



IT 4600 / 4800 2D-code hand-held scanner

Quick start user's guide





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Scope of delivery

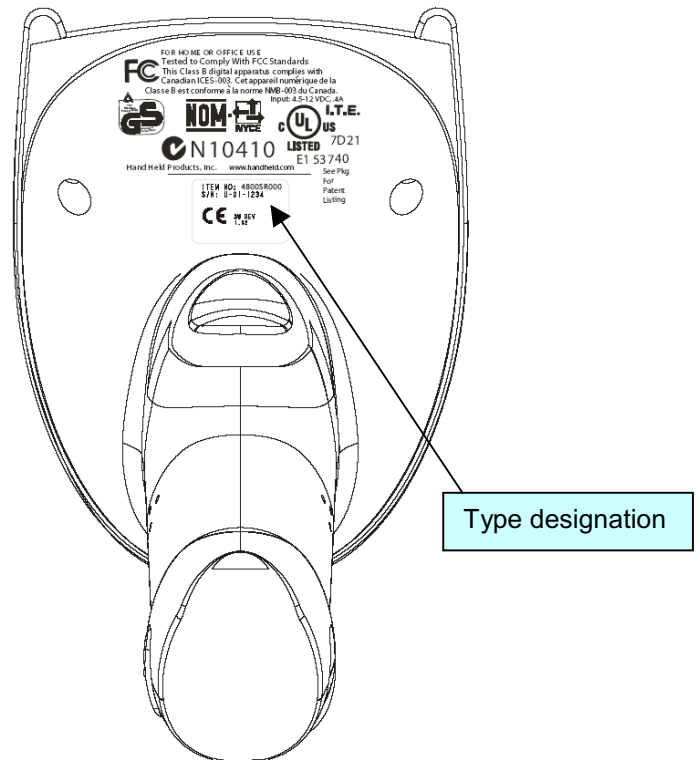
- **IT 4600 xx xxxx**

1. Hand-held scanner IT 4600 xx xxxx
2. Holder for desktop using
3. User's guide

- **IT 4800 xx xxxx**

1. Hand-held scanner IT 4800 xx xxxx
2. Mounting-clip for cable (cord lock)
3. User's guide

Type overview see page 17
Accessories see page 18

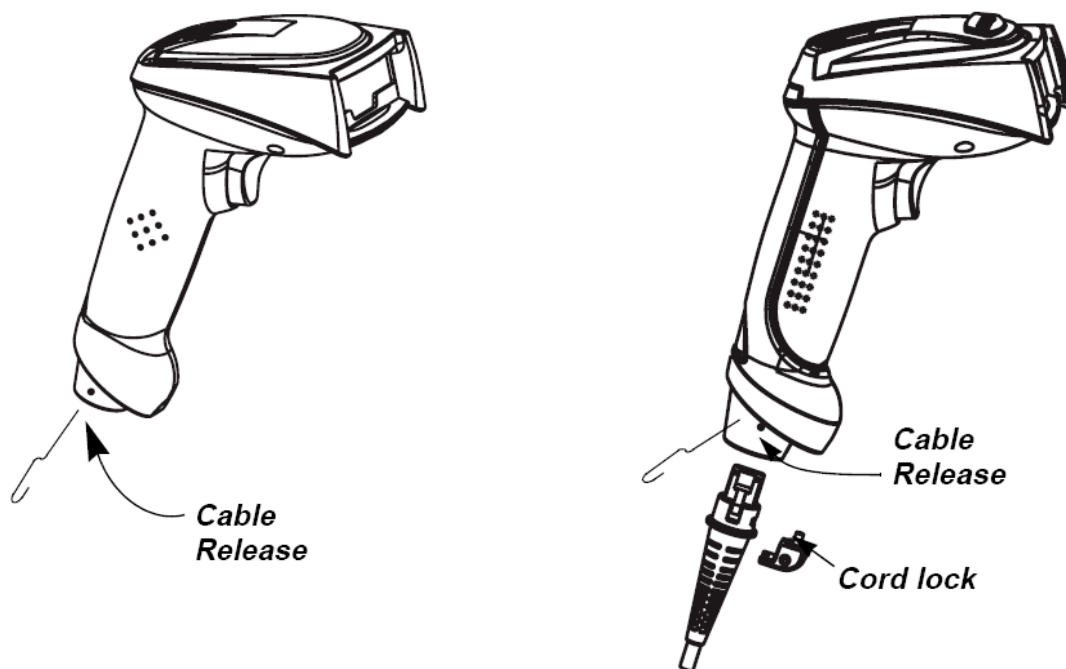




Installation

Connecting the hand-held scanner

The figure below shows the cable connection. In the following you will find described several steps of the connection of the hand-held scanner to a cable.



Connecting the cable to the IT 4600

1. Plug in the RJ 41 connector in the socket, until the cable is clicked in.
2. Connect the other side of the cable to your PC.
3. If you use the RS 232-interface you have to check, if the scanner is supported with power. Please check it with the pinning on page 5, to find the right cable.
4. Connect the power supply to the socket, (if your PC does not supply the power).
5. Check if the scanner is working, hit the trigger button and look for the red LEDs as well as for the green target line. Scan a code label. The scanner confirms with an acoustic signal, if the code is decoded.

