



## Quick Start Guide LSIS 122/123

### Order Guide

<i>Article No.</i>	<i>Type</i>	<i>Interface</i>
50110307	LSIS 122 M6M-R1	RS 232
50110306	LSIS 123 M6M-R1	USB

Version: 2.0



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## 1 About the LSIS 122 and LSIS 123

There are 2 Versions of the Leuze **Smart Image Sensor 120**:

- **LSIS 122**
- **LSIS 123**

Both Devices have the same housing and the same M12 8-pin connector, with an Triggerinput and an Switch output.

The LSIS 122 have an RS 232-Interface and a 24 VDC voltage supply:



The LSIS 123 communicates over the USB-Interface, this interface does also the Voltage supply with 5 VDC:



There are two Modes on the LSIS 123 with the USB-Interface:

1. **Keyboard Wedge Mode** (Keyboard-Emulation) at a PC with the Windows-owned HID-Driver (Factory Default)
2. **Serial COM-Port Emulation**, a virtual serial COM-Interface.

For both we need USB-Drivers. When you use the Keyboard-Emulation will installed the Standard USB-Driver from windows with the first connection of the device. When you use the COM-PORT-Emulation you should install the Driver from our Homepage.



Link: [http://www.leuze.de/downloads/log/download-02\\_de.html](http://www.leuze.de/downloads/log/download-02_de.html)

**Remark**

This Driver must installed one time after the prompt from the operating system ask for this, for this you need Administration-Rights.

The Communication with the Keyboard-Emulation works only in one direction, from the LSIS 123 to the PC. You cannot send Commands form the PC for controlling or using a Softwaretool for configuring the device.

A transmission of Commands to the LSIS 123 is only possible in the COM-Port-Emulation. For this you must changed the configuration against the Factory default.

Necessary for a data transmission is that you use (LSIS122 and LSIS123) the same Communication parameters (Baudrate, Datenbits, Parity; Stopbits, Framingprotokoll)

The setting for this you can do with scanning of parametercodes, which are on part of this document.



The parameterisation of the LSIS 120 can be done one 3 different ways:

1. Reading Barcodes with the LSIS 120, for this you must triggering the device with the integrated Triggerbutton or the Switch input on each Barcode/PDF417-Code.

2. Parameterisation with serial Commandos over the RS232-Interface (LSIS122) or the USB-COM-Port-Emulation (LSIS123).

For this you need a Terminalprogramm (e.g. Hyperterminal; BCL Config Tool, MetroSet...)

The Command order is:

- Enter Configuration Mode
- One or more serial Parameter
- Exit Configuration Mode

More Information you will find in Chapter 6

3. Parameterisation with the PC-Programms Metro Set 2

Over the serial RS232-Interface or the USB-COM-Port-Emulation.

The Program you will find on our Homepage



Link: [http://www.leuze.de/downloads/log/download-02\\_de.html](http://www.leuze.de/downloads/log/download-02_de.html)

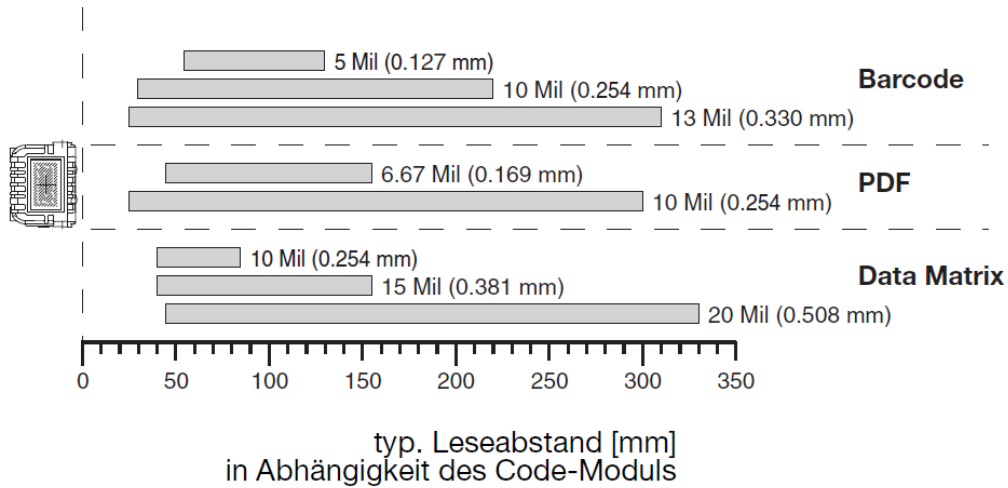
**Remark**

Informations to install and start the Programm Metro Set2, and also choosing the Industrial Scanners IS 4920 you will find in chapter 7.

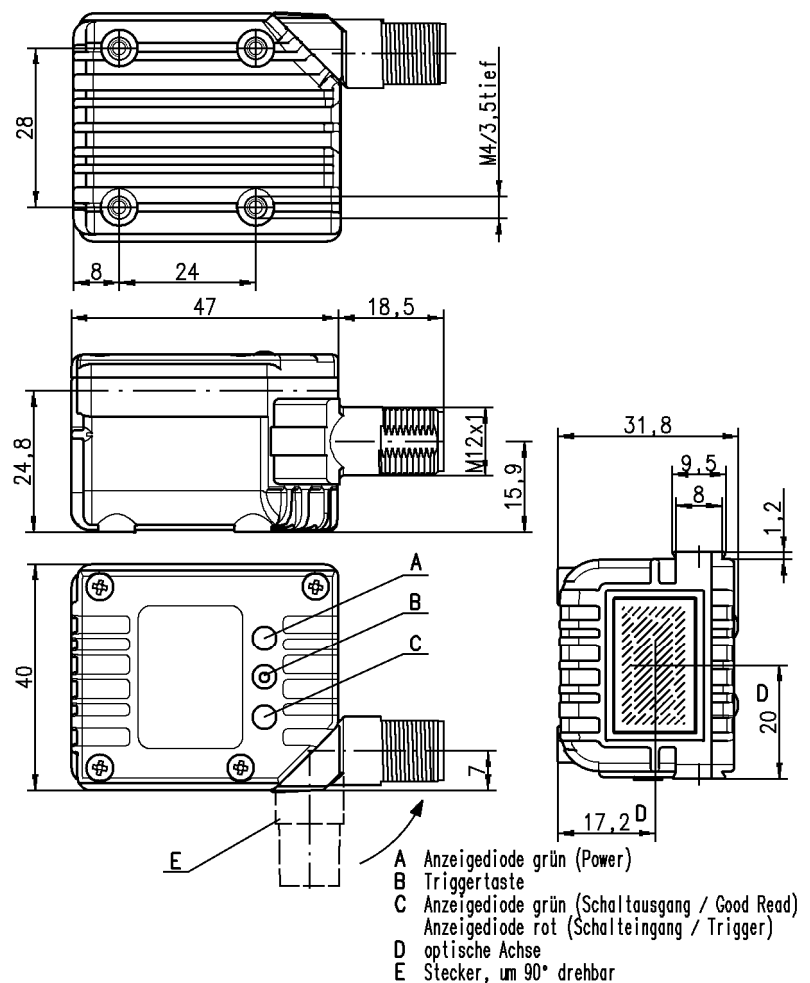


## 2 Technical Data

### 2.1 Reading field



### 2.2 Dimensional Drawing

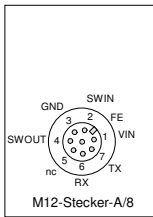


### 2.3 Connection

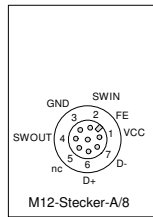
Pin-Out M12-plug (male); 8 pin; A-coded

Connector M12 8-pin.								
RS232-type					USB-type			
Pin	signal	direction	voltage	remark	signal	direction	voltage	remark
1	VIN	Input	10..30V		VCC	Input	4.75..5.5V	
2	SWIN	Input	0..VIN		SWIN	Input	0..VCC	
3	GNDIN	Input	0V		GND	Input	0V	
4	SWOUT	Output	0..VIN		SWOUT	Output	0..VCC	
5	nc				nc			
6	RXD232	Input	±6V		D+	I/O	0..VCC	
7	TXD232	Output	±6V		D-	I/O	0..VCC	
8	FE	Input		shield	FE	Input		shield
Gewinde	FE	Input		shield	FE	Input		shield

