SD card and card slot
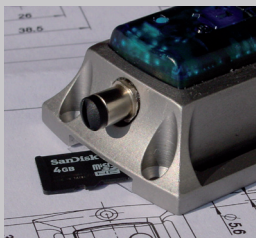
MSR® *with SD card*

The logger is optionally available with a card slot for a microSD card. The SD card offers many times the storage capacity of the internal logger memory.

Content

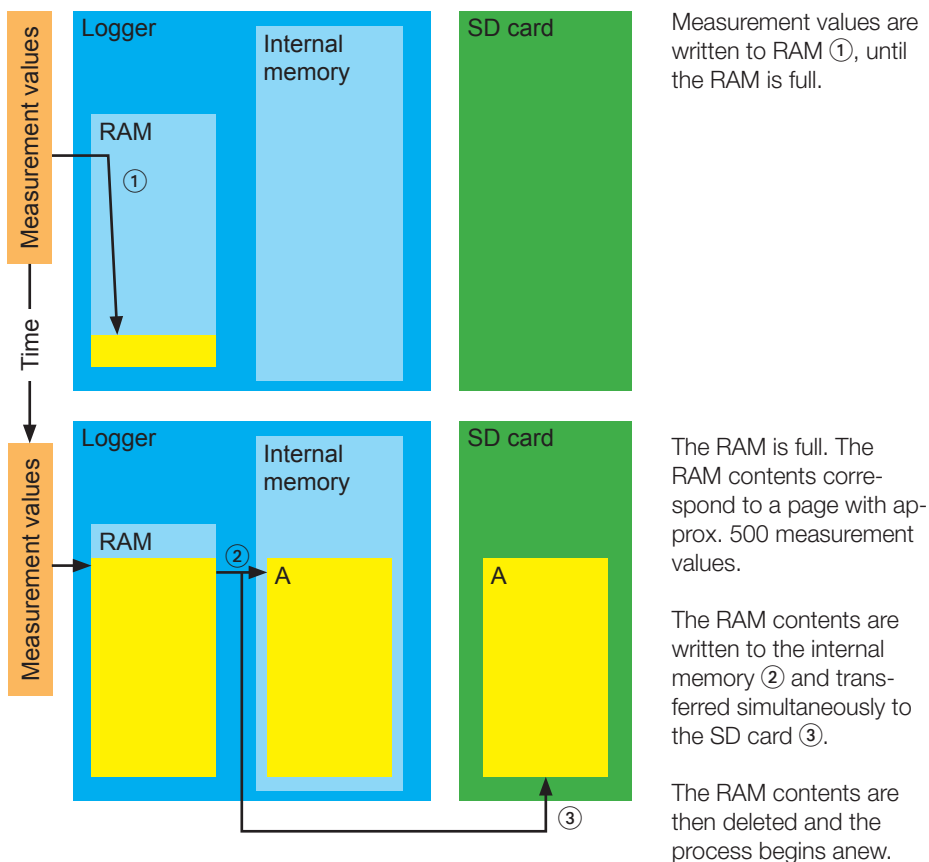| ⚠ CAUTION	Never delete the **msr.dat** and **msr.cfg** files that are saved on the SD card!

⚠	**CAUTION**	Risk of data loss! In order to configure the SD card or to read out the data stored on it, only the CARD Tool and CARD Reader programs may be used. Never delete the msr.dat and msr.cfg files that are saved on the SD card.

Data recording - chronological sequence

Measurement data that is written to the internal memory of the logger is also written to the SD card. The following figure shows the chronological sequence.

Data recording - chronological sequence

Measurement values are written to RAM ①, until the RAM is full.

The RAM is full. The RAM contents correspond to a page with approx. 500 measurement values.

The RAM contents are written to the internal memory ② and transferred simultaneously to the SD card ③.

The RAM contents are then deleted and the process begins anew.

The contents of the RAM are also transferred from the internal memory to the SD card when data recording is paused.

Removing the SD card during data recording

⚠ CAUTION	Risk of data loss! Removing the SD card during data recording can have the following consequences: The measurement parameters (pages) that have not yet been transferred to the SD card are not saved to the SD card. They are however, written to the internal memory.

Measures for avoiding or minimising data loss:
• In Setup or in the **Shock assistant**, activate the option **Start and stop by push-button**. Stop data recording by pressing the button before removing the SD card.
• Increase the measurement rate so that the content of the RAM is more frequently transferred to the SD card.

Circular buffer mode

If **Setup** is used to configure the logger for circular buffer mode, the oldest measurement parameters in the internal memory of the logger are, if necessary, overwritten. However, this data remains saved on the SD card.n.