Connecting the cable to the IT 4800

1. Plug in the RJ 41 connector in the socket, until the cable is clicked in. Screw the cord lock back in the place over the cord.
2. Connect the other side of the cable to your PC
3. If you use the RS 232-interface you have to check, if the scanner is supplied with power. Please check it with the pinning on page 5, to find the right cable.
4. Connect the power supply to the socket, (if your PC does not supply the power).
5. Check if the scanner is working, hit the trigger button and look for the red LEDs as well as for the green target line. Scan a code label. The scanner confirms with an acoustic signal, if the code is decoded.

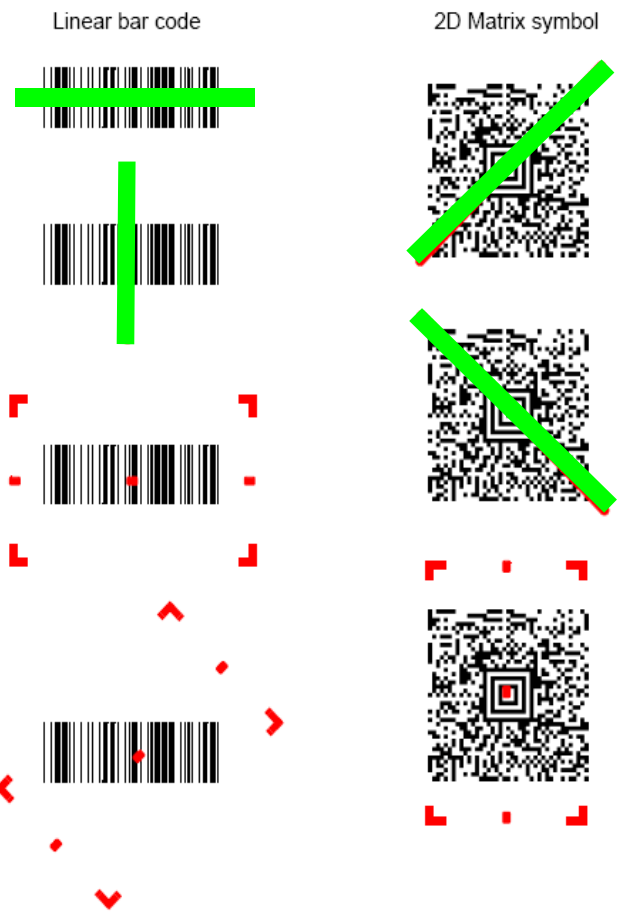


Reading techniques

The imager has a view finder that projects a bright green aiming beam that corresponds to the imager's horizontal field of view. The aiming beam should be centred over the bar code, but it can be positioned in any direction for a good read.

The aiming beam is smaller when the imager is closer to the code and larger when it is farther from the code. Symbologies with smaller bars or elements (mil size) should be read at a smaller reading distance. But symbologies with larger bars or elements (mil size) should be read at a bigger reading distance. To read single or multiple symbols (on a page or on an object), hold the imager at an appropriate distance from the target, activate the trigger, and center the aiming beam on the symbol. If the code being scanned is highly reflective (e.g., laminated), it may be necessary to tilt the code +5° to prevent unwanted reflection.

You will find the reading fields on page 7



Testing the scanner

This bar code is for testing the scanner, the module size is 0.5 mm (20 mil)

Code 39 bar code sample





Technical Data

Please refer to the corresponding data sheet.

Pinning of the cables

RS 232-cable/ext IT 4xxx Art-No. 50103413

Pinning 9 pin-D-sub connector (female) at the cable 42204253-04

PIN-Number	Signal	Description
1	Shield	Shield
2	TX	Transmit data
3	RX	Recieve data
5	GND	Signal ground
7	CTS	Clear to send
8	RTS	Request to send
PIN at power connection		
PIN	Signal	Description
1	VCC IN	4,5 - 12 Volt DC
2	GND	Ground

The suitable power supply for the IT 4xxx (100-240 V / 47-63 Hz) is the article number 50103403.

RS 232-cable/PIN9 IT 4xxx Art-No. 50103412

Pinning 9 pin-D-sub connector (female) at the cable 42204253-03

PIN-Number	Signal	Description
1	Shield	Shield
2	TX	Transmit data
3	RX	Recieve data
5	GND	Signal ground
7	CTS	Clear to send
8	RTS	Request to send
9	VCC IN	4,5 - 12 Volt DC

TTL-RS 232-cable/ext IT 4xxx Art-No. 50104442

Pinning 9 pin-D-sub connector (female) at the cable 42203758-04

PIN-Number	Signal	Description
1	Shield	Shield
2	TX	Transmit data (-5 to +5V)
3	RX	Recieve data (-5 to +5V)
5	GND	Signal ground
7	CTS	Clear to send
8	RTS	Request to send
PIN at power connection		
PIN	Signal	Description
1	VCC IN	4,5 - 12 Volt DC
2	GND	Ground

The suitable power supply for the IT 4xxx (100-240 V / 47-63 Hz) is the article number 50103403.



