

**IT 1280i**

**Hand-held bar code scanner suitable for industrial use**

en 01-2015/09 50130035



- Very robust hand-held scanner for bar codes
- Very large reading field with Full Range optics and improved decoding
- Robust trigger button
- Acoustic signal, LED and vibration alarm following successful reading
- RS 232, USB and PS/2 interface
- Operating temperature from -30°C through 50°C
- Degree of protection IP 65



**Accessories**

- **RS 232 cable**  
Part no. 50115105
- **TTL-RS 232 cable**  
Part no. 50114517
- **PS/2 cable**  
Part no. 50114519
- **USB cable, 3m**  
Part no. 50114521
- **USB helix cable, 5m**  
Part no. 50114523
- **Power supply unit**  
Part no. 50114525

**Dimensioned drawing**

**Electrical connection**

for RS 232 cable

9-pin Sub-D	Signal	Connection for power supply unit	IT 1280i RJ41
2	TXD		4
3	RXD		5
5	GND	external	3
7	CTS		6
8	RTS		8
9	5VDC	internal	7

for USB cable

USB type A	Signal	IT 1280i RJ41
1	5VDC	7
2	Data -	10
3	Data +	9
4	GND	3

for PS/2 cable

Mini DIN connector	Mini DIN socket	Signal	IT 1280i RJ41
1	-	PC Data	4
2	2	NC	
3	3	GND	3
4	4	5VDC	7
5	-	PC Clock	5
6	6	NC	
-	1	KB data	8
-	5	KB clock	6

We reserve the right to make changes • DS\_IT1280i\_en\_50130035.fm

**Specifications**

**Electrical data**

Operating voltage  $U_B$  4 ... 5.5VDC  
 Power consumption max. 1.8W

**Interfaces**

Interface type RS 232, PS/2 and USB  
 Trigger via button or serial command

**Types of codes**

Bar codes 2/5 Interleaved, Code 39, Code 128, Code 93, Codabar, UPC/EAN, Codablock, GS1 Databar

**Optical data**

Optical system Single Scan line  
 Symbol contrast PCS 35% minimum  
 Light source laser diode 630 ... 680nm; IEC 60825-1:2007 Class 2  
 Reading angle various tilt and rotational angles up to 65°

**Mechanical data**

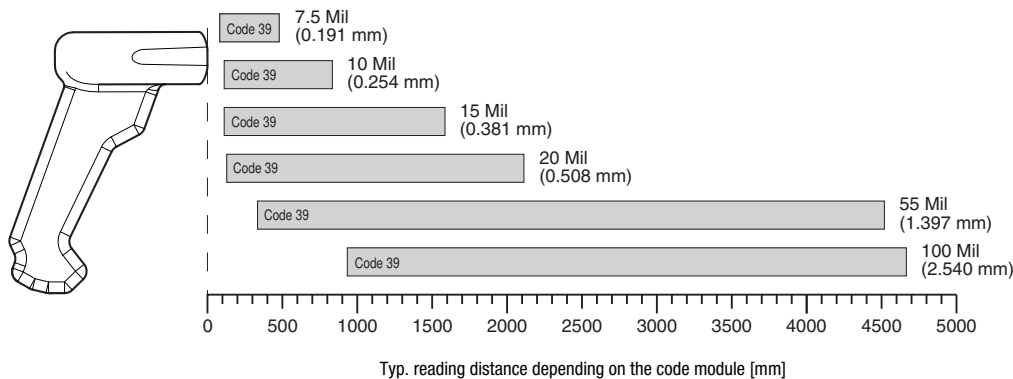
Weight approx. 335g (without cable)  
 Dimensions 133 x 75 x 195 mm  
 Shock resistance 50 falls from a height of 2m at -30°C

**Environmental data**

Ambient temp. (operation/storage) -30°C ... +50°C/-40°C ... +70°C  
 Relative humidity 0 ... 95% (non-condensing)  
 Degree of protection IP 65

**Reading field**

**IT 1280i FR-3**



**Tables**

**Diagrams**

**Remarks**

**Operate in accordance with intended use!**

- ⚠ The product may only be put into operation by competent persons.
- ⚠ Only use the product in accordance with the intended use.

**Order guide**

**Hand-held bar code scanner (Full Range optics with very large operating range)**

IT 1280i FR-3 with RS 232, PS/2 and USB interface

**Part no.**

50127898

Hand-held scanner with integrated decoder for high-contrast codes suitable for industrial use.

