

# Manual

## RLS-GD-MONITORING Software V4.3

(PC software for Microsoft® Windows® Vista, XP, 2000, NT® 4.0, Me, 98)

### **for gloss sensors of the RLS-GD series**

This manual describes the installation and operation of the RLS-GD-MONITORING PC software version 4.3.

The software was developed for configuring up to 8 gloss sensors of the RLS-GD series (SW version V4.3) in a multi-sensor system that can be used for the continuous inline measurement and inspection of the gloss value of surfaces at several measuring points at the same time. Gloss measurement values are recorded and are also displayed at the PC monitor, and they can be printed out after the end of recording.

The software concept provides two user levels: A password-protected administrator function for configuring the inline gloss measurement system and for setting all the parameters for operation, and an easy-to-use user function that only allows the setting of the start and end of gloss value recording with input of production parameters (that have been determined by the administrator). The print function also is available for the normal user.

As a support for commissioning and operation of the RLS-GD-MONITORING software this manual explains the individual functional elements of the graphic Windows® user interface.

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### Shortcuts:

SEND	F9
GET	F10
GO	F11
STOP	F12

# 1 Installation of the RLS-GD-MONITORING software

Hardware requirements for successful installation of the RLS-GD-MONITORING software:

- IBM PC AT or compatible PC
- VGA graphics
- Microsoft® Windows® Vista, XP, 2000, NT® 4.0, Me, 98
- Serial RS232 interface at the PC
- Microsoft-compatible mouse
- Cable for the RS232 interface
- CD-ROM drive
- Approx. 5 MByte of free hard disk space

The RLS-GD-MONITORING software can only be installed under Windows. Windows must therefore be started first, if it is not yet running.

Please install the software as described below:

1. The software can be installed directly from the installation CD-ROM. The CD-ROM contains a folder named INSTALL, where you can find a SETUP program. Start this SETUP program to install the software.
2. The installation program displays a dialog and suggests to install the software in the C:\"FILENAME" directory on the hard disk. You may accept this suggestion with **OK** or **[ENTER]**, or you may change the path as desired.
3. During the installation process a new program group for the software is created in the Windows Program Manager. In the this program group an icon for starting the software is created automatically. When installation is successfully completed the installation program displays a "Setup OK" message.
4. After successful installation the software can be started with a left mouse button double-click on the icon.

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VGA™ is a trademark of International Business Machines Corp.

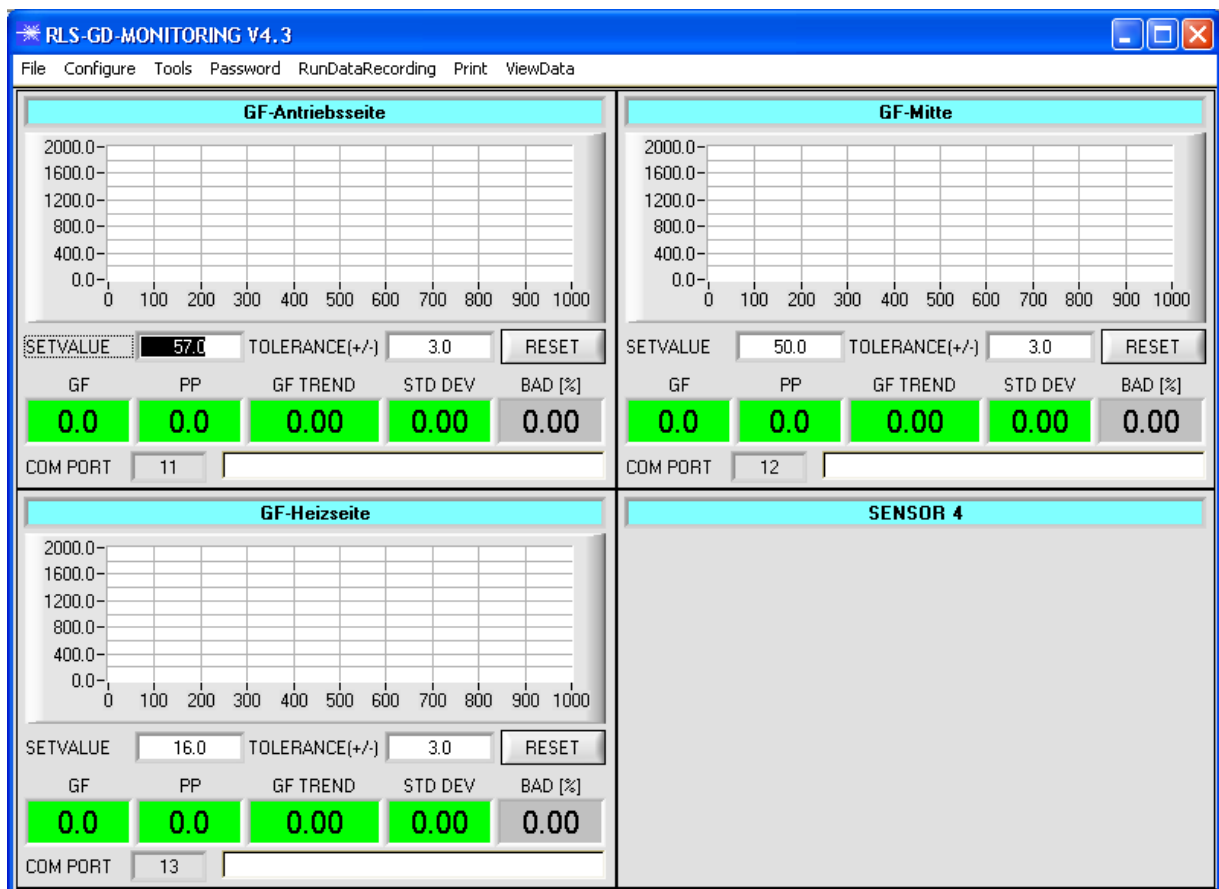
## 2 Operation of the RLS-GD-MONITORING software

