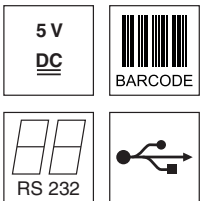


**CR50**

**CCD scan engine with integrated decoder**

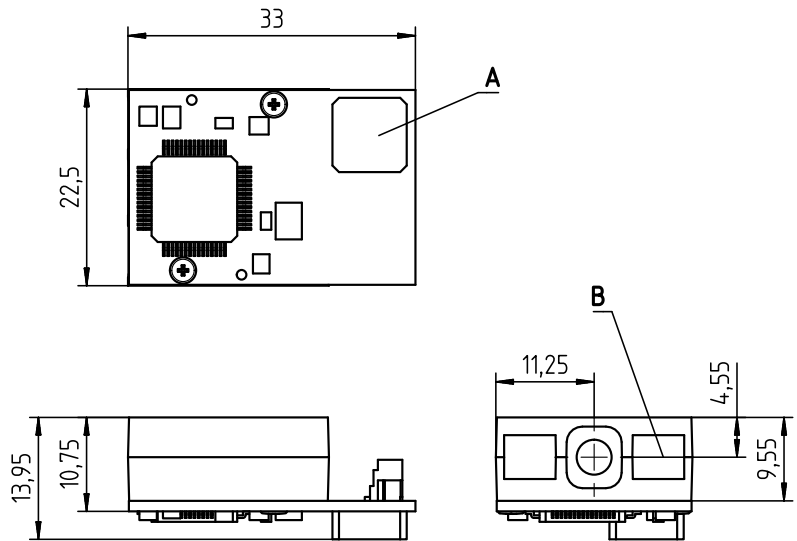
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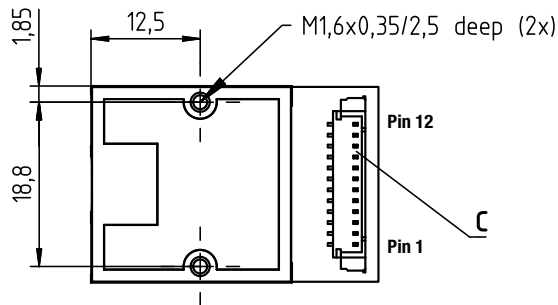
**50 ... 230mm**

- Linear CCD scan engine for all common 1D bar codes
- Very small construction
- Integrated decoder
- RS232 and USB 2.0 interfaces
- Operating temperature 0°C ...+50°C

**Dimensioned drawing**



**Threaded inserts for mounting**



- A** Acoustic signaler (buzzer)
- B** LED scan line
- C** Molex connector (53398-1271), 12-pin

**Electrical connection**

**Molex 53398-1271, 12-pin**

Pin No.	Signal	IN / OUT
1	+5VDC Power	IN
2	GND	IN
3	BUZZER	OUT
4	LED	OUT
5	TRIGGER	IN
6	RS232 - RxD	IN
7	RS232 - TxD	OUT
8	RS232 - RTS	OUT
9	RS232 - CTS	IN
10	do not connect	-
11	USB - D+	IN / OUT
12	USB - D-	IN / OUT

We reserve the right to make changes • DS\_CR50\_en\_50126230\_01.fm



## Specifications

### Optical data

Optical system	CCD linear imager
Light source	integrated LED (visible red light)
Wavelength	617 nm
Scanning rate	typ. 330 scans/s
Reading distance	50mm ... 230mm
Contrast	30% modulation

### Code specifications

Code types	2/5 interleaved, Code 39, Code 128 (incl. type C), EAN 128, EAN 8, EAN 13, UPC A, UPC E, Codabar, Code 93
Module width	5 ... 20mil / 127 ... 500µm (distance dependent)

### Electrical data

Operating voltage $U_B$	4.5 ... 5.5VDC
Current consumption	max. 120mA

### Interfaces

Interface type	RS232 and USB 2.0
Baud rate RS232	300 ... 115,200Bd, configurable
Data formats RS232	configurable
Trigger	switching input (active/not active = 0V/+5V or not connected) or Presentation Mode
Buzzer	NPN transistor output (modulated) / successful reading
LED	NPN transistor output, max. 20mA / successful reading

### Mechanical data

Weight	10g (without cable)
Dimensions (HxWxD)	14x22.5x33mm
Fastening	2 bore holes M1,6x0.35, 2.5mm deep
Connection type	Molex Inc. (53398-1271), 12-pin

### Environmental data

Temperature range (operation)	0°C ... +50°C
Ambient temperature (storage)	-20°C ... +60°C
Air humidity	10 ... 90% rel. humidity, non-condensing
Ambient light	max. 100,000 lux
Standards conformity	FCC (Part 15 Class B), CE (EN 55022:2010 Class B, EN 62471:2008)

## Remarks

### Operate in accordance with intended use!

- ⚠ This product is not a safety sensor and is not intended as personnel protection.
- ⚠ The product may only be put into operation by competent persons.
- ⚠ Only use the product in accordance with the intended use.

