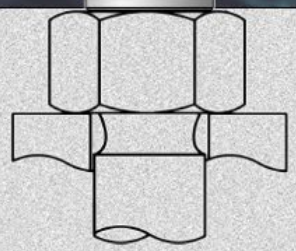
Leading joining technology

SCHAAF®

OBLM

Online Bolt Load Monitoring
Real-time analysis – Plug and play – Real life experience



OBLM – Accurate long-term bolt load monitoring and safety failure warnings.

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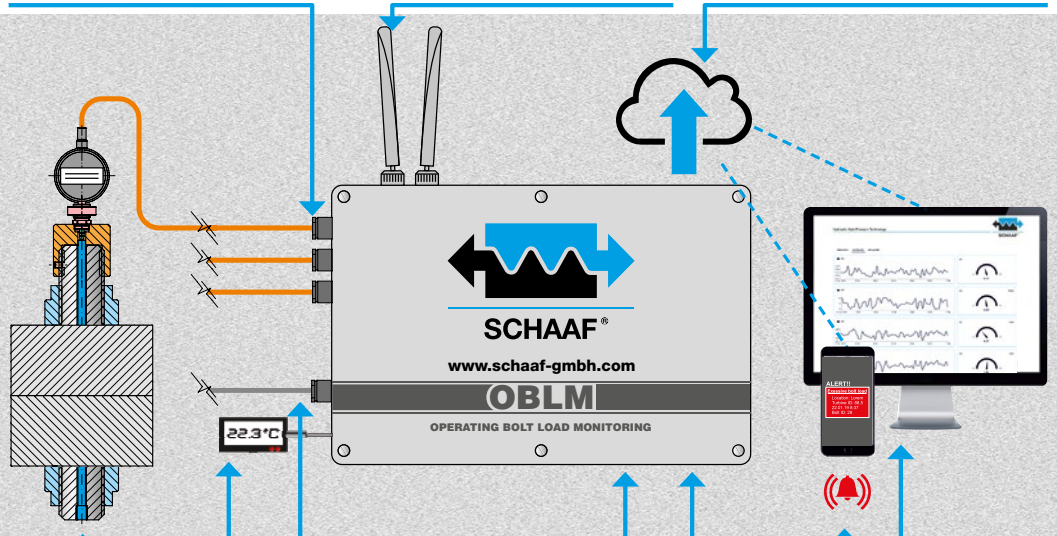
OBLM

Online Bolt Load Monitoring – Real-time analysis of bolt loads over time

Up to 8 highly precise sensors per **OBLM** possible, that are able to measure even the smallest deviations in clamping and bolt force.

Integrated and globally independent GSM-Module, made to relieve company networks.

Transmission of min, max, average load data and all other valuable parameters such as date, time, etc. to the cloud server up to 1x per second.



Measurement with stressless rod.

Grid Power Supply: 230V – 50Hz or customized.

IP67 protected case.

Precies real-time analysis and long-term evaluation of each sensor.

Possible monitoring and capturing of additional information like temperatures, wind-forces and wind-directions or other relevant data.

Compact design, enabling minimal installation effort.

Alarm function for breaching of threshold values.

Scope of service

- Data collection of 8 sensors
- Real-time transmission of data, via LAN and GSM (worldwide)
- Storage of measured data in the event of communication failure
- Live data, platform independent
- Sampling of measured data 1x/second (adjustable). The analysis occurs before transmission to the cloud
- Transmission of data 1x/minute, with the following values being transmitted: maximum, average and minimum
- Defined threshold values that transmit automated messages upon exceedance

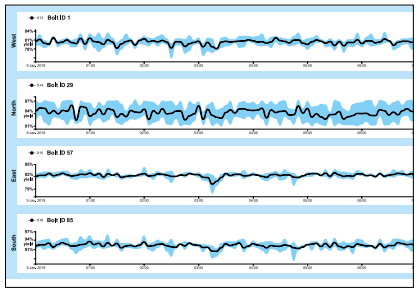
Online Bolt Load Monitoring – the smart IoT solution

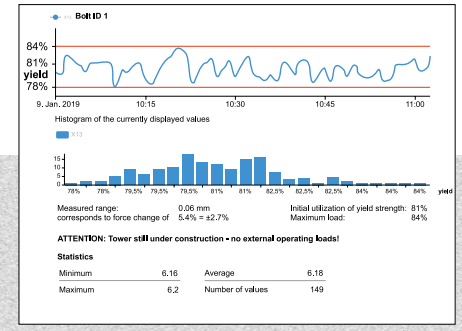
Too many times the question of "how a system is affected under real conditions" has been asked. The condition of objects can often insufficiently be determined. Online Bolt Load Monitoring (**OBLM**) is a comprehensive solution to measuring real time status changes of systems under full operational load.