### 2.1 Software description

Please read this chapter before you start the process of initialising the software.

When the RLS-GD-MONITORING software is started, the following window appears on the Windows user interface:

Depending on the settings in the "Startup Configurationfile", various elements are displayed, hidden, "enabled" or "disabled".



### 2.1.1 "File" menu

File Configure Tools Password RunDal

Load Configuration File  
Save Configuration File  
Save As Startup Configuration File

In the "File" menu, configuration files that are set under "Configuration" can be saved to a file or loaded from a file.

The "Save As Startup Configuration File" item defines the currently set parameters as startup parameters, i.e. these parameters will be loaded automatically when the software is started.

### 2.1.2 "Configure" menu

Configure Tools Password RunDal

Set Sensor Configuration  
Set Product Parameter  
Set Output Path  
Set Record Mode

The "Configure" menu can be used for performing certain parameter presets.

A click on "Set Sensor Configuration" opens the following window:

If data should be recorded from a sensor, the sensor must be activated with "ENABLE".

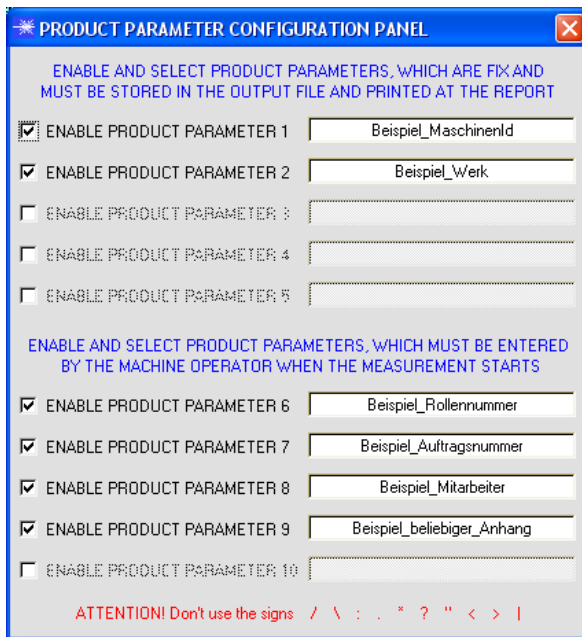
In the "INSERT SENSOR NAME" field a name can be assigned to the sensor. This name will then be displayed in the main window, saved in the output file, and will also be printed.

If "FIXED SETVALUE" is activated, a setpoint value for the gloss rate can be preset under SENSOR SETVALUE. This value cannot be changed in the main panel. The same applies to "FIXED TOLERANCE".

If "ENABLE RESET" is activated, the graph can be reset in the main panel.