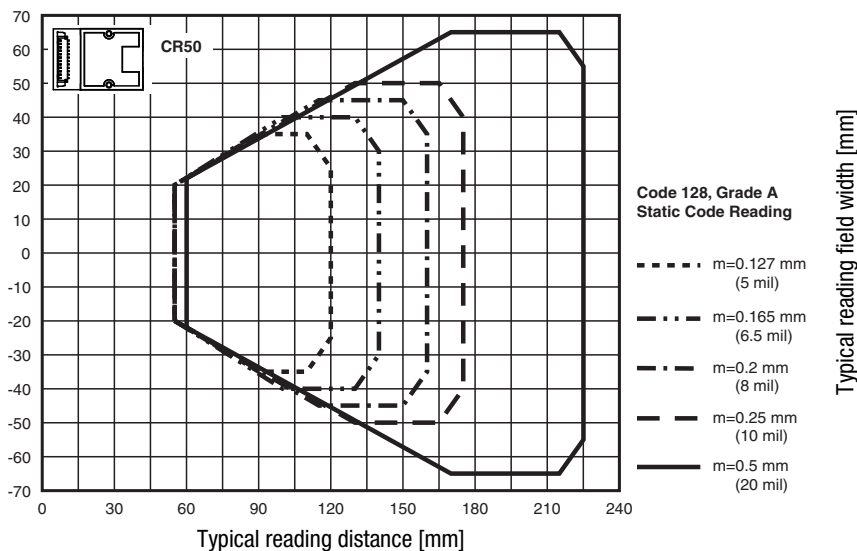
### ● Features

Very small and light scan engine with integrated decoder for all common 1D bar codes. Data transmission via configurable RS232 or USB 2.0 interface.

### ● Driver

USB driver for configuration of the CR50 scan engine:  
**Download**  
 "LeAnalysisCollectionSetup" from [www.leuze.com](http://www.leuze.com)

## Read field



## Order guide

Product Name	Description	Part no.
CR50 M2/R2-S5	Linear CCD scan engine for 1D bar codes, RS232 / USB 2.0 interface, Molex 53398-1271 connection, 12-pin	50126082
CR50 starter kit	CR50 scan engine, mounted on additional circuit board with Micro USB socket, USB cable, USB flash memory stick with drivers and documentation	50126081

## Connection and commissioning of the CR50 starter kit (50126081)

The short instructions for installing the corresponding driver and the *Sensor Studio* configuration software can be found on the last page of this document.

### 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 to a PC - Sensor Studio

The *Sensor Studio* configuration software provides a graphical user interface for the operation, configuration and diagnosis of many products from the Leuze company. If necessary, the *Sensor Studio* configuration software can be installed from a USB memory stick (CR50 graphical user interface).

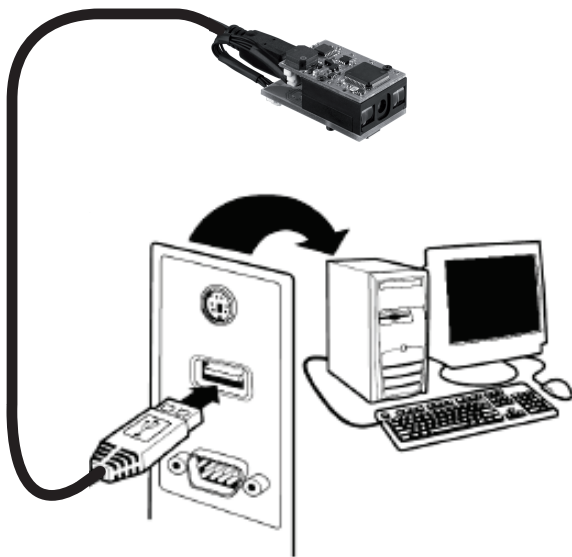
<b>NOTICE</b>
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Login with administrator privileges is required for installation.
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### Connecting the CR50 starter kit to the USB interface (COM port emulation)

Operation of the CR50 starter kit as serial interface on a USB port is described in this section. With this operating mode, a COM interface is emulated. The read data are sent to a new COM interface. The driver with which this COM interface is emulated is included on the USB memory stick, which is part of the starter kit.

