

SMART PROGRAM

Fasteners monitoring

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



PATENTED TECHNOLOGY

OUR TECHNOLOGY :
A SOLUTION TO MONITOR BOLTED ASSEMBLIES

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**.

STOP SYSTEMATIC CHECKS... TIGHTEN WHEN NECESSARY !



MADE IN FRANCE



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:



FAST
SAFE



RFID Smart Washer & Reader for on-site check

- . 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

EASY
ACCURATE



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 traceability** of fasteners monitoring.



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



RFID SMART WASHER + READER



RFID



No battery



Manual
check



Data stored
in the reader



On-site
check

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
automatic check



On-site or
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, antenna 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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