LSIS 122 (RS232)



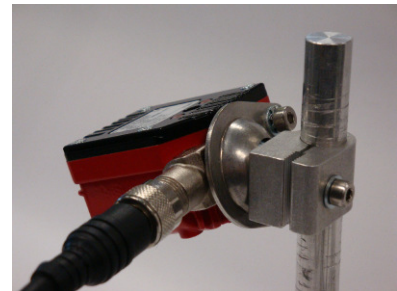
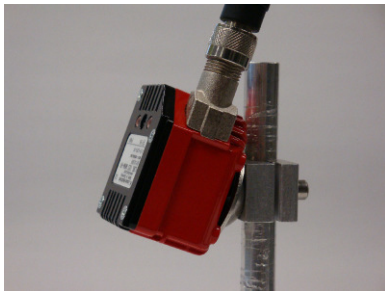
LSIS 123 (USB)



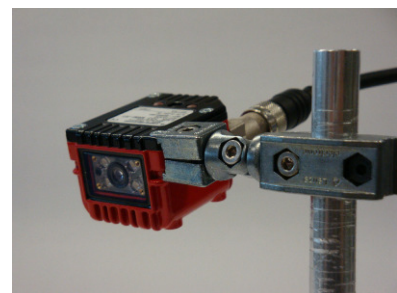
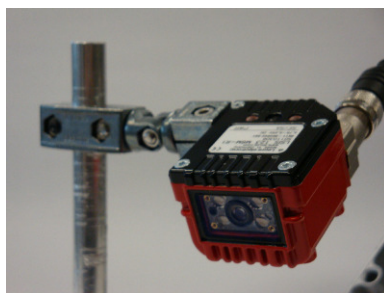
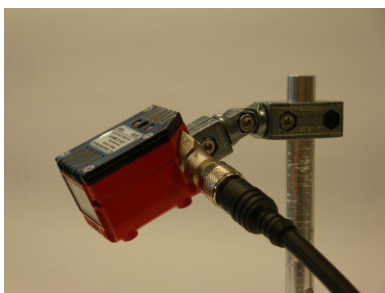
### 2.4 Mounting

With dove tail or M4 holes:

- BT 8 - D10 (50035017) or BT 8 - D12 (50035018) or BT 8 - D14 (50035019)



- UMS 8.2 - D10 (50035026) or UMS 8.2 - D12 (50035027) or UMS 8.2 - D14 (50035028)



You can also use BT 8-0 (50036196) or UMS 8-D1x (50035020 / 50035021 / 50035022) or UMS 8.1-D1x (50035023 / 50035024 / 50035025).



### 3 Factory Default

#### 3.1 LSIS 122

To read the codes, you must activate the Hardwaretrigger (Switch input or triggerbutton), after the reading the illumination stops automatically.



Transmissionrate: 9600 Baud, 8 Databits, 1 Stoppbit, no Parity  
 Framingprotocol: <STX> .... <CR><LF>  
 No Read Character: <?>  
 Trigger: SWIN or serial Command

1.Barcode enter/exit

1. Enter program mode

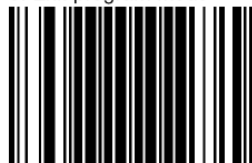


2. Default

3. Configuration LSIS 122  
 Factory Default



3. Exit program mode



4. Barcode enter/exit

The factory parameter are marked later on with this sign. (\*).

#### Enter/Exit Configuration Mode






### 3.2 LSIS 123

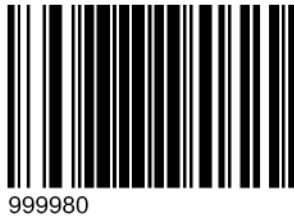
#### 3.2.1 Keyboard-Emulation (Factory Default)

To read the codes, you must activate the Hardwaretrigger (Switch input or triggerbutton), after the reading the illumination stops automatically.

  
**Remark** Data Transmission: USB-Keyboard-Emulation (German Keyboard-Layout)  
Trigger: Automatically with Presentation Mode

  
**Remark** The device use the Standard Windows Keyboard Driver.

1. Barcode enter/exit



2. Default

3. Configuration LSIS 123  
Factory Default



4. Barcode enter/exit

**Enter/Exit Configuration Mode**



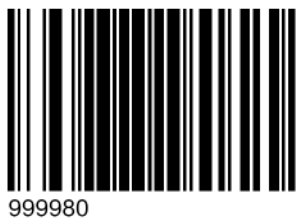
### 3.2.2 COM-Port-Emulation

To read the codes, you must activate the Hardwaretrigger (Switch input or triggerbutton), after the reading the illumination stops automatically.

**i**  
Remark Data Transmission: COM-Port-Emulation at Windows PC  
Framing protocol: <STX> .... <CR><LF>  
No Read Character: <?>  
Trigger: SWIN or serial Command

**i**  
Remark It is necessary to use the USB-COM Port Driver for the LSIS 123 from the Leuze Homepage.  
Yon cannot use several LSIS 123 at one PC !

1. Barcode enter/exit



2. Default

3. Configuration LSIS 123  
COM-Port-Emulation



4. Barcode enter/exit

**Enter/Exit Configuration Mode**



## 4 Triggering

There are 3 possibilities to activate the reading (Triggering) at the LSIS 120.

- sending a serial Command
- Hardware input SE or Triggerbutton
- Presentationmode (Automatic reading, if something is in the field of view)

### 4.1 The serial Trigger command

With the factory default of the the LSIS 122 or 123 (COM-Port Emulation) you can send the activation with an ASCII-Character. The characters are:

Start reading:           [DC2]           Dec: 18           Hex: 12           Keyboard: CRTL+R  
 Stop reading :         [DC4]           Dec: 20           Hex: 14           Keyboard: CRTL+T

You have to send only this character, without an framing protocol !

Sending:     [DC2]  
 Recieving: [STX]Leuze electronic[CR][LF]

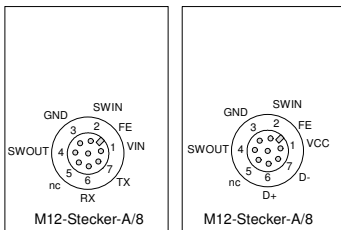
Or when you stop the reading with an NOREAD:

Sending:     [DC2]  
 .....  
 Sending:     [DC4]  
 Recieving: [STX]?[CR][LF]

### 4.2 Hardwaretrigger

With voltage on Pin 2 you can activate the Hardwaretrigger, or you push the Triggerbutton on the device.

LSIS 122 (RS232)      LSIS 123 (USB)



Pin	Signal	RS 232	USB
1	VIN	10 ... 30 Volt DC	4,75 ... 5,5 Volt DC
2	SWIN	0 .. VIN	0 .. VCC
3	GNDIN	0 Volt	0 Volt
4	SWOUT	0 .. VIN	0 .. VCC
5	nc		
6	Daten	RXD ± 10 Volt	D+ 0..VCC
7	Daten	TXD ± 10 Volt	D- 0..VCC
8	FE	Schirm	Schirm
Gewinde			

Signal (Tx/Rx) at RS 232-Type: min. ± 10V, no RTS/CTS!

### 4.3 Presentationsmode

With the Presentationmode you can start the reading automatically when something is moving trough the field of view. The illumination of the device starts, and it search for an code. If something can be decoded, this will send over the Interface.

The Barcode to activate this function you can find in Chapter 6.6.2



## 5 Connections LSIS 120



The M12-Connector cut the power connection to the device.

