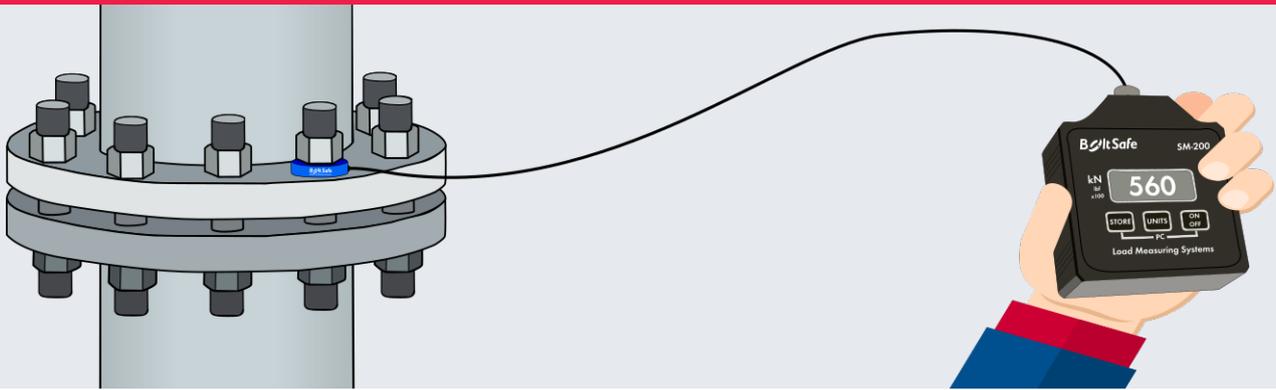


BoltSafe SM-200 Handheld Reader



SM-200 Handheld Reader

The SM-200 Handheld reader is a handheld instrument which has the function to read and store data from both the CMS (Continuous Monitoring System) and PMS (Periodic Monitoring System) BoltSafe sensors. For reading the PMS sensor a probe is needed.

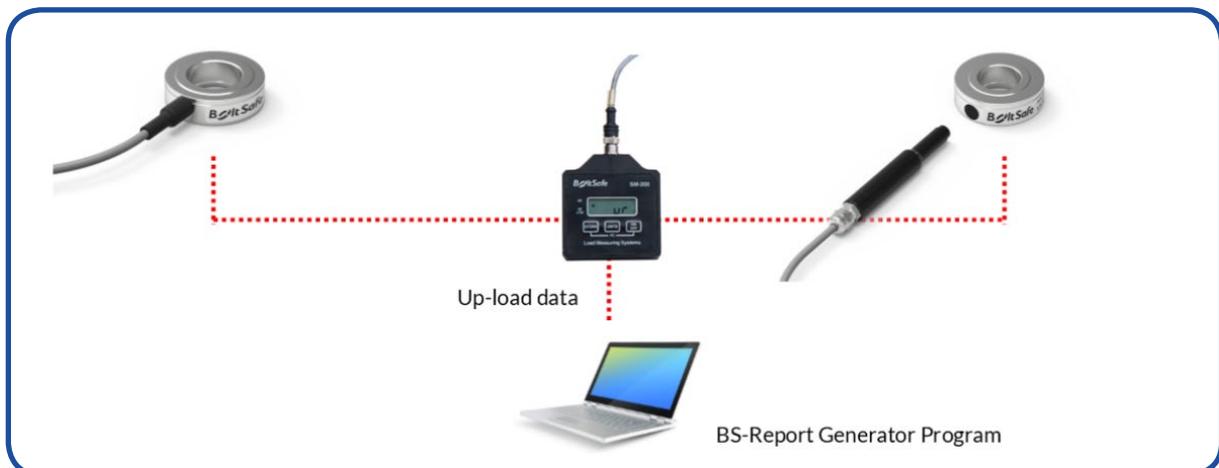
Usage of the reader

The SM-200 can be used for direct readout during the initial setting of the residual bolt load in the bolted joint, and for subsequent checks. The instrument will read and display the bolt-load data from each sensor on its LCD display. It is possible to choose between reading in kN or in lbf.