Monitoring technology, transmission technology, hardware, software, sensor technology, cloud, measured data analysis – **OBLM** combines all these components into an optimally compatible IoT solution.

The **OBLM** system not only has the task to transmit data in real time, but additionally supports complex data analysis and evaluation. The newly gained insights help save resources and determine unwanted conditions prematurely.

The **OBLM** allows for unprecedented, real time analysis of the tension of bolt connections during the operation of machines. Thanks to perennial experience, SCHAAF has the technology, that allows the onitoring and analysis of occurring tension in the bolt, even during full operational load. With sophisticated analysis tools and the highly precise measuring sensors, the slightest changes in bolt-length are recorded and the resulting bolt-tension is calculated.





Example: Analysis 09.01.19 9:59 - 11:59 - Measuring point Bolt ID 1

Plug & Play: Online in 30 minutes
Plug in, place the sensors and view measured data instantly via smartphone or computer. Thanks to the compact design (240 x 160 mm), the installation effort is minimal.

Network independent: Communication via GSM in real time
The integrated GSM-module makes the **OBLM** completely independent worldwide. This prevents issues with company networks and relieves the IT-department.

Data collection: Technology smartly concealed
The **OBLM** allows for connecting up to 8 data measuring sensors simultaneously. The integrated data buffer saves up to 10,000 values, even during mobile network failures.

Alerts in the event of threshold value exceedance
The real time monitoring of measured data enables the setting of threshold values that give alerts when they are exceeded or fall short. Predefined users are automatically notified, once a threshold valued has been reached.

Quality Assurance

All **OBLM** are checked for 100 % process security. During order handling, they are accompanied by ongoing quality assurance measures and supplied with extensive documentation.

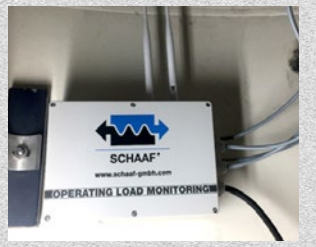
Services

SCHAAF **OBLM** are user-friendly, reliable, and manufactured in accordance with the highest level of technical know-how.

Our highly-motivated staff would be pleased to train your personnel, in situ or at our works, in the general handling and operation of the mobile and stationary control unit. In this way, all the process parameters can be entered optimally in order to achieve maximum process monitoring and safety. Of course, the **OBLM** are supplied ready for operation.

Areas of Application

SCHAAF **OBLM** is the optimal solution, where constant monitoring can prevent damages or injuries. Additional estimated bolt loads during design stage can be proved if correct. Especially for connections with permanent vibrations, weather related changes or load changes, for example wind turbines, bridge construction, cranes, electric generators and motors.



OBLM and sensor in a tower connection of a wind turbine.

Complete solution from SCHAAF

The accessories for the **OBLM**, such as sensors, Bolt Tensioners, Tool Service indicator (TSI) and Tool Managment System (TMS) are aligned to the functions = 100 % system solution.

Accessories and additional product groups

- MMDS – Mobile Mounting Documentation System
- TTG nuts and bolts
- Bolt Tensioners (SSV)
- Hydraulic Nuts (HM)

Certificates and Acceptance Tests

- Specific test reports
- Certificates as per special customer requirement

Several customer awards confirm again and again, that SCHAAF comes to mind due to innovative developments and dozens of patents worldwide regarding optimised processes and quality.

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OBLM.gb_1219_indd_online - Errors excepted.
Data will change as developments occur.

TÜVRheinland® CERT ISO 9001 ID:0910070172

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SCHAAF develops and produces world leading technology in the field of joining technique in all sectors of the industry.