Data transmission via configurable RS 232 interface.

Or keyboard-wedge operation via PS/2 or USB interface.

**Laser safety notices**

**ATTENTION, LASER RADIATION – LASER CLASS 2**
**Never look directly into the beam!**

The device fulfills the EN 60825-1:2007 safety regulations for a product in **laser class 2** as well as the U.S. 21 CFR 1040.10 regulations with deviations corresponding to "Laser Notice No. 50" from June 24th, 2007.

↳ Never look directly into the laser beam or in the direction of reflecting laser beams!

If you look into the beam path over a longer time period, there is a risk of injury to the retina.

↳ Do not point the laser beam of the device at persons!

↳ Interrupt the laser beam using a non-transparent, non-reflective object if the laser beam is accidentally directed towards a person.

↳ When mounting and aligning the device, avoid reflections of the laser beam off reflective surfaces!

↳ **CAUTION!** Use of controls or adjustments or performance of procedures other than specified herein may result in hazardous light exposure.

↳ Observe the applicable statutory and local laser protection regulations.

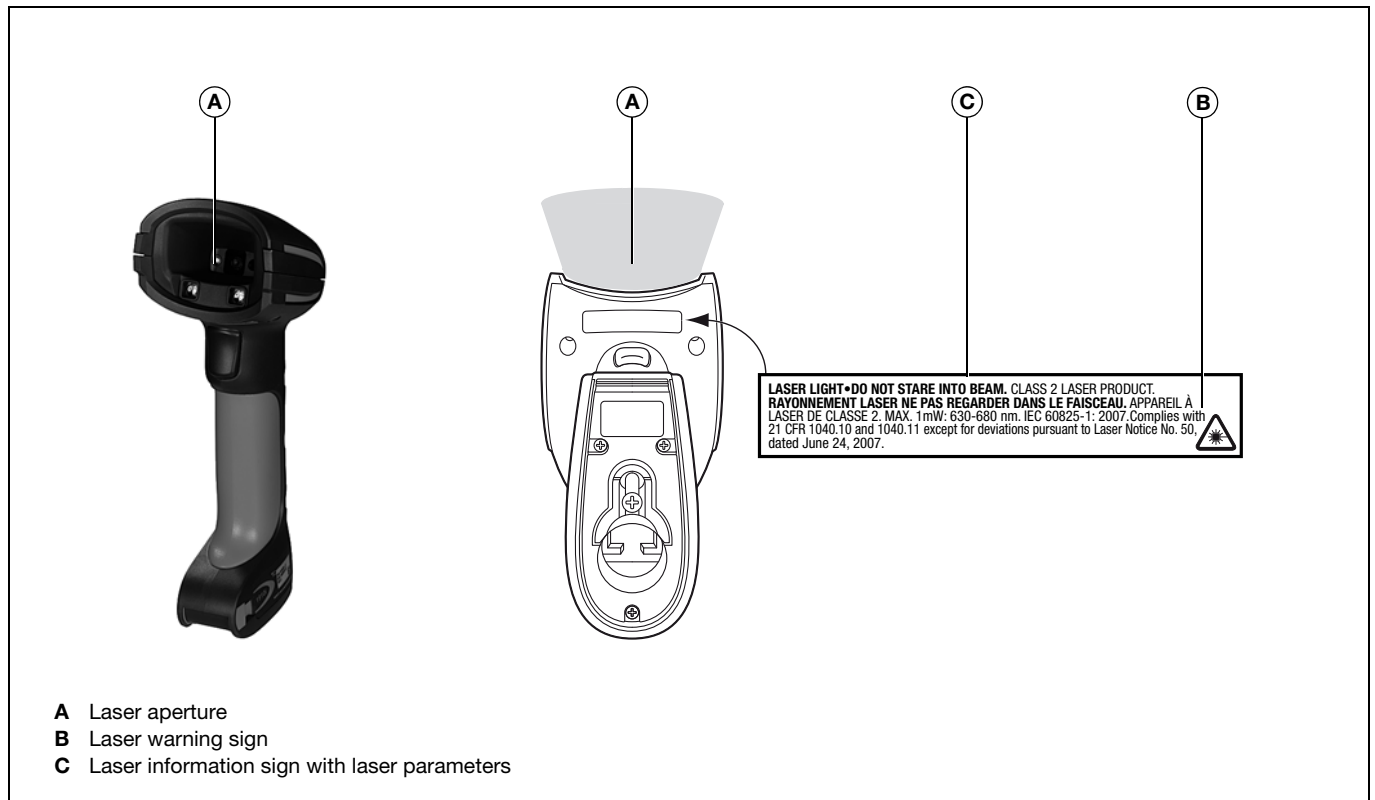
↳ The device must not be tampered with and must not be changed in any way.