#### Connection diagram:

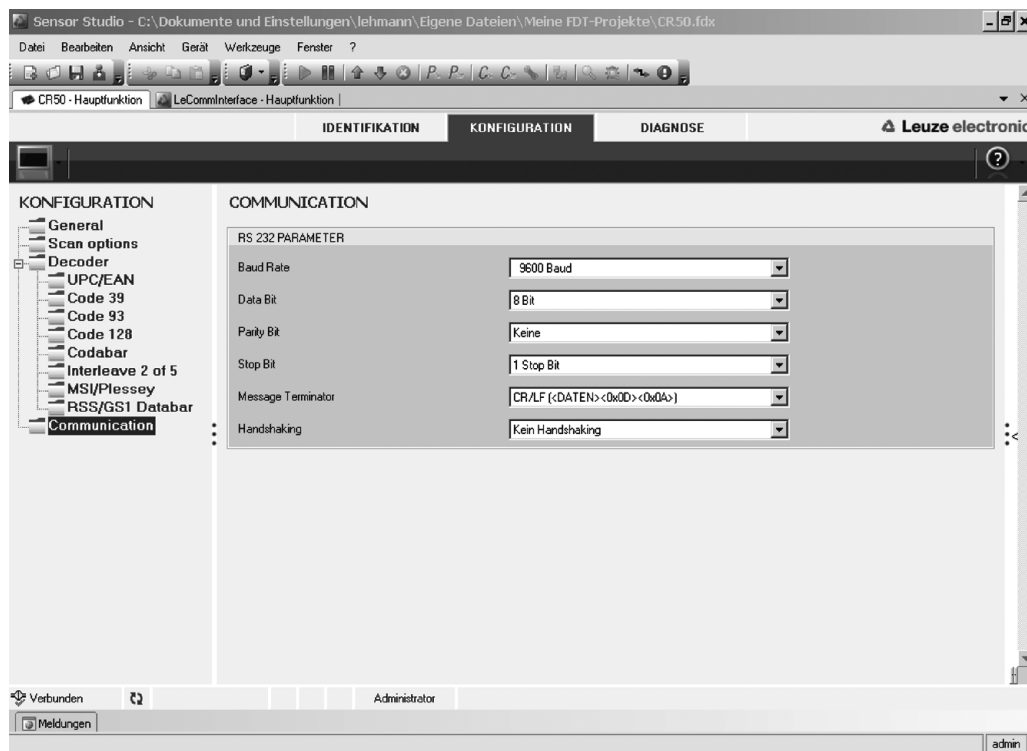


#### Procedure for the installation of the software and hardware:

1. Install the USB serial driver (administrator privileges required).
2. If necessary, install the *Sensor Studio* configuration software (administrator privileges required).
3. Plug in the USB interconnection cable with one end in a free USB port on the computer and the other end in the Micro USB socket on the CR50 module.
4. The scan engine acknowledges this connection with a beep.
5. The scan engine can now be configured via the *Sensor Studio* configuration software. The values of the decoded codes can be displayed in the terminal on the Diagnostics tab.


## Sensor Studio configuration software

The *Sensor Studio* configuration software provides a graphical user interface for the operation, configuration and diagnosis of the CR50 scan engine. It is structured according to the FDT/DTM concept.




**Example bar codes**

**Code 128**  
10 Digits – 10mil (254µm)  
Data: *CR50-12345*



CR50-12345

**Code 93**  
9 Digits – 10mil (254µm)  
Data: *CR50-C93!*




CR50-C93!

**Codabar**  
10 Digits – 10mil (254µm)  
Data: *0123456789*




0123456789

**Interleaved 2 of 5 (With Check Digit)**  
10 Digits – 10mil (254µm)  
Data: *9875896589*




9875896589

**Code 39**  
4 Digits – 10mil (254µm)  
Data: *CR50*



CR50

**Code 128**  
4 Digits – 10mil (254µm)  
Data: *C128*



C128

## Reset to factory settings

To do this, scan the following codes in sequence.

### CR50-Starterkit SOS Barcodes



## Quick Start Guide

### CR 50 Demo Kit Quick Start Guide

**1**

Unpack

Contains static sensitive devices!  
Please handle with care.

Kit Contains:

- CR 50 Scan engine fully assembled at a PCB board with USB Micro B-socket
- USB Cable
- Flash Stick with Drivers & Documentation

**2**

Install USB Drivers

The USB drivers must be installed before connecting the CR 50 to the PC!

On the included Flash Drive, choose the x64 or x86 installer under 'USB Driver Install' that corresponds to your version of Windows.

x64 = 64bit system  
x86 = 32bit system

**3**

Connect CR 50 Demo Kit!

Connect the USB cable to the CR 50 Demo Kit and to the PC.

Once Windows finishes installing the device, the GUI can be used to configure the reader.

If necessary, the configuration software 'sensor studio' can be installed from the USB stick. (CR50 graphical user interface)