Remark

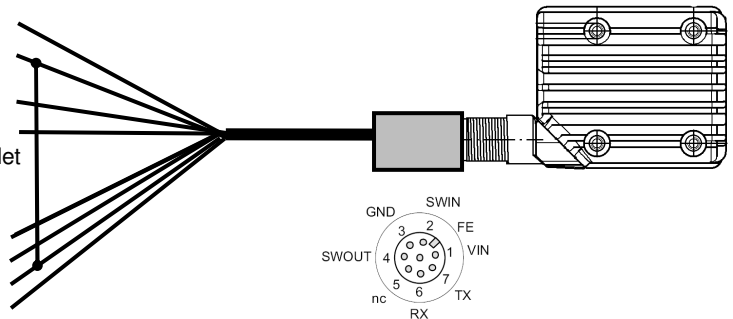
### 5.1 LSIS 122

#### 5.1.1 LSIS 122 with open cable end

Parts:

1. 50110307 LSIS 122 M6M-R1
2. 50104591 K-D M12A-8P-2m PUR

	colour	Signal
24 V	white	VIN
Masse	green	GNDIN
Trigger Ausgang	brown	SWIN
	yellow	SWOUT
	grey	nicht verwendet
D-SUB Buchse 9-Polig	pink	Data RXD
	blue	Data TXD
	green	Masse
Gehäuse	red	FE



Cable: M12-female 8 pin A-Coded

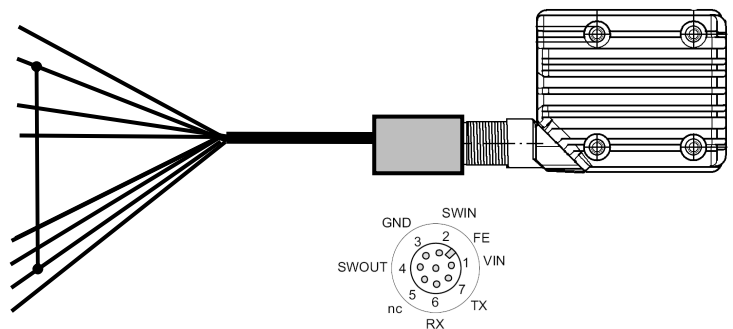
PIN	Signal	level
1	VIN	10 ... 30 Volt DC
2	SWIN	0 .. VIN
3	GNDIN	0 Volt
4	SWOUT	0 .. VIN
5	nc	
6	Data RXD	± 10 Volt
7	Data TXD	± 10 Volt
8	FE	Schirm

#### 5.1.2 LSIS 122 mit offenem Kabelende (KB M12/8-X000-BA)

Benötigte Teile:

1. 50110307 LSIS 122 M6M-R1
2. 50110170 KB M12/8-1000-BA
- oder 50110171 KB M12/8-2000-BA
- oder 50110172 KB M12/8-5000-BA
- oder 50110173 KB M12/8-10000-BA

Anschluß	Farbe	Signal
24 V	braun	VIN
Masse	blau	GNDIN
Trigger Ausgang	weiß	SWIN
	schwarz	SWOUT
D-SUB Buchse 9-Polig	rosa	Data RXD
	violett	Data TXD
	blau	Masse
Gehäuse	orange	FE



### 5.1.3 LSIS 122 with serial cable (to 9 pin D-Sub Plug)

Parts:

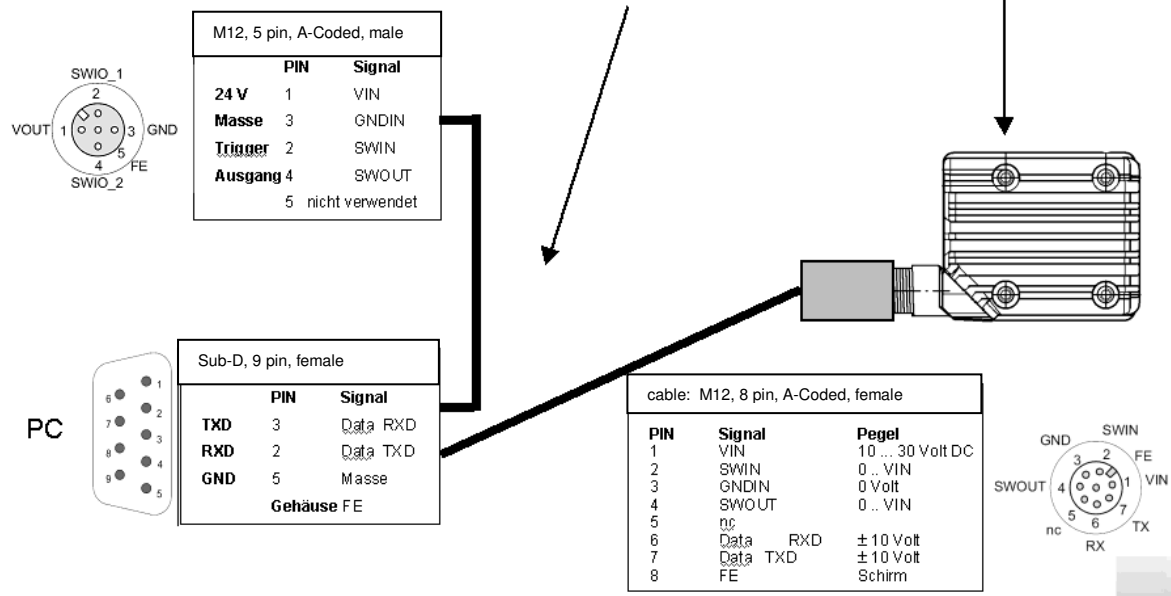
- 1. 50110307                   LSIS 122 M6M-R1
- 2. 50111226                   KB M12A-8P-PC-IO-3000

optional, for powering:

- 3. 50110650                   KD 01-5-BA-PWR
- 4. 50110748                   NT 24-24W

The power supply of the BCL 500i Limited Edition can also used !!

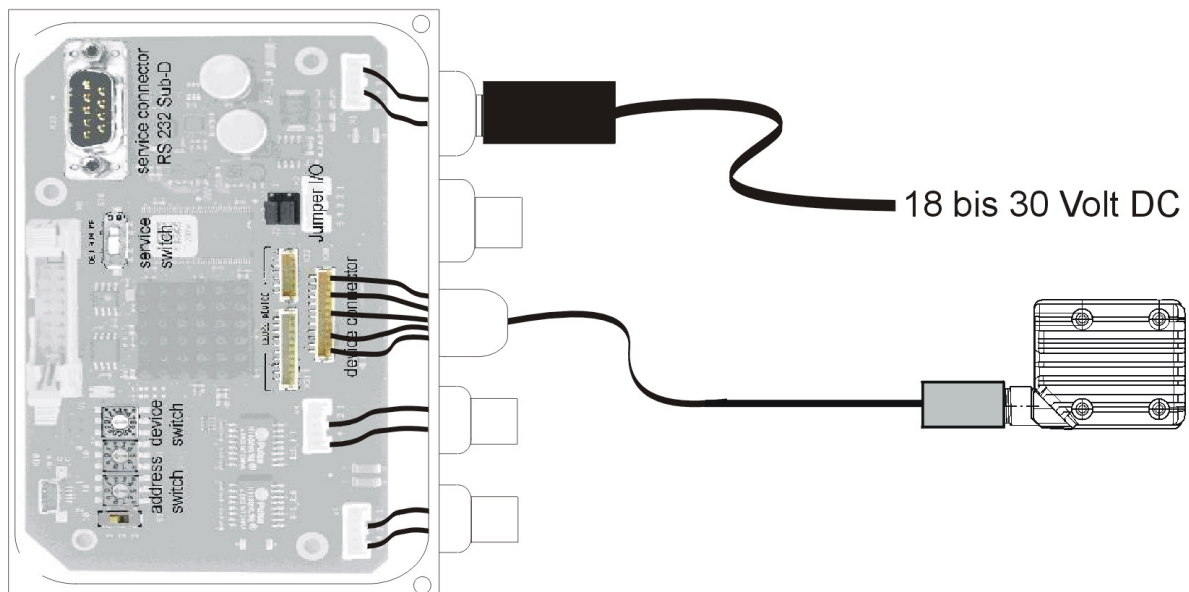
KB M12A-8P-PC-IO-3000    50111226                    LSIS 122 M6M-R1    50110307



### 5.1.4 LSIS 122 at MA

Parts:

