



Fasteners monitoring

INNOVATION TO **MONITOR** BOLT TENSION, GET YOUR ACTIVITY **SAFE** AND **PLAN** YOUR MAINTENANCE FOR **EFFICIENCY**





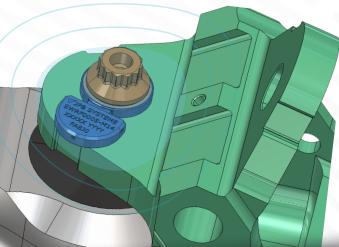
CHALLENGES IN MANY INDUSTRIES

Some assemblies face **significant constraints**: vibrations, repeated stress, variations of temperature, shocks: it often generates **nut loosening**.

Industries use **solutions to lock bolts** or put in place **periodic maintenance** to avoid accidents and lethal injuries.

These solutions take time and cost a lot of money.

SOLUTIONS TO MONITOR FASTENERS



JPB Système designed and manufactured a **specific sensor** which checks in real-time the tension in your assembly.

If you have critical fasteners with periodic torque checks, preventive maintenance, fasteners with difficult access... Our Smart Program solution will help you to save time & money, automatically record the tension and move to predictive maintenance.







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HOW IT WORKS

JPB Système developed **specific strain gauges** that allow size reduction of the sensor. The installation of the sensor is easy in your assembly. Sensor is equipped with **smart electronics**. It processes and converts measurements **into a robust signal** that is not affected by distance of communication or variations of temperature. It ensures a **high level of accuracy** over the entire operating range.

JPB Système developed a **data acquisition system** and displays solutions according to your needs:





- . Manual control
- . Suitable in safety-sensitive environment (not connected to the Internet)



WIRED Smart Washer & App for remote check

- . Automatic and remote control
- . Data available at any time (IoT)



BENEFITS



Secure the monitoring of the tightening: check tension in the assembly when & where needed.



Quick and **accurate** check in less than 2 seconds. No disassembly/reassembly; no torque wrench test.



Reduce maintenance time and cost.



Easy access in confined space with the RFiD reader extension.



Simple and intuitive to use.



Ensure automatic traceabillity of fasteners monitoring.



Easy installation in your assembly: ultra-thin thickness (5 / 7,5mm).



THE 2 SOLUTIONS ARE EASY TO USE

- . Put the Smart Washer on the **non rotating part** of the fastener (screw head or nut).
- . Tighten the bolt as usual with your torque wrench. Don't change your torque process.
- . When bolt is properly tightened, define the "100%" level with the reader (Smart Washer RFiD) or with the app (Wired Smart Washer).
- . At any time, you can check the variation of the tension in the fastener: do a manual check with the reader (RFiD Smart Washer); manual or automatic check with the app (Wired Smart Washer).

WIRED SMART WASHER + READER



LORA



230V



Manual or



On-site or automatic check remote check



Data stored in computer/cloud

TECHNICAL FEATURES

	RFiD Smart Washer	Wired Smart Washer
Range	M8 - M22	M8 - M24
Operating temperature	-20°C to +50°C (reader)	-20°C to +70°C
Resistance temperature	-50°C to +150°C	-30°C to +90°C
Water resistance	IP66	
Material of body	Stainless Steel	
Data transmission	Passive RFiD	LORA
Internet connection	No: local data storage	Yes: computer/cloud storage
Power supply	No power (passive RFiD)	230V
Number of measuring points	Redundancy: 2 measurement points	Simple point of measurement

RESISTANCE

Load sensor, electronic, elastomer, antena are tested in harsh conditions: vibrations, drops, shocks, chemical solvents resistance, UV resistance... We check the product at every manufacturing steps to guarantee a high level of quality & reliability.

Smart Washers are delivered with a calibration certificate.



PASSIVE DEVICE



ASSEMBLY SAFETY



HUMAN FACTOR MITIGATION



REDUNDANT MEASURE



EASY TO USE



TIME SAVING FOR MAINTENANCE



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