TTL-RS 232-cable/PIN9 IT 4xxx Art-No. 50104586

Pinning 9 pin-D-sub connector (female) at the cable 42203758-03

PIN-Number	Signal	Description
1	Shield	Shield
2	TX	Transmit data (-5 to +5V)
3	RX	Recieve data (-5 to +5V)
5	GND	Signal ground
7	CTS	Clear to send
8	RTS	Request to send
9	VCC IN	4,5 - 12 Volt DC

PS2-cable IT 4xxx Art-No. 50103409

Pinning PS2 plug (female and male) at the cable 42206132-02S

PIN (male)	PIN- (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

USB-cable IT 4xxx Art-No. 50103404

Pinning of the USB Type A Plug 42206161-01

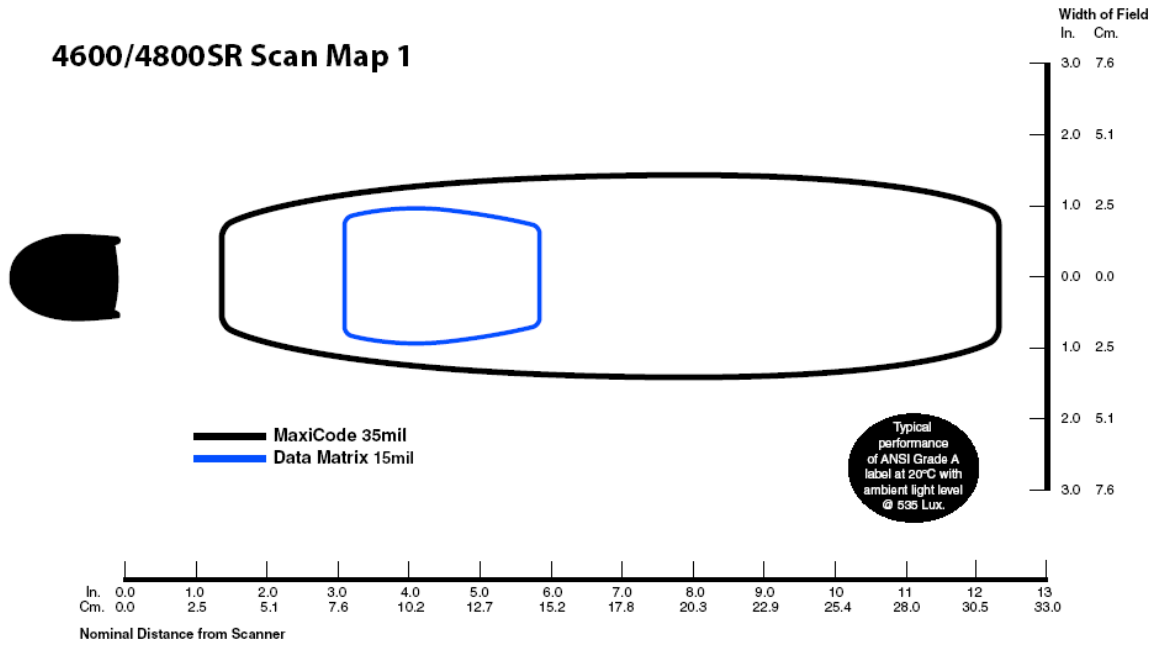
USB Type A Plug	Signal	Description
1	VCC IN	5 Volt DC
2	Data -	Data -
3	Data -	Data +
4	GND	Signal ground