1. 50110307               LSIS 122 M6M-R1
2. 50111225               K-D M12A-8P-MA-3000
3. alternative:
  - 50035298               MA 42 DP-K   (Profibus-Gateway)
  - 50103125               MA 21 100.2   (multiNet or RS 485)
  - 50032853               MA 42 IS       (Interbus PCP)
  - 50032854               MA 42 IS       (Interbus PDP)
  - 50031256               MA 2           (RS 232-connection box)



Picture: MA 204i + KB M12A-8P-MA-3000 + LSIS 122 M6M-R1



## 5.2 LSIS 123

### 1.1.1 LSIS 123 with open cable end

Parts:

- 1. 50110306 LSIS 123 M6M-R1
- 2. 50104591 K-D M12A-8P-2m PUR

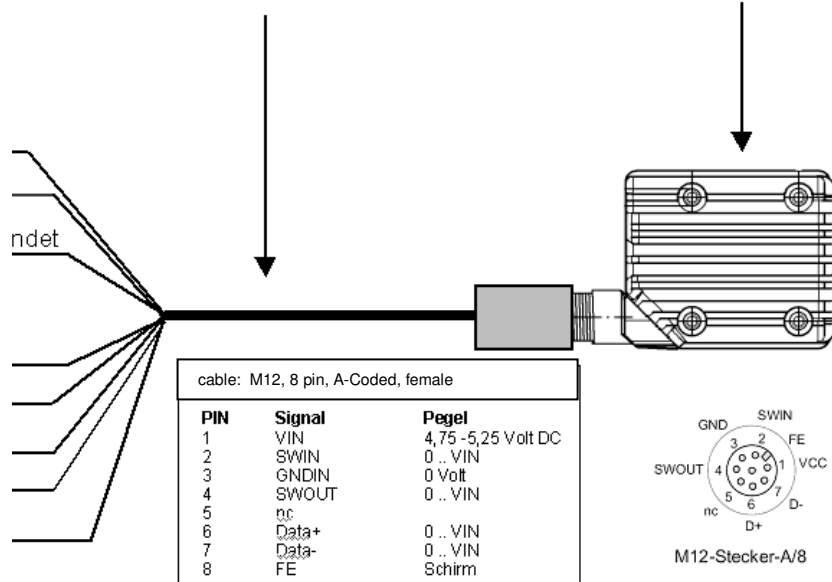
K-D M12A-8P-2m PUR 50104591

LSIS 123 M6M-R1 50110306

Colour	Signal
Trigger Brown	SWIN
Output Yellow	SWOUT
Grey	nc

#### USB

Pin 1	white	VIN
Pin 2	blue	Data -
Pin 3	pink	Data +
Pin 4	green	GND
GND	Red	FE



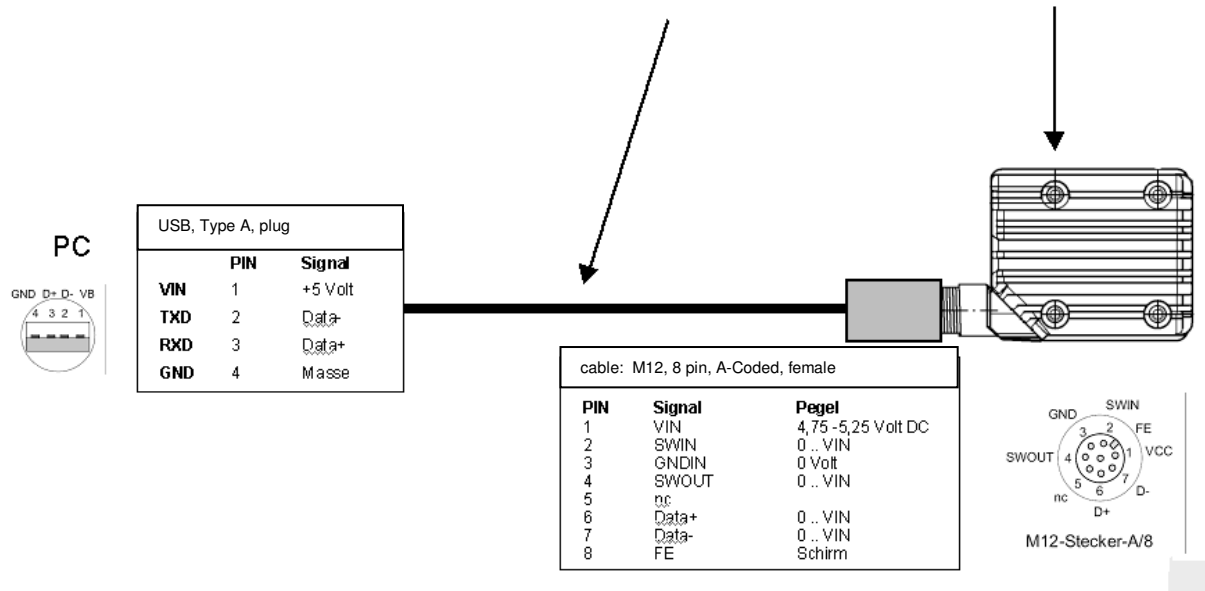
### 1.1.2 LSIS 123 with Connecting cable to an USB Type A-Plug

Parts:

- 1. 50110306                    LSIS 123 M6M-R1
- 2. 50111227                    KB M12A-8P-USB-3000

KB M12A-8P-USB-3000 50111227

LSIS 123 M6M-R1 50110306

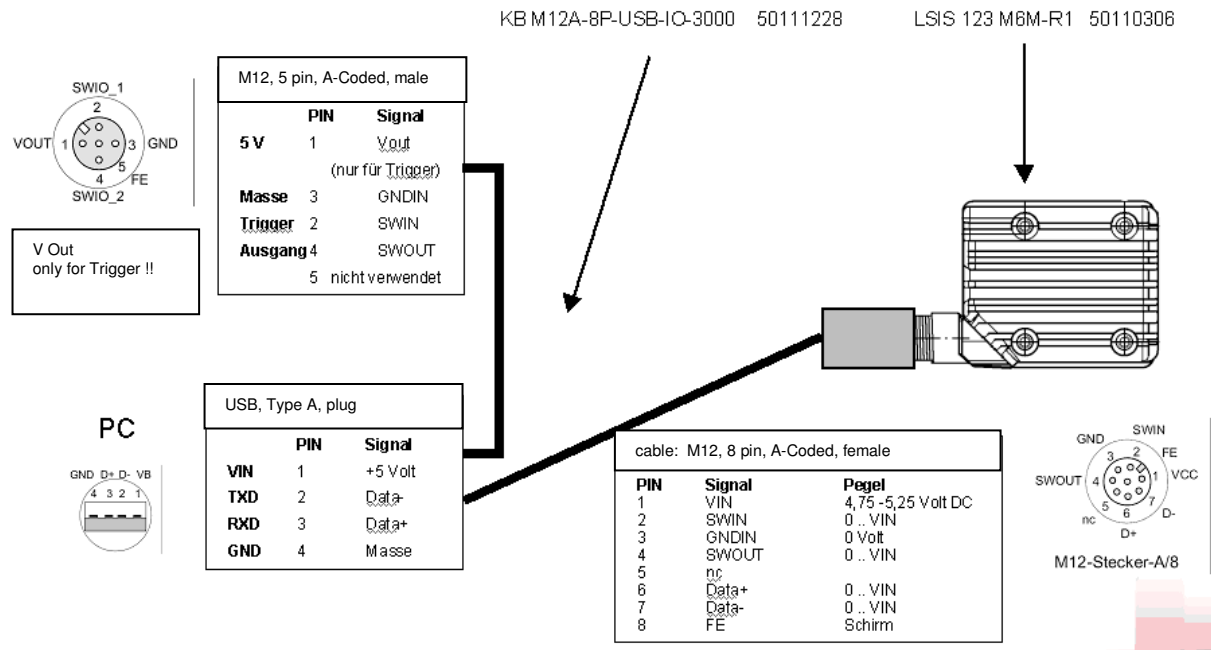




### 1.1.3 LSIS 123 with Connecting cable to an USB Type A-Plug and IO-M12 plug

Parts:

- 1. 50110306                      LSIS 123 M6M-R1
- 2. 50111228                      KB M12A-8P-USB-IO-3000



**i**  
Remark

It is not allowed to power at the M12 connector 5-pin !  
The voltage supply comes every time from the PC. The Pin 1 is only a output and you should not need more than 100 mA.