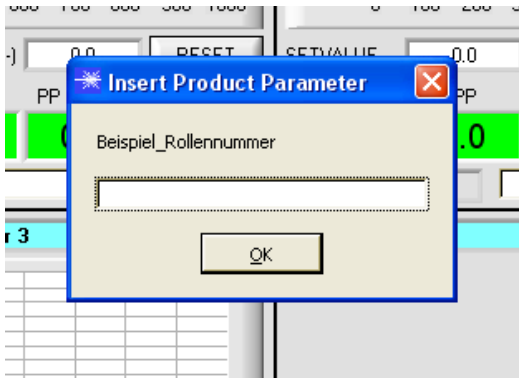
The interface between sensor and PC is determined under "SELECT CONNECTION".

A click on **"Set Product Parameter"** opens the following window:



There are 5 parameters that can be individually entered. All these data are fixed and are, if they are enabled, saved in the file and printed in the report. Parameters 6 to 10, if they are enabled, must be entered by the operator after pressing "Start". These data also are saved in the file and printed.

**Attention!**  
The characters **/ \ : . \* ? " < > |** must not be used.



Example:

"ENABLE PRODUCT PARAMETER 6" is activated and is assigned the input of "Example\_roll number". When "RunDataRecording" and "Start" is pressed, a window will appear prompting the operator to enter a roll number.

A click on **"Set Output Path"** opens the following window:

The screenshot shows the 'OUTPUT FILE CONFIGURATION PANEL' window. It has a title bar with a blue background and a close button. The main area is titled 'SELECT HOW TO CREATE THE OUTPUT FILENAME'. It contains an 'Output Directory' text box with 'd:\' entered. Below it is a 'SELECT A FILE EXTENSION' section with a dropdown menu showing 'xxx.' and 'dat'. There are two main checkboxes: 'OPERATOR CREATES FILENAME MANUALLY' (unchecked) and 'CREATE FILENAME AUTOMATICALLY' (checked). Under the 'CREATE FILENAME AUTOMATICALLY' section, there are ten checkboxes for 'PRODUCT PARAMETER 1' through '10'. Parameters 6, 7, 8, and 9 are checked, while 1, 2, 3, 4, 5, and 10 are unchecked.

This window is used for defining the output file.

If "OPERATOR CREATES FILENAME MANUALLY" is activated, the software, after the operator presses Start, prompts the operator to define an output file.

If "CREATE FILENAME AUTOMATICALLY" is activated, the software automatically creates the output file. The output path is determined with "Output Directory". The file name comprises the activated "PRODUCT PARAMETER", the sensor name and the extension defined under "SELECT A FILE EXTENSION".

#### INFO!

If the output file should be opened with Microsoft EXCEL, the regional settings in Windows should first be set to an Anglo-American country (Great Britain, USA, ...). The reason for this is that EXCEL interprets the gloss factor, which is a floating point number, as a date information. If the file is saved in the Anglo-American mode, and if the regional settings are then set back to the respective country, EXCEL recognises the gloss factor as a floating point number.

The following steps must be performed to change to an Anglo-American language:

Start → Settings → Control Panel → Regional and Language Settings

An Anglo-American language can then be selected in the "Regional Settings" tab.

A click on **"Select Record Mode"** may open the following windows:

The screenshot shows the 'RECORDER CONFIGURATION PANEL' window. It has a title bar with a blue background and a close button. The main area is titled 'SELECT THE RECORD MODE'. It contains a 'SELECT DATA RECORDING' dropdown menu with 'AUTO UNLIMITED' selected. Below it is a 'RECORD-TIME INTERVAL IN SECONDS' text box with '1' entered. There is a section titled 'SELECT THE DATAS WHICH SHOULD BE SAVED TO THE OUTPUT FILE' with several checkboxes: 'SAVE CH\_REF', 'SAVE CH\_DIR', 'SAVE CH\_DIF', 'SAVE NORM', 'SAVE INT', 'SAVE GLOSS FACTOR GF' (checked), 'SAVE PEAK TO PEAK VALUE PP', 'SAVE VECTOR NUMBER V-No.' (checked), and 'SAVE TEMP'.

This window is used for determining the data recording mode.

It can also be determined here which data are saved in the selected file.

With "AUTO LIMITED", an adjustable number of data is recorded after an adjustable time interval.