There are no user-serviceable parts inside the device.

Repairs must only be performed by Leuze electronic GmbH + Co. KG.

**NOTICE**

Laser information and warning signs firmly attached to the device.



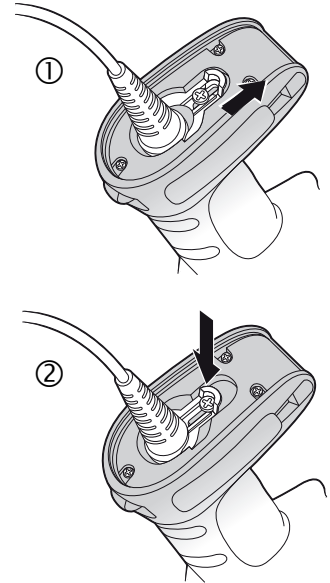
## Switching off the computer

Information on switching off and shutting down the connected computer - which must always be performed before connecting peripheral devices, such as a scanner - can be found in the appropriate operating instructions for your computer.

## Connecting the IT 1280i

The adjacent figure shows the position of the cable connection on the scanner. The individual steps for installing the cable on the scanner are described in the following.

1. To secure the interface cable to the scanner, proceed as follows:  
Loosen the Phillips screw on the cable interlock on the bottom of the hand-held scanner and, to open, push the cable interlock in the direction of the arrow to the end position (①). Insert the RJ 41 connector into the socket on the bottom of the hand-held scanner until the connector engages.
2. To close, push the cable interlock back and secure the cable interlock by tightening the Phillips screw (②).
3. Connect the interface cable to the appropriate connection socket on the computer.
4. You may need a power supply unit for supplying voltage; alternatively, you can use a cable which supplies voltage from the computer system. Use the pin assignments (see "Electrical connection" on page 1) to select the appropriate cable for your application.
5. Connect the power supply unit to the power socket (not necessary if voltage is supplied from the computer).
6. Check the operational readiness of the scanner by pointing the scanning surface towards a flat surface and pulling the trigger. A red target pattern as well as the red illumination should now be visible. Now scan a sample label.  
The scanner emits an audible signal to confirm that the label has been read; if necessary, the data are now passed on to the computer.



## Parameterization

The hand-held scanner can always be configured using bar codes. To do this, the bar code must first be selected on the package insert and then the trigger actuated in order to read the code. The configuration is then immediately accepted and executed.

Several of the most important configurations are listed in the following.

A second option is to configure the hand-held scanner with the USB and RS 232 interfaces with the aid of the **EZ Config** PC program. You can download and install this program from our homepage at [www.leuze.com](http://www.leuze.com).

The program can be used to make settings and transfer them to the hand-held scanner. The configuration can also be stored so that it can be reused at a later time.

More information can also be found in the user's guide.

The standard applications are described and summarized below.



### **Notice!**

Additional information on the device and short instructions can be found on the Internet at [www.leuze.com](http://www.leuze.com).

### Resetting the IT 1280i to factory settings

To reset all parameters to factory settings, scan the adjacent bar code.



**Attention!**  
All settings are lost!!!



### Trigger

To activate the read process, a trigger signal is to be sent via the serial RS 232 interface or USB interface (COM port emulation only). The command is to be sent at the set baud rate, parity, and data and stop bits.

The command for activation is: **SYN T CR** ASCII decimal values: 022; 084; 013

To cancel read readiness, send a deactivation.

The command for deactivation is: **SYN U CR** ASCII decimal values: 022; 085; 013

Following a successful read operation, the hand-held scanner deactivates itself.

The second option is activation via the built-in trigger button.

### Configuration for the Leuze standard protocol

Scan the following bar codes from top to bottom, one after the other.

The hand-held scanner is reset to factory settings and set to the following transmission parameters:

RS 232 transmission with 9,600 baud, 8 data bits, 1 stop bit, no parity, prefix <STX>, postfixes <CR><LF>.