## 6 Configuration with Barcode or serial Commands

### 6.1 Configuration with reading Barcodes

To open or close the configuration mode it is necessary to read the Barcode 'Enter/Exit Configuration Mode'. The Codeinformation is 999999 for both.

**i** Remark You can disclaim the reading of the Barcode Enter/Exit Configuration Mode, when you not have Multi-Code Configuration. The Multi-Code Configuration is with marked with a Tilde (~).

**i** Remark The Parameter from the Factory Default is marked with an asterisk (\*).

**i** Remark The activation of additional Barcodetypes and Functions affected the Decoding-/ Readingspeed !

### 6.2 Configuration Commands

To do the configuration, you have to send a command to open and to close it. The Start or End - string ist 999999.

It is the same when you want to program the device with barcodes. You must read the Code Enter program mode and at the end Exit programm mode.

With the factory default of the LSIS 122/123 (COM-Port Emulation) you can setup the device also with ASCII-Strings. You have to use the framing with STX and ETX when you will send this:

Prefix:	[STX]	Hex: 02	Keyboard: Alt+002
Postfix:	[ETX]	Hex: 03	Keyboard: Alt+003

The LSIS 120 answer after each command with ACK or NAK (without framing) .

Command OK:	[ACK]	Hex: 06	Keyboard: Alt+006
Command Not OK:	[NAK]	Hex: 15	Keyboard: Alt+021

### 6.3 Example EAN13 deactivate:

```

Sending:    [STX] 999999 [ETX]
Receiving:  [ACK]
Sending:    [STX] 100201 [ETX]
Receiving:  [ACK]
Sending:    [STX] 999999 [ETX]
Receiving:  [ACK]
    
```

#### 1. Enter Configuration

(Necessary when you do a Multi-Code configuration (~), if not you can disclaim it !)



#### Enter/Exit Configuration Mode



#### 2. Configurations code (s)

#### 3. Exit Configuration

(Necessary when you do a Multi-Code configuration (~), if not you can disclaim it !)

#### Enter/Exit Configuration Mode



#### Enter/Exit Configuration Mode



### 6.4 Data transmission RS 232 (LSIS 122)

Here you can find the Parameter for the serial communication of the LSIS 122. For the Definition of the data transmission over the RS 232-Interface you need the Parameter: Baudrate, Databit, Stoppbit, Parity and the framing protocol. Please configure the same parameter on the PC/PLC/... as in the LSIS 122.

#### 6.4.1 Baudrate

115200 Baud



57600 Baud



38400 Baud



19600 Baud



9600 Baud (\*)



4800 baud



2400 baud



1200 baud



Enter/Exit Configuration Mode



### 6.4.2 Data-/Stopbits

8 Datenbits (\*)



7 Datenbits



1 Stopbit



2 Stopbit



### 6.4.3 Parity

No Parity (\*)



Even Parity



Odd Parity



Parity Mark



Parity Space



### Enter/Exit Configuration Mode



### 6.4.4 Software Handshaking XON/XOFF

If you want to use the Software Handshake XON/XOFF, you must activate it.

XON: [DC3] 19d oder 13h Tastatureingabe: Alt+019  
 XOFF: [DC1] 17d oder 11h Tastatureingabe: Alt+017

#### 6.4.4.1 Activation of XON/XOFF

Sending: [STX]999999[ETX]  
 Recieving: [ACK]  
 Sending: [STX]115914[ETX]  
 Recieving: [ACK]  
 Sending: [STX]999999[ETX]  
 Recieving: [ACK]

Enable XON/XOFF



#### 6.4.4.2 Example with XON/XOFF:

Sending: [DC3]  
 Recieving: *Data transmission stopped*  
 Reading of an Barcoe with the content '5411153002431'  
 Triggering with the serial Command DC2 or Hardwaretrigger  
 Sending: [DC1]  
 Recieving: [STX] 5411153002431 [CR] [LF]

#### 6.4.4.3 Deactivation of XON/XOFF

Sending: [STX]999999[ETX]  
 Recieving: [ACK]  
 Sending: [STX]115904[ETX]  
 Recieving: [ACK]  
 Sending: [STX]999999[ETX]  
 Recieving: [ACK]

Disable XON/XOFF (\*)



### 6.4.5 Framing protocol (Prefix/Suffix)

With Framing protocol is the discripted the Start and End characters, the characters before the Codeinformation and after Codeinformation. They are also called Prefix or Header for the Startcharacter. For the End character Postfix or Suffix or Terminator.

#### 6.4.5.1 Prefix STX

**Activation**  
 Enable STX (\*)  
 (serial Command: 116615)



**Deactivation**  
 Disable STX  
 (serial Command: 116605)

#### 6.4.5.2 Suffix CR

**Activation**  
 Enable CR (\*)  
 (serial Command: 116613)



**Deactivation**  
 Disable CR  
 (serial Command: 116603)

#### 6.4.5.3 Suffix LF

**Activation**  
 Enable LF (\*)  
 (serial Command: 116612)



**Deactivation**  
 Disable LF  
 (serial Command: 116602)

#### 6.4.5.4 Suffix ETX

**Activation**  
 Enable ETX (\*)  
 (serial Command: 116614)



**Deactivation**  
 Disable ETX  
 (serial Command: 116604)

### Enter/Exit Configuration Mode



## 6.5 Data transmission USB (LSIS 123)

Here you can find the Parameter for the serial communication of the LSIS 123.  
For the Definition of the data transmission over the USB -Interface you have to activate this  
and to install an driver on the Windows PC.

You can emulate a serial Interface or an Keyboard-Interface.

The Functionally is depending on the Operation System of the Hostsystem.

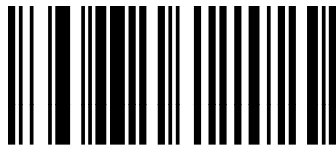
### 6.5.1 Activation of the USB-Interface

Enable USB Interface (FullSpeed)

(\*)



4155124

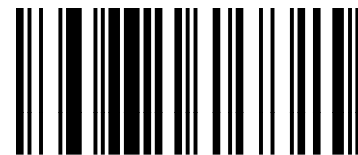


316400

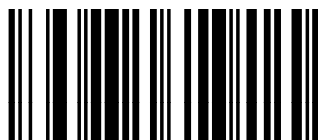
Enable Keyboard - Emulation

(\*)

Enable Bi - Directional COM-Port  
(serial Trigger possible)



316470



316460

Enable Uni - Directional COM-Port  
(NO serial Trigger possible)



## 6.6 Triggermode

### 6.6.1 Triggermode (Multi-Try Trigger)

Enable Multi-Try Triggermode (\*)  
(serial Command: 418324).



### 6.6.2 Presentationmode

Automatic activation of the reading, if something is moving through the field of view..



You must activate for each Configuration-Code the Hardwaretrigger (Switch Input or Triggerbutton), after the reading of the code the Illumination Lights switch off automatically.

1. Enable Presentationmode  
(serial Command: 318304).



2. Enable wake-up Presentation  
(serial Command: 143610).





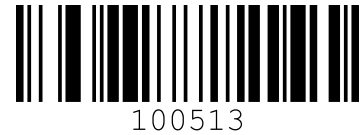
## 6.7 Data Matrix Code ECC200

### 6.7.1 Activation Normal Data Matrix Code

(black cells on white background)



Enable Normal Video Data Matrix (\*)  
(serial Command: 100513).

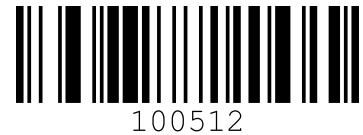


### 6.7.2 Activation Inverse Data Matrix Code

(white cells on black background)



Enable Inverse Video Data Matrix  
(serial Command: 100512).



### 6.7.3 Activation Normal and Inverse Data Matrix Code

black cells on white background and white cells on black background



Enable Normal and Inverse Video Data Matrix  
(serial Command: 200532).



