

**User Manual** 

LBK SBV System RCS Reader Tool



We reserve the right to make technical changes EN•2022-12-15•50149169 © 2022 Leuze electronic GmbH + Co. KG In der Braike 1 73277 Owen / Germany Phone: +49 7021 573-0 Fax: +49 7021 573-199 www.leuze.com info@leuze.com

1	Scope		
2			
	2.1	What is the RCS Reader Tool	4
	2.2	Operating system required	4
	2.3	Firmware and software version supported	4
	2.4	How to launch the tool	4
3	Deta	ils of the RCS Reader Tool	7

## 1 Scope

The goal of this user manual is to describe the software RCS Reader Tool and its functionalities.

## 2 Introdution

#### 2.1 What is the RCS Reader Tool

The RCS Reader Tool is an application provided with the LBK Designer application and can be used as an assist in setting the RCS threshold parameter with LBK SBV System.

When this parameter is set to a value higher than 0 dB, the sensor is able to detect the access of one or more objects with an RCS value bigger than it. In this way, the Custom target detection safety function is enabled in place of the standard Access Detection safety function (Human detection).

## NOTICE

When the Custom target detection is enabled, the detection of a human body is no longer guaranteed. For more details about the function and the Radar Cross Section (RCS), please refer to the Operating instructions of LBK SBV System, downloadable with the LBK Designer application from www.leuze.com.

#### 2.2 Operating system required

The tool is supported on the following operating systems:

- Microsoft Windows 10 or later
- Apple OS X 11.0 or later

#### 2.3 Firmware and software version supported

The tool is available with the following versions:

- LBK Designer application: version 2.6.20 or later
- LBK SBV System controllers: firmware version 1.6.0 or later
- LBK SBV System sensors: firmware version 3.1 or later

#### 2.4 How to launch the tool

In order to run the RCS Reader Tool, first of all you need the LBK Designer application.

You can launch the tool from the Configuration page.

If you are new to the LBK Designer application, please follow the instructions below:

Step 1 - Open the application and connect to the device, by selecting your actual connection mode.

S INXPECT		<b>ju</b> -
	"' Devices currently available:	
Connect to device	«,» Devices Currently available. No reachable athernet devices found	
Choose the connection mode:		
Ethernet connection		
USB connection		
Use a USB cable to connect to a Control Unit 200 Series.	CONTINUE	
System Simulator mode	Kessurces and tools Identify system specifications Check for system undates	

Figure 1 Connection to the device

Step 2 - Click on User, in the top right corner of the screen and access using your Admin password.

	board Configuration Settings Validation		C REFRESH CONFIGURATION User ▲ Mar Disconnect ¥						
Dashboard									
Dashboard System status Control unit Sensor 1	•	Digital Input-Output  Input 1 - Not configured  Output 2 - Not configured  Output 2 - Not configured  Output 3 - Not configured  Output 4 - Not configured	Sensors System: Inspect SRE 200 Series (with S201A-MLR) Detection fields dependency: Enabled						



## Step 3 - Go to Configuration page.



#### Figure 3 Configuration page







#### Step 5 - Click on RCS Reader Tool on the right to open the software.



Figure 5 RCS Reader Tool button

### 3 Details of the RCS Reader Tool

Let's give a first glance at what the tool looks like (Figure 6).

The whiteboard in the center represents the field of view of the selected sensor.

On top of it, the targets are shown in the form of circles. The bigger the circle is, the greater its RCS is. Above the whiteboard, the minimum and maximum distances and angles of the acquisition are shown.



Figure 6 A first view of the RCS Reader Tool

On the left side of the main page (Figure 7), you can find two options related to the distance:

- **Distance accepted** [100 cm, 900 cm] allows you to filter out from the view the targets (and the reflections of the signal) farther than a specific distance.
- **Distance shown** [100 cm, 900 cm] is the maximum distance shown in the whiteboard; we can think of it as a scale of the whiteboard.



Figure 7 RCS Reader Tool

Just under the whiteboard (Figure 8), two buttons let us show either the targets above the set RCS threshold or below it. In this way, it is easier to understand if the RCS Threshold is the right one for our purpose or not.



Figure 8 RCS Reader Tool

To the right of the whiteboard (Figure 9), two sliders are shown:

- RCS threshold to be applied [0 dB, 70 dB]
- Data persistence, that allows to show only the latest samples or even the older ones.

Moreover, RCS Suggested Range is an interval of values recommended for the RCS Threshold.



Figure 9 RCS Reader Tool

In the top part of the main page (Figure 10), you can see the following buttons:

- Save to file (.rcs format) the info related to the currently acquired targets; the values of the targets which are no longer shown on-screen are not saved in the file.
- Open file an acquisition (.rcs format)
- **START acquiring**, useful to erase the circles on the whiteboard and start a new acquisition of the targets in the area
- Show/Hide advanced charts (Figure 11), which opens a graphical representation of the targets acquired (RCS chart) or filtered (Filtered chart)

# Leuze



Figure 10 RCS Reader Tool



Figure 11 Advanced charts

Finally, the following options are available in the bottom part (Figure 12 and Figure 13):

- Information about the **Connection type** (HTTPS for Ethernet connection, or USB)
- Information about the **Node ID of the sensor** for which you would like to set an RCS Threshold higher than 0 dB (Custom target detection)
- the Show/Hide log button, that opens a window (Figure 14) with the log of the actions performed
- the Cancel button, that closes the tool without saving the RCS Threshold



Figure 12 RCS Reader Tool: HTTPS connection



Figure 13 RCS Reader Tool: USB connection

#### File name: SINXPECT START acquiring Save to file Open file Show advanced charts Distance accepted Min distance [cm]: 0 Max distance [cm]: 182 Data persistence Distance shown RCS threshold to be applied Show only latest samples Max angle [deg]: 18 214cm Min angle [deg]: -18 353cm 10 + -RCS Suggested range Min: 5 Show also oldest samples Max: 10 Show samples ab Show samples below threshold Actions log 1748:14: Number of samples displayed set to: 495 1748:14: Number of samples displayed set to: 506 1748:14: Number of samples displayed set to: 510 1748:14: Number of samples displayed set to: 520 1748:14: Number of samples displayed set to: 522 1748:14: Number of samples displayed set to: 528 1748:14: Number of samples displa Clear log Connection type: Selected Sensor Id: 1

Figure 14 RCS Reader Tool: Action log window

# Leuze

ок

Hide Log