

SMART SCREW

Data Sheet

INTELLIGENT
CLAMPING
ELEMENTS

SMART SCREW

Intelligent clamping elements

For the first time a screw, a bolt, a stud or other clamping equipment can be interrogated about their features and conditions. Thanks to this patented invention, clamping devices can now tell their mechanical characteristics because they've become intelligent!

SMART SCREW is the solution that allows screws, bolts, studs or other clamping devices to be interrogated about their mechanical characteristics and about their state of stress. Inside their body are a strain-state measuring element and a micro-electronic element, allowing data to be read wirelessly, without need of an internal battery.

In addition to the main measurement information about the clamping-component status, further data are available in the microchip, such as:

- minimum and maximum value of the clamping force
- component serial number
- production batch
- manufacturer's name
- custom information entered by the customer

All information of the examined component is read wirelessly by simply approaching a special reading-system device to the head of the screw, bolt or stud.



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SMART SCREW

REDUCED CHECK COSTS

SMART SCREW allows you to quickly monitor the status of intelligent clamping systems without the need to change their position, re-tighten them or remove them, saving time and costs.

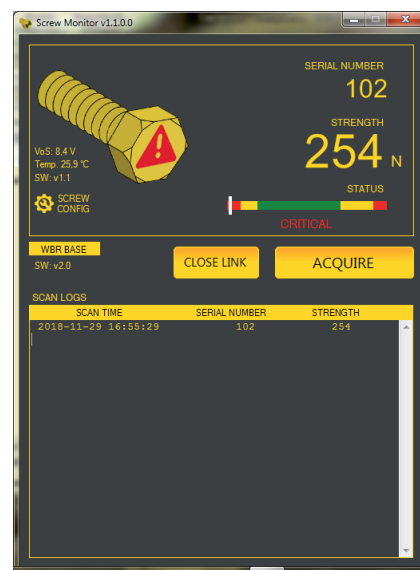
Maintenance workers no longer have to bear unnecessary costs for the replacement of parts which, for safety reasons, require further tightening.

TRACKING AND DATA MANAGEMENT

Each SMART SCREW device is equipped with a unique serial number, which allows the identification of each clamping element, without possibility of error, as well as track them through their entire life cycle.

SMART SCREW READER is the reading system equipped with a touch head, which not only reads the torque data and characteristics of the tightening device, but also transmits them, via WiFi/Bluetooth/Modem/Serial, to a PC, to a database or cloud.

Thanks to this innovative system you will have the list of all the checks performed on the clamping elements (operation execution control) and the progress of torque values, in real time.



SAFETY

SMART SCREW can store information, including minimum and maximum tightening torque values. This allows the automatic check of clamping value, without the operator having to enter parameters or reference data.

The unique, unchangeable serial number associated with each SMART SCREW increases the safety of identification and traceability of each operation performed on the clamping element.

SMART SCREW DATA SHEET

Electronic parts dimensions	Diameter 12 mm - Height 5 mm
Maximum torque	Related to system mechanics
Operating temperature	-40 °C / +100 °C



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SMART SCREW

APPLICATION SECTORS

AVIATION

Screws and bolts for structural fixings, landing carts, fuselage, rotary wing systems, etc.

Materials: alloy steels, Inconel, titanium alloys, maraging 300, 13/8 PH, 15/5 PH, 17/4 PH, aluminum alloys.

RACING

Screws and bolts for engine fixing, gearbox, suspension, motorcycles swingarm, etc.

Materials: Inconel, titanium alloys, 13/8 PH, 15/5 PH, 17/4 PH, steel alloys, aluminum alloys.

COMPETITION BOATING

Screws and bolts for fixing drift, bulb, shaft, cross, rudder, foil, etc.

Materials: Inconel, titanium alloys, nitronic, 13/8 PH, 15/5 PH, 17/4 PH, Aquamet.

ENERGY

Screws and bolts for turbines fixing, wind turbine blades, generator motors, etc.

Materials: Inconel, titanium alloys, monel, steel alloys, aluminum alloys.

STRUCTURES

Screws and bolts for structures fixing, construction elements, bridges, etc.

Materials: titanium alloys, steel alloys, aluminum alloys.

OTHER APPLICATION FIELDS

Mining, Naval, Railway, Steel construction, Structures, etc.



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