### 6.7.4 Data Matrix Code Deactivation

Disable Data Matrix Codereading



Disable Data Matrix  
(serial Command: 200502).



## 6.7.5 Data Matrix Code Low-Contrast

### 6.7.5.1 Activation of low contrast Data Matrix Codereading



Enable Low contrast Data Matrix Code  
(serial Command: 125417).

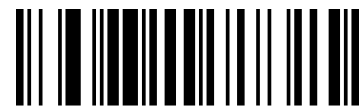


125417

### 6.7.5.2 Disactivation of low contrast Data Matrix



Disable Low contrast Data Matrix Code (\*)  
(serial Command: 125407).



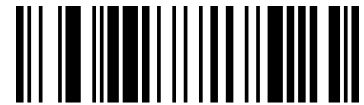
125407

## 6.7.6 Rectangular Data Matrix Code

### 6.7.6.1 Activation of Rectangular Data Matrix Codereading



Enable rectangular Data Matrix Code  
(serial Command: 100511).



100511

### 6.7.6.2 Disactivation of Rectangular Data Matrix Codereading



Disable rectangular Data Matrix Code (\*)  
(serial Command: 100501).



100501



## 6.7.7 Non square Cells in the Data Matrix Code

### 6.7.7.1 Activation Non square Cells in the Data Matrix Code



Enable non-square Data Matrix Codes  
(serial Command: 125416).



125416

### 6.7.7.2 Disactivation Non square Cells in the Data Matrix Code



Disable non-square Data Matrix Codes (\*)  
(serial Command: 125406).



125406

## 6.7.8 Cell size in the Data Matrix Code

### 6.7.8.1 Actvation of small Cells in the Data Matrix



Enable small Cells in the Data Matrix Code  
(serial Command: 325412).



325412

### 6.7.8.2 Actvation of very small Cells in the Data Matrix



Enable sehr kleine Zellengrößen beim  
Data Matrix Code  
(serial Command: 325422).



325422

### 6.7.8.3 Actvation of normal Cell sizes in the Data Matrix



Enable normal Cell sizes in the Data Matrix  
Code (\*)  
(serial Command: 325402).



325402



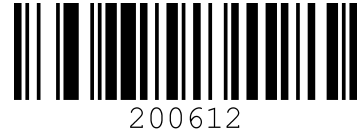
## 6.8 QR-Code

### 6.8.1 Activation Normal QR-Code

(black cells on white background)



Enable Normal Video QR-Code  
(serial Command: 200612).



### 6.8.2 Activation Inverse QR-Code

(white cells on black background))



Enable Inverse Video QR-Code  
(serial Command: 200622).



### 6.8.3 Activation Normal and Inverser QR-Code

black cells on white background and white cells on black background



Enable Normal und Inverse Video  
QR-Code  
(serial Command: 200632).



### 6.8.4 QR-Code Deactivation

Disable QR-Codereading



Disable QR-Code (\*)  
(serial Command: 200602).



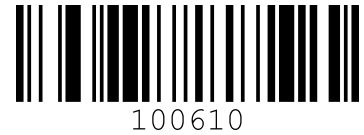
## 6.9 Aztec Code

### 6.9.1 Activation Normal Aztec-Code

(black cells on white background)



Enable Normal Video Aztec-Code  
(serial Command: 100610).

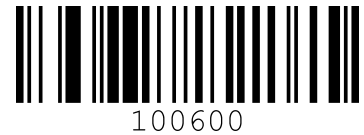


### 6.9.2 Normal Aztec-Code Deactivation

Disable Aztec-Codereading (black on white)



Disable Normal Video Aztec-Code(\*)  
(serial Command: 100600).

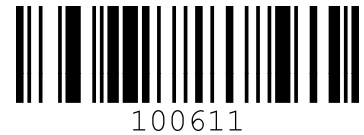


### 6.9.3 Activation Inverse Aztec-Code

(white cells on black background)



Disable Normal Video Aztec-Code(\*)  
(serial Command: 100611).

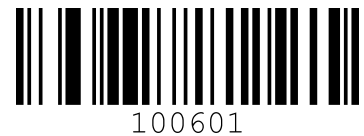


### 6.9.4 Deactivation Inverse Aztec Code

Disable Aztec-Codereading (white on black)

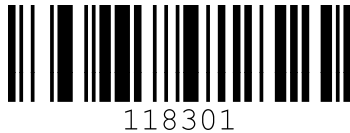


Disable inverse Video Aztec-Code (\*)  
(serial Command: 100601).



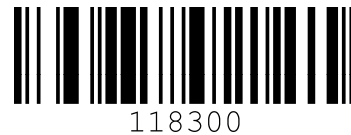
### 6.10 Switch Output

Enable **NO** Switch output after Noread (\*)  
(serial Command: 118311).



**Always** Switchoutput (green LED)  
after Decoding  
(serial Command: 118301).

**Never** Switchoutput (green LED)  
after Decoding  
(serial Command: 118300)



### 6.11 Sleep Mode Timeout

This Parameter have influence on the Data Transmission of the LSIS 120.

If this value is greater-than-or-equal 1 sec, is no serial Data Transmission of Commands to the LSIS 122 possible. This is only working with the value 0.

The Parameter 'Sleep Mode timeout' has no influence on the data communication on the LSIS 123.

Sleep Timeout 0 Seconds (\*)  
(serial Command: 819500).



Sleep Timeout 1 Second  
(serial Command: 119510).

**i**  
Remark

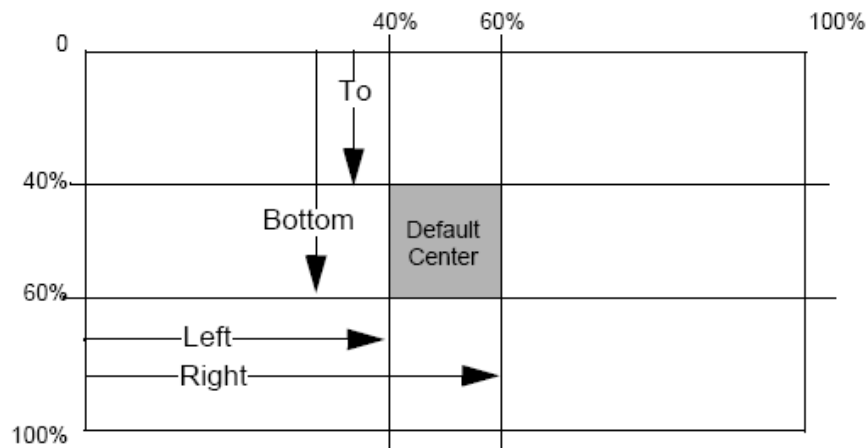
The setting after 'Recall Defaults' is 1 Second. It is than necessary to activate the Hardwaretrigger when you want sent Commands to the LSIS 122 or you want work with the Programm MetroSet.



### 6.12 Function Centering

Centering window is used to narrow the field of view to make sure the imager reads only those bar codes intended by the user. For instance, if multiple codes are placed closely together, centering will insure that only the desired codes are read.

The centering window is specified as a percentage of the whole image. The default centering window is 40% for top and left, 60% for bottom and right. The following diagram illustrates the default top, bottom, left, and right pixel positions, measured from the top and the left side of the whole image.



#### 6.12.1 Configuration Centering Function

To change the centering window, use the multi-code method:

1. Scan Enter/Exit Program Mode (999999).
2. Scan the desired window offset programming barcode on the next page.
3. Scan the Codes for die Centering directions (left, right, top, bottom), see next page
4. Scan three of the code byte barcodes, representing the decimal value you want for the window offset
5. Repeat steps 3 and 4 for other offsets.
6. Scan Enter/Exit Program Mode (999999) again.