The unit will switch off automatically after 1 minute when no sensor is connected. By pressing a button the sensor data is stored in the instrument. This can later be uploaded to the “BS-Report Generator” program on a PC, and reports may be printed out.

The SM-200 is very easy to use:

- The CMS sensor has a connector which connects directly to the SM-200. The instrument then shows the value of the connected sensor on the display.
- The BoltSafe PMS-probe is needed for reading BoltSafe PMS Sensors. This probe energizes the BoltSafe Sensor and reads back all data by means of a non-contacting interface. The probe is connected to the SM-200 with a connector.
- Uploading of the sensor data to a PC is done by connecting the SM-200 to the PC's USB-Port, and the sensor data is transferred to the PC. The “BS-Report Generator” program presents the data for analysis. (Cables and software are available separately.)



Specifications

Specifications SM-200 Handheld Reader

Choice of units:	kN or lbf x 100
Storage capability:	254 Sensors, one value per sensor.
Communication:	RS-232
Battery:	9V Alkaline (6LR61) To change battery, open the rear lid using a screwdriver. Make sure the insulation is replaced.
Battery lifetime at ambient temperature Continuous monitoring CMS washer: Continuous monitoring PMS washer: Continuous serial up-load RS-232:	> 24 hours * > 2,5 hours * > 15 hours * The battery lifetime is reduced when the unit is below freezing point
Operating temperature range:	-20°C to 50°C
Sealing:	IP54
Material:	Aluminium casing, Stainless steel front and rear panel (1mm), Polyurethane cover
CE-approval	Tested to comply with: Emission requirements EN 50081-1, EN 55011B Immunity requirements EN 61000-6-2 EN 61000-4-2, EN 61000-4-3, ENV 50204

Specifications Probe-110

Operating temperature range:	-10 to + 50 °C
Sealing	IP 54
Casing	Aluminium casing
CE-approval	Tested to comply with: Emission requirements EN 50081-1, EN 55011B Immunity requirements EN 61000-6-2 EN 61000-4-2, EN 61000-4-3, ENV 50204

Note: Due to continuous product improvements, published specifications may change without notice.

Instructions for use

On/off

Press the "ON/OFF" button. The unit will switch off automatically after 1 minute if a sensor is not connected.

'ur'

If you connect a sensor, but no - or less than 10% - load is applied, the reader will show 'ur'. This means 'under load' and indicates there is connection with the sensor, but less than 10% of its maximum. Apply more load and values will appear.

Toggle units

Press the "UNITS" button to toggle between reading in "kN" or in "lbf".

Store the read value

Press the "STORE" button while sensor value is shown in the display. Up to 254 readings can be stored in the instrument. Only the last reading on each sensor is stored, i.e. one reading per sensor and no history on readings.

Upload the stored values to PC

This function requires that the BS-Report Generator program is installed on the PC. Uploading of the sensor data to the PC is done by connecting the SM-200 to the PC's USB-Port. Press simultaneously the "STORE" and "ON/OFF" buttons to get the SM-200 into the "r232" mode. Start the "BS-Report Generator" program and click the "SM-200" button. Follow the instructions on the screen, and the sensor data is transferred to the PC.

Clear the memory

By pressing "UNITS" and "ON/OFF" simultaneously, the display will show "clear". To clear the memory, press the "STORE" button.

Reading PMS-sensors

The BoltSafe PMS-probe is needed for reading BoltSafe PMS sensors. This probe energizes the BoltSafe sensor and reads back all data by means of a non-contacting interface. The probe is connected to the SM-200 with a connector.

Change battery

To change battery, open the rear lid using a screwdriver (4 screws). The battery is a 9V Alkaline (6LR61).