Factory setting



9600 Bd



Terminal ID



Prefix STX



Postfix CR/LF



## Connecting the IT 1280i to the serial PC interface

Voltage supply via power supply unit with RS232 cable (part no. 50114517)

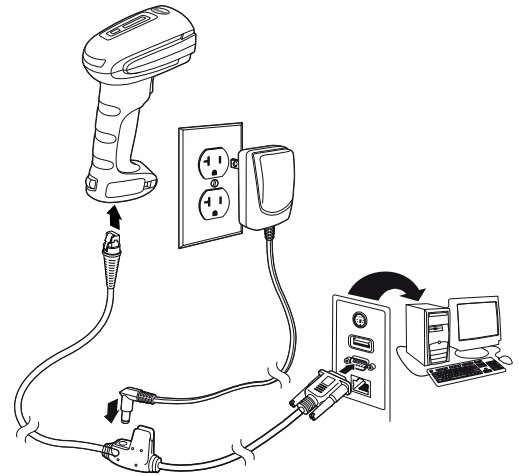
Required parts:

- 1x IT 1280i FR-3
- 1x 50114517 KB 232-1 IT190x
- 1x 50114525 Power supply unit



**Notice!**

Cable **KB 232-1 IT190x** (part no. 50114517) uses TTL-level (0V...5V) for data transmission. As an alternative to this, cable **KB 232-2 IT190x** (part no. 50115105) can be used. This cable works with the regular RS232 level (-12V...+12V) and therefore features a higher interference rejection. Both cables are connection compatible.



**Procedure:**

1. Switch off the PC.
2. Connect the interface cable to a free COM port (RS 232) on the computer, to the hand-held scanner as well as to the power supply unit (if present).
3. Switch the PC back on.
4. Scan the adjacent bar code.  
The hand-held scanner is set to the following transmission parameters:  
RS 232 transmission with 115,200 baud, 8 data bits, 1 stop bit, no parity, postfixes <CR><LF>.
5. If necessary, adjust the transmission parameters of the used COM port to those of the hand-held scanner.



**Attention!**

We recommend connecting the hand-held scanner directly to a PC or to the MA 21 or MA 41... connection units. If connecting to other components, please note that a voltage level range is maintained on the data lines!

**IT 1280i****Hand-held bar code scanner suitable for industrial use****Connecting the IT 1280i to the MA 2xxi**Required parts:

1x	<b>IT 1280i FR-3</b>
1x <b>50114517</b>	<b>KB 232-1 IT190x</b>
1x <b>50113397</b>	<b>KB JST-HS-300</b>
1x	<b>MA 2xxi</b> for the respective fieldbus system

**Procedure:**

1. Connect cable KB JST-HS-300 to the system connector on the MA 2xxi.
2. Connect the interface cable to cable KB JST-HS-300.
3. Scan the following bar codes from top to bottom, one after the other. The hand-held scanner is reset to factory settings and set to the following transmission parameters: RS 232 transmission with 9,600 baud, 8 data bits, 1 stop bit, no parity, postfixes <CR><LF>.

Factory setting



9600 Bd



Terminal ID



Postfix CR/LF



## Connecting the IT 1280i to the MA 21

### Required parts:

1x	IT 1280i FR-3
1x 50114517	KB 232-1 IT190x
1x 50035421	KB 021 Z
1x 50030481	MA 21 100

### Pin assignment for KB021 Z:

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

### Procedure:

1. Connect cable KB 021 Z to the MA 21... acc. to the above pin assignments.
2. Connect the interface cable to cable KB 021 Z.
3. Scan the following bar codes from top to bottom, one after the other. The hand-held scanner is reset to factory settings and set to the following transmission parameters: RS 232 transmission with 9,600 baud, 7 data bits, 1 stop bit, even parity, postfixes <CR><LF>.