Overview:

Command	Discription	Default	Setup-Tool	Chapter
999999	Start and End Configuration			footer
243220	Centering On	NO	NO	6.12.2
9423	Centering Left	NO	NO	6.12.3
9425	Centering Right	NO	NO	6.12.3
9424	Centering Top	NO	NO	6.12.3
9426	Centering Bottom	NO	NO	6.12.3
After this you must send each time the start and stop values				
0	0 %	NO	NO	6.13
0		NO	NO	6.13
0		NO	NO	6.13
1	100%	NO	NO	6.13
0		NO	NO	6.13
0		NO	NO	6.13
999999	Start and End Configuration			footer



### 6.12.2 Windowing Modes (~)

Windowing Mode 0



243200

Windowing Mode 2



243220

Windowing Mode 3



243230

### 6.12.3 Serial Command for the Activation

Example Centering top left:

Top Window %



9424

```

Sending:      [STX]999999 [ETX]
Receiving:    [ACK]
Sending:      [STX]243220 [ETX]
Receiving:    [ACK]
Sending:      [STX]9424 [ETX]
Receiving:    [ACK]
Sending:      [STX]0 [ETX]
Receiving:    [ACK]
Sending:      [STX]7 [ETX]
Receiving:    [ACK]
Sending:      [STX]0 [ETX]
Receiving:    [ACK]
Sending:      [STX]9426 [ETX]
Receiving:    [ACK]
Sending:      [STX]1 [ETX]
Receiving:    [ACK]
Sending:      [STX]7 [ETX]
Receiving:    [ACK]
Sending:      [STX]0 [ETX]
Receiving:    [ACK]
Sending:      [STX]9423 [ETX]
Receiving:    [ACK]
Sending:      [STX]0 [ETX]
Receiving:    [ACK]
Sending:      [STX]6 [ETX]
Receiving:    [ACK]
Sending:      [STX]0 [ETX]
Receiving:    [ACK]
Sending:      [STX]9425 [ETX]
Receiving:    [ACK]
Sending:      [STX]1 [ETX]
Receiving:    [ACK]
Sending:      [STX]0 [ETX]
Receiving:    [ACK]
Sending:      [STX]0 [ETX]
Receiving:    [ACK]
Sending:      [STX]999999 [ETX]
Receiving:    [ACK]
    
```

Left Window %



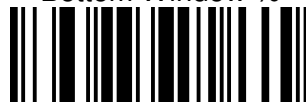
9423

Right Window %



9425

Bottom Window %



9426

### Enter/Exit Configuration Mode



3 9 9 9 9 9 9




### 6.13 Decimal Values (Code Bytes for MultiCode Configurations)



## 7 The Program MetroSet


### 7.1 Configuration with the Program MetroSet

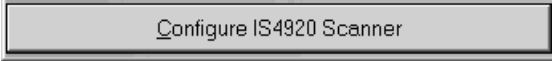
You can also use the Program MetroSet for setup the LSIS 120. The program you can find on [www.leuze.de](http://www.leuze.de).

1. After Installation of the exe-File, you can start the program with the Link in Start or with the Icon  on the Desktop.

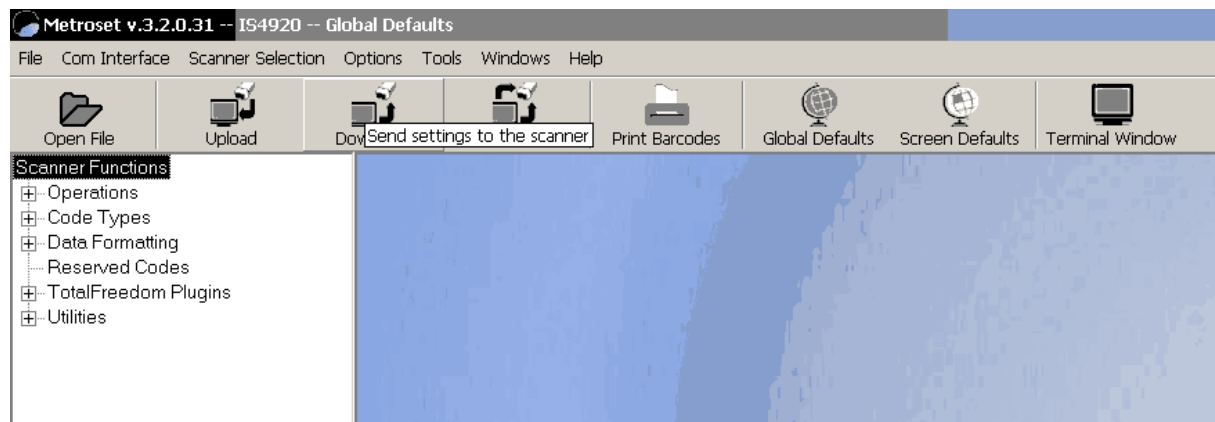
2. To use the Configuration of the LSIS 120, you have to choose the IS 4920 under the OEM Engines.



3. Click on the  at OEM Engines<sup>1</sup> and then on the IS 4920

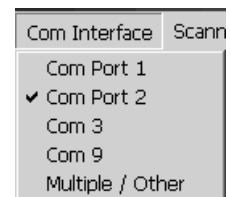
4. Click on the  to load the Parameters.

5. It appears the following window:



6. When you start the first time, you have to choice the Interface which you have connected the LSIS 120. With LSIS 122 is this normally the COM-Port of the PC's. Please take care that you use the COM-Port Emulation at the LSIS 123, and the driver is installed and works, only in this mode you can work with it. Maybe you need Administration rights for this

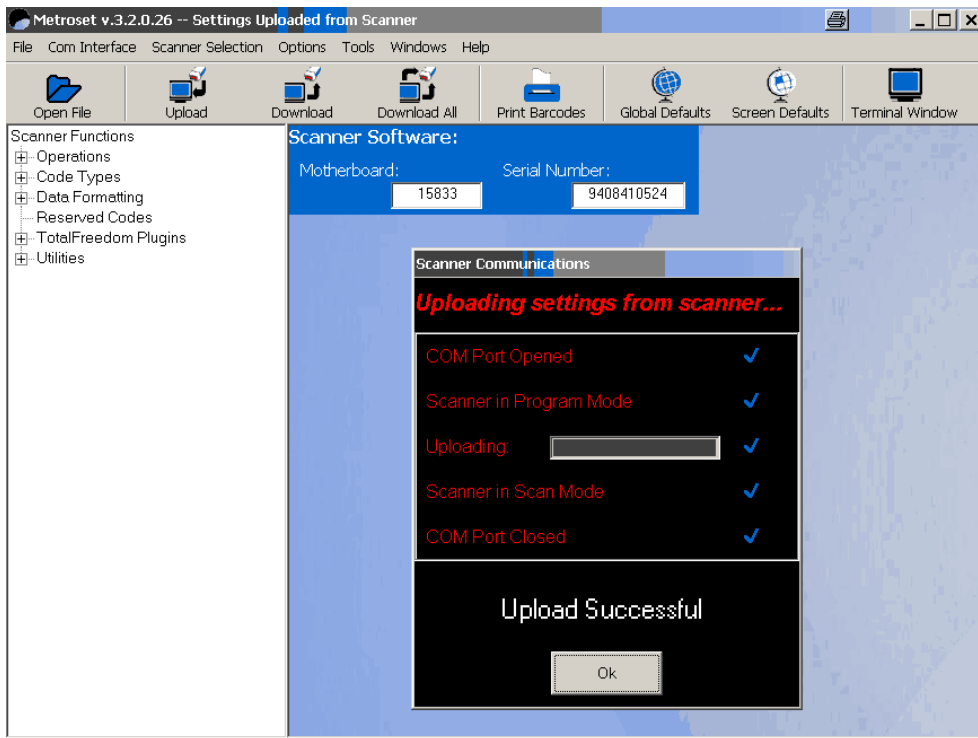
7. Choose the right COM-Port of the available Interfaces.



<sup>1</sup> Depending on the Program version the **IS 4920** can also be on another place in the list.



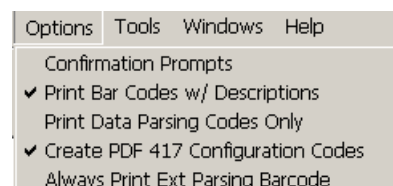
8. To have the datas from the LSIS 120 in the Program MetroSet, click on Upload. The datas will be transmitted
9. Confirm the Upload warning with OK.
10. When the following window appears, all datas are transmitted



11. Click on OK..
12. Now you can choose on the right side the Parameter and configure it..
13. After changing a Parameter and closing the window, the paramter value will be stored in the Program. To store it in the LSIS 120 you have to click to Download.
14. Confirm the download warning with OK.
15. Click on OK. The Parameter values are now stored in the LSIS 120.
16. If you want to printed the configuration to store ist, click on the button Print barcodes.