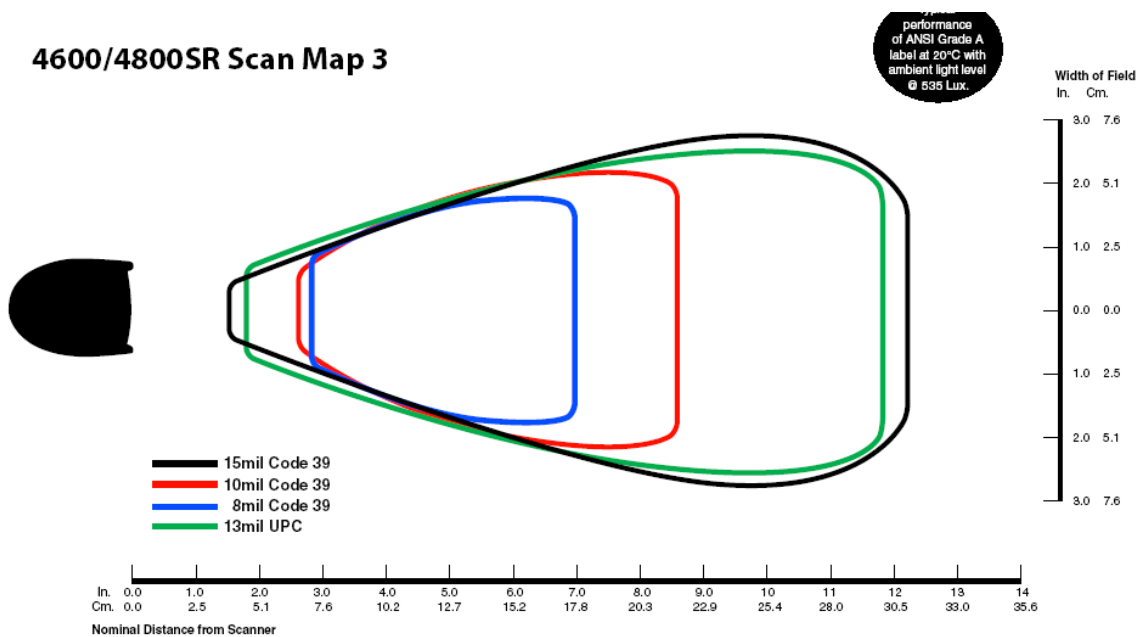
Reading fields

IT 4600/ 4800 SR xxxx

4600/4800SR Scan Map 1



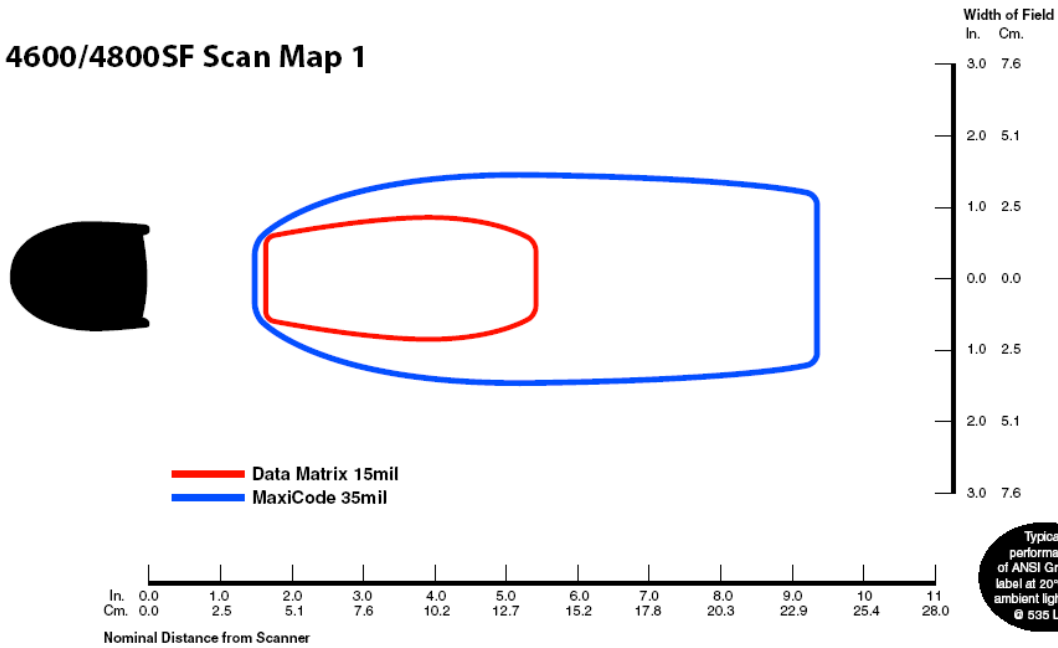
4600/4800SR Scan Map 3



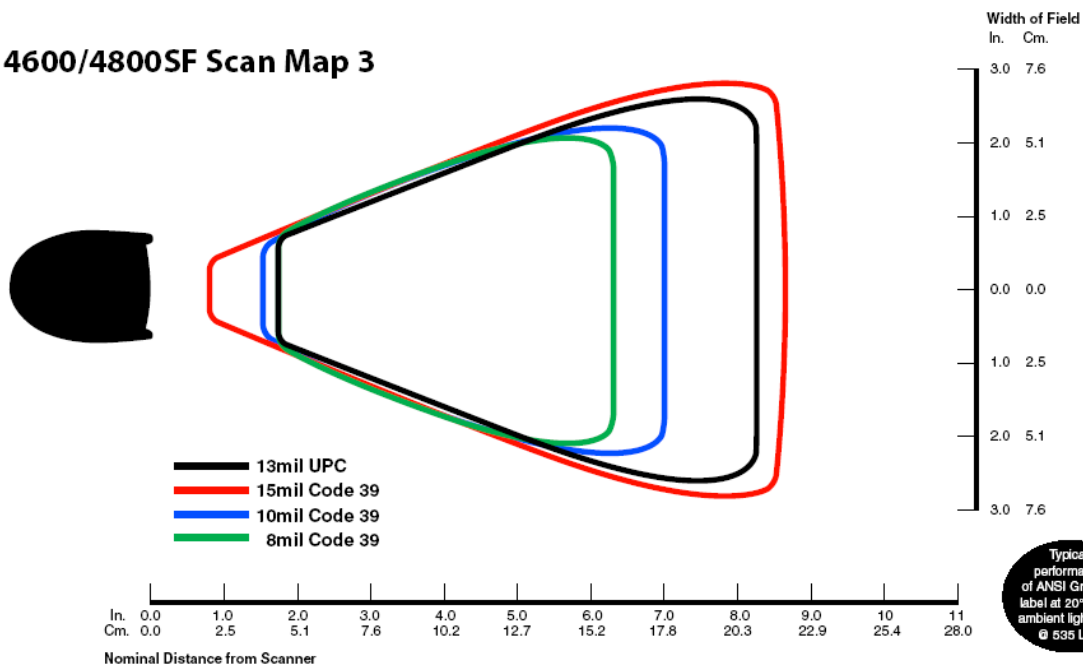


IT 4600/ 4800 SF xxxx

4600/4800SF Scan Map 1



4600/4800SF Scan Map 3





IT 4600/ 4800 factory settings (default)

To set the IT 4600/ 4800 back to factory default, you have to scan this bar code.

