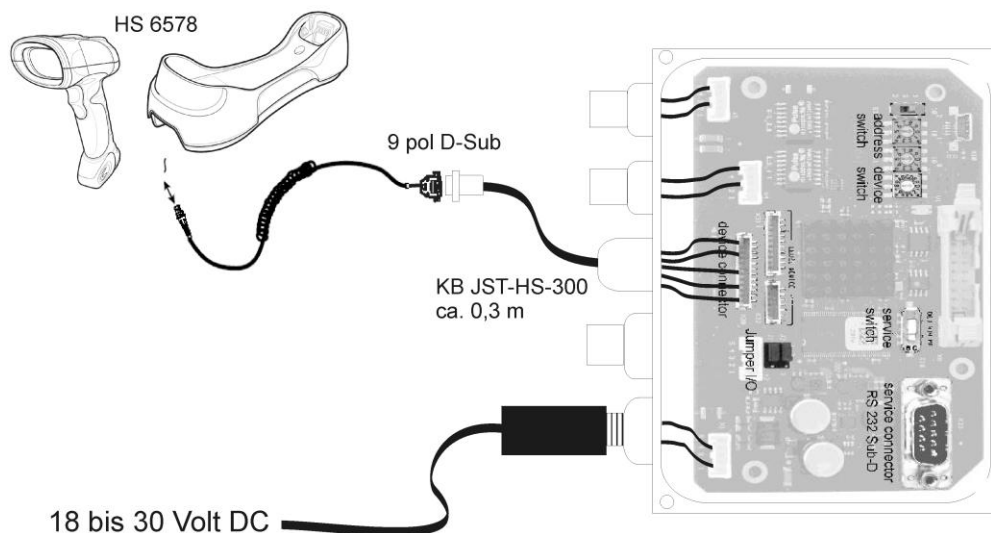
RS 232-Data Transmission with 9600 Baud, 8 Data bit, 1 Stopbit, No Parity, Postfix CR/LF.

Required parts:

1x	50120442	HS 6578 DPM			
1x	50120436	KB 232-2 HS65x8			
1x	50120446	Base f. HS 6578			
1x	50120430	NT Base 6578			
1x	50113397	KB JST-HS-300			
1x	50112893	MA 204i Profibus Gateway	or	MA 208i Ethernet	or MA 248i Profinet

Initial Operation

- Open the MA 200i
- Install the KB JST-HS 300 with the high strength cable gland through the threaded hole and connect the 12-pin JST connector plug.
- Connect the cable to connector at the base
- Connect the 9-pin D-sub connector on the KB JST-HS-300
- Scan the Data Matrix Code
- Scan the bar code, PAIR 'on the base.
- Set on the address selection switch the address
- Plug in the fieldbus connection cables
- Connect the Power to the MA 200i
- Close the MA 200i



Please refer for details on connecting the MA 200i from the technical description MA 200i.

Parameterization

RS 232 with 9600 Baud, 8 Data bit, 1 Stopbit,
No Parity, no Prefix and Postfix CR/LF;
Standard Codes and Code 2/5 Interleaved with
10 digits



+

Barcode PAIR on Base

HS 6578 at MA 21

RS 232-Data Transmission with 9600 Baud, 7 Data bit, 1 Stopbit, Parity Even, Postfix CR/LF.