With "AUTO UNLIMITED" data are recorded after an adjustable time interval until recording is stopped by pressing "Stop".

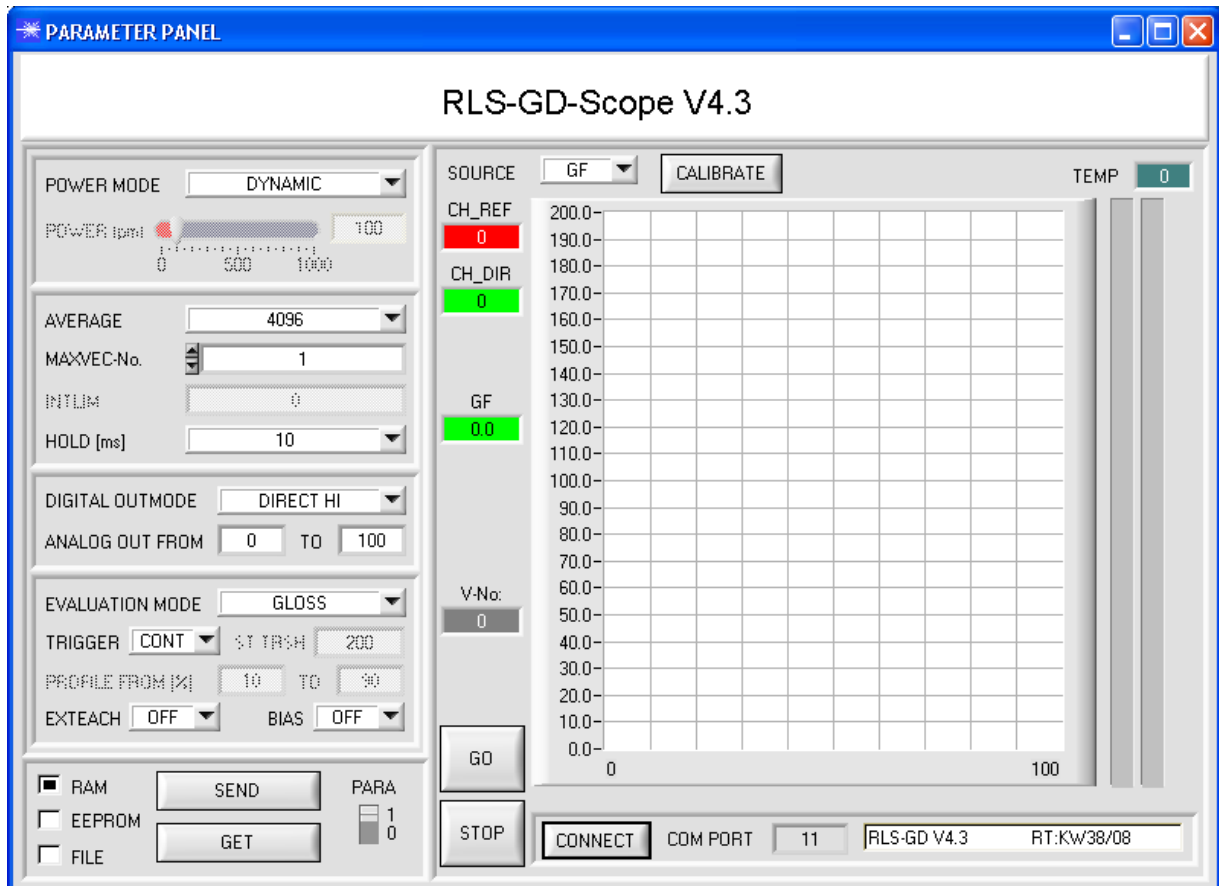
With "AUTO TRIGGERED" the sensor automatically sends data which are then recorded and saved.

#### Attention!

For using the "AUTO TRIGGERED" function the sensor must operate in one of the trigger modes, because data only are sent when the trigger condition drops (cf. Manual RLS-GD-Scope V4.3).

### 2.1.3 "Tools" menu

A click on "RLS GD Scope V4.3" opens the following window for configuring the individual sensors (cf. manual RLS-GD-Scope V4.3).