 **Warning: All previous settings will be reset!!!!**



Standard Product Default Settings
(115200 baud, 8 data bits, 1 stop bit, no parity)

Configuration

The IT 4600/ 4800 can be configured in two different ways.
One possibility is the configuration by reading bar codes.
You have to select the corresponding bar code and hit the trigger-button to read the code.
The configuration will be done immediately and stored in the device.
The most important configurations will be shown in the following.

The second possibility is to configure the IT 4600/ 4800 with the PC-software VisualMenu over the RS 232 or USB interface. You can download this program from our homepage www.leuze.de. With this program you can configure the IT 4600/ 4800 via PC and transmit the configuration to the device.
The configuration can also be stored in a file on the PC.
For more information, please see the user's guide IT 4600/ 4800.

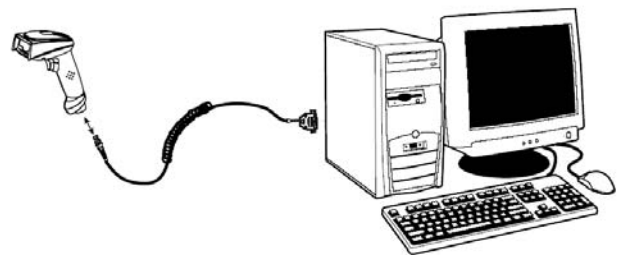
IT 4600/ 4800 at the serial PC-interface

With powering over PIN 9 at RS 232-cable/PIN9 IT 4xxx Art-No. 501 03412

You have to connect the IT 4600/ 4800 as shown in the figure on the right.

Necessary parts:

- 1x IT 4600/ 4800 XX 031C
- 1x 501 03 412 Cable RS 232/ PIN9



Pinning 9 pin-D-sub connector (female) at the cable 42204253-03

PIN-Number	Signal	Description
1	Shield	Shield
2	TX	Transmit data
3	RX	Recieve data
5	GND	Signal ground
7	CTS	Clear to send
8	RTS	Request to send
9	VCC IN	4,5 - 12 Volt DC

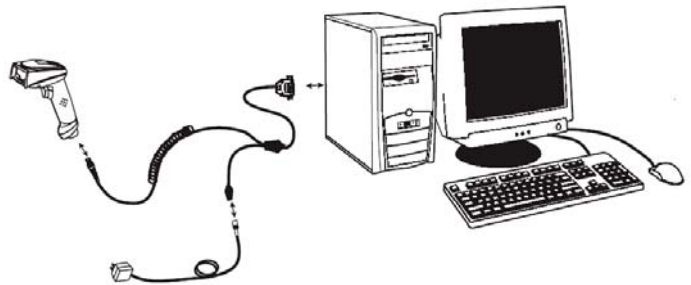


With powering over the power supply at the RS 232-Cable/ext IT 4xxx Art-No. 501 03413

You have to connect the IT 4600/ 4800 as shown in the figure on the right.

Necessary parts:

- 1x IT 4600/4800 XX 031C
- 1x 501 03 413 Cable RS 232/ext
- 1x 501 03 403 power supply



Pinning 9 pin-D-sub connector (female) at the cable 42204253-04

PIN-Number	Signal	Description
1	Shield	Shield
2	TX	Transmit data
3	RX	Recieve data
5	GND	Signal ground
7	CTS	Clear to send
8	RTS	Request to send
PIN at power connection		
PIN	Signal	Description
1	VCC IN	4,5 - 12 Volt DC
2	GND	Ground

The suitable power supply for the IT 4xxx (100-240 V / 47-63 Hz) is the article number 50103403.

RS 232 data transmission with 38400 Baud, 8 Databit, 1 Stopbit, No Parity, Postfixes CR/LF.



RS-232 Interface

Configuration for Leuze standard protocol

Leuze standard protocol:

RS 232 with 9600 Baud, 8 Databit, 1 Stopbit, No Parity, prefix STX and postfixes CR/LF



Leuze standard protocol



IT 4600/ 4800 at MA 41 DP-K or MA 41 IS

RS 232 data transmission with 9600 Baud, 8 Databit, 1 Stopbit, No Parity, Postfixes CR/LF.