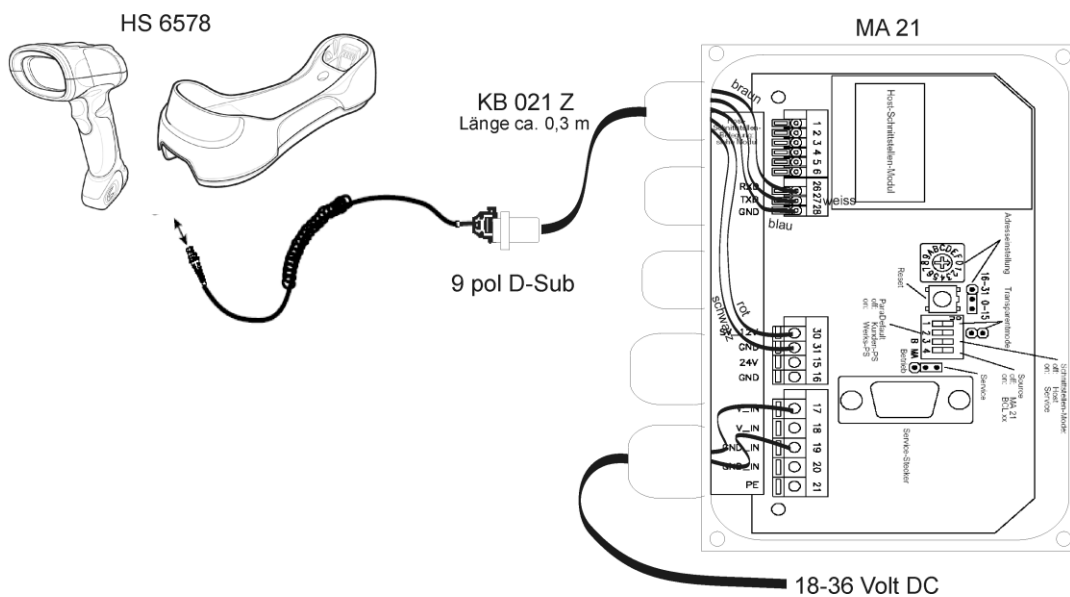
Required parts:

1x	50120442	HS 6578 DPM
1x	50120436	KB 232-2 HS65x8
1x	50120446	Base f. HS 6578
1x	50120430	NT Base 6578
1x	50035421	KB 021 Z
1x	50030481	MA 21 100

Connection KB021 Z

Color:	Signal	Terminal in MA 21:
Brown	(RXD)	26
White	(TXD)	27
Blue	(GND)	28
Red	(VCC)	30
Black	(GND)	31
bare (shield)	(PE)	21

Please connect the base according to the figure below.



Parameterization (MA21 in Factory Default)

RS 232 with 9600 Baud, 7 Datenbit, 1 Stopbit, Even Parity, no Prefix and Postfixes CR/LF; Standard Codes and Code 2/5 Interleaved with 10 digits.



+

Barcode PAIR on Base

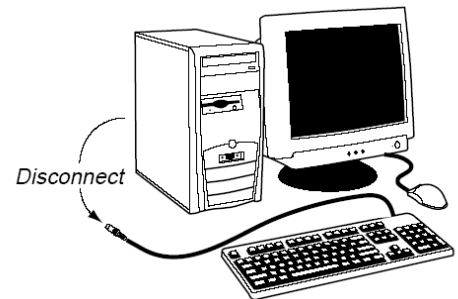
HS 6578 at PS2-Interface

In this chapter, the operation of the HS 6578 in keyboard wedge mode is described. In this mode, a PC keyboard is emulated. The downloaded data is written directly to the currently active program. Thus, the data can be processed in all standard programs.

Required parts:

1x	50120442	HS 6578 DPM
1x	50120446	Base f. HS 6578
1x	50120430	NT Base 6578
1x	50120438	KB PS2-1 HS 65x8

Please connect the HS 6508 according to the figure below.



Initial Operation

Please do the following:

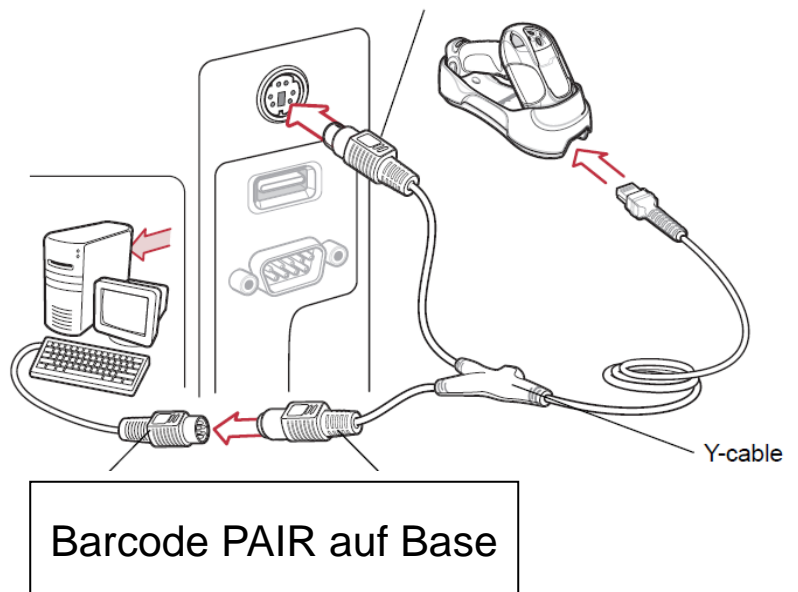
1. Power down the PC
2. Disconnect the keyboard from the PC
3. Connect the Base f. HS 6578 between the keyboard and the PC with the PS 2 Wedge cable
4. The Scanner send a Beep as acknowledge.
5. Open a Program on the PC (Notepad, Editor, or another Word processing program ...)
6. Scan the Data Matrix Code below
7. Scan the bar code, PAIR 'on the base.
8. Scan for testing a Barcode or 2D-Code, e.g. Test Symbol

Parameterization

German PS2-Tastatur with CR LF,
Code 2/5 Interleaved with 10 digits.



+



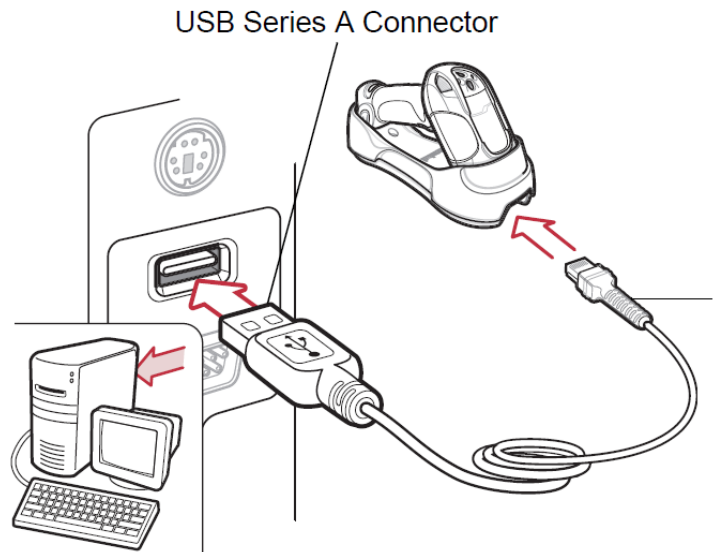
HS 6578 at USB-Interface (Keyboard-Emulation)

In this chapter, the operation of the HS 6578 in USB keyboard wedge mode is described. In this mode, a PC keyboard is emulated. The downloaded data is written directly to the currently active program. Thus, the data can be processed in all standard programs.

Required parts:

1x	50120442	HS 6578 DPM
1x	50120446	Base f. HS 6578
1x	50120430	NT Base 6578
1x	50120432	KB USB-1 HS 65x8

Please connect the HS 6578 according to the figure below.



Initial Operation

Please do the following:

1. Connect the Base f. HS 6578 to a free USB-Port.
2. The Scanner send a Beep as acknowledge.
3. Open a Program on the PC (Notepad, Editor, or another Word processing program ..)
4. Scan the Data Matrix Code below
5. Scan the bar code, PAIR 'on the base.
6. Scan for testing a Barcode or 2D-Code, e.g. Test Symbol

Parameterization

German USB-Keyboard Emulation with CR LF, Code 2/5 Interleaved with 10 digits.