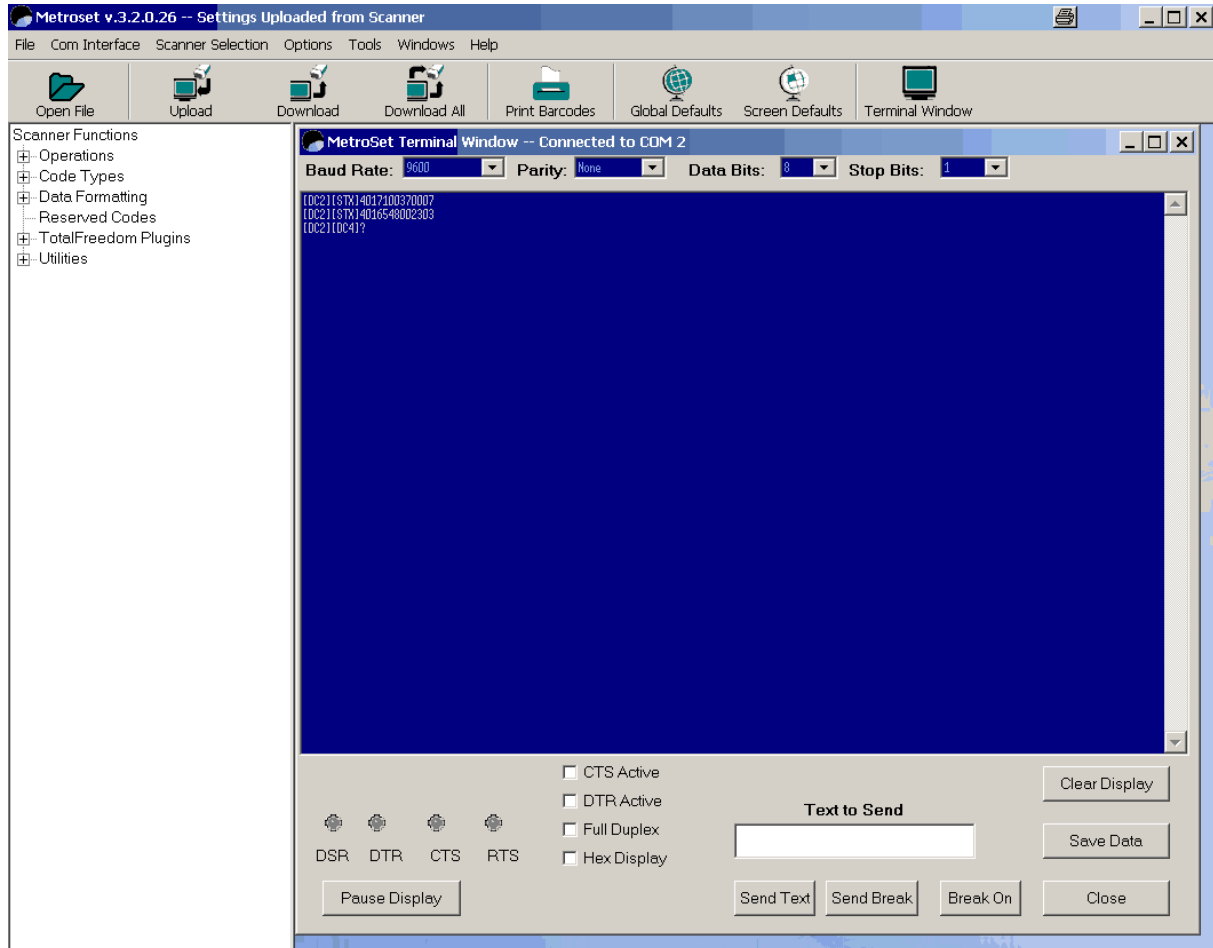


To print it as one PDF417-code instead of several Barcodes, ckeck if the function is activated.



## 7.2 Function control with the Program MetroSet

With the Terminal Window you can check the Data transmission and readability of the Codes.



You can trigger the LSIS 120, when you click on the blue Background of the Terminal Window and type Ctrl+R. You send than

[DC2]

and it will shows you in the Terminal Window.

After reading of an Code it shows you

[STX]DATA

a NoRead will displayed with an ? .



## 8 Annex

### 8.1 ASCII-Table

Dez	Hex	Okt	
0	0x00	000	NUL
1	0x01	001	SOH
2	0x02	002	STX
3	0x03	003	ETX
4	0x04	004	EOT
5	0x05	005	ENQ
6	0x06	006	ACK
7	0x07	007	BEL
8	0x08	010	BS
9	0x09	011	TAB
10	0x0A	012	LF
11	0x0B	013	VT
12	0x0C	014	FF
13	0x0D	015	CR
14	0x0E	016	SO
15	0x0F	017	SI
16	0x10	020	DLE
17	0x11	021	DC1
18	0x12	022	DC2
19	0x13	023	DC3
20	0x14	024	DC4
21	0x15	025	NAK
22	0x16	026	SYN
23	0x17	027	ETB
24	0x18	030	CAN
25	0x19	031	EM
26	0x1A	032	SUB
27	0x1B	033	ESC
28	0x1C	034	FS
29	0x1D	035	GS
30	0x1E	036	RS
31	0x1F	037	US
32	0x20	040	SP
33	0x21	041	!
34	0x22	042	"
35	0x23	043	#
36	0x24	044	\$
37	0x25	045	%
38	0x26	046	&
39	0x27	047	'
40	0x28	050	(
41	0x29	051	)
42	0x2A	052	*

Dez	Hex	Okt	
43	0x2B	053	+
44	0x2C	054	,
45	0x2D	055	-
46	0x2E	056	.
47	0x2F	057	/
48	0x30	060	0
49	0x31	061	1
50	0x32	062	2
51	0x33	063	3
52	0x34	064	4
53	0x35	065	5
54	0x36	066	6
55	0x37	067	7
56	0x38	070	8
57	0x39	071	9
58	0x3A	072	:
59	0x3B	073	;
60	0x3C	074	<
61	0x3D	075	=
62	0x3E	076	>
63	0x3F	077	?
64	0x40	100	@
65	0x41	101	A
66	0x42	102	B
67	0x43	103	C
68	0x44	104	D
69	0x45	105	E
70	0x46	106	F
71	0x47	107	G
72	0x48	110	H
73	0x49	111	I
74	0x4A	112	J
75	0x4B	113	K
76	0x4C	114	L
77	0x4D	115	M
78	0x4E	116	N
79	0x4F	117	O
80	0x50	120	P
81	0x51	121	Q
82	0x52	122	R
83	0x53	123	S
84	0x54	124	T
85	0x55	125	U

Dez	Hex	Okt	
86	0x56	126	V
87	0x57	127	W
88	0x58	130	X
89	0x59	131	Y
90	0x5A	132	Z
91	0x5B	133	[
92	0x5C	134	\
93	0x5D	135	]
94	0x5E	136	^
95	0x5F	137	_
96	0x60	140	`
97	0x61	141	a
98	0x62	142	b
99	0x63	143	c
100	0x64	144	d
101	0x65	145	e
102	0x66	146	f
103	0x67	147	g
104	0x68	150	h
105	0x69	151	i
106	0x6A	152	j
107	0x6B	153	k
108	0x6C	154	l
109	0x6D	155	m
110	0x6E	156	n
111	0x6F	157	o
112	0x70	160	p
113	0x71	161	q
114	0x72	162	r
115	0x73	163	s
116	0x74	164	t
117	0x75	165	u
118	0x76	166	v
119	0x77	167	w
120	0x78	170	x
121	0x79	171	y
122	0x7A	172	z
123	0x7B	173	{
124	0x7C	174	
125	0x7D	175	}
126	0x7E	176	~
127	0x7F	177	DEL