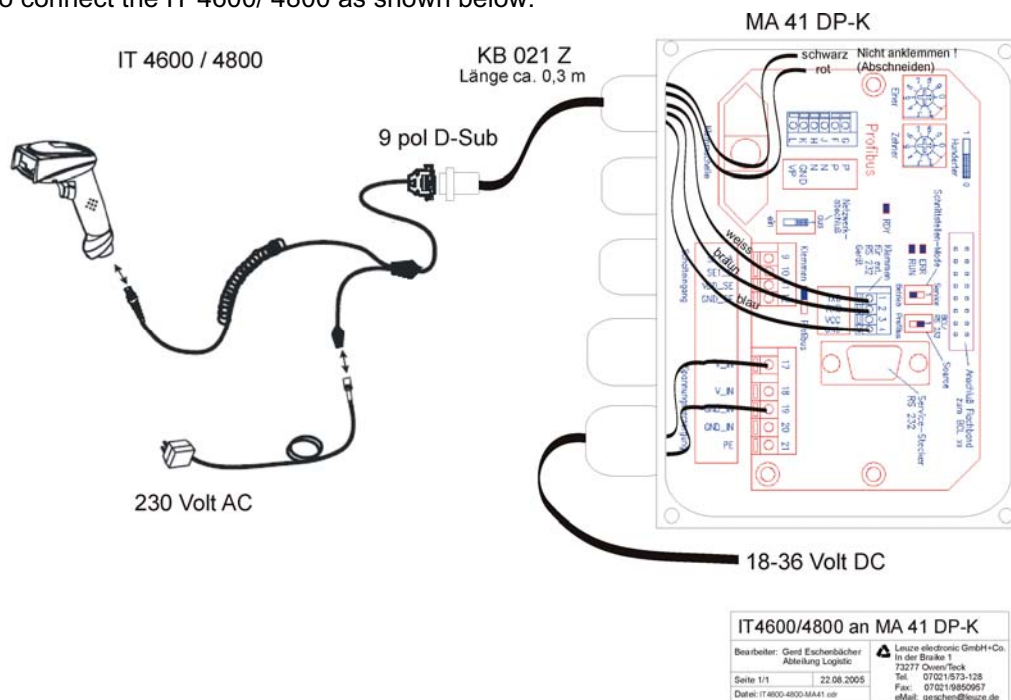
Necessary parts:

1x		IT 4600/ 4800 XX 031C	
1x	501 03 413	Cable RS 232/ext	
1x	501 03 403	Power supply	
1x	500 35 421	KB 021 Z	
1x	500 33 638	MA 41 DP-K for PROFIBUS	or 50030085 MA 41 IS PDP)
		(for Interbus: 50028994 MA 41 IS	

Pinning KB021 Z

colour:	Signal	Pin MA 41:
Brown/braun	(RXD)	2
White/weiss	(TXD)	1
Blue/blau	(GND)	4
Red/rot	(VCC)	3
Black/schwarz	(GND)	✂
blank (Shield)	(PE)	21

You have to connect the IT 4600/ 4800 as shown below.



Configuration



Connection for MA 41 in default



IT 4600/ 4800 at MA 21

RS 232 data transmission with 9600 Baud, 7 Databit, 1 Stopbit, Parity Even, Postfixes CR/LF.

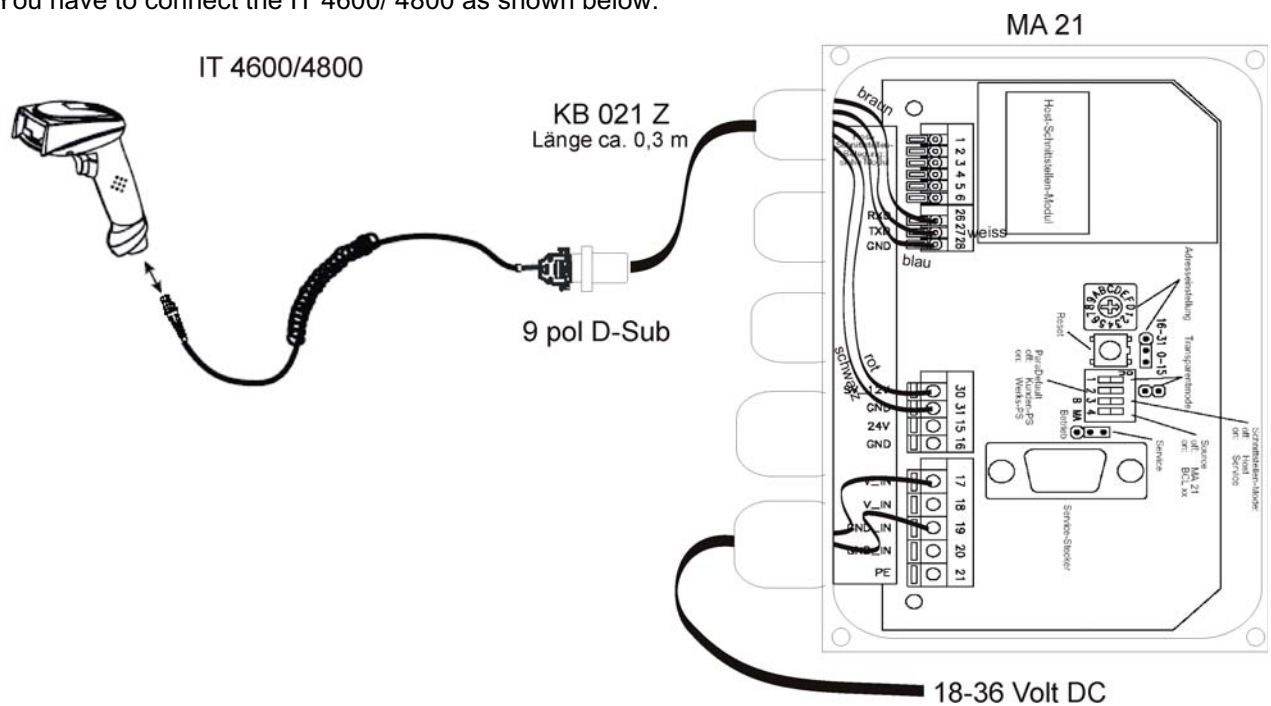
Necessary parts:

1x		IT 4600/4800 XX 031C
1x	501 03 412	Cable RS 232/ PIN9
1x	500 35 421	KB 021 Z
1x	500 30 481	MA 21 100

Pinning KB021 Z

Colour:	Signal	Pin MA 21:
Brown/braun	(RXD)	26
White/weiss	(TXD)	27
Blue/blau	(GND)	28
Red/rot	(VCC)	30
Black/schwarz	(GND)	31
blank (Shield)	(PE)	21

You have to connect the IT 4600/ 4800 as shown below.