+

Barcode PAIR auf Base

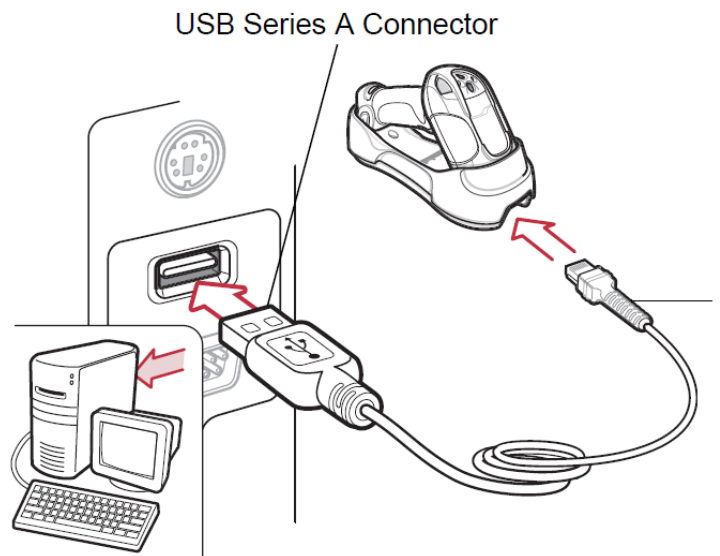
HS 6578 at USB-Interface (COM-Port-Emulation)

In this chapter, the operation of the HS 6578 is described as a serial interface to USB. In this mode, a COM port is emulated. The scanned data is sent to a new COM port. The driver allows you to emulate this COM interface, you can download on our website www.leuze.de. Thus, the data in the data programs via COM interfaces expected to be further processed.

Required parts:

1x	50120442	HS 6578 DPM
1x	50120446	Base f. HS 6578
1x	50120430	NT Base 6578
1x	50120432	KB USB-1 HS 65x8

Please connect the HS 6578 according to the figure below.



Initial Operation

Please do the following:

1. Connect the cable to the Base HS 6578 to a free USB-Port.
2. The Scanner send a Beep as acknowledge.
3. Scan the Data Matrix Code below
4. Scan the bar code, PAIR 'on the base.
5. Scan the bar code below
6. Install usbcdc.inf the USB serial driver when prompted by Windows.
7. Open a Terminal program or your Program for the serial interface on the PC, and choose the new COM-Port
8. Scan for testing a Barcode or 2D-Code, e.g. Test Symbol

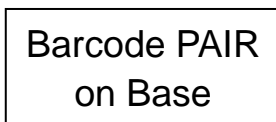
Parameterization

COM-Port-Emulation at next free COM-Address, with CR/LF as Postfix, Standard Codes and Code 2/5 Interleaved with 10 digits.



Scan order from left to right

+



+



Code 2/5 Interleaved

First Configure the HS 65x8 DPM for the interface.

- RS 232 (PC or MA...)
- USB Keyboard-Emulation
- PS2 Keyboard-Emulation

It will read the Code 2/5 interleaved with the number of digit 10. Another number of digit can also be read, please read for this the following Configurationbarcode.



I 2 of 5 - Any Length

Please note that decoding security can be increased in 2/5 interleaved codes by a check digit. This check can be activated with the following bar code.



**USS Check Digit
(01h)**

The check digit validation will be switched off again, please scan code.



***Disable
(00h)**

This check digit should be also transferred is to scan the following bar code.



**Transmit I 2 of 5 Check Digit (Enable)
(01h)**

The check digit is not transferred, please scan code.



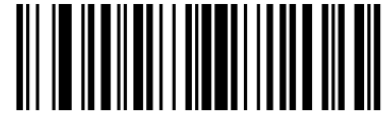
***Do Not Transmit I 2 of 5 Check Digit (Disable)
(00h)**

Data transmission with Suffix Enter

Parameterize the HS 65x8 DPM for data transmission before.

- RS 232
- USB Keyboard-Emulation
- PS2 Keyboard-Emulation

If the data can be transmitted, but an enter character (or CR / LF or newline) is missing, you can with the following codes it can be added. Scan all codes in the printed order please.