### 2.1.4 "Password" menu



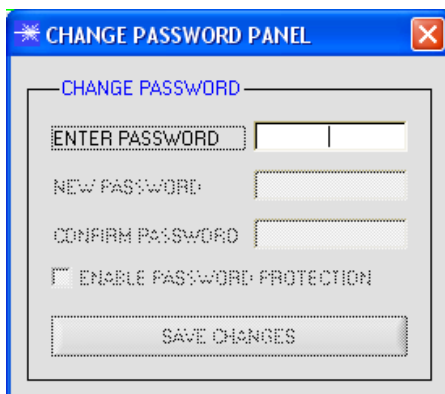
The "File", "Configure", and "Tools" items can be protected by a password.

Password protection can be enabled and disabled.

The default password is: 0000000000

(in words: 10 zeros).

The password can be individually changed.



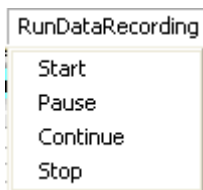
When password protection is enabled, the menu items "File", "Configuration", and "Tools" only can be accessed after pressing "Disable Password Protection" and entering the correct password.

#### Attention!

Password protection must be activated again with "Enable Password Protection".



## 2.1.5 "RunDataRecording" menu

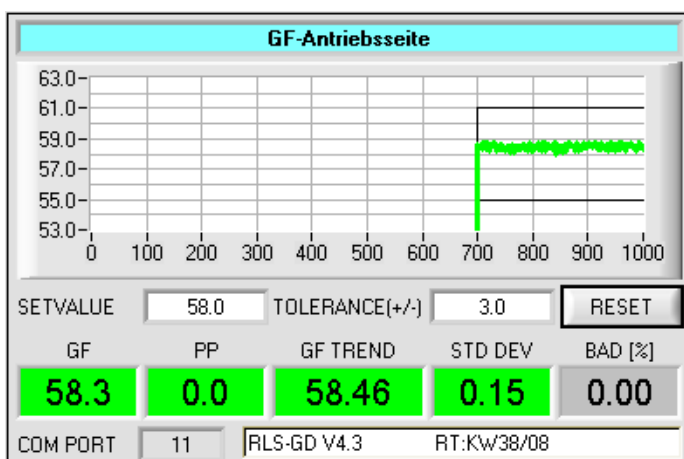


In this menu item data recording can be started with "Start" and stopped with "Stop". Data recording furthermore can be paused with "Pause" and then continued again with "Continue".

The data are immediately saved in the correspondingly created file and are visualised on the user interface.

When "Start" is pressed, the product parameters 6 to 10 that are enabled in "Set Product Parameters" must be entered.

If "OPERATOR CREATES FILENAME MANUALLY" is activated under "Set Output Path", the operator will be prompted to specify a file.



The data are immediately saved in the correspondingly created file and are visualised on the user interface.

For memory space reasons, only the last 1,000 values are shown in the graph.

The output file, however, contains all the values.

The GF display shows the last gloss value. This display turns red if the gloss value is outside the tolerance window defined by SETVALUE plus/minus TOLERANCE.

The PP display shows the peak-to-peak value when trigger mode SELF or EXT3 is set at the sensor (cf. RLS GD Scope V4.3).

In the GF TREND display the average value of all the gloss values recorded so far is formed and displayed. This display and the graph also turn red, if the tolerance window defined by SETVALUE plus/minus TOLERANCE is exceeded.

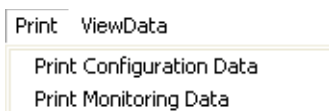
In the TD DEV display the standard deviation from average is displayed. The formula of calculation is:

$$STD\_DEV = \sqrt{\frac{\sum (GF_i - GF\_TREND)^2}{N - 1}}$$

The BAD[%] display shows the number of gloss values outside the tolerance window in percent.

Pressing RESET sets the graph and the display window back to 0. This has no effect on the data in the file.

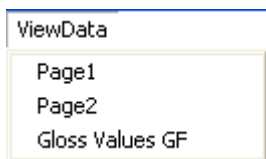
## 2.1.6 "Print" menu



A stored configuration file can be selected and printed by pressing "Print Configuration Data".

"Print Monitoring Data" prints the activated product parameters and a screenshot of the current user interface.

## 2.1.7 "ViewData" menu



For reasons of space only 4 sensors can be displayed on a screen. "Page1" and "Page2" can be used to toggle between the first 4 and the last 4 sensors. "Gloss Values GF", however, shows the gloss values of all 8 connected sensors.

**Attention! The display only shows the sensors that are set to enabled.**