Configuration



Connection for MA 21 in default



IT 4600/ 4800 at the PS2-interface

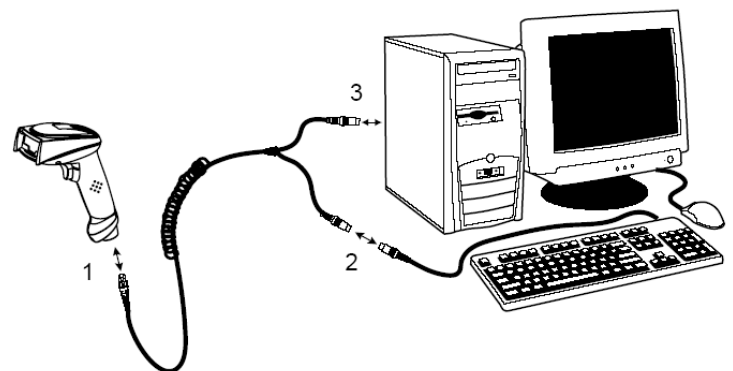
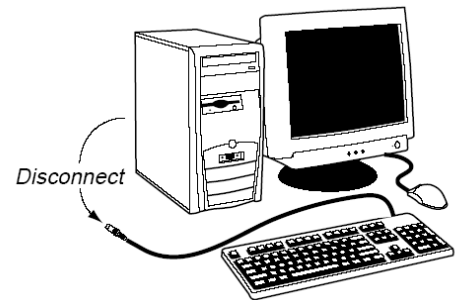
In this chapter to operating emulation of a keyboard on the PS2-interface is described. The scanned data is sent to the open window at the position of the cursor. You can use this mode in all standard PC-programs.

Necessary parts:

- 1x IT 4600/ 4800 XX 051C
- 1x 501 03 409 Cable PS2

You have to connect the IT 4600/4800 as shown on the right:

1. Turn off the PC
2. Disconnect the keyboard
3. Plug in the cable of the Hand-held scanner IT 4600/ 4800 between the keyboard and the PC
4. Turn on the PC
5. Scan the Code



Configuration



PS2-keyboard-emulation with CR LF



IT 4600/ 4800 at USB-interface (Keyboard-emulation)

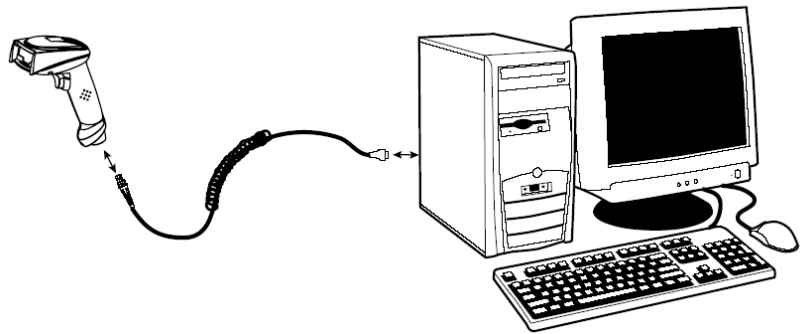
In this chapter the operation of the IT 4600/ 4800 in keyboard-wedge mode at USB interface is described. The data is transmitted to the open window at the position of the cursor. You can use this mode in all standard-PC-programs.

Necessary parts:

1x IT 4600/ 4800 XX 051C
1x 501 03 404 Cable USB

You have to connect the IT 4600/ 4800 as shown below

1. Plug in the cable of the IT 4600/ 4800 in a free USB-port
2. The scanner gives you an acoustic signal
3. Scan the code



Configuration



USB keyboard-emulation with CR LF



IT 4600/ 4800 at USB-interface (COM-port-emulation)

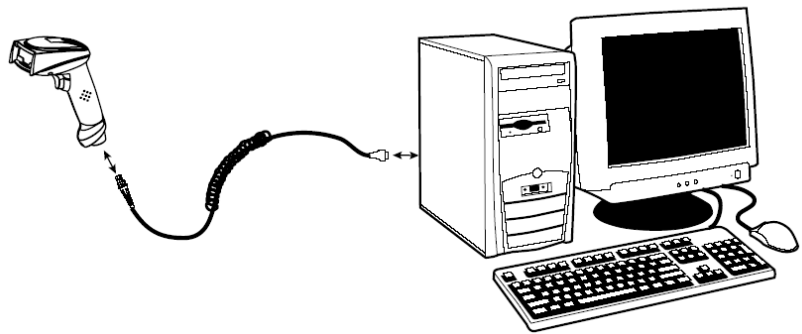
In this chapter the operating emulation of a COM-port over the USB-interface is described. The scanned data is sent to a new COM-port. You can download the required driver from our homepage www.leuze.de.