Factory setting



9600 Bd



Terminal ID



7 data bit, even parity, 1 stop bit



Postfix CR/LF





**IT 1280i**

**Hand-held bar code scanner suitable for industrial use**

**Connecting the IT 1280i to the PS/2 interface**

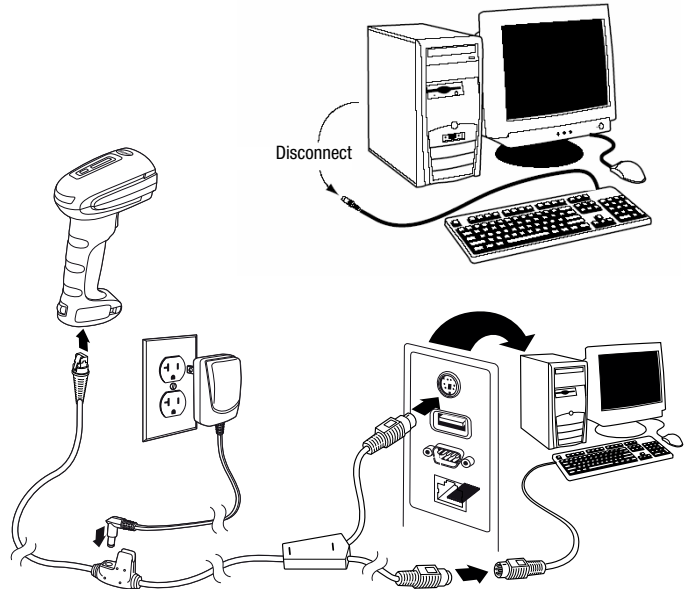
The operation of the hand-held scanner in keyboard emulation mode is described in this section. With this operating mode, a PC keyboard is emulated. The read data are written directly into the currently activated program. The data can thereby be further processed in all standard programs.

Required parts:

- 1x **IT 1280i FR-3**
- 1x **50114519 KB PS2-1 IT190x**

**Procedure:**

1. Switch off the PC.
2. Disconnect the keyboard.
3. Plug in the hand-held scanner between the keyboard and the PC.
4. Switch the PC back on.
5. Scan the following bar codes from top to bottom, one after the other.



IBM PCs and compatible PCs, postfix



Keyboard layout for Germany/Austria

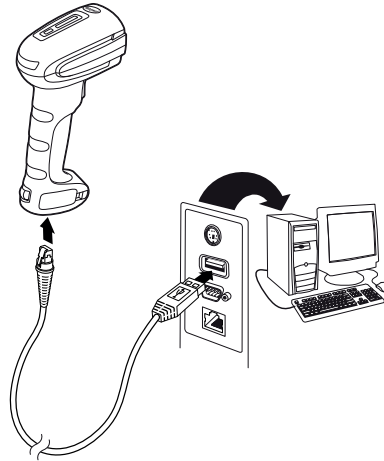


**Connecting the IT 1280i to the USB interface (keyboard emulation)**

Operating the hand-held scanner in keyboard emulation mode on a USB port is described in this section. With this operating mode, a PC keyboard is emulated. The read data is written directly into the currently activated program. The data can therefore be further processed in all standard programs.

Required parts:

- 1x **IT 1280i FR-3**
- 1x **50114521 KB USB-1 IT190x (3m, straight)**
- or
- 1x **50114523 KB USB-2 IT190x (5m, spiral)**



**Procedure:**

1. Plug the hand-held scanner into a free USB port.
2. The scanner acknowledges this connection with a beep.
3. Scan the following bar codes from top to bottom, one after the other.

USB keyboard emulation with CR/LF



Keyboard layout for Germany/Austria

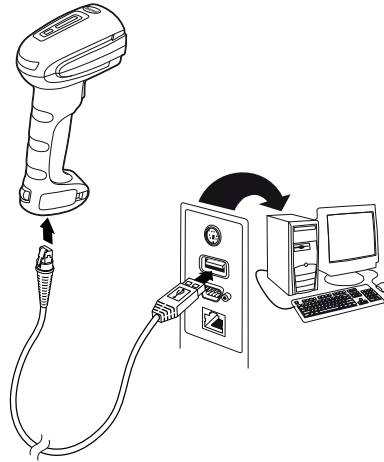


**Connecting the IT 1280i to the USB interface (COM port emulation)**

The operation of the hand-held scanner as a serial interface on a USB port is described in this chapter. With this operating mode, a COM interface is emulated. The read data are sent to a new COM interface. The drivers with which this COM interface is emulated can be downloaded from our homepage at [www.leuze.com](http://www.leuze.com). Thus, the data can be processed further in programs which expect data via COM interfaces.

Required parts:

- 1x **IT 1280i FR-3**
- 1x **50114521 KB USB-1 IT190x (3m, straight)**
- or
- 1x **50114523 KB USB-2 IT190x (5m, spiral)**



**Procedure:**

1. Install the USB serial driver (current version available at [www.leuze.com](http://www.leuze.com)).
2. Plug the hand-held scanner into a free USB port.
3. The scanner acknowledges this connection with a beep.
4. Scan the following bar codes.
5. Open a terminal program or your program for the serial interface, select the new COM port, and make the following settings: baud rate 115,200, 8 data bits, 1 stop bit, no parity, postfix <CR>.

USB COM-port emulation