1.) **<DATA> <SUFFIX 1>**
(01h)



2.) **Scan Suffix 1**
(06h)



3.) **7**



4.) **0**



5.) **1**



6.) **3**

You will find further adjustment in the:

User's Guide HS 6578

Parameters for code types share, number, etc...

Troubleshooting

Problem detection and troubleshooting check your scanner as follows:

1. The base station is powered from a power supply of 9 volts DC. Check whether this power supply is plugged in correctly.
2. Make sure that the interface cable is firmly attached to the computer. In the manual of the computer for information about the correct connection of the scanner. Get support for your technical staff.
3. Work your system with an external power supply, make sure that the power supply unit is wired to the scanner and power supply.
4. Check that the interface cable is securely attached to the base. Cable lock to push down and pull out the cable. Introduce the cable again and make sure that it is properly located in the plug connection.
5. Check whether the scanner is loaded possibly set in the charging cradle.
6. Should be the scanner despite all these measures not in operational readiness, discard the power supply against a different recommended power supply, you sure know that it is operational.
7. Ensure that the interface of your scanner with the computer is compatible. Desired application is configured. This information is at the user's Guide of HS 6578 described.
8. Make sure that the barcode label that you want to scan, are of satisfactory quality and that the used bar code symbology is recognized by your scanner. Pattern label to check you get from your dealer, you need accurate information of the label details. Damaged bar code labels (rumped, torn or dirty) can cause that the scanner detects the label only poorly or not at all. Suspect the problem in the quality of the label, check the reading readiness with a qualitatively good label.
9. Should the problems be now, still not resolved, contact Leuze electronic in conjunction.

Overview of types and accessories

HS Reihe / series HS				
Art-Nr.	Bezeichnung/Discription	Interface	Bild/Picture	
50120440 	DPM-Handler für Barcode u. 2D- Codes DPM-Handscanner for Barcode and 2D-Code HS 6578 DPM	Bluetooth V2.1 		
Zubehör / Accessories für / for series HS 6578				
Art-Nr.	Bezeichnung/Discription	P/N-Nr.	Bild/Picture	6578
50120446 	Base f. HS 6578 Basis-Station mit Kommunikation-/ und Ladefunktion Base-Station for Communication und Charging Schnittstellen/Interfaces: PS2; USB; TTL RS232 Bluetooth V2.1	STB3578-CF 007WR 		X
50120430 	Netzteil für Base f. HS 6578 Power supply for Base f. HS 6578 (9 Volt DC)	50-14000-26 6R		X
50120432 	KB USB-1 HS 65x8 USB-Kabel (gerade 2,8m) USB-cable (straight 2,8 m)	CBA-U12-C0 9ZAR		X
50120434 	KB RS 232-2 HS65x8 RS232-Kabel/ext (spiral 2,8m) / RS232-cable (colied 2,8m)	CBA-R02-C0 9PAR		X
50120436 	KB RS 232-1 HS65x8 RS232-Kabel/PIN9 (spiral 2,8m) / RS232-cable/PIN9 (colied 2,8m)	CBA-R36-C0 9ZAR		X
50120438 	KB PS2-1 HS65x8 PS2-Kabel (spiral 2,8m) / PS2-cable for (colied 2,8 m)	CBA-K02-C0 9PAR		X
50120448 	Akku für HS 6578 Battery for HS 6578 3,7 V DC / 2200 mAh	BTRY-LS34I AB00-00		X

Connection to Leuze multinet plus

- MA 21 100 Interface converter / Multinet Slave Part-No. 500 30 481
- KB 021 Z Connection cable MA 21 to RS 232 Connector Part-No. 500 35 421

Connecting several fieldbuses with MA 200i

- MA 204i **Profibus**-Gateway Part-No. 501 12 893
or
- MA 208i **Ethernet**-Gateway Part-No. 501 12 892
or
- MA 248i **Profinet**-Gateway Part-No. 501 12 891
- KB JST-HS-300 Connection cable MA 2xxi to RS 232 Connector Part-No. 500 35 421

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