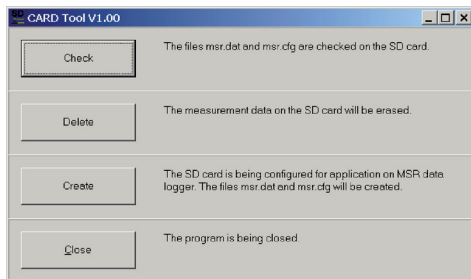| ⚠ CAUTION	Risk of data loss! If circular buffer mode on the logger is deactivated and the internal memory is full, data recording is paused. In this case no further measurement parameters are written to the SD card. To avoid this situation, activate circular buffer mode (see logger manual or Shock assistant step 4).

Note: The SD card is configured as a circular buffer. This setting cannot be changed.

Preparing the SD card

The supplied SD card is ready for use with the logger. No special preparation is necessary.

SD cards from third party suppliers must first be configured before they are used:
• Open the MSR **CARD Tool** program.
• Insert an empty, formatted SD card into the card slot of the PC.
• Click **Create**. The program creates the files msr.cfg and msr.dat.

CARD Tool V1.00	_ □ ×
Check	The files msr.dat and msr.cfg are checked on the SD card.
Delete	The measurement data on the SD card will be erased.
Create	The SD card is being configured for application on MSR data logger. The files msr.dat and msr.cfg will be created.
Close	The program is being closed.

Note:
Creating the files takes several minutes. Please do not cancel this process prematurely.

Information displayed about the SD card

The warning lights alongside the SD card slot have the following meanings:

LED	Meaning
○ Yellow	The yellow LED illuminates briefly each time the SD card is accessed.
○ Green	The green LED illuminates for 2 seconds – if the SD card is ok – after the SD card has been inserted.
○ ○ Yellow and green	The yellow and green LEDs illuminate briefly following a power-on reset. For example, when connecting a non-active logger to a PC.

The yellow warning light on top of the MSR illuminates briefly during the status indication if no errors have yet occurred while accessing the SD card.

Reading the SD card

Large volumes of data are divided into data records that have a maximum of 10,000 pages*. Only one record at a time can be read from the card.

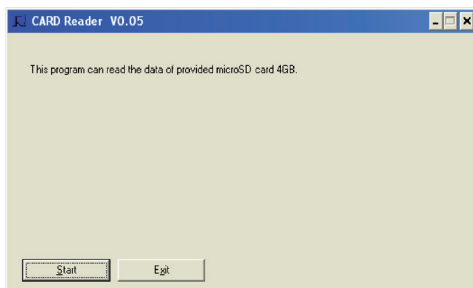*10,000 pages correspond approximately to the internal memory capacity of the logger.

Procedure:
• Remove the SD card from the logger.
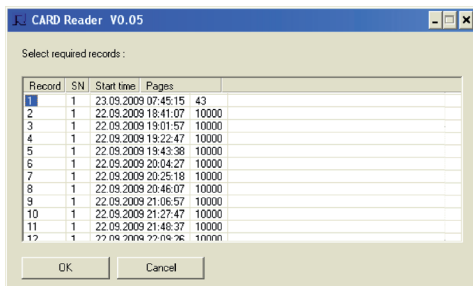• Slot the SD card into the USB / SD card adapter.

USB / SD card adapter

• Plug the USB / SD card adapter into the USB socket on the PC.
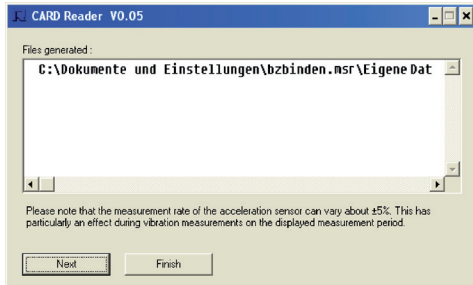• Open the MSR **CARD Reader** program and click **Start**.

• Select the desired data record (msr.dat) on the removable drive (SD card) and click **OK**.


Contents of the SD card

• To read further data records click **Next**. The content window of the SD card will then re-appear without requiring the SD card to be re-read.

To read the internal memory of the logger please use the MSR **Reader** program.

Deleting data records saved on the SD cardse

• Open the MSR **CARD** Tool program.
• Insert the SD card into the card slot on the logger.
• Click **Delete**. The program only deletes the contents of the file msr.dat but not the file itself.
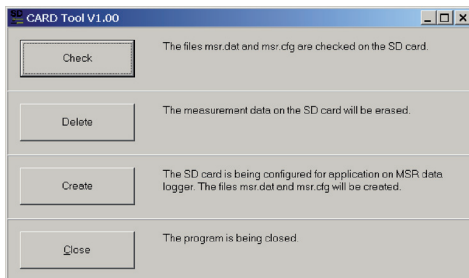
Note:
Deleting the measurement data takes several minutes. Please do not cancel this process prematurely.

Displaying the memory capacity

In **Setup**, under **Prediction**, the internal memory capacity is displayed alongside the memory capacity of the SD card.

Note: The available free capacity shown in **Setup** under **Info and measurement parameters** does not take the SD card into consideration.

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