Necessary parts:

- 1x IT 4600/ 4800 XX 051C
- 1x 501 03 404 Cable USB

You have to connect the IT 4600/ 4800 as shown below

1. Plug in the cable of the IT 4600/ 4800 in a free USB port
2. The scanner gives you an acoustic signal
3. Scan the code
4. Install the USB-serial driver, if Windows asks for it



5. Open a terminal program, choose the new COM-port, and use baudrate 38400, 8 databits, 1 stopbit and no parity, postfix CR.

Configuration



COM-port-emulation at the next free COM with 38400 baud,
8 databit, 1 stopbit, no parity and CR as postfix.



Triggering

To activate a read operation, you have to send a trigger command over the RS 232- or USB-interface (only COM-port-emulation). The command has to be transmitted with the baudrate, parity, data- and stopbits which you have configured.

The command to activate is: **SYN T CR** ASCII-Decimal-Values: 022; 084; 013

The command to deactivate is **SYN U CR** ASCII-Decimal-Values: 022; 085; 013

If you want stop the reading this is what you have to send. After a good read it stops automatically.



The second possibility is to trigger with the trigger-button.

Additional Information:

For further, more detailed information (parameter for code types, number of digits etc...), please read the

User's Guide IT 4600/ 4800












Type Overview

IT Reihe / series IT			
Art-No.	Bezeichnung/description	Schnittstelle/interface	Bild/picture
Handleser für Barcode u. 2D- Codes			
Hand-held scanner for bar code and 2D-code			
50103410	IT 4600 SR 031C	True RS 232	
50103408	IT 4600 SR 051C	PS2 / USB / TTL RS 232	
... (Spezieller Fokus – für kleine Codes) ... (Special focus – for small codes)			
50103407	IT 4600 SF 031C	True RS 232	
50103406	IT 4600 SF 051C	PS2 / USB / TTL RS 232	
Industrie-Handleser (IP 54) für Barcode u. 2D- Codes			
Industry-Hand-held scanner (IP 54) for bar code and 2D-codes			
50103405	IT 4800 SR 031C	True RS 232	
50103416	IT 4800 SR 051C	PS2 / USB / TTL RS 232	
... (Spezieller Fokus – für kleine Codes) ... (Special focus – for small codes)			
50103415	IT 4800 SF 031C	True RS 232	
50103414	IT 4800 SF 051C	PS2 / USB / TTL RS 232	

Alle Geräte werden ohne Kabel geliefert, bitte separat bestellen!
All devices are delivered without cable, please order separately!



Accessories

Zubehör für IT Reihe / Accessories series IT				IT 4600 XX 031C	IT 4600 XX 051C	IT 4800 XX 031C	IT 4800 XX 051C
Art-No.	Bezeichnung/description	P/N-Nr.	Bild/picture	RS 232	5V	RS 232	5V
50103409	PS2-Kabel IT 4600/4800/4620 PS2-cable for IT 4600/4800/4620	42206132-02S		-	X	-	X
50103404	USB-Kabel IT 4600/4800/4715 und ST 2020 USB-cable for IT 4600/4800/4715 and ST 2020	42206161-01		-	X	-	X
50103413	RS 232-Kabel/ext IT 4600/4800 RS 232-cable for IT 4600/4800	42204253-04		X	-	X	-
50103412	RS 232-Kabel/PIN9 IT 4600/4800 RS 232-cable/PIN9 for IT 4600/4800	42204253-03		X	-	X	-
50104442	TTL-RS 232-Kabel/ext IT4715 TTL-RS 232-cable/ext for IT 4715	42203758-04		-	X	-	X
50104586	TTL-RS 232-Kabel/PIN9 IT4715 und ST 2020 TTL-RS 232-cable/PIN9 for IT 4715 and ST 2020	42203758-03		-	X	-	X
50103403	Netzteil für IT 4600/4800/IT4715 Power supply for IT 4600/4800/IT4715  für/for RS 232 Kabel (5 Volt DC)	PS5U-4 + 77900508		X	X	X	X
50103989	Netzteil für ST2020 bzw. IT4620 Power supply for ST2020 / IT4620  (9 Volt DC)	PS9U-22		-	-	-	-
50103402	Flex-Halter für IT 4xxx Flex neck stand for IT 4xxx	HFStand5		X	X	X	X



Connection to Leuze multiNet Plus

- MA 21 100 Interface converter / multiNet Slave
Art-No. 50030481
- KB 021 Z cable to MA 21 for IT 4600/ 4800
Art-No. 50035421



Connection to PROFIBUS

- MA 41 DP-K PROFIBUS-gateway
Art-No. 50033638
- KB 021 Z cable to MA 21 for IT 4600/ 4800
Art-No. 50035421



Connection to Interbus

- MA 41 IS Interbus gateway
Art-No. 50028994
- MA 41 IS PDP Interbus gateway PDP-protocol
Art-No. 50030085
- KB 021 Z cable to MA 21 for IT 4600/ 4800
Art-